

TECHNICAL NOTE

PROJECT: Residential Development at Sunnyside, Yapton Road, Barnham

REPORT: 2413/TN/04/A – Technical Note to WSCC Highway Consultation Response

LPA REFERENCE: BN/73/26/OUT

DATE: August 2026

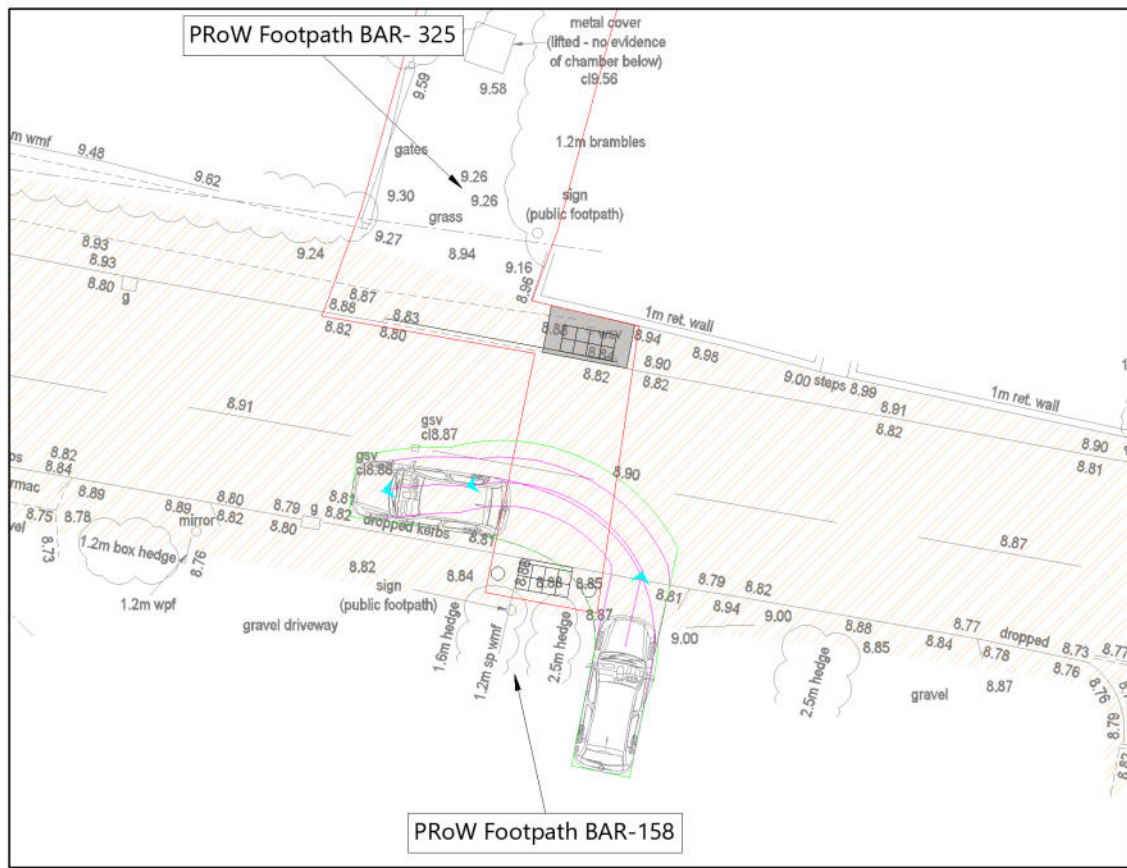
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1. This report (HTp/2413/TN/04/A) has been prepared by Highgate Transportation (HTp) in response to the West Sussex County Council (WSCC) Highway consultation response of 13 July 2026 (**Appendix A**), with regard to the application for up to 190 dwellings on land at Sunnyside Nurseries, north of Yapton Road, Barnham.
 2. WSCC Highways have requested the following:
 - i. Further consideration of how westbound cyclists would access the site
 - ii. A GG119 compliant Designer's Response provided to WSCC to allow the Overseeing Organisation and an Agreed Action to be developed
 - iii. Further information regarding connection to existing Public Right of Way (PRoW) Footpath 325 and upgrades proposed
 - iv. Real Time Passenger Information displays for the Windmill and Village Hall bus stops to be funded from developer contributions
 - v. Lake Lane/Yapton Road modelling with Temprow Core scenarios to be provided
 - vi. B2233/North End Road modelling to include F/19/25
 - vii. B2233/Bilsham Road modelling to include F/19/25 and WSCC/030/25
 3. The above points were clarified with WSCC Highways, and a further point added arising from the Road Safety Audit recommendation for bollards at the proposed pedestrian crossing over Yapton Road at PRoW Footpath 158 (to connect to Footpath 325). Our responses and any subsequent discussions are detailed in turn.

Cycle Access

4. HTp initially responded to this point within the WSCC Highways consultation response, setting out that under the submitted access proposals westbound cyclists could choose to cross from the westbound carriageway onto the northern shared surface at the dropped kerb on the eastern end of the site frontage (where the cycle symbol on the carriageway is proposed), or that more confident cyclists may choose to turn right into the site access itself. Alternatively, a further option was for cyclists to turn left into Edward Tompkins Lane and U-turn to the proposed cycle facility on the northern side of Yapton Road, west of the site access.
5. It can be confirmed that other options for cycle infrastructure have been considered as part of the design process and have been discounted as not feasible, due to land ownership constraints and limited highway boundary extents.

6. WSCC Highways responded, stating that after internal discussions it was considered the shared use elements should be removed from the site access. This has been done, reverting to a 2.0-metre-wide footway only, and updated plan HTP/2413/09/E (sheets 1-2 of 2) is contained at **Appendix B**, with the Road Safety Auditor comments on this revision, further to the Road Safety Audit of November 2025 (Appendix 16 of the submitted Transport Assessment HTP/2413/TA/01/A), provided at **Appendix C**.
7. The submitted Pedestrian and Cycle Audit (HTP/2413/TN/02/A, dated May 2026) has been reviewed in light of the changes to the site access plan, reverting from a 3.0-metre-wide shared use facility to a 2.0-metre-wide footway. The following paragraphs are impacted by this requested change to the site access:
 - i. Paragraph 2.3 references that the site access proposals include for *"a shared footway/cycleway on either side of the access which will tie into the existing footway network"* – this is now a footway on either side of the access only
 - ii. Paragraph 49 (1) states *"The proposed site access arrangements include the widening of this footway to 3.0 metres"* in relation to the observation that the existing footway on the north side of Yapton Road adjacent to the site is very narrow – the footway is now agreed to be widened to 2.0 metres, as it is no longer a shared use facility. This is acceptable based on Manual for Streets standards
8. It is not considered that the Pedestrian and Cycle Audit needs to be updated as a result of this site access change requested by WSCC. The change to the site access does not alter the conclusions that the site is sustainably located for walking and public transport use.
9. Drawing HTP/2413/09/E (sheets 1-2 of 2) can be an Approved Plan within the Decision Notice, should the application be approved.
10. WSCC have also requested that swept path analysis be undertaken for the driveway to the immediate east of PRoW Footpath 158, to show how the tactile paving and installation of bollards, in response to the Road Safety Audit recommendations to review pedestrian safety (points 2.7 and 2.10), impact access and egress to the driveway. As such, swept path analysis (HTP/2413/TR/12/A) has been provided, contained in **Appendix D**. This exercise uses the existing dropped kerb surveyed along the frontage, rather than the whole frontage of the plot.
11. It is not considered that the addition of bollards will be an issue because:
 - i. The outbound manoeuvre for westbound vehicles already encroaches into the oncoming lane now (see example in **Figure 2**), and therefore 'with bollards' there is no material change
 - ii. The bollards as shown on the drawing are around twice the size they would be, which allows for a buffer
12. In any event, this matter can be resolved at detailed design.

Figure 2 – Swept path example, current situation (ignoring bollard)



13. In summary, it is not considered that this point should prevent a highway recommendation from being made.

Designer's Response

14. An updated Road Safety Audit Designer's Response (v4) has been provided in **Appendix E**. This complies with the GG119 requirements.
15. An excel file of the Designer's Response has been provided to WSCC directly, to input the Overseeing Organisation comments and Agreed Action.

PRoW Footpath 325

16. This application is in outline. As such, the plan HTp/2413/15 provided at **Appendix F** in response to the WSCC request to show the points at which the footpath provision will connect into the PRoW Footpath 325 is for illustrative purposes only, using the DLA Illustrative Masterplan.
17. Two indicative locations are shown where the site footpath connections would connect to Footpath 325 (see **Figure 2**). It is considered that this plan can be conditioned.

Figure 2 – Footpath 325 connections

18. The connections are currently proposed to be open (not gated), but the final decision on this will be made at Reserved Matters.
19. Around 50% of Footpath 325 falls within the site boundary. As shown indicatively on **Figure 3** (blue line), which uses the DLA Landuse Parameter Plan (DLA.2242.L.26.P02) as a base.

Figure 3 – Indicative alignment of PRow 325 within the site boundary

20. At this stage, given the Network Rail temporary closure on this stretch of Footpath 325, and likelihood of full closure in the future, it is considered that the only section of the footpath to be upgraded is the section that falls within the site boundary. The surfacing will be to WSCC specification and agreed at Reserved Matters.

Real Time Passenger Information

21. A contribution to fund Real Time Passenger Information at the Village Hall and Windmill bus stops has been sought. This contribution has been confirmed as £8,000 per stop, with a total contribution sought of £32,000; it can be confirmed that this is agreed.

Modelling

22. Modelling flow diagrams are contained in **Appendix G**.

Lake Lane/Yapton Road modelling

23. The Lake Lane/Yapton Road modelling for a TEMPro Core scenario is provided at **Appendix H**. It was agreed that an assessment year of 2031 was suitable.
24. **Table 1** provides the modelling outputs, for TEMPro Core + Committed + Development as requested.

Table 1 – Lake Lane/Yapton Road 2031 Core

	AM			PM		
	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)	RFC
	2031 Base (core) + Committed					
Lake Lane	3	34.98	0.76	2	18.06	0.54
Yapton Road	2	7.17	0.49	1	6.91	0.32
	2031 Base (core) + Committed + Development					
Lake Lane	4	39.80	0.79	2	19.51	0.56
Yapton Road	3	7.38	0.51	1	6.95	0.33

25. From this it can be seen that the development would add up to one vehicle queuing on each arm in the AM peak hour, with no additional queuing forecast in the PM peak hour; and up to five additional seconds of delay only on Lake Lane; with the RFC below 80%. As such the increase in queues and delays would not be considered severe in line with the NPPF paragraph 116, and the junction would continue to work within capacity in the future year of 2031.

B2233/North End Road modelling

26. The B2233/North End Road modelling for a TEMPro Core scenario, with the additional Land South of Ford Lane committed development F/19/25 as requested, is provided at **Appendix I**. It was agreed that an assessment year of 2031 was suitable, and that modelling with the proposed mitigation was acceptable.
27. **Table 2** provides the modelling outputs, for TEMPro Core + Committed + F/19/25 + Development as requested.

Table 2 – B2233/North End Road 2031 Core + F/19/25 + Mitigation

	AM			PM		
	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)	RFC
	2031 Base (core) + Committed + F/19/25					
North End Road	1	3.82	0.30	1	4.63	0.40
B2233 East	3	9.38	0.71	1	5.37	0.50
B2233 West	2	7.25	0.56	2	6.93	0.57
	2031 Base (core) + Committed + F/19/25 + Development					
North End Road	1	3.91	0.31	1	4.67	0.40
B2233 East	3	9.73	0.72	2	5.61	0.52
B2233 West	2	7.75	0.58	2	7.13	0.58

28. From this it can be seen that the development would add up to one additional vehicle queuing on the B2233 East arm only in the PM peak hour; with minimal additional delay; and RFCs below 80%. As such it is clear that the junction would continue to work within capacity in the future year of 2031.

B2233/Bilsham Road modelling

29. The B2233/North End Road modelling for a TEMPro Core scenario, with the additional Land South of Ford Lane committed development F/19/25 as requested, is provided at **Appendix J**. It was agreed that an assessment year of 2030 was suitable to align with the A259 Comet Corner WSCC scheme, and that modelling with the proposed mitigation was acceptable.
30. **Table 3** provides the modelling outputs, for TEMPro Core + Committed + F/19/25 + Development and WSCC/030/25 D11 as requested. D11 is the AM peak hour test for 2030, with D12 being the PM peak hour, and therefore both have been provided.
31. Modelling output files were provided by WSCC for the WSCC/030/25 flows.

Table 3 – B2233/Bilsham Road 2031 Core + F/19/25 + WSCC/030/25 + Mitigation

	AM			PM		
	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)	RFC
	2031 Base (core) + Committed + F/19/25 + WSCC/030/25					
B2233 East	3	11.63	0.72	2	8.85	0.64
Bisham Road	1	5.78	0.40	1	3.98	0.25
B2233 West	2	6.42	0.52	6	19.68	0.87
	2031 Base (core) + Committed + F/19/25 + WSCC/030/25 + Development					
B2233 East	3	12.05	0.73	2	9.43	0.66
Bisham Road	1	5.85	0.40	1	4.05	0.25
B2233 West	2	6.77	0.54	6	20.85	0.88

32. From this it can be seen that there is no additional queuing forecast as a result of the development; with insignificant additional delay forecast (up to one second on the B2233 East in the AM peak hour, and on each arm in the PM peak hour). It is noted that the RFC is greater than 85% in both the with and without development scenarios, by 2% in the 'without development' scenario, and by 3% (1% increase) in the 'with development' scenario only. This is too low an increase to be considered significant or severe, in line with the NPPF paragraph 116.

Summary

33. This Technical Note has been provided to address the requests made in the WSCC highway consultation response to application BN/73/26/OUT.
34. In discussion with WSCC, the shared use facility proposed along the site frontage has been replaced with a 2.0-metre-wide footway (drawing HTP/2413/09/E sheets 1-2 of 2 can be an Approved Access Drawing). The Designer's Response to the Road Safety Audit has subsequently been updated and a GG119 compliant document has been provided to WSCC for the Overseeing Organisation comments to be provided.
35. Further information regarding the connections to PRoW Footpath 325 has been provided, and drawing HTP/2413/15 can be conditioned if required. Surfacing upgrades to Footpath 325 will be provided where the route is within the site red line.

36. Real Time Passenger Information displays for the Windmill and Village Hall bus stops (£32,000 total contribution) are to be funded by this development.
37. The additional modelling for the Lake Lane/Yapton Road, B2233/North End Lane, and B2233/Bilsham Road has been provided and demonstrates that the development will not have a severe impact, in line with paragraph 116 of the NPPF.
38. It is concluded that the site is sustainable, with excellent walking and public transport connections for future residents.
39. Given the above, it is considered that there are no highway reasons to prevent the delivery of this site for up to 190 dwellings.

Appendix A

WSCC Highway Consultation Response July 2026

WEST SUSSEX COUNTY COUNCIL CONSULTATION

TO:	Arun District Council FAO: Simon Davis
FROM:	Stephen Gee WSCC – Highways Authority
DATE:	13 July 2026
LOCATION:	Land at Sunnyside Nurseries Yapton Road Barnham
SUBJECT:	BN/73/26/OUT Outline planning (with some matters reserved except access) for up to 190 No. dwellings including informal and formal public open space, landscaping, drainage, and other associated works. This application is a Departure from the Development Plan, affects a Public Right of Way and may affect the setting of listed buildings.
DATE OF SITE VISIT:	Officer Familiar with site and 6/7/26 (Noting road closure)
RECOMMENDATION:	More Information

The application is for upto 190 dwellings at Land at Sunnyside Nurseries, north of Yapton Road., Barnham.

