

TRANSPORT TECHNICAL NOTE

JOB REF. CLIENT
GS/TV/32513 Esquire Developments Ltd

SITE
Land at Rose Farm, Istead Rise, Gravesham.

JOB NAME
Response to National Highways

1.1 INTRODUCTION

- 1.1.1 This Transport Technical Note (TN) has been produced in response to the representation received from National Highways (NH), dated 19th January 2026, in relation to the outline planning application for a residential development of 154 dwellings with all matters reserved except for access (Planning Application Reference: GB/20251233) at Land at Rose Farm, in Istead Rise, Gravesham.
- 1.1.2 This TN addresses the substantive points raised within NH's representation, a copy of which is included at **Appendix A** for reference.

1.2 COMMENTARY

- 1.2.1 NH have stated the following:-

"We previously noted there is a requirement for collision analysis to be undertaken at the A2 / A227 Wrotham Road junction, including slip lanes. The TA has been reviewed, this collision analysis is not included and is therefore required to be provided; this is required for the latest 5-year period."

- 1.2.2 The most recent five years of Personal Injury Collision (PIC) data for the period up to September 2025 for the roundabout junction and its slip roads, has been obtained from Kent County Council (KCC). The plot can be seen in Figure 1 below.

Kent

01622 776226

Gatwick

01293 221320

London

020 3005 9725

Leeds

0113 323 6669

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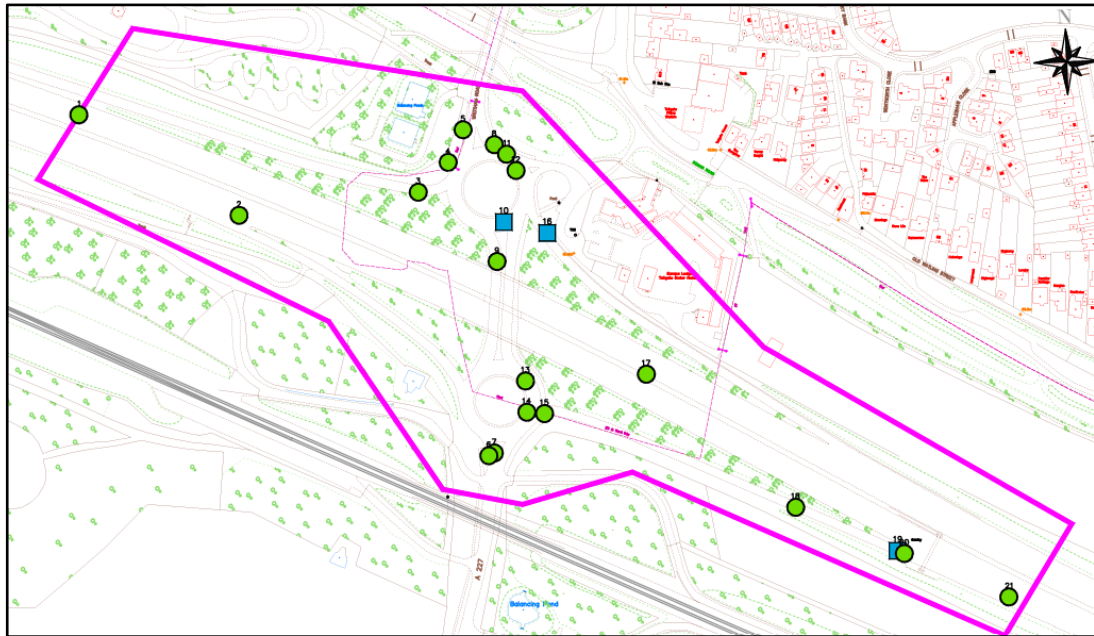


FIGURE 1: PIC PLOT (COURTESY OF KCC)