Pre application advice was provided to the applicant in 2024 and 2025 and a copy of this is included within the Transport Assessment Appendices.

Access

The existing access is to be widened to provide a 5.5m wide simple priority junction onto Yapton Road.

3m wide shared use provision is provided either side of the access road and a 3m provision into the site. To the west of the site cyclists would be required to cross Yapton Road to access the shared use provision of the southern side of the road. To the east cyclists would be provided with dropped kerbs and markings to return to the carriageway. Further details should be provided as to how westbound cyclists would access the shared use provision and access the site.

Surveys have been undertaken in the vicinity of the site access and indicate 85th% speeds of 36.1mph eastbound and 35.7mph westbound. Visibility splays based on these speeds can be provided in accordance with Manual for Streets parameters of 2.4m x 46m and 55m.

Swept path analysis have been provided and whilst a refuse vehicle would over run the centre line, given the weekly nature of the movement, no concerns are raised.

A stage 1 Road Safety Audit has been undertaken on the site access and offsite improvements, A designers response in tabular format has been provided within the application documents. However, A GG119 Appendix F compliant document should be provided to WSCC to allow the overseeing organisation comments to be provided and an agreed action to be developed.

It is also advised that the Design organisation responses should either be agree or disagree and not noted.

Sustainable Transport

Vision

The Transport Assessment states

"The vision of the development is to establish pedestrian, cycle and road connections that link to the local public transport and active travel routes"

Walking

In addition to the site access, pedestrian access is provided onto PROW 325 which runs along the eastern boundary of the site and an adjacent footway provided within the site. As it meets Yapton Road, the existing crossing point is to be improved with the provision of tactile paving (at the existing dropped kerbs).

It is proposed to surface the section of PROW 325 within the site boundary. Further information should be provided to detail the points in which the footpath provision would connect back into the PROW. A contribution should also be provided for upgrading the surface of the PROW outside the site boundary.

Currently FP325 is closed due to Network Rail (NR) safety concerns over the at-grade crossing at its present usage level as such it is recommended the NR are consulted on the application.

A pedestrian and cycling audit has been undertaken on key routes between the site and local facilities, the scope of which was agreed. The audit highlights a number of items along Yapton Road including missing crossing opportunities, tactile paving and footway pinch points (either through available highway width or vegetation growth).

It is proposed to install tactile paving at the Murrell Arms west crossing and widen the existing footway at the Village Hall westbound bus stop. Other improvements could be addressed via the CIL payments from the site.

The reduced width for pedestrians under the railway bridge is acknowledged, para 51 of the inspectors decision on Land South of Barnham Station (Appeal Ref: APP/C3810/W/21/3273087) addresses the existing issues and as such it is not felt the additional pedestrian trips from the development would significantly exacerbate the existing situation

"51. The footway along the B2233 from the Marshall Close cut through to the railway bridge is approximately 60 metres in length and varies in width. This includes a narrower point where the footway passes under the bridge between a point at its north-west abutment and the safety railings to the B2233 carriageway. There is no scope at present to improve the footway width at this location, but it is sufficiently wide for pedestrians to pass through, with reasonable room either side to wait. I accept the arrangement is likely to be tight for those with pushchairs and for wheelchair and mobility scooter users. In this regard I place significant weight on the fact that other major housing developments have also been approved elsewhere on Yapton Road (against comparable thresholds of highway safety in the NPPF) that would similarly rely on the same quality

of footway connection. Overall, I find the condition of the footway along Yapton Road, including under the rail bridge, would not deter occupiers of the appeal site in making the short journey by foot to access the station and other facilities in this part of the village."

Cycling

The following provision is made for cyclists accessing and egressing the site.

3m wide shared use provision is provided either side of the access road and a 3m provision into the site. To the west of the site cyclists would be required to cross Yapton Road to access the shared use provision of the southern side of the road. To the east cyclists would be provided with dropped kerbs and markings to return to the carriageway.

The cycle provision would be of benefit to residents of the proposed site but of little benefit to those travelling along Yapton Road due to the need to cross the road and site access only to be shortly required to rejoin the carriageway or cross the road again.

Experienced cyclists would be able to utilise the carriageway to travel to local facilities in Barnham and Yapton, however, LTN1/20 indicates vehicle flows and speeds would exclude most potential users and/or have safety concerns.

It is noted that the Arun Local Walking and Cycling Investment Plan (at consultation stage) does not include any proposed routes along Yapton Road, with the Canal route to the south and Lake Lane to the north providing connections between Barnham and Yapton.

Public Transport

Bus

The Village Hall and Windmill bus stops are located 250m and 350m away from the site. The stops are served by the 500 service between Littlehampton and Yapton that runs 2 to 3 times per hour, The 66a and 66c provide a link to Bognor Regis 7 times a day and the 85A running between Chichester and Arundel twice a day.

Bus infrastructure has been installed as part of the Bus Service Improvement Plan project however both sets of stops would benefit from Real Time Passenger Information displays and as such a contribution would be sought to fund these.

Rail

Barnham railway station is located 700m north west of the site and provides connections to a range of destinations including Bognor, Chichester, Brighton, Portsmouth and London. The station provides 62 cycle parking spaces.

Sustainable Transport Conclusion

It is acknowledged that the benefit of the cycling provision has limited benefit and there are pinch points on the footways towards Barnham and Yapton, however on balance the site would offer a range of opportunities for future occupiers to undertake journeys by sustainable means.

Personal Injury Collisions

A single slight injury collision was recorded to the east of the site access in the previous 5 year period and would not indicate an existing road safety issue.

Trip Generation

TRICS has been utilised to establish the trip generation potential of the site. The parameters utilised are acceptable and predict the site would generate 96 AM peak two way vehicular trips and 92 PM peak two way vehicular trips and a daily number of 824 vehicular trips.

No discounts are made for any previous uses of the site.

The application does discuss the reduction in trips rates due to the impact of travel plans however this ultimately not progressed and would have been resisted without additional measures and information due to the site selections within TRICS predominantly including sites with Travel Plans.

Trips are to be distributed according to census journey to work data and a gravity model as per Land South of Barnham Station and assigned accordingly.

Junction Modelling

End of local plan scenarios have been developed utilising TEMPRO growth factors, A core scenario has been provided and a behavioural scenario (which anticipates a continued reduction of vehicle ownership and use and reduced trip rates per person) .

No concerns are raised with the use of a core scenario. Concern is raised with the use of the behavioural scenario as the applicant proposes very limited measures to influence travel behaviour beyond the site boundary or proposes any remedial measures should the scenario not be achieved.

A large number of committed development sites have been included as part of the modelling including the strategic sites at BEW, Yapton and Ford as well as Land South of Barnham Station and Land West of Bilsham Road, Yapton.

Despite being advised at pre application stage the applicant has not included any testing with the F/19/25 – (400 dwellings and Secondary School – Land South of Ford Lane) this would primarily affect the two roundabout junction within Yapton and further scenarios should be provided.

No adjustments have been made within TEMPRO resulting in a robust scenario being presented.

Site access

The site access would work well within capacity in a behavioural scenario in a future year scenario. No Core scenario has been provided however it is anticipated that it would work well within capacity.

Church Lane / Yapton Road

The junction would work well within capacity in a behavioural scenario in a future year scenario. No Core scenario has been provided however it is anticipated that it would work well within capacity.

Lake Lane / Yapton Road

The junction would work well within capacity in a behavioural scenario in a future year scenario. No Core scenario has been provided and should be done so.

Elm Grove / Barnham Rod Crossroads

The junction would work well within capacity in a behavioural scenario in a future year scenario. No Core scenario has been provided however it is anticipated that it would work well within capacity.

War Memorial

The modelling indicates that the junction is approaching capacity in a 2031 base year with committed development in both a core and behavioural scenario.

In the core scenario the addition of development trips would increase delays I the Barnham Road approach in the AM peak by 7seconds (31-38s) and increase queues by 2 vehicles (9-11) and in the PM peak increase delays on the Fontwell Avenue approach by 9 seconds (57- 66s) and queues by 3 vehicles (14-17). The maximum RfC of the Fontwell Avenue arm would rise from 0.96 to 0.98.

The increase in queues and delays would not be considered severe in line with the NPPF para 116.

The northern section of the A29 realignment would provide alternative routes for vehicles and reduce the impact on the junction once implemented.

B2233 / North End Road

The junction would operate over capacity in the future year base + committed (core scenario) and approaching capacity in the base + committed (behavioural scenario) The inclusion of development trips would increase delays and queues at the junction.

The Ford Airfield development is to provide a mitigation scheme at the junction (implemented prior to the 501st occupation).

The junction would work within capacity in all with mitigation scenarios.

An additional scenario should be included that incorporates the impacts of F/19/25 (TEMPRO CORE + Committed + F/19/25 + development)

B2233/Bilsham Road

The junction would be at capacity in the PM peak and approaching capacity in the AM peak based on the exiting layout in the Core + Committed scenario, the addition of development trips would increase queues by a maximum of 1.5 vehicles (10.2-11.) in the PM peak on the B233 West and delays by 5 seconds (42-47)

The increase in queues and delays would not be considered severe in line with the NPPF para 116.

A mitigation scheme is secured via the Ford Airfield development to be provided by the 251st occupation and with this in place the junction would operate within capacity in all scenarios.

Additional scenario testing should be provided to include the live application for 400 dwellings + secondary school and the impacts of the WSCC Comet Corner improvements which have committee resolution to grant planning permission. (modelling is included in the WSCC application doc ref A259 BI Comet Corner Bilsham Rd Burndell Rd.)

(TEMPRO CORE + Committed + F/19/25 + WSCC/030/25 developments)

Site layout

Whilst the internal layout would be for consideration at reserved matters stage, an illustrative masterplan has been provided. This shows a main spine of the development with several smaller loops serving the dwellings. Bollards are shown on the closest link to the site access that could provide emergency access within the development should the spine road be blocked in an emergency.

Car Parking would be provided in line with Arun standards, EV charging in line with building regs.

Swept path analysis has been provided on the illustrative layout and is acceptable.
Cycle parking would be provided in line with WSCC Standards.

Travel Plan

A travel plan has been provided to support the development and promote sustainable transport.

Targets are identified to reduce the vehicle modal share of the site and measures including the provision of sustainable transport vouchers included. The travel plan and an auditing fee should be secured via a S106 agreement.

Conclusion

Further Information is requested upon:

Consideration of how westbound cyclists would access the site.

GG119 Appendix F compliant designers' response

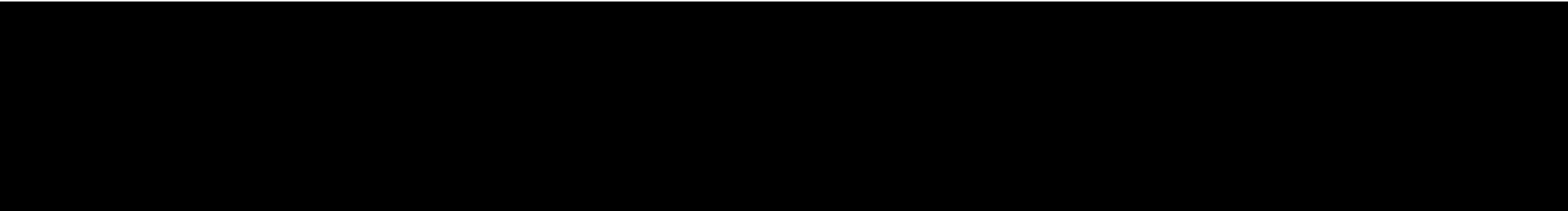
Consideration of improvements to PROW 325 outside the site boundary / details of linkages onto PROW.

Lake Lane / Yapton Road – Temprow Core scenarios to be provided.

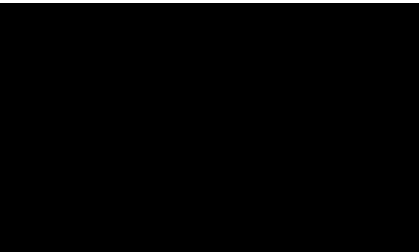
Modelling Scenario of B2233/North End Road and B2233/Bilsham Road to include F/19/25 and WSCC/030/25

Stephen Gee

West Sussex County Council – Planning Services



PL- Consultation- WSCC Highways response



Arun District Council, Civic Centre, Maltravers Rd
Littlehampton, West Sussex, BN17 5LF
www.arun.gov.uk

To register to receive notification of planning applications in your area please go to <https://www1.arun.gov.uk/planning-application-finder>

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Improving the wellbeing of Arun



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Our core foundations



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From: [Redacted]
Sent: 13 July 2026 15:44
To: Planning.Responses <Planning.Responses@arun.gov.uk>
Subject: Response To Application Number BN/73/26/OUT at Land at Sunnyside Nurseries Yapton Road Barnham

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Please could the attached response be distributed to the relevant case officer.

Regards

Stephen Gee

Please do not reply directly to this email.

Any formal reconsultation on the application should be directed to [Redacted] but the responding officer can be contacted directly via email if there are any questions relating to this response.

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Appendix B

Updated Site Access Arrangements



NOTES:

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Drawing based on Sitaline Geospatial topographical survey reference 657SN01C dated November 2024.

KEY:

 Highway Boundary

E	Updated site access further to RSA	FB	03/08/26
D	Updated redline boundary	BE	29/05/26
C	Updated following RSA comments	AH	07/11/25
B	Updated red line boundary	AH	23/09/25
A	Updated for issue to RSA auditor	AH	22/09/25
ISSUE	REASON FOR REVISION	BY	DATE

PROJECT:

SUNNYSIDE
BARNHAM

CLIENT:

HANBURY
PROPERTIES

PROJECT REF:	DRAWING NUMBER:	SCALE (AT A3):
2413	09	1:500

SHEET NUMBER:

SHEET NUMBER 1 OF 2

SCALE BAR:

0m 5m 10m 15m 20m

HighgateTransportation

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First Floor, 43-45 Park Street
Bristol BS1 5NL
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TITLE:

PROPOSED
ACCESS ARRANGEMENT

DATE:	DRAWN BY:	CHECKED:
28.08.25	AH	FB

Appendix C

Road Safety Auditor Comments August 2026

Subject: Re: (2413) Yapton Road - RSA1
Date: Monday, 3 August 2026 at 18:01:11 British Summer Time
From: Nick Jeanes
To: Fiona Bennett
Attachments: ATT00001.jpg

Hi Fi - yes all good thanks

I've had a look at the modifications, and I'm happy that it generally simplifies the situation. As you say cyclists entering or leaving the development can easily pick up the shared use path on the south side if they are westbound, or vice versa

Regards

Nick Jeanes MCIHT MSoRSA HE RSA Cert. Comp.



<http://www.avontss.uk>



On Monday, August 3, 2026 at 5:00:02 pm +01:00, Fiona Bennett

< > wrote:

Afternoon Nick,

I trust you are keeping well.

You will recall doing the attached RSA1 in November 2025.

The highway officer has requested that in response to your points 2.1, 2.2, 2.5 and 2.6, that we remove the shared use elements from the site access given the constraints (highway boundary, and existing 'unusual' cycle termination provision on the south side of Yapton Road).

As such, please find attached our updated access drawing HTP/2413/09/E (sheets 1-2 of

2), with the shared facilities removed (now pedestrian-only).

The highway officer has asked that we run this change past you, for comment.
Following receipt of any comments you may have we will update the Designer's Response accordingly.

Many thanks in advance.

Kind regards,
Fiona

Fiona Bennett
Director

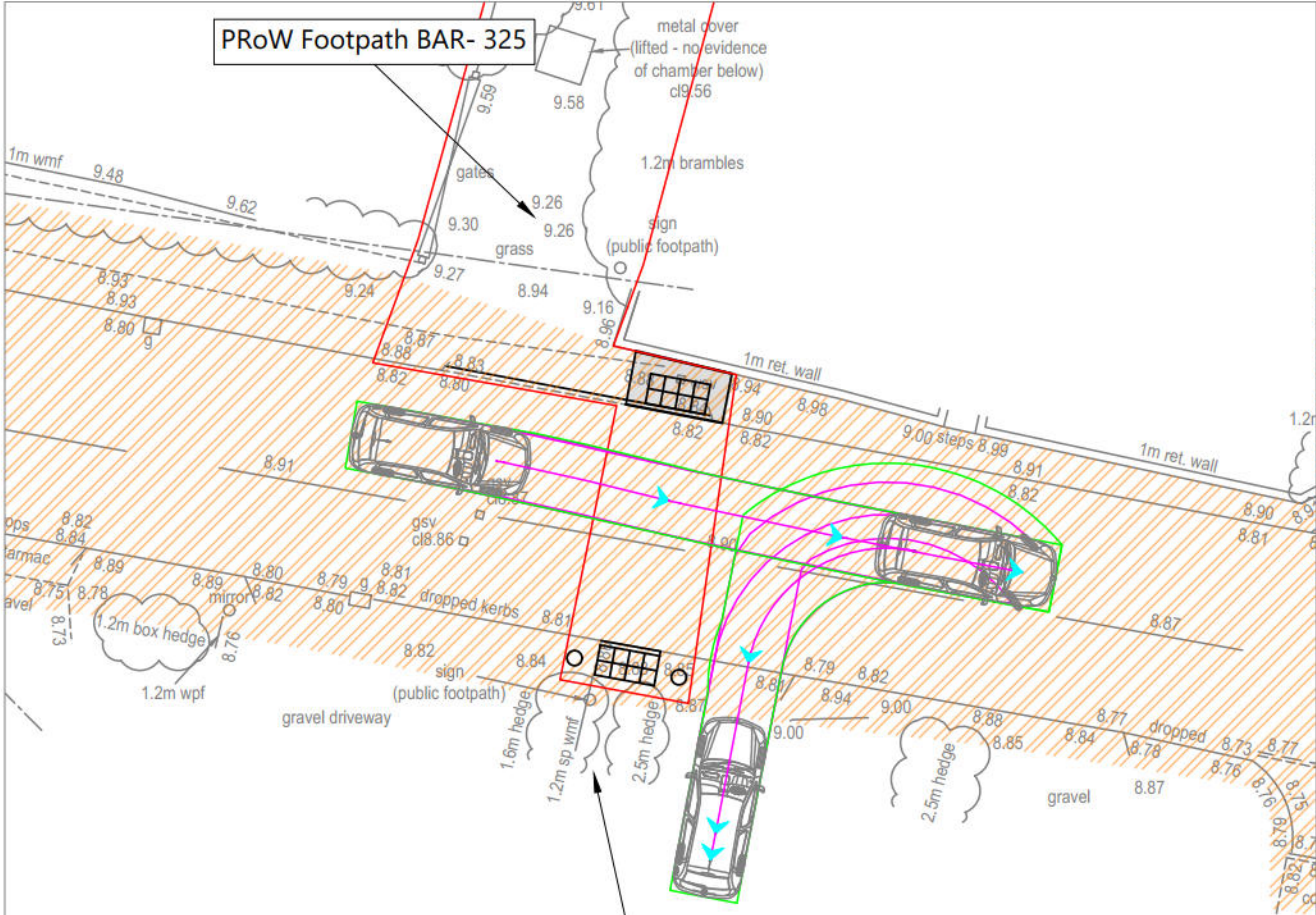
portation

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Company Registration Number: 07500534*

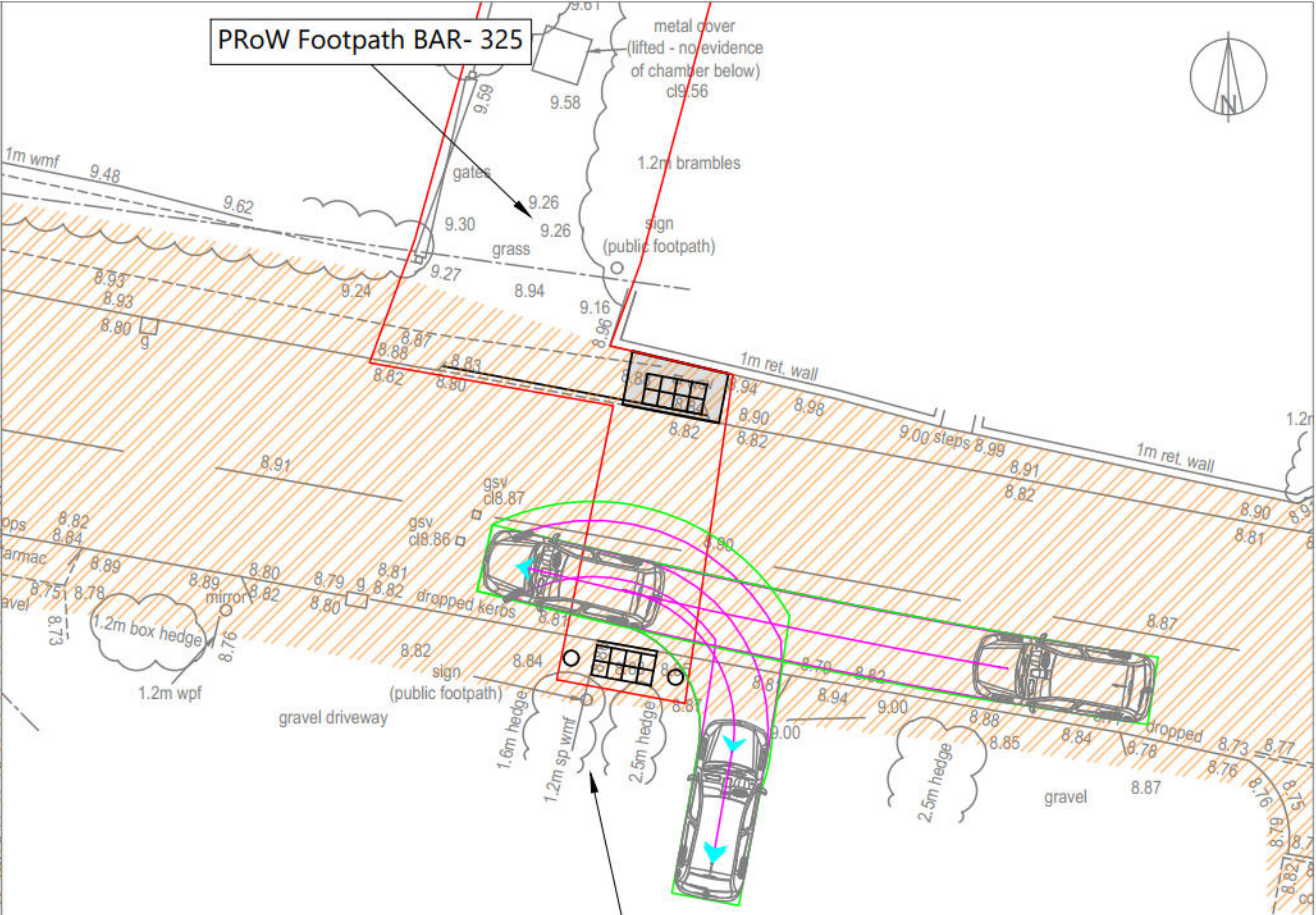
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Appendix D

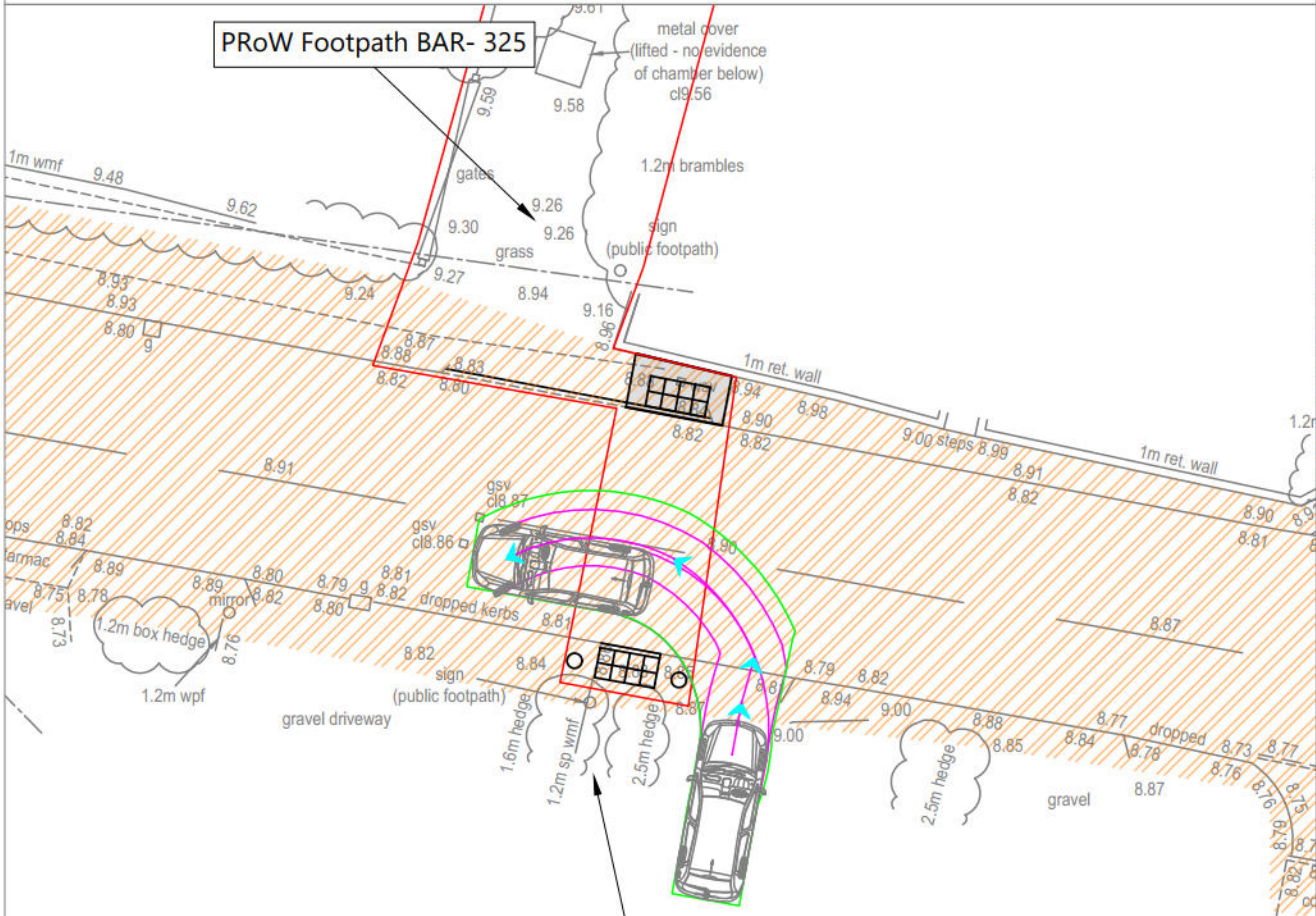
Swept Path Analysis



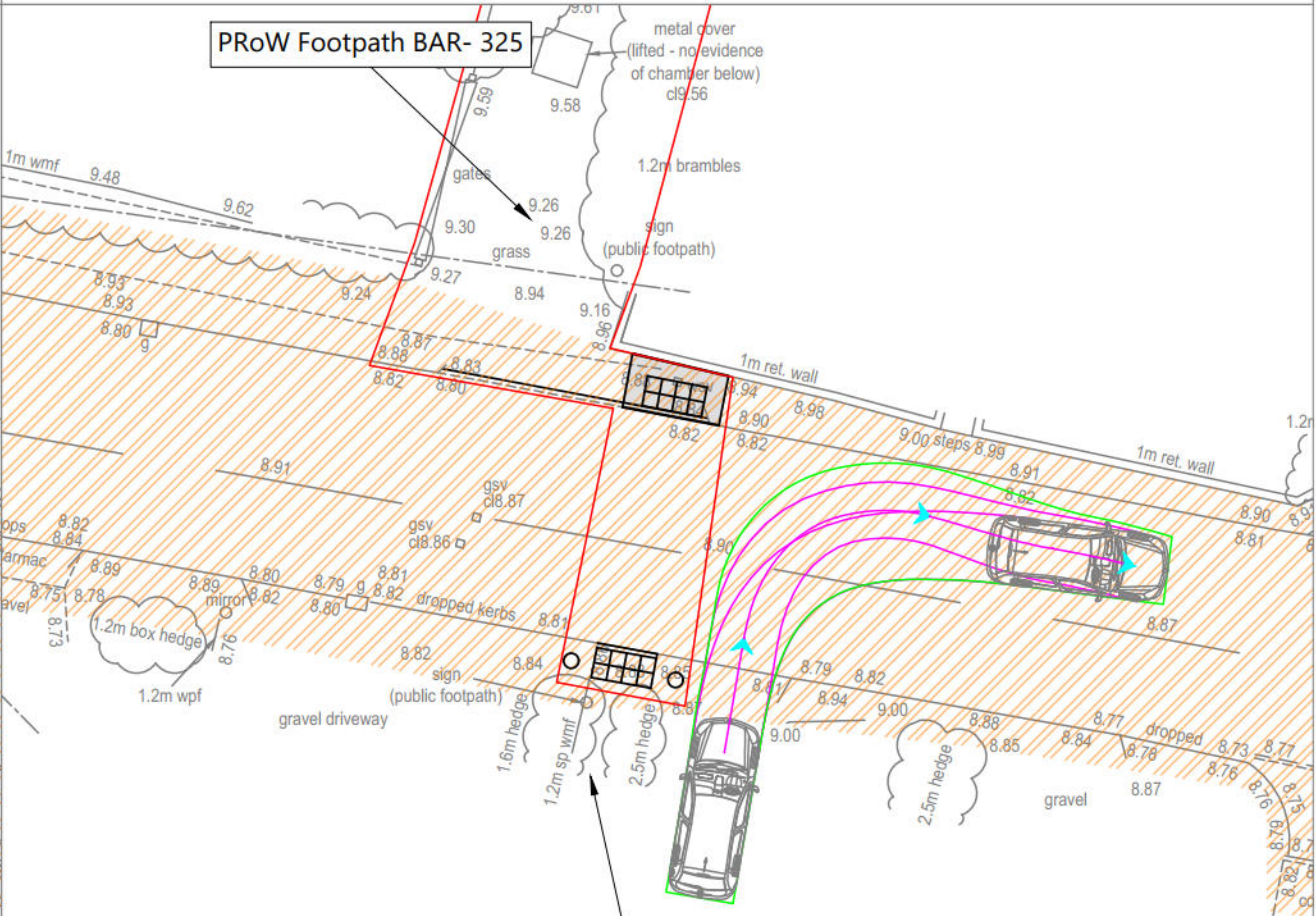
PRoW Footpath BAR-158



PRoW Footpath BAR-158



PRoW Footpath BAR-158



PRoW Footpath BAR-158

NOTES:
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Drawing based on Sitaline Geospatial topographical survey reference 657SN01C dated November 2024.