- 1.2.3 The associated plot and report are included at **Appendix B**.
- 1.2.4 A total of 21 incidents were recorded during this assessment period, comprising three 'serious' collisions with the remaining 18 as 'slight'.
- 1.2.5 PIC no. 1, 2 and 17 occurred on the main carriageway of the A2 rather than the junction, and have therefore been excluded from the assessment.
- 1.2.6 The remaining collisions took place at the A2 / A227 Wrotham Road roundabout:
- Seven on the northern roundabout;
 - One each on the eastbound on-slip and off-slip;
 - Five on the southern roundabout; and
 - Four on the westbound off-slip.
- 1.2.7 The first 'serious' incident (PIC no.10) occurred on the northern roundabout of the junction in light and dry conditions. The incident occurred when a car travelling on the A2 eastbound off slip has entered the roundabout and collided with a vehicle. The second 'serious' incident (PIC no.16) occurred on the A2 eastbound on-slip in light and wet conditions when the tow rope between two motorcycles has broken, causing injury to the rider. The final 'serious' incident occurred (PIC no. 19) on the A2 westbound off-slip and involved a rear end shunt collision.

- 1.2.8 Analysis of the 'slight' incidents indicates that all recorded incidents can be attributed to human error rather than any inherent fault with the highway layout or condition. The most frequent causes were rear end shunts, in addition to instances of loss of control, a police pursuit, and drivers entering the roundabout incorrectly.
- 1.2.9 In view of the number, nature and location of the incidents recorded, it is not considered that the proposed development would materially exacerbate the local highway safety record. The volume and type of incidents observed are consistent with expectations for a junction of this scale and function.
- 1.2.10 There is, however, recognition that there are concentrations of incidents, particularly on the northern side of the northern roundabout and western to southern sections of the southern roundabout which were predominantly rear-end shunt collisions. Notwithstanding the junction's generally good safety record, improvement works are proposed, including partial signalisation of the A2 westbound off-slip and the conversion of the southern roundabout to a 'teardrop' layout. These measures are expected to deliver highway safety benefits reducing incidents at the junction and it is assumed that the improvements have been appropriately assessed in view of highway safety by National Highways.
- 1.2.11 In relation to committed developments, NH have stated the following;
- "The LPA is required to be consulted with regard to committed development assumptions, correspondence with the LPA should be provided for review. We also require the committed development to be shown on traffic flow diagrams, in a manner where we can follow.*
- If the LPA confirms the committed development can remain as adopted for planning application 20240856 then we would only require this total committed development to be shown; if the committed development assumptions require to be modified then we would require to see each committed development shown separately."*
- 1.2.12 Following this comment, Gravesham Borough Council (GBC) were contacted regarding the committed development assumptions set out within the submitted Transport Assessment and confirmed their agreement with the methodology used. NH were then updated and agreed to the committed development flows following GBC's confirmation, thereby addressing the above comment. This correspondence is included at **Appendix C**.
- 1.2.13 As GBC confirmed the committed development assessment already undertaken is suitable, the total associated flows included at Appendix P Figures 8 and 9 of the submitted Transport Assessment are considered acceptable.

"The National Highways email dated 1 July 2025 to the applicant previously agreed that reference may be made to the publicly available 2023 manual

classified count (MCC) data collected in association with planning application 20240856 (Former Tollgate Hotel). This MCC data is not provided within the TA and should be provided in traffic flow diagram form, it is not necessary to provide the raw data, however the specific source report should be referenced.

The TA does not contain traffic flow diagrams showing the assessment year base traffic flows or total traffic flows and these should be provided, ensuring alignment with model inputs."

- 1.2.14 The associated 2023 base flows are provided in **Appendix D**. All remaining traffic flows, including a 2025 base, 2030 base, 2030 Do Nothing and 2030 Do Minimum are included within Appendix P of the submitted Transport Assessment.

Junction Capacity Assessment – A227 Wrotham Road / A2 – Existing Layout

- 1.2.15 The comments within this subsection relate to the junction capacity assessment undertaken of the A227 Wrotham Road / A2 junctions existing layout. Junctions 10 (ARCADY) software was used to undertake the capacity assessment of the existing junction layout and submitted with the Transport Assessment. To address the below comments the modelling has been updated and is included at **Appendix E**.

"Former Tollgate Hotel Site Access – we acknowledge for this arm the geometry which is shown is the proposed site access associated with planning application 20240856 – this application is currently 'pending consideration', therefore the development is not committed and the modelling should be undertaken based on the existing geometry."

- 1.2.16 The geometry of this arm has been updated within the model to align with that included within the "Technical Note Response to KCC Highways and Transportation and National Highways" submitted with for the Former Tollgate Hotel at Appendix H and is shown within Figure 2.

Data Editor ✕

Roundabout Geometry
Junction 2 - Arm 5

V - Approach road half-width (m)	3.10
E - Entry width (m)	5.50
I' - Effective flare length (m)	5.4
R - Entry radius (m)	12.7
D - Inscribed circle diameter (m)	63.9
PHI - Conflict (entry) angle (deg)	59.0
Entry only	☐
Exit only	☐
Notes	

FIGURE 2: GEOMETRY OF FORMER TOLLGATE HOTEL ACCESS WITHIN ARCADY MODEL

"2025 Base is provided however there is no 2023 Base, this is required to be provided if the intention is to reference the Former Tollgate Hotel 2023 MCC as previously requested by DHA."

1.2.17 This has been included within the revised outputs at **Appendix E**.

"We previously noted that base models to be calibrated against the highest 15-minute average queue on each arm in each assessment period. The 'direct intercept' should be adjusted to ensure acceptable calibration for both AM and PM peak periods, either with separate AM and PM models or with separate AM and PM analysis within one model.

The calibration within the model has been reviewed, it is seen that there is one arm which has a 'percentage capacity' adjustment, while the remaining arms have no calibration. The percentage capacity adjustment is not accepted, and all calibration should be undertaken using direct intercept as advised previously.

The National Highways email of 1 July 2025 highlights concerns with regard to the Former Tollgate Hotel queue data and provides details of the subsequent calibration approach adopted. We acknowledge that calibration has been undertaken for the AM peak, however the 60 passenger car units (PCU) on A20 westbound off-slip is required to be reflected during both the AM and PM peaks."

1.2.18 Analysis has been undertaken of the March 2023 queue data included within Appendix A of the Transport Assessment Addendum submitted in support of the Former Tollgate Hotel application. For robustness the maximum queues from each peak hour on each arm were taken for use in updating the modelling outputs

using direct intercept within the Junctions 11 ARCADY software, this is shown in Table 1 and Table 2.

- 1.2.19 A queue of 60 PCUs has been used for the A2 westbound off-slip to reflect that requested by NH. Separate data outputs for the AM and PM peaks are included at **Appendix E** to enable reflection of varying queues in each peak.

North Roundabout	AM	PM
A227 N	3	3
Former Tollgate Hotel Access	0	0
A2 on-slip Eastbound	-	-
A227 S	0	0
A2 off-slip	0	6

TABLE 1: NORTH ROUNDABOUT HIGHEST RECORDED QUEUE LENGTHS

North Roundabout	AM	PM
A227 N	0	0
A2 off-slip Westbound	60*	60*
A227 S	6	6
A2 on-slip eastbound	-	-
*derived from NH request rather than queue survey data		

TABLE 2: SOUTH ROUNDABOUT HIGHEST RECORDED QUEUE LENGTHS

- 1.2.20 The final comment in relation to the capacity of the existing junction arrangement for the A2 / A227 stated the following:-

"A20 westbound off-slip – the approach road half-width should be revised from 5m to 3.7m, otherwise the geometry confirmed to be acceptable."

- 1.2.21 The geometry of this arm has been updated.
- 1.2.22 All the above updates are reflected in the updated modelling output file at **Appendix E** with the ARCADY results detailed below.
- 1.2.23 The ARCADY results for the A227 Wrotham Road / A2 existing arrangement are summarised in Table 3. Where required, direct intercept has been used to calibrate the capacity of arms that did not broadly reflect the queue lengths detailed above in the 2023 base; further detail of this can be found in the associated output file. A number of arms had negligible recorded queues per the surveys and therefore did not require amendment with direct intercept.

- 1.2.24 The westbound off-slip operates over theoretical capacity in all assessed scenarios – this reflects the requested calibration which requires a queue length of 60 PCUs.
- 1.2.25 The A227 southern arm on the southern roundabout operates slightly over practical capacity in the base scenario, which is exacerbated by the addition of the committed development flows in the 'Do Nothing' scenario. The committed development traffic also takes the eastbound off slip and A227 northern arm on the northern roundabout over practical capacity.
- 1.2.26 A comparison of the 'Do Nothing' and 'Do Minimum' scenarios demonstrates that the impact of the proposed development is negligible on the operation of the junction.