KEY:
Highway Boundary

A	Added all movements	FB	07/08/26
ISSUE	REASON FOR REVISION	BY	DATE

SDV

Width : 1.80
Track : 1.80
Lock to Lock Time : 6.0
Steering Angle : 37.8

PROJECT:
SUNNYSIDE
BARNHAM

CLIENT:
HANBURY
PROPERTIES

PROJECT REF:	DRAWING NUMBER:	SCALE (AT A3):
2413	TR12	1:200

SHEET NUMBER:
SHEET NUMBER 1 OF 1

SCALE BAR:
0m 5m

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TITLE:
SWEPT PATH ANALYSIS -
PRIVATE DRIVE EAST OF CROSSING

DATE:	DRAWN BY:	CHECKED:
06.08.26	BE	FB

Appendix E

Road Safety Audit GG119 Designer's Response

PROJECT DETAILS

Project: 2413 - Sunnyvale, Yaptan Road
 Report Title: Sunnyvale to Barnham RSA: Designers Response
 Date: 25.11.2025 (updated for HSCC preliminary comments in their July Highway consultation response; 17.07.26) updated again (03.08.26 for final sign-off)
 Document Revision: 25.11.2025 Designers Response
 v4
 Prepared by (Design Organisation): Highway Transportation Limited
 Road Sussex County Council
 Name: Alice Howse
 Position: Principal Transport Planner
 Signed: [Redacted]

Approved by (Design Organisation):

Name: Fiona Bennett
 Position: Director
 Signed: [Redacted]
 Date: 01.06.2026

INTRODUCTION

Scheme Details: Modification of an existing access to provide a 5.5 metre wide priority junction with Yaptan Road, with pedestrian and cycle paths either side of the junction, as well as a pedestrian access onto Yaptan Road from an existing Public Right of Way footpath (P8001) (P 8001-305). The audit also included the review of proposed tactile paving at Church Road and the widening of the footway at the westbound housing on Yaptan Road, which had been identified as part of a pedestrian and cycle

Stage of RSAC

RSAC Details: Document title: Stage 1 Road Safety Audit, Yaptan Road, Barnham
 Document Reference: 250914
 Document Revision: 1.2

KEY PERSONNEL

Design Organisation: Name: Stephen Gee
 Position: Senior Transport Planner
 Name: Tasha Papadimitriou
 Position: Audit Team Leader
 Name: Fiona Bennett
 Position: Director
 Name: James Davison
 Position: Audit Team Member

RSA DECISION LOG

RSA Problems	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
1.1 Location - Yaptan Road at Edward Tompkins Lane. Summary - Risk of cyclist/vehicle conflicts due to poor positioning of cycle transition. A cycle transition point is proposed directly opposite an existing priority junction for Edwards Tompkins Lane. Cyclists crossing or joining the carriageway here may conflict with vehicles with turning traffic, especially vehicles turning right out from the minor road or right-in from the major road, who may be focused on gaps in traffic and fail to check for	Relocate the cycle transition point at a safe location to minimise the risk of conflict between road users.	Agreed Given the constraints, the shared surface facility will be removed. See drawing HTP/2413/002.		
1.2 Location - Cycle transition opposite Edward Tompkins Lane. Summary - Risk of cyclist/vehicle conflicts due to impacted visibility. Existing vegetation on the western side of this transition point will obscure sightlines to and from it. Drivers approaching from the west may not see cyclists until it's too late to react safely and cyclists may also be unable to see oncoming traffic clearly, leading to misjudged attempts to enter the carriageway or cross to the opposite side. This risk would be exacerbated during daylight conditions in poor weather.	Given the concerns raised at problem 2.1, relocate the transition point at a safer location and ensure that visibility to and from it is maintained at all times.	Agreed As above, the shared surface arrangement will be removed. It will be ensured that vegetation to the rear of the footway will be cut back sufficiently to allow for seasonal growth under a maintenance programme, to ensure that visibility is not obstructed.		
1.3 Location - Yaptan Road at western end of proposed shared-use footway. Summary - Risk of pedestrian/cyclist conflict due to the absence of corduroy paving. No corduroy paving is shown at the western end of the proposed shared-use footway. Corduroy paving helps clarify where shared use starts and ends, without clear demarcations, pedestrians may inadvertently step into the path of cyclists increasing the risk of conflict or injury. This is particularly concerning for visually impaired pedestrians and other	Ensure that corduroy paving is provided at the transition to and from the shared-use footway.	Agreed Drawing HTP/2413/001 updated to include corduroy paving (see Revision E).		
1.4 Location - Proposed shared-use footway and priority junction. Summary - Risk of pedestrian and vehicle conflict with existing lighting columns. Although the proposals include relocating an existing lamp post away from the proposed shared-use footway on the eastern side of the priority junction, they do not include the relocation of two existing lighting columns currently situated within the footway on the western side of the existing vehicle access. One column is positioned within the proposed use road, and the other lies within the proposed shared-use footway and cycle transition area. If these columns are not relocated, they will present physical obstructions, compromising the safe movement of both	Relocate the existing lighting columns to prevent obstruction and ensure the safe movement of both pedestrians and vehicles. Appropriately positioned lighting will also provide sufficient illumination of the new priority junction and enhance visibility for pedestrians and cyclists during hours of darkness or poor weather conditions.	Agreed Drawing HTP/2413/001 updated to include annotation to relocate existing lighting columns (see Revision E).		
1.5 Location - Cycle transition at eastern end of shared-use footway. Summary - Risk of cyclist/vehicle conflict due to inappropriate cycle road markings. Cycle road markings, comprising a cycle symbol and right-turn arrows, are proposed on the carriageway at this location to direct westbound cyclists towards the proposed shared-use footway on the opposite side. These encourage cyclists to make lateral movements across live traffic lanes, increasing the potential for conflict with both approaching vehicles and following drivers who may not anticipate such manoeuvres. Additionally, to the east of this junction, Yaptan Road curves to the left, reducing forward visibility for westbound traffic. Site observations indicate that this area is regularly used by westbound drivers to overtake cyclists when no oncoming traffic is present. Encouraging cyclists to move across the carriageway here would exacerbate these conflicts. However, cyclists slowing down or stopping to cross may also give the false impression of a vehicle waiting to turn, leading to unsafe overtaking or	Remove the cycle markings from the location and provide a safe crossing point elsewhere.	Agreed As above, the shared surface arrangement will be removed.		
1.6 Location - Cycle transition at western end of shared-use footway. Summary - Risk of cyclist/vehicle conflict due to inappropriate cycle road markings. Cycle markings, consisting of a short section of cycle lane and a cycle symbol, are proposed on the carriageway to facilitate the transition of westbound cyclists from the shared-use footway into the carriageway. However, these markings do not lead to a protected or segregated cycle facility and directing cyclists into live traffic lanes without any physical protection leaves them vulnerable to conflict with approaching vehicles. The markings may also give cyclists a misleading sense of priority, potentially encouraging them to enter the carriageway without adequately checking for traffic. The layout further limits cyclists' ability to position themselves to see vehicles approaching from behind, while drivers may not expect cyclists to merge from the footway, increasing the likelihood of unsafe overtaking, close passes, or sudden braking.	Provide a suitable transition point for westbound cyclists to safely enter the carriageway.	Agreed As above, the shared surface arrangement will be removed.		
1.7 Location - Pedestrian access proposed on Yaptan Road at the south-east corner of the proposed development site. Summary - Risk of pedestrian slips, trips and falls due to unsuitable pedestrian infrastructure. Tactile paving is proposed at an existing dropped kerb crossover to provide pedestrian access connecting an existing Public Right of Way route across Yaptan Road. This route is unsuitable for use by visually impaired individuals and providing tactile paving here may mislead users into believing that the route is safe, increasing the risk of injury due to trips, slips and falls. Providing tactile paving here may also cause confusion, as the paths on either side lead to areas unsuitable for those with visual impairment and may result in demoralisation and increased vulnerability.	Revise the design to ensure that the proposals do not increase the risk of pedestrian injury at this location.	Disagreed Given there is an existing Public Right of Way footpath in this location, the tactile paving will improve the existing crossing over Yaptan Road. It is a visually impaired user of the P8001 would benefit from the provision of tactile paving.		
1.8 Location - Northern side of pedestrian access proposed on Yaptan Road in the south-west of the proposed development site. Summary - Risk of slips and falls due to water ponding at crossing. Site evidence indicates that surface water collects at the location of the proposed crossing. Without adequate drainage provision, this issue is likely to continue, increasing the risk of pedestrian slips and falls due to standing water.	Take appropriate mitigation measures to prevent surface water from collecting at this location.	Agreed This will be dealt with at detailed design stage and therefore subject to a Stage 2 RSAC - New kerbs will be put in that start at 25mm and transition to 5mm		
1.9 Location - Southern side of pedestrian access proposed on Yaptan Road in the south-west of the proposed development site. Summary - Risk of pedestrian slips, trips and falls due to kerb splashes. The information submitted for auditing does not indicate any modifications to the existing kerbs on the southern side. If these are retained, they may present a trip hazard for pedestrians crossing at this location, increasing the risk of slips, trips and falls.	Ensure that the proposals eliminate any potential trip hazards and do not pose a safety risk to pedestrians.	Agreed Drawing HTP/2413/002 updated to include annotation regarding ensuring kerbs are modified to reduce the likelihood of potential trips New PCC flush kerbs with a 0 to 10mm upstand for the length of the new tactile paving, and a 2.0m by 1.3m width of hard standing to be provided within highway land		
1.10 Location - Southern side of pedestrian access proposed on Yaptan Road in the south-west of the proposed development site. Summary - Risk of pedestrian/vehicle conflict and potential pedestrian trips and falls due to proximity of private driveways to proposed crossing point. The proposed tactile paving on the southern side of the crossing is likely to conflict with vehicles associated with access to adjacent properties. This may result in vehicles overrunning the crossing area, compromising pedestrian safety and increasing the risk of vehicle/pedestrian conflict. Repeated vehicles overrunning could also damage the tactile paving, resulting in broken or uneven surfaces that pose a trip hazard for pedestrians.	Given the concerns raised at problem 2.5, revise the design to ensure that the proposals do not increase the risk of pedestrian injury at this location.	Disagreed Bulbouts have been shown either side of the tactile paving to protect both pedestrians and the tactile paving.		

DESIGN ORGANISATION AND OVERSEEING ORGANISATION STATEMENTS		
On behalf of the Design Organisation I certify that: 1) The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.	On behalf of the Overseeing Organisation I certify that: 1) The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and 2) the agreed RSA actions will be progressed.	
Name:		Name:
Signed:		Signed:
Position:		Position:
Organisation:		Organisation:
Date:		Date:

Appendix F

PRoW Footpath 325 Connections



NOTES:

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Drawing based on DLA Site Layout (for outline Application) dated June 2026, DLA-2242-100-DR-L-101-S13.

KEY:

Footpath 325 

Internal site layout footpath 

Likely connection points 

ILLUSTRATIVE ONLY

ISSUE	REASON FOR REVISION	BY	DATE

PROJECT:

SUNNYSIDE
BARNHAM

CLIENT:

HANBURY
PROPERTIES

PROJECT REF:	DRAWING NUMBER:	SCALE (AT A3):
2413	15	NTS

SHEET NUMBER:

SHEET NUMBER 1 OF 1

SCALE BAR:

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TITLE:

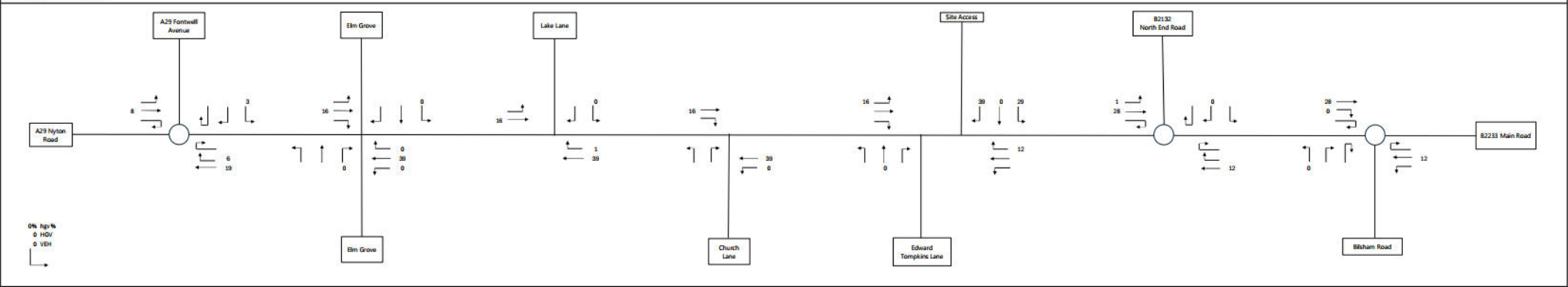
PRoW FOOTPATH 325
ILLUSTRATIVE CONNECTIONS