2023 Base				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Southern Roundabout				
Westbound Off Slip	1.17	60.1	1.19	60.8
A227 South	0.86	6.1	0.85	5.8
A227 N	0.52	1.2	0.52	1.2
Ave delay (s/pcu)	81.22		83.59	
Northern Roundabout				
A227 S	0.44	0.9	0.44	0.9
Eastbound Off Slip	0.66	2.1	0.85	5.7
A227 N	0.81	4.5	0.81	4.6
Tollgate Hotel	0.00	0.0	0.00	0.0
Ave delay (s/pcu)	8.21		10.81	
2030 Do Nothing				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Southern Roundabout				
Westbound Off Slip	1.63	194.2	1.65	189.2
A227 South	0.99	20.2	0.96	14.6
A227 N	0.61	1.7	0.59	1.6
Ave delay (s/pcu)	299.16		293.83	
Northern Roundabout				
A227 S	0.49	1.0	0.50	1.1
Eastbound Off Slip	0.87	6.8	1.12	90.1
A227 N	0.95	15.1	0.94	13.1
Tollgate Hotel	0.52	1.1	0.67	2.0
Ave delay (s/pcu)	23.52		77.99	
2030 Do Minimum				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Southern Roundabout				
Westbound Off Slip	1.65	202.1	1.68	193.8
A227 South	1.03	31.3	0.97	16.9
A227 N	0.61	1.7	0.60	1.6
Ave delay (s/pcu)	316.49		300.01	
Northern Roundabout				
A227 S	0.49	1.1	0.50	1.1
Eastbound Off Slip	0.89	7.8	1.09	69.7
A227 N	0.96	16.4	0.93	12.2
Tollgate Hotel	0.54	1.2	0.64	1.7
Ave delay (s/pcu)	25.81		63.20	

TABLE 3: A227 WROTHAM ROAD / A2 JUNCTION – EXISTING ARRANGEMENT- ARCADY SUMMARY

Junction Capacity Assessment – A227 Wrotham Road / A2 – Proposed Layout

- 1.2.27 A committed mitigation scheme associated with Land at Coldharbour Road (Reference: 20141214) has been approved. The scheme comprises the partial signalisation at the A227 Wrotham Road / A2 westbound off-slip roundabout, together with converting the south roundabout layout to a 'teardrop' roundabout.
- 1.2.28 The scheme had been modelled using industry-standard LinSig software and submitted within the Land at Rose Farm Transport Assessment at the request of NH.
- 1.2.29 Several comments within NH representation related to this modelling; these have been actioned within an updated assessment of the mitigation scheme. The associated LinSig report is included at **Appendix F**.
- 1.2.30 The addressed comments are detailed below:-
- "Proposed pedestrian crossing should be included within the traffic signal phasing."*
- 1.2.31 This has been actioned and is shown within the LinSig report at **Appendix F**.
- "The naming of the six traffic flow matrices is unclear as the base is stated to be 2030 and the do nothing and do minimum scenarios do not have a year."*
- 1.2.32 The name of the traffic flow matrices has been updated within **Appendix F** to make clear their associated scenarios.
- "Traffic flow diagrams should be provided which align with the LinSig model inputs."*
- 1.2.33 The traffic flow diagrams included at Appendix P of the submitted Transport Assessment reflect the LinSig model inputs. The modelling file will be shared with NH separately for clarity and review alongside this TN.
- "The traffic flow matrices are required to be assigned to scenarios, currently the six matrices are unassigned."*
- 1.2.34 This has been actioned within the updated modelling outputs at **Appendix F**. Table 4 below demonstrates the updated results following this exercise. All the below results are for a cycle time of 45 seconds.