DATE:	DRAWN BY:	CHECKED:
03.08.26	FB	MP

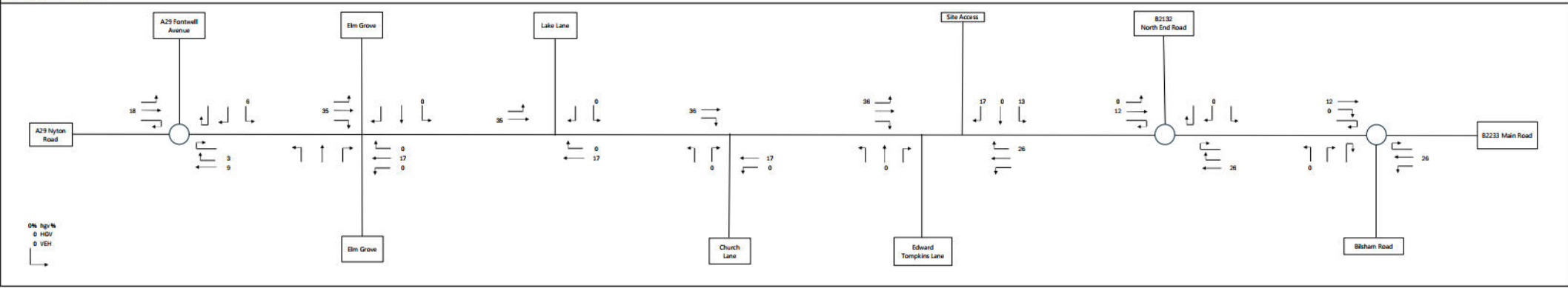
Appendix G

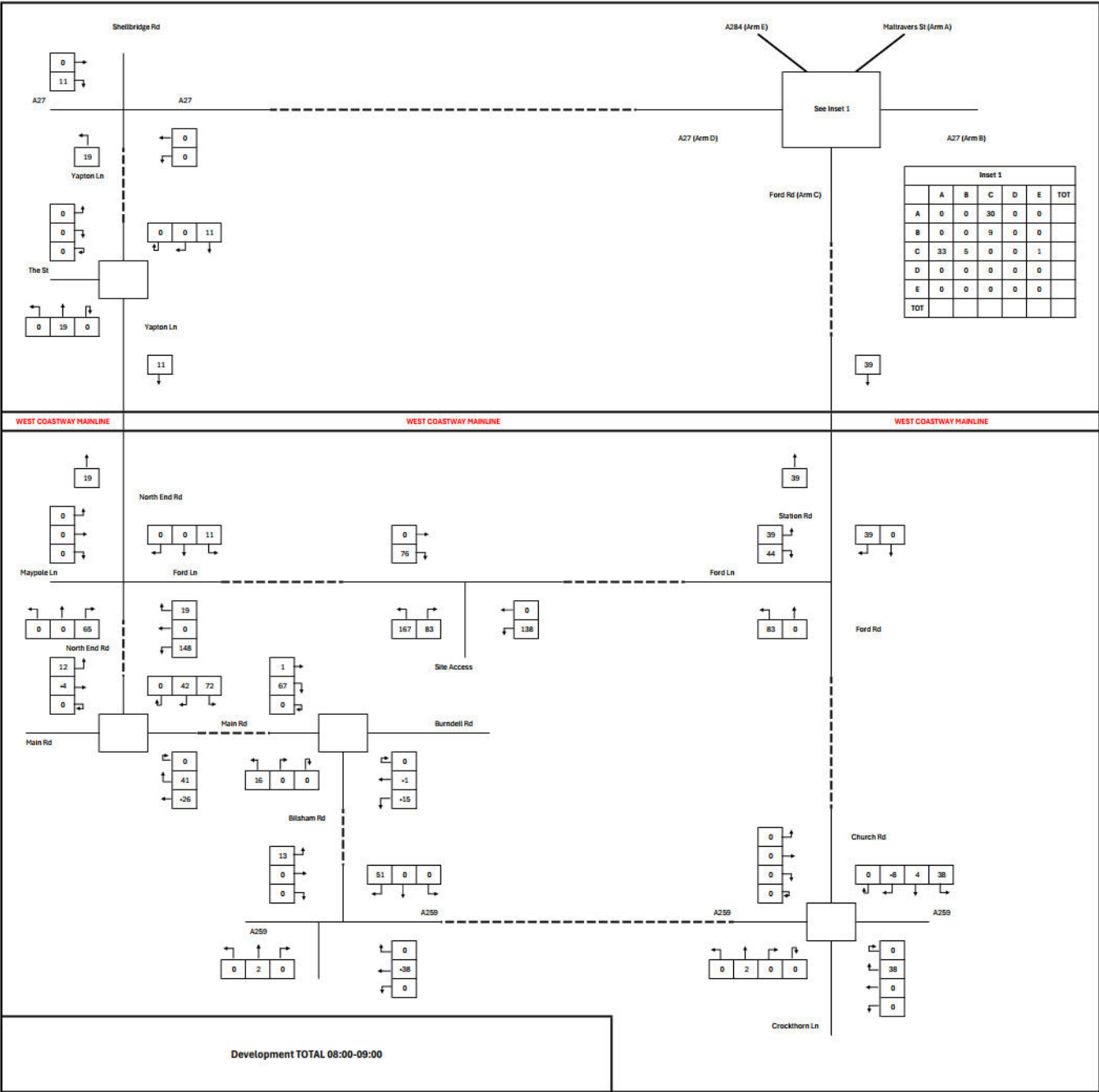
Modelling Flow Diagrams

Proposed Development (AM)

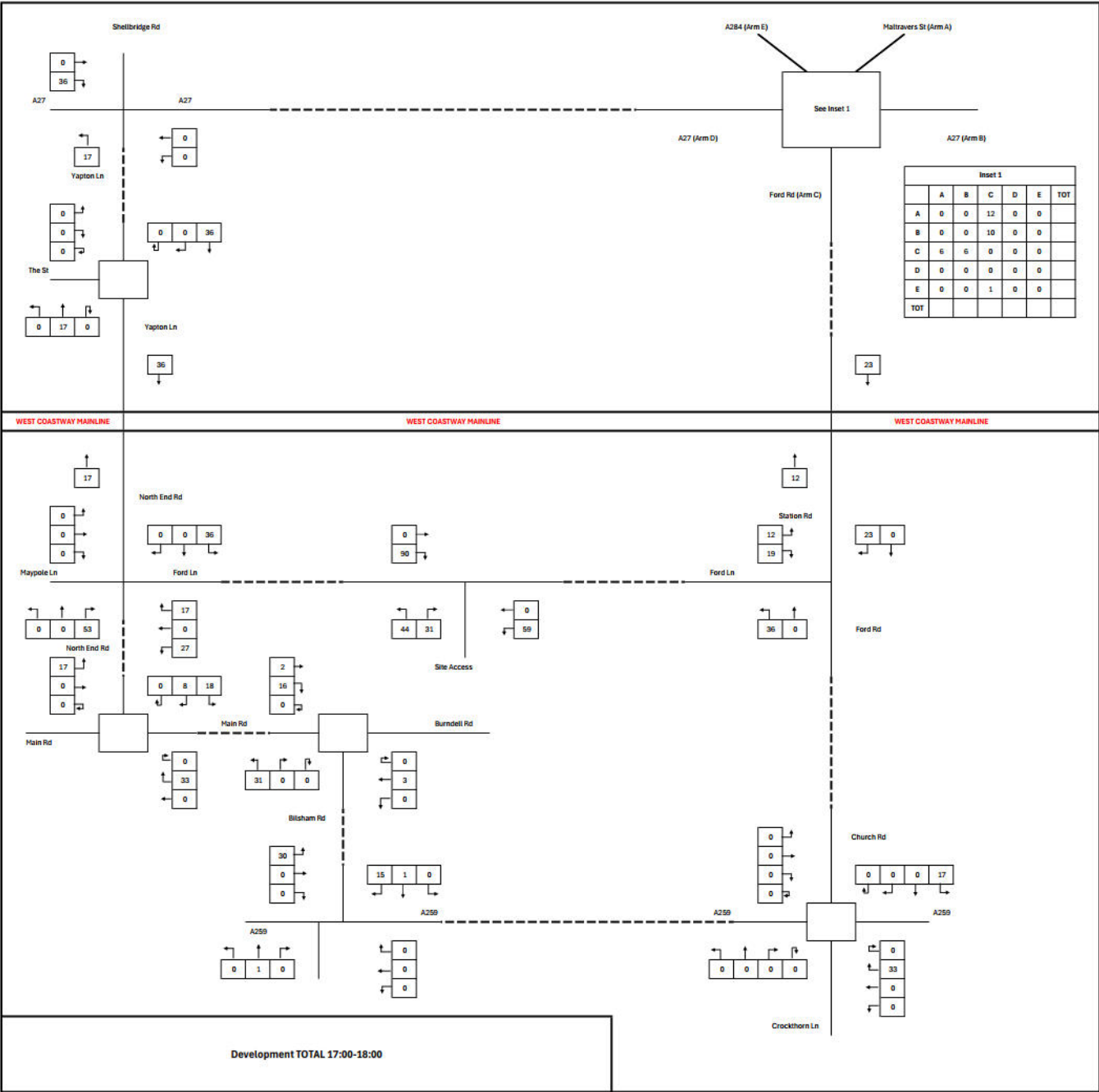


Proposed Development (PM)

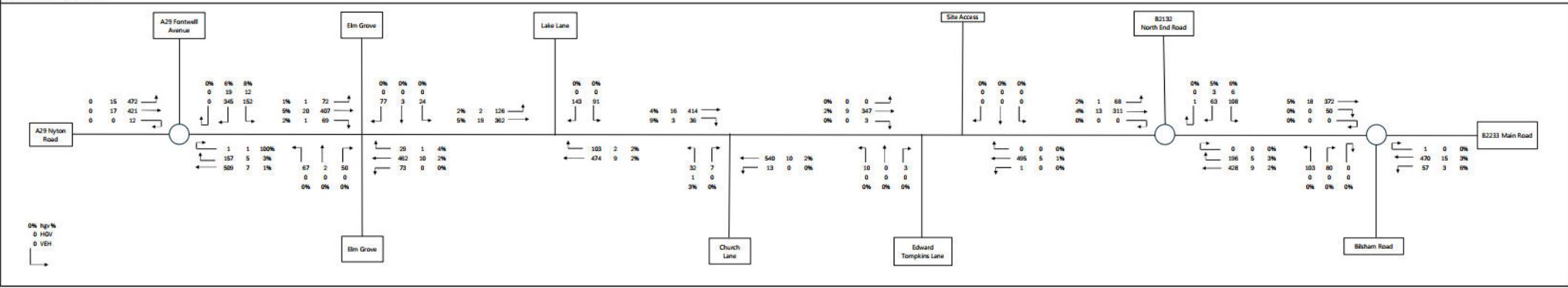




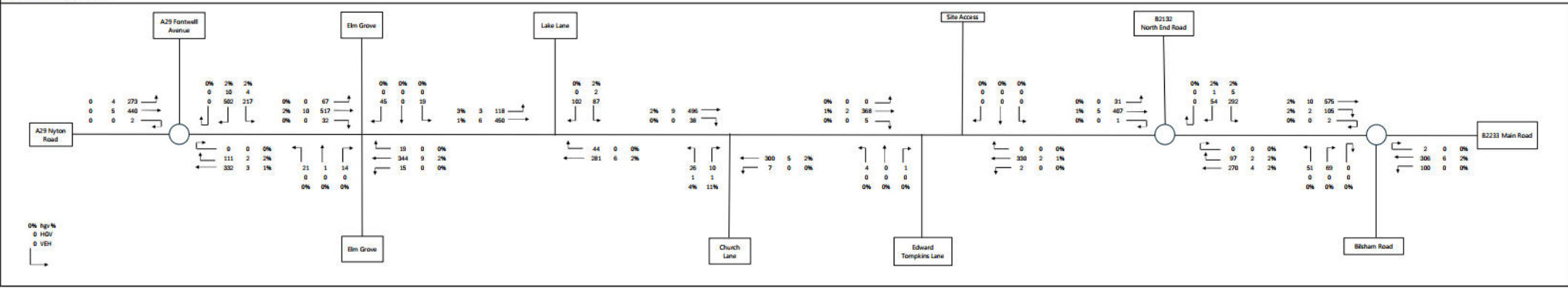
Inset 1						
	A	B	C	D	E	TOT
A	0	0	30	0	0	
B	0	0	9	0	0	
C	33	5	0	0	1	
D	0	0	0	0	0	
E	0	0	0	0	0	
TOT						



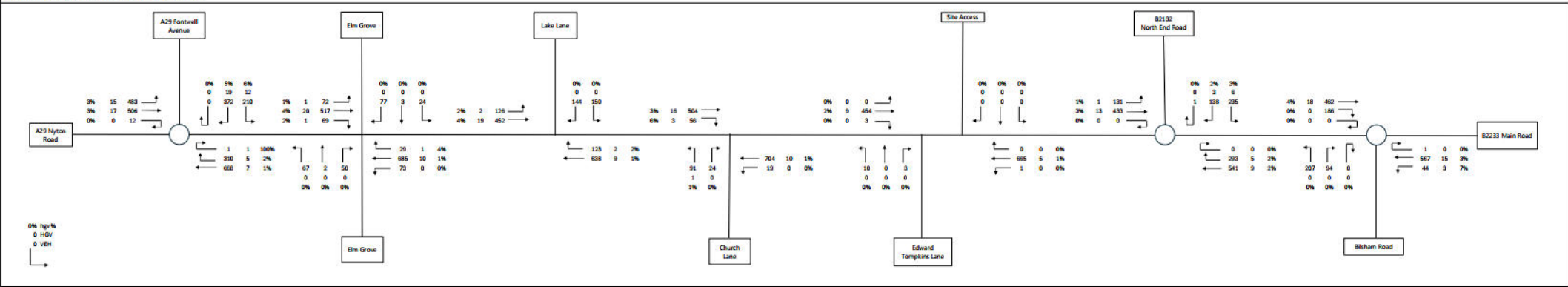
2031 AM (Core Tempo Factor)



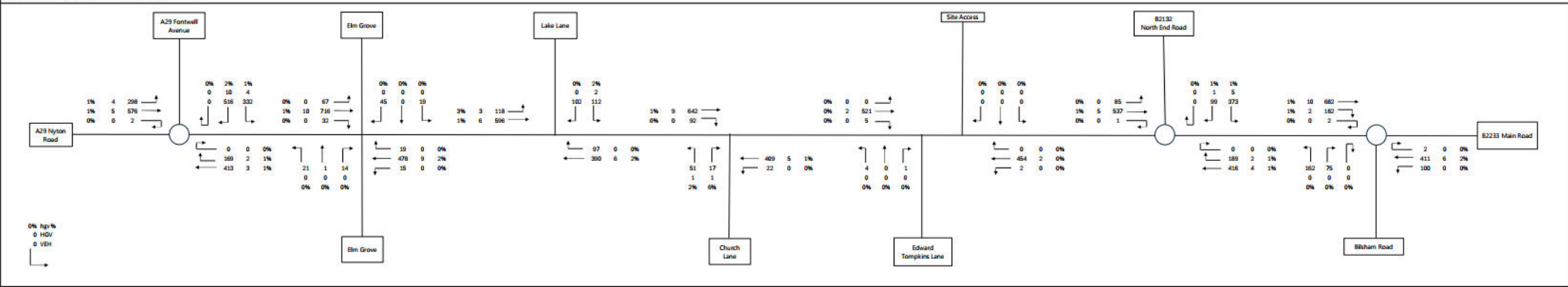
2031 PM (Core Tempo Factor)



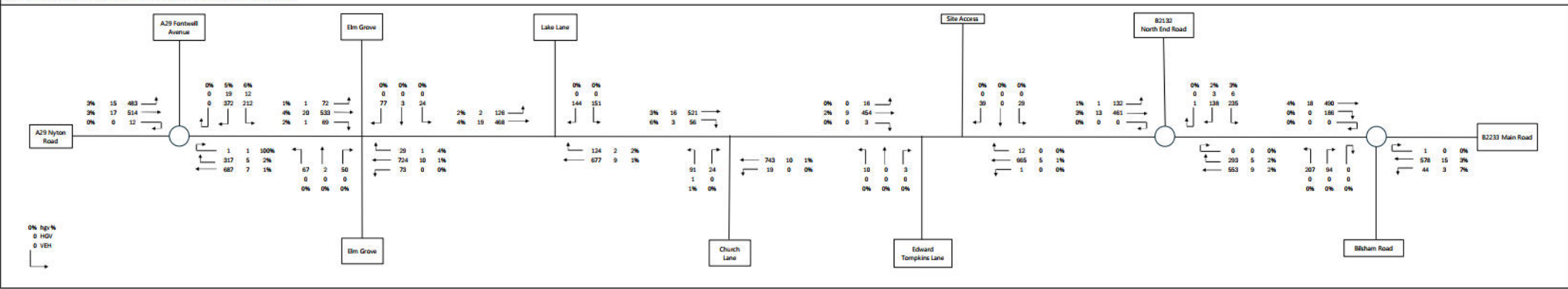
2031 AM (Core Tempo Factor) + Committed Development



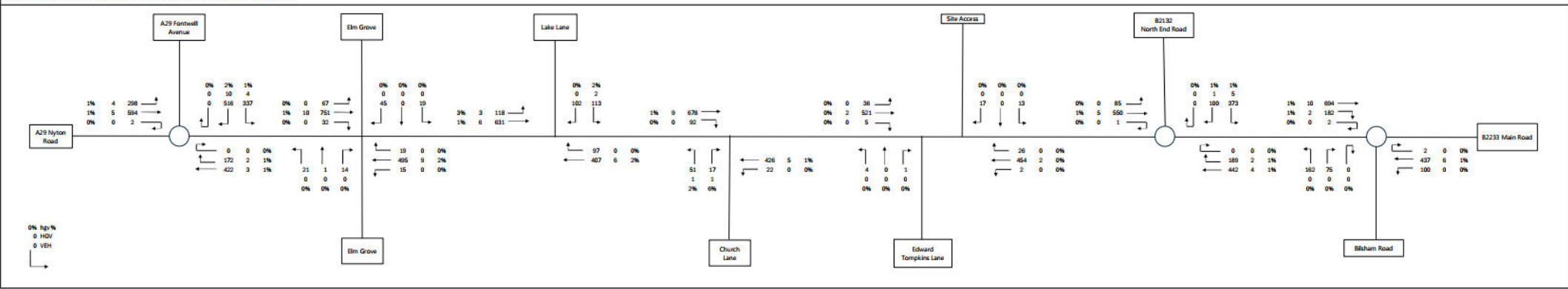
2031 PM (Core Tempo Factor) + Committed Development



2031 AM (Core Tempo Factor) + Committed Development + Proposed Development



2031 PM (Core Tempo Factor) + Committed Development + Proposed Development



Appendix H

Lake Lane/Yapton Road Modelling

Junctions 9									
PICADY 9 - Priority Intersection Module									
Version: 9.5.2.1013 © Copyright TRL Limited, 2019									
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution									

Filename: Lake Lane_B2233 (Core).j9

Path: C:\Users\JosephTucker\OneDrive - Highgate Transportation\Shared Documents - HTP\2400 - Projects\2413 - Yapton Road, Barnham\Modelling\Junctions 9\B2233_Lake Lane

Report generation date: 22/07/2026 16:41:08

- »2031 Base (core), AM
- »2031 Base (core), PM
- »2031 Base (core) + Com Dev, AM
- »2031 Base (core) + Com Dev, PM
- »2031 Base (core) + Com Dev + Dev, AM
- »2031 Base (core) + Com Dev + Dev, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2031 Base (core)									
Stream B-AC	D7	1.3	17.90	0.56	C	D8	0.7	12.23	0.41	B
Stream C-AB		0.9	6.26	0.33	A		0.3	5.82	0.12	A
	2031 Base (core) + Com Dev									
Stream B-AC	D11	3.0	34.98	0.76	D	D12	1.2	18.06	0.54	C
Stream C-AB		1.9	7.17	0.49	A		0.8	6.91	0.32	A
	2031 Base (core) + Com Dev + Dev									
Stream B-AC	D15	3.4	39.80	0.79	E	D16	1.3	19.51	0.56	C
Stream C-AB		2.2	7.38	0.51	A		0.9	6.95	0.33	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

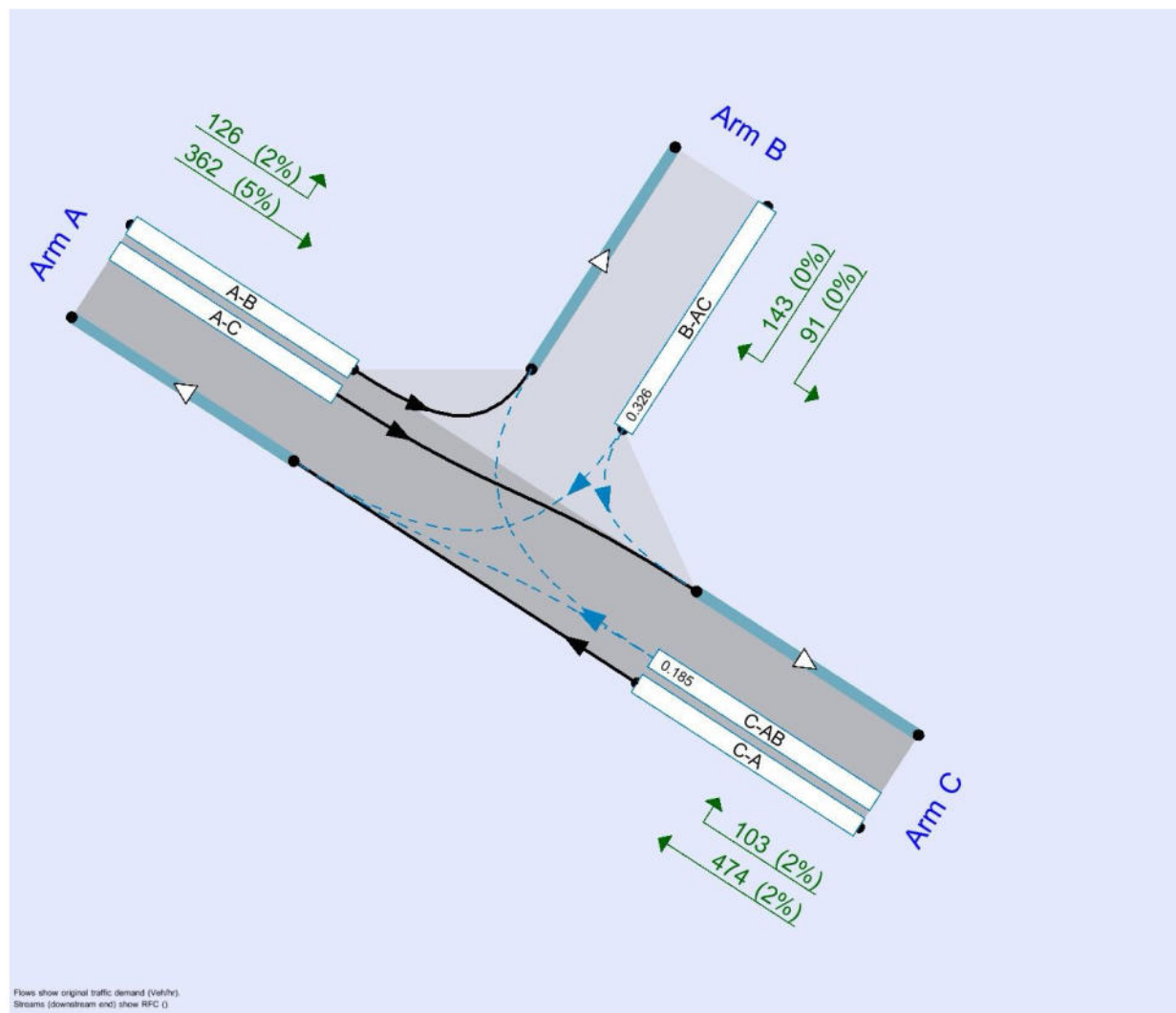
File summary

File Description

Title	
Location	
Site number	
Date	14/08/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\JosephTucker
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2031 Base (core)	AM	ONE HOUR	07:45	09:15	15
D8	2031 Base (core)	PM	ONE HOUR	16:45	18:15	15
D11	2031 Base (core) + Com Dev	AM	ONE HOUR	07:45	09:15	15
D12	2031 Base (core) + Com Dev	PM	ONE HOUR	16:45	18:15	15
D15	2031 Base (core) + Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15
D16	2031 Base (core) + Com Dev + Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2031 Base (core), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Barnham Road - Yapton Road - Lake Lane	T-Junction	Two-way		4.24	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Barnham Road		Major
B	Lake Lane		Minor
C	Yapton Road		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.90			81.3	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	4.52	31	146

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	645	0.108	0.272	0.171	0.389
B-C	825	0.116	0.293	-	-
C-B	621	0.221	0.221	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2031 Base (core)	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	488	100.000
B		✓	234	100.000
C		✓	577	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	126	362
	B	143	0	91
	C	474	103	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	2	5
	B	0	0	0
	C	2	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.56	17.90	1.3	C
C-AB	0.33	6.26	0.9	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	176	540	0.326	174	0.5	9.792	A
C-AB	143	776	0.185	142	0.4	5.671	A
C-A	291			291			
A-B	95			95			
A-C	273			273			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	210	506	0.416	209	0.7	12.097	B
C-AB	196	813	0.240	195	0.6	5.833	A
C-A	323			323			
A-B	113			113			
A-C	325			325			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	258	459	0.562	256	1.2	17.534	C
C-AB	287	866	0.332	286	0.9	6.225	A
C-A	348			348			
A-B	139			139			
A-C	399			399			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	258	458	0.562	258	1.3	17.901	C
C-AB	288	867	0.332	288	0.9	6.256	A
C-A	347			347			

A-B	139			139			
A-C	399			399			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	210	506	0.416	212	0.7	12.361	B
C-AB	196	815	0.241	198	0.6	5.869	A
C-A	322			322			
A-B	113			113			
A-C	325			325			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	176	540	0.327	177	0.5	9.961	A
C-AB	144	777	0.186	145	0.4	5.714	A
C-A	290			290			
A-B	95			95			
A-C	273			273			

2031 Base (core), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Barnham Road - Yapton Road - Lake Lane	T-Junction	Two-way		2.51	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2031 Base (core)	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	568	100.000
B		✓	189	100.000
C		✓	325	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	118	450
	B	102	0	87
	C	281	44	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	3	1
	B	0	0	2
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.41	12.23	0.7	B
C-AB	0.12	5.82	0.3	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	142	570	0.250	141	0.3	8.368	A
C-AB	48	674	0.072	48	0.1	5.749	A
C-A	196			196			
A-B	89			89			
A-C	339			339			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	170	542	0.314	169	0.5	9.656	A
C-AB	63	687	0.091	63	0.2	5.768	A
C-A	229			229			
A-B	106			106			
A-C	405			405			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	208	502	0.414	207	0.7	12.152	B
C-AB	87	706	0.123	86	0.2	5.806	A
C-A	271			271			
A-B	130			130			
A-C	495			495			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	208	502	0.414	208	0.7	12.227	B
C-AB	87	706	0.123	87	0.3	5.818	A
C-A	271			271			
A-B	130			130			
A-C	495			495			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	170	542	0.314	171	0.5	9.734	A
C-AB	63	687	0.092	63	0.2	5.782	A
C-A	229			229			
A-B	106			106			
A-C	405			405			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	142	570	0.250	143	0.3	8.442	A
C-AB	48	674	0.072	49	0.1	5.764	A
C-A	196			196			
A-B	89			89			
A-C	339			339			

2031 Base (core) + Com Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Barnham Road - Yapton Road - Lake Lane	T-Junction	Two-way		7.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2031 Base (core) + Com Dev	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	579	100.000
B		✓	295	100.000
C		✓	761	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	126	452
	B	144	0	150
	C	638	123	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	2	4
	B	0	0	0
	C	1	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.76	34.98	3.0	D
C-AB	0.49	7.17	1.9	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	222	529	0.420	219	0.7	11.531	B
C-AB	212	854	0.248	209	0.6	5.580	A
C-A	361			361			
A-B	95			95			
A-C	341			341			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	265	486	0.545	263	1.2	15.998	C
C-AB	303	909	0.333	301	1.0	5.951	A
C-A	382			382			
A-B	114			114			
A-C	407			407			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	325	426	0.763	318	2.8	31.639	D
C-AB	477	987	0.483	473	1.9	7.067	A
C-A	361			361			
A-B	139			139			
A-C	498			498			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	325	425	0.764	324	3.0	34.981	D
C-AB	480	989	0.485	479	1.9	7.173	A
C-A	358			358			
A-B	139			139			
A-C	498			498			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	265	485	0.546	272	1.2	17.377	C
C-AB	305	912	0.335	309	1.0	6.046	A
C-A	379			379			
A-B	114			114			
A-C	407			407			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	222	528	0.421	224	0.7	11.927	B
C-AB	214	856	0.250	215	0.6	5.651	A
C-A	359			359			
A-B	95			95			
A-C	341			341			

2031 Base (core) + Com Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Barnham Road - Yapton Road - Lake Lane	T-Junction	Two-way		3.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2031 Base (core) + Com Dev	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	714	100.000
B		✓	214	100.000
C		✓	486	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	118	596
	B	102	0	112
	C	390	97	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	3	1
	B	0	0	2
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.54	18.06	1.2	C
C-AB	0.32	6.91	0.8	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	161	530	0.304	160	0.4	9.668	A
C-AB	124	711	0.174	122	0.3	6.110	A
C-A	242			242			
A-B	89			89			
A-C	449			449			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	193	491	0.393	192	0.6	12.002	B
C-AB	167	734	0.228	166	0.5	6.354	A
C-A	270			270			
A-B	106			106			
A-C	536			536			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	236	435	0.542	234	1.1	17.711	C
C-AB	243	767	0.317	242	0.8	6.869	A
C-A	292			292			
A-B	130			130			
A-C	656			656			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	236	435	0.543	236	1.2	18.063	C
C-AB	244	768	0.318	244	0.8	6.906	A
C-A	292			292			
A-B	130			130			
A-C	656			656			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	193	491	0.393	195	0.7	12.248	B
C-AB	168	735	0.228	169	0.5	6.404	A
C-A	270			270			
A-B	106			106			
A-C	536			536			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	161	530	0.305	162	0.4	9.815	A
C-AB	125	712	0.175	125	0.4	6.158	A
C-A	242			242			
A-B	89			89			
A-C	449			449			

2031 Base (core) + Com Dev + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Barnham Road - Yapton Road - Lake Lane	T-Junction	Two-way		8.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D15	2031 Base (core) + Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	595	100.000
B		✓	295	100.000
C		✓	801	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	126	468
	B	144	0	151
	C	677	124	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	2	4
	B	0	0	0
	C	1	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.79	39.80	3.4	E
C-AB	0.51	7.38	2.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	222	521	0.427	219	0.7	11.827	B
C-AB	224	873	0.256	221	0.7	5.519	A
C-A	379			379			
A-B	95			95			
A-C	353			353			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	265	477	0.556	263	1.2	16.719	C
C-AB	323	932	0.347	322	1.1	5.924	A
C-A	396			396			
A-B	114			114			
A-C	421			421			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	325	413	0.787	317	3.1	35.108	E
C-AB	519	1016	0.510	514	2.2	7.236	A
C-A	363			363			
A-B	139			139			
A-C	516			516			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	325	412	0.789	324	3.4	39.796	E
C-AB	522	1019	0.513	522	2.2	7.379	A
C-A	359			359			
A-B	139			139			
A-C	516			516			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	265	476	0.558	274	1.3	18.491	C
C-AB	327	936	0.349	331	1.1	6.039	A
C-A	393			393			
A-B	114			114			
A-C	421			421			

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	222	520	0.427	224	0.8	12.266	B
C-AB	226	875	0.258	228	0.7	5.594	A
C-A	377			377			
A-B	95			95			
A-C	353			353			

2031 Base (core) + Com Dev + Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Barnham Road - Yapton Road - Lake Lane	T-Junction	Two-way		3.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D16	2031 Base (core) + Com Dev + Dev	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		✓	749	100.000
B		✓	215	100.000
C		✓	504	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	118	631
	B	102	0	113
	C	407	97	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	3	1
	B	0	0	2
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.56	19.51	1.3	C
C-AB	0.33	6.95	0.9	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	162	521	0.310	160	0.4	9.919	A
C-AB	127	716	0.178	126	0.4	6.100	A
C-A	252			252			
A-B	89			89			
A-C	475			475			

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	193	480	0.403	192	0.7	12.483	B
C-AB	173	739	0.234	172	0.5	6.352	A
C-A	280			280			
A-B	106			106			
A-C	568			568			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	237	421	0.562	234	1.2	19.053	C
C-AB	254	775	0.328	253	0.9	6.910	A
C-A	300			300			
A-B	130			130			
A-C	695			695			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	237	421	0.562	236	1.3	19.509	C
C-AB	255	776	0.329	255	0.9	6.954	A
C-A	300			300			
A-B	130			130			
A-C	695			695			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	193	479	0.403	195	0.7	12.777	B
C-AB	174	741	0.234	175	0.5	6.412	A
C-A	279			279			
A-B	106			106			
A-C	568			568			

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	162	521	0.311	163	0.5	10.082	B
C-AB	128	716	0.179	129	0.4	6.150	A
C-A	251			251			
A-B	89			89			
A-C	475			475			

Appendix I

B2233/North End Road Modelling

Junctions 9									
ARCADY 9 - Roundabout Module									
Version: 9.5.2.1013 © Copyright TRL Limited, 2019									
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk									
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Filename: North End Road with Mit.j9

Path: C:\Users\JosephTucker\OneDrive - Highgate Transportation\Shared Documents - HTP\2400 - Projects\2413 - Yapton Road, Barnham\Modelling\Junctions 9\North End Road_B2233 Mini Roundabout\North End Road Modelling (With Mit and F_19_25)

Report generation date: 05/08/2026 09:22:29

»2031 Base (core), AM
 »2031 Base (core), PM
 »2031 Base (core) + Com Dev, AM
 »2031 Base (core) + Com Dev, PM
 »2031 Base (core) + Com Dev + Dev, AM
 »2031 Base (core) + Com Dev + Dev, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
2031 Base (core)										
Arm 1	D1	0.2	2.96	0.13	A	D2	0.4	3.58	0.27	A
Arm 2		1.0	5.42	0.51	A		0.4	3.77	0.30	A
Arm 3		0.6	4.80	0.36	A		0.6	4.60	0.38	A
2031 Base (core) + Com Dev										
Arm 1	D3	0.4	3.82	0.30	A	D4	0.7	4.63	0.40	A
Arm 2		2.4	9.38	0.71	A		1.0	5.37	0.50	A
Arm 3		1.2	7.25	0.56	A		1.3	6.93	0.57	A
2031 Base (core) + Com Dev + Dev										
Arm 1	D5	0.4	3.91	0.31	A	D6	0.7	4.67	0.40	A
Arm 2		2.5	9.73	0.72	A		1.1	5.61	0.52	A
Arm 3		1.4	7.75	0.58	A		1.4	7.13	0.58	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

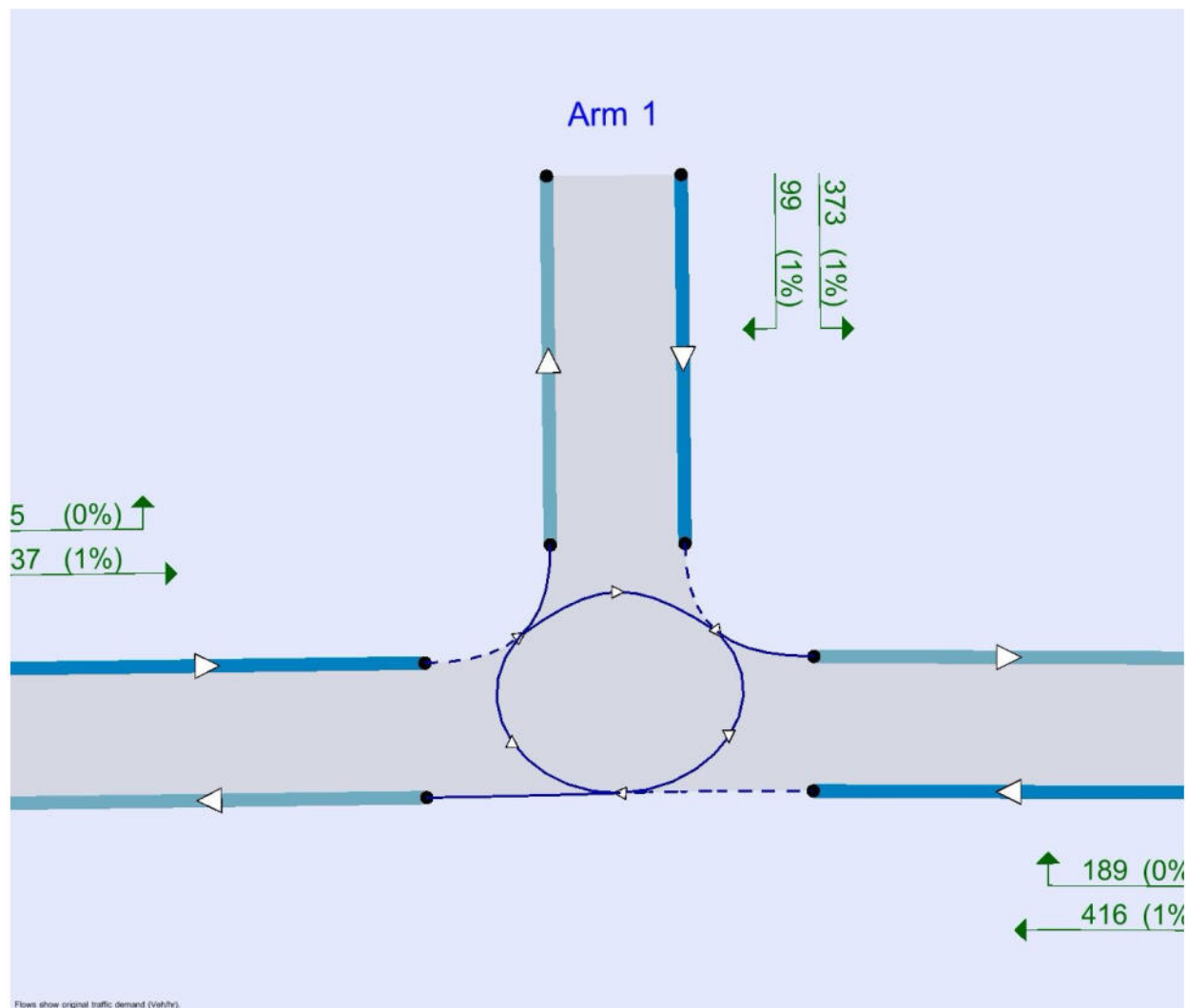
File summary

File Description

Title	
Location	
Site number	
Date	22/08/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\JosephTucker
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin



Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base (core)	AM	ONE HOUR	07:45	09:15	15
D2	2031 Base (core)	PM	ONE HOUR	16:45	18:15	15
D3	2031 Base (core) + Com Dev	AM	ONE HOUR	07:45	09:15	15
D4	2031 Base (core) + Com Dev	PM	ONE HOUR	16:45	18:15	15
D5	2031 Base (core) + Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15
D6	2031 Base (core) + Com Dev + Dev	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2031 Base (core), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	4.85	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	North End Road	North End Road
2	B2233 East	B2233 East
3	B2233 West	B2233 West

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	4.46	5.59	15.8	41.0	20.0	20.0	
2	3.38	4.60	11.9	15.0	20.0	0.0	
3	3.27	4.80	6.4	27.0	20.0	13.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.689	1727
2	0.633	1417
3	0.613	1343

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2031 Base (core)	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	172	100.000
2		✓	624	100.000
3		✓	379	100.000

Origin-Destination Data

Demand (Veh/hr)

	To

From		1	2	3
	1	1	108	63
	2	196	0	428
	3	68	311	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		1	2	3
	1	0	6	5
	2	0	0	2
	3	2	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.13	2.96	0.2	A
2	0.51	5.42	1.0	A
3	0.36	4.80	0.6	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	129	233	1478	0.088	129	0.1	2.669	A
2	470	48	1366	0.344	468	0.5	3.998	A
3	285	148	1209	0.236	284	0.3	3.889	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	155	279	1446	0.107	155	0.1	2.786	A
2	561	57	1360	0.412	560	0.7	4.498	A
3	341	177	1191	0.286	340	0.4	4.227	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	189	342	1404	0.135	189	0.2	2.963	A
2	687	70	1352	0.508	686	1.0	5.396	A
3	417	216	1168	0.357	417	0.6	4.787	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	189	342	1404	0.135	189	0.2	2.964	A
2	687	70	1351	0.508	687	1.0	5.417	A
3	417	217	1168	0.357	417	0.6	4.796	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	155	280	1446	0.107	155	0.1	2.790	A
2	561	58	1360	0.413	562	0.7	4.521	A
3	341	178	1191	0.286	341	0.4	4.239	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	129	234	1477	0.088	130	0.1	2.671	A
2	470	48	1366	0.344	471	0.5	4.022	A

3	285	149	1208	0.236	286	0.3	3.905	A
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2031 Base (core), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	4.03	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2031 Base (core)	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	346	100.000
2		✓	367	100.000
3		✓	439	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1	2	3
From	1	0	292	54
	2	97	0	270
	3	31	407	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	2	2
	2	0	0	2
	3	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.27	3.58	0.4	A
2	0.30	3.77	0.4	A
3	0.38	4.60	0.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	260	306	1485	0.175	260	0.2	2.937	A
2	276	41	1370	0.202	275	0.3	3.285	A
3	331	73	1287	0.257	329	0.3	3.754	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	311	366	1444	0.215	311	0.3	3.177	A
2	330	49	1365	0.242	330	0.3	3.477	A
3	395	87	1278	0.309	394	0.4	4.071	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	381	449	1388	0.275	381	0.4	3.572	A
2	404	60	1358	0.298	404	0.4	3.770	A
3	483	107	1266	0.382	483	0.6	4.591	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	381	449	1387	0.275	381	0.4	3.576	A
2	404	61	1358	0.298	404	0.4	3.773	A
3	483	107	1266	0.382	483	0.6	4.598	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	311	367	1443	0.216	311	0.3	3.184	A
2	330	50	1365	0.242	330	0.3	3.480	A
3	395	87	1278	0.309	395	0.4	4.083	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	260	308	1484	0.176	261	0.2	2.943	A
2	276	41	1370	0.202	277	0.3	3.292	A
3	331	73	1287	0.257	331	0.3	3.770	A

2031 Base (core) + Com Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	7.52	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2031 Base (core) + Com Dev	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	374	100.000
2		✓	834	100.000
3		✓	564	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1	2	3
From	1	1	235	138
	2	293	0	541
	3	131	433	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	3	2
	2	0	0	2
	3	1	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.30	3.82	0.4	A
2	0.71	9.38	2.4	A
3	0.56	7.25	1.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	282	325	1459	0.193	281	0.2	3.052	A
2	628	104	1332	0.471	624	0.9	5.058	A
3	425	220	1180	0.360	423	0.6	4.742	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	336	389	1415	0.238	336	0.3	3.337	A
2	750	125	1319	0.568	748	1.3	6.281	A
3	507	263	1154	0.440	506	0.8	5.554	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	412	476	1355	0.304	411	0.4	3.814	A
2	918	153	1301	0.705	914	2.3	9.192	A
3	621	322	1119	0.555	620	1.2	7.187	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	412	477	1354	0.304	412	0.4	3.821	A
2	918	153	1301	0.705	918	2.4	9.379	A
3	621	323	1118	0.556	621	1.2	7.250	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	336	391	1413	0.238	337	0.3	3.347	A
2	750	125	1319	0.568	754	1.3	6.411	A
3	507	265	1152	0.440	509	0.8	5.611	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	282	327	1457	0.193	282	0.2	3.062	A
2	628	105	1332	0.471	629	0.9	5.138	A
3	425	222	1179	0.361	426	0.6	4.787	A

2031 Base (core) + Com Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	5.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2031 Base (core) + Com Dev	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	472	100.000
2		✓	605	100.000
3		✓	623	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1	2	3
From	1	0	373	99
	2	189	0	416
	3	85	537	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	1	1
	2	0	0	1
	3	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.40	4.63	0.7	A
2	0.50	5.37	1.0	A
3	0.57	6.93	1.3	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	355	403	1427	0.249	354	0.3	3.348	A
2	456	75	1359	0.335	454	0.5	3.966	A
3	469	142	1246	0.377	467	0.6	4.608	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	424	483	1373	0.309	424	0.4	3.791	A
2	544	90	1350	0.403	543	0.7	4.460	A
3	560	170	1229	0.456	559	0.8	5.370	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	519	591	1298	0.400	519	0.7	4.611	A
2	666	110	1337	0.498	665	1.0	5.348	A
3	686	207	1206	0.569	684	1.3	6.881	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	519	593	1297	0.400	519	0.7	4.627	A
2	666	110	1337	0.498	666	1.0	5.368	A
3	686	208	1206	0.569	686	1.3	6.933	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	424	486	1371	0.309	425	0.5	3.808	A
2	544	90	1350	0.403	545	0.7	4.483	A
3	560	170	1229	0.456	562	0.8	5.420	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	355	406	1425	0.249	356	0.3	3.365	A
2	456	76	1359	0.335	456	0.5	3.992	A
3	469	142	1245	0.377	470	0.6	4.651	A

2031 Base (core) + Com Dev + Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	7.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2031 Base (core) + Com Dev + Dev	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	374	100.000
2		✓	846	100.000
3		✓	593	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1	2	3
From	1	1	235	138
	2	293	0	553
	3	132	461	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	3	2
	2	0	0	2
	3	1	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.31	3.91	0.4	A
2	0.72	9.73	2.5	A
3	0.58	7.75	1.4	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	282	345	1445	0.195	281	0.2	3.089	A
2	637	104	1332	0.478	633	0.9	5.125	A
3	446	220	1179	0.379	444	0.6	4.881	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	336	414	1397	0.241	336	0.3	3.391	A
2	761	125	1319	0.577	759	1.3	6.406	A
3	533	264	1153	0.462	532	0.8	5.787	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	412	506	1334	0.309	411	0.4	3.901	A
2	931	153	1301	0.716	927	2.4	9.515	A
3	653	322	1118	0.584	651	1.4	7.668	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	412	508	1333	0.309	412	0.4	3.909	A
2	931	153	1301	0.716	931	2.5	9.726	A
3	653	324	1117	0.584	653	1.4	7.749	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	336	416	1396	0.241	337	0.3	3.400	A
2	761	125	1319	0.577	765	1.4	6.552	A
3	533	266	1152	0.463	535	0.9	5.856	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	282	348	1443	0.195	282	0.2	3.103	A
2	637	105	1332	0.478	639	0.9	5.210	A
3	446	222	1178	0.379	447	0.6	4.935	A

2031 Base (core) + Com Dev + Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	5.91	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2031 Base (core) + Com Dev + Dev	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	473	100.000
2		✓	631	100.000
3		✓	636	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		1	2	3
From	1	0	373	100
	2	189	0	442
	3	85	550	1

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	1	1
	2	0	0	1
	3	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.40	4.67	0.7	A
2	0.52	5.61	1.1	A
3	0.58	7.13	1.4	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	356	413	1426	0.250	355	0.3	3.357	A
2	475	76	1359	0.350	473	0.5	4.055	A
3	479	142	1246	0.384	476	0.6	4.664	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	425	495	1369	0.311	425	0.4	3.809	A
2	567	91	1349	0.420	567	0.7	4.597	A
3	572	170	1229	0.465	571	0.9	5.464	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	521	605	1293	0.403	520	0.7	4.651	A
2	695	111	1336	0.520	693	1.1	5.588	A
3	700	208	1206	0.581	698	1.4	7.067	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	521	607	1292	0.403	521	0.7	4.667	A
2	695	111	1336	0.520	695	1.1	5.613	A
3	700	208	1205	0.581	700	1.4	7.126	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	425	497	1367	0.311	426	0.5	3.829	A
2	567	91	1349	0.421	569	0.7	4.623	A
3	572	170	1228	0.466	574	0.9	5.515	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	356	416	1423	0.250	357	0.3	3.375	A
2	475	76	1358	0.350	476	0.5	4.082	A
3	479	143	1245	0.385	480	0.6	4.711	A

Appendix J

B2233/Bilsham Road Modelling

Junctions 9									
ARCADY 9 - Roundabout Module									
Version: 9.5.2.1013 © Copyright TRL Limited, 2019									
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk									
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Filename: D11+D12 + DEV.j9

Path: C:\Users\JosephTucker\OneDrive - Highgate Transportation\Shared Documents - HTp\2400 - Projects\2413 - Yapton Road, Barnham\Modelling\Junctions 9\Bilsham Road_B2233 Mini Roundabout\Comet Corner Sensitivity

Report generation date: 24/07/2026 12:49:43

»2030 (DS-DM+CD+Dev + Base), AM
 »2030 (DS-DM+CD+Dev + Base), PM
 »2030 (DS-DM+CD+Dev + Base) + DEV, AM
 »2030 (DS-DM+CD+Dev + Base) + DEV, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2030 (DS-DM+CD+Dev + Base)									
Arm 1	D11	2.5	11.63	0.72	B	D12	1.7	8.85	0.64	A
Arm 2		0.7	5.78	0.40	A		0.3	3.98	0.25	A
Arm 3		1.1	6.42	0.52	A		5.6	19.68	0.87	C
	2030 (DS-DM+CD+Dev + Base) + DEV									
Arm 1	D13	2.7	12.05	0.73	B	D14	1.9	9.43	0.66	A
Arm 2		0.7	5.85	0.40	A		0.3	4.05	0.25	A
Arm 3		1.2	6.77	0.54	A		6.0	20.85	0.88	C

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	24/07/2026
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	AzureAD\JosephTucker
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D11	2030 (DS-DM+CD+Dev + Base)	AM	DIRECT	07:30	08:30	60	15
D12	2030 (DS-DM+CD+Dev + Base)	PM	DIRECT	16:15	17:15	60	15
D13	2030 (DS-DM+CD+Dev + Base) + DEV	AM	DIRECT	07:30	08:30	60	15
D14	2030 (DS-DM+CD+Dev + Base) + DEV	PM	DIRECT	16:15	17:15	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2030 (DS-DM+CD+Dev + Base), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	8.44	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	B2233 (East)	
2	Bilsham Road	
3	B2233 (West)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.40	4.60	10.9	9.0	20.0	22.0	
2	3.70	5.60	13.5	15.0	20.0	21.5	
3	3.30	4.50	8.1	16.0	20.0	10.3	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1	0.563	314.374
2	0.635	384.516
3	0.603	329.134

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D11	2030 (DS-DM+CD+Dev + Base)	AM	DIRECT	07:30	08:30	60	15

Vehicle mix varies over time	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)

1		✓	100.000
2		✓	100.000
3		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:30 - 07:45	To			
		1	2	3
	From 1	0.00	21.09	123.42
	2	40.29	0.00	57.89
	3	74.61	49.33	0.00

Demand (Veh/TS)

07:45 - 08:00	To			
		1	2	3
	From 1	0.00	16.87	144.38
	2	34.24	1.00	65.93
	3	100.95	41.11	0.00

Demand (Veh/TS)

08:00 - 08:15	To			
		1	2	3
	From 1	2.00	16.87	126.92
	2	31.22	2.00	35.38
	3	96.56	53.44	0.00

Demand (Veh/TS)

08:15 - 08:30	To			
		1	2	3
	From 1	3.00	22.50	168.83
	2	35.25	3.00	65.93
	3	88.88	41.11	0.00

Vehicle Mix

Heavy Vehicle Percentages

07:30 - 07:45	To			
		1	2	3
	From 1	0	9	3
	2	3	0	4
	3	0	2	0

Heavy Vehicle Percentages

07:45 - 08:00	To			
		1	2	3
	From 1	100	11	4
	2	0	100	1
	3	6	3	0

Heavy Vehicle Percentages

08:00 - 08:15	To			
		1	2	3
	From 1	100	0	4
	2	3	100	3
	3	8	0	0

Heavy Vehicle Percentages

08:15 - 08:30	To			
		1	2	3
	From 1	100	24	3

	2	3	100	1
	3	5	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.72	11.63	2.5	B
2	0.40	5.78	0.7	A
3	0.52	6.42	1.1	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	144.51	49.06	275.53	0.524	143.42	1.1	6.758	A
2	98.18	122.49	293.84	0.334	97.68	0.5	4.577	A
3	123.94	40.09	301.84	0.411	123.25	0.7	5.020	A

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	161.25	42.11	276.35	0.584	160.96	1.4	7.779	A
2	101.17	144.08	284.67	0.355	101.12	0.5	4.902	A
3	142.06	35.26	292.35	0.486	141.82	0.9	5.969	A

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	145.79	55.33	269.04	0.542	145.96	1.2	7.323	A
2	68.60	129.09	281.72	0.244	68.82	0.3	4.231	A
3	150.00	35.24	289.99	0.517	149.87	1.1	6.418	A

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	194.33	44.22	269.18	0.722	193.05	2.5	11.628	B
2	104.18	170.70	259.26	0.402	103.84	0.7	5.777	A
3	129.99	41.14	290.14	0.448	130.23	0.8	5.636	A

2030 (DS-DM+CD+Dev + Base), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	13.77	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D12	2030 (DS-DM+CD+Dev + Base)	PM	DIRECT	16:15	17:15	60	15

Vehicle mix varies over time	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1		✓	100.000
2		✓	100.000
3		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:15 - 16:30

		To		
		1	2	3
From	1	0.00	48.88	126.21
	2	19.56	0.00	53.78
	3	124.37	66.33	0.00

Demand (Veh/TS)

16:30 - 16:45

		To		
		1	2	3
From	1	1.00	32.59	94.66
	2	22.81	1.00	34.22
	3	141.80	44.81	0.00

Demand (Veh/TS)

16:45 - 17:00

		To		
		1	2	3
From	1	2.00	29.87	72.12
	2	27.16	2.00	39.11
	3	158.07	69.91	0.00

Demand (Veh/TS)

17:00 - 17:15

	To			
From		1	2	3
	1	3.00	36.66	80.01
	2	18.47	3.00	26.89
	3	198.76	60.95	0.00

Vehicle Mix**Heavy Vehicle Percentages**

16:15 - 16:30

	To			
From		1	2	3
	1	0	0	2
	2	6	0	0
	3	1	0	0

Heavy Vehicle Percentages

16:30 - 16:45

		To		
From		1	2	3
	1	100	4	4
	2	14	100	0
	3	3	5	0

Heavy Vehicle Percentages

16:45 - 17:00

	To			
From		1	2	3
	1	100	0	3
	2	4	100	0
	3	2	2	0

Heavy Vehicle Percentages

17:00 - 17:15

		To		
From		1	2	3
	1	100	7	3
	2	0	100	0
	3	4	2	0

Results**Results Summary for whole modelled period**

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.64	8.85	1.7	A
2	0.25	3.98	0.3	A
3	0.87	19.68	5.6	C

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	175.09	65.81	273.39	0.640	173.36	1.7	8.851	A
2	73.34	124.96	298.78	0.245	73.02	0.3	3.980	A
3	190.70	19.47	314.64	0.606	189.19	1.5	7.093	A

16:30 - 16:45

	Total Demand	Circulating	Capacity		Throughput	End queue		Unsignalised
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Arm	(Veh/TS)	flow (Veh/TS)	(Veh/TS)	RFC	(Veh/TS)	(Veh)	Delay (s)	level of service
1	128.25	45.94	273.82	0.469	129.09	0.9	6.255	A
2	58.03	96.25	298.88	0.194	58.12	0.2	3.738	A
3	186.61	24.80	300.67	0.621	186.50	1.6	7.875	A

16:45 - 17:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	103.99	71.38	261.77	0.397	104.22	0.7	5.722	A
2	68.27	74.31	320.16	0.213	68.24	0.3	3.572	A
3	227.98	31.14	301.24	0.757	226.63	3.0	11.845	B

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119.67	63.54	259.03	0.462	119.49	0.8	6.442	A
2	48.36	82.90	309.29	0.156	48.44	0.2	3.450	A
3	259.71	24.49	300.21	0.865	257.09	5.6	19.684	C

2030 (DS-DM+CD+Dev + Base) + DEV, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	8.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D13	2030 (DS-DM+CD+Dev + Base) + DEV	AM	DIRECT	07:30	08:30	60	15

Vehicle mix varies over time	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1		✓	100.000
2		✓	100.000
3		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:30 - 07:45

		To		
		1	2	3
From	1	0.00	21.09	126.42
	2	40.29	0.00	57.89
	3	81.61	49.33	0.00

Demand (Veh/TS)

07:45 - 08:00

		To		
		1	2	3
From	1	0.00	16.87	143.38
	2	34.24	1.00	65.93
	3	107.95	41.11	0.00

Demand (Veh/TS)

08:00 - 08:15

		To		
		1	2	3
From	1	2.00	16.87	129.92
	2	31.22	2.00	35.38

	3	103.56	53.44	0.00
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Demand (Veh/TS)

08:15 - 08:30

	To			
		1	2	3
From	1	3.00	22.50	171.83
	2	35.25	3.00	65.93
	3	95.88	41.11	0.00

Vehicle Mix**Heavy Vehicle Percentages**

07:30 - 07:45

	To			
		1	2	3
From	1	0	9	3
	2	3	0	4
	3	0	2	0

Heavy Vehicle Percentages

07:45 - 08:00

	To			
		1	2	3
From	1	100	11	4
	2	0	100	1
	3	6	3	0

Heavy Vehicle Percentages

08:00 - 08:15

	To			
		1	2	3
From	1	100	0	4
	2	3	100	3
	3	8	0	0

Heavy Vehicle Percentages

08:15 - 08:30

	To			
		1	2	3
From	1	100	24	3
	2	3	100	1
	3	5	0	0

Results**Results Summary for whole modelled period**

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.73	12.05	2.7	B
2	0.40	5.85	0.7	A
3	0.54	6.77	1.2	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	147.51	49.04	275.58	0.535	146.38	1.1	6.908	A
2	98.18	125.45	291.97	0.336	97.68	0.5	4.620	A
3	130.94	40.08	301.97	0.434	130.18	0.8	5.216	A

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	160.25	42.11	276.34	0.580	160.03	1.4	7.721	A
2	101.17	143.14	285.28	0.355	101.13	0.5	4.886	A
3	149.06	35.26	292.23	0.510	148.79	1.0	6.263	A

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	148.79	55.32	269.09	0.553	148.89	1.3	7.494	A
2	68.60	132.02	279.89	0.245	68.82	0.3	4.268	A
3	157.00	35.24	289.65	0.542	156.86	1.2	6.770	A

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	197.33	44.23	269.33	0.733	195.97	2.6	12.048	B
2	104.18	173.63	257.43	0.405	103.83	0.7	5.847	A
3	136.99	41.14	289.91	0.472	137.25	0.9	5.907	A

2030 (DS-DM+CD+Dev + Base) + DEV, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3	14.55	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D14	2030 (DS-DM+CD+Dev + Base) + DEV	PM	DIRECT	16:15	17:15	60	15

Vehicle mix varies over time	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1		✓	100.000
2		✓	100.000
3		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:15 - 16:30

		To		
From		1	2	3
	1	0.00	48.88	132.71
	2	19.56	0.00	53.78
	3	127.37	66.33	0.00

Demand (Veh/TS)

16:30 - 16:45

		To		
From		1	2	3
	1	1.00	32.59	101.16
	2	22.81	1.00	34.22
	3	144.80	44.81	0.00

Demand (Veh/TS)

16:45 - 17:00

		To		
From		1	2	3
	1	2.00	29.87	78.62
	2	27.16	2.00	39.11

	3	161.07	69.91	0.00
--	---	--------	-------	------

Demand (Veh/TS)

17:00 - 17:15

	To			
		1	2	3
From	1	3.00	36.66	86.51
	2	18.47	3.00	26.89
	3	201.76	60.95	0.00

Vehicle Mix**Heavy Vehicle Percentages**

16:15 - 16:30

	To			
		1	2	3
From	1	0	0	2
	2	6	0	0
	3	1	0	0

Heavy Vehicle Percentages

16:30 - 16:45

	To			
		1	2	3
From	1	100	4	4
	2	14	100	0
	3	3	5	0

Heavy Vehicle Percentages

16:45 - 17:00

	To			
		1	2	3
From	1	100	0	3
	2	4	100	0
	3	2	2	0

Heavy Vehicle Percentages

17:00 - 17:15

	To			
		1	2	3
From	1	100	7	3
	2	0	100	0
	3	4	2	0

Results**Results Summary for whole modelled period**

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.66	9.43	1.9	A
2	0.25	4.05	0.3	A
3	0.88	20.85	6.0	C

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	181.59	65.79	273.34	0.664	179.67	1.9	9.427	A
2	73.34	131.31	294.74	0.249	73.01	0.3	4.053	A
3	193.70	19.47	314.62	0.616	192.13	1.6	7.258	A

16:30 - 16:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	134.75	45.94	273.92	0.492	135.69	1.0	6.552	A
2	58.03	102.82	294.83	0.197	58.12	0.2	3.802	A
3	189.61	24.80	300.69	0.631	189.50	1.7	8.082	A

16:45 - 17:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	110.49	71.36	261.94	0.422	110.73	0.7	5.963	A
2	68.27	80.83	316.09	0.216	68.24	0.3	3.630	A
3	230.98	31.14	301.24	0.767	229.54	3.1	12.303	B

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	126.17	63.50	259.51	0.486	125.98	0.9	6.730	A
2	48.36	89.39	305.29	0.158	48.45	0.2	3.507	A
3	262.71	24.49	300.20	0.875	259.84	6.0	20.846	C