Scenario	Link	AM Peak		PM Peak	
		DoS %	MMQ	DoS %	MMQ
2030 Base	Southern Roundabout				
	A227 N Ahead Lane	48.9%	4.5	71.3%	7.7
	A227 N Right Turn Lane	77.8%	9.0	59.4%	5.5
	A2 Westbound Off Slip	80.5%	6.1	70.8%	4.7
	A227 South	58.1%	1.8	52.6%	1.6
	PRC	11.8		26.3	
	Average delay (pcuHr)	10.89		9.38	
2030 Do Nothing	Southern Roundabout				
	A227 N Ahead Lane	49.8%	4.6	72.6%	8.1
	A227 N Right Turn Lane	90.4%	13.7	68.4%	6.9
	A2 Westbound Off Slip	86.4%	7.5	76.0%	5.5
	A227 South	63.6%	2.2	40.7%	1.0
	PRC	-0.4		18.4	
	Average delay (pcuHr)	14.53		10.49	
2030 Do Minimum	Southern Roundabout				
	A227 N Ahead Lane	50.7%	4.7	75.0%	8.5
	A227 N Right Turn Lane	90.4%	13.7	68.4%	6.9
	A2 Westbound Off Slip	86.9%	7.6	76.9%	5.6
	A227 South	66.4%	2.4	57.7%	1.8
	PRC	-0.4		17.0	
	Average delay (pcuHr)	15.85		11.28	

TABLE 4: A227 / A2 JUNCTION – PROPOSED ARRANGEMENT- LINSIG SUMMARY

- 1.2.35 With the addition of the committed development traffic in the AM peak, the A227 right turn lane operates slightly over capacity in the AM peak. This results in the junction being forecast to operate with a marginal negative PRC due to the impact of committed developments. This remains within theoretical capacity, which is achieved at -10 PRC – this is not achieved in any of the assessed scenarios.
- 1.2.36 In all other assessed scenarios the junction operates within practical capacity, demonstrating the positive impact of the mitigation scheme when compared to the ARCADY results at Table 3.
- 1.2.37 A comparison of 'Do Nothing' and 'Do Something' results illustrate the negligible impact the development traffic will have on the operation of the junction with mitigation, adding just over 1 second of the delay in the AM peak and under a second in the PM peak.

1.3 CONCLUSION

- 1.3.1 It is considered that the above information sufficiently addresses the outstanding matters raised in the representation from National Highways.

APPENDIX A





National Highways Planning Response (NHPR 25-01) Formal Recommendation to an Application for Planning Permission

From: Hermes Luli (Head of Planning & Development)
Operations Directorate
South East Region
National Highways
PlanningSE@nationalhighways.co.uk

To: Gravesham Borough Council (FAO Adeoye Lawal)
Planning.reps@gravesham.gov.uk

CC: transportplanning@dft.gov.uk
spatialplanning@nationalhighways.co.uk

Council's Reference: 25/503683/OUT

Location: Land At Rose Farm, Downs Road, Istead Rise, Gravesend Kent

Proposal: Outline planning application for the demolition of 64 Downs Road and erection of up to 154 No. residential dwellings (including affordable housing), with all matters reserved except for access. Creation of a new access from Downs Road.

National Highways Ref: NH/26/14373

Referring to the consultation on a planning application dated 5 January 2026 referenced above, in the vicinity of the A2 that forms part of the Strategic Road Network, notice is hereby given that National Highways formal recommendation is that we:

- ~~a) offer no objection (see reasons at Annex A);~~
- ~~b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A – National Highways recommended Planning Conditions & reasons);~~
- c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);**
- ~~d) recommend that the application be refused (see reasons at Annex A)~~

Highways Act 1980 Section 175B is not relevant to this application.¹

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority propose not to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the [Town and Country Planning \(Development Affecting Trunk Roads\) Direction 2018](#), via transportplanning@dft.gov.uk and may not determine the application until the consultation process is complete.

The Local Planning Authority must also copy any consultation under the 2018 Direction to PlanningSE@nationalhighways.co.uk.

This response and all comments outlined herein are made in respect of planning matters only in National Highways' position as a statutory planning consultee, and does not confer any proprietary rights nor amount to the giving or refusal of consent, assent, approval, or awareness of or by National Highways in or of any other aspects or matters (including, but not limited to, the use of property belonging to National Highways). If anyone wishes for National Highways to consider any aspects which do not relate to planning submissions, they should call our contact centre on 0300 123 5000.

Signature: 	Date: 19 January 2026				
<table style="width: 100%; border-collapse: collapse;"><tr><td style="width: 50%;">Name: Bidur Rajbhandari</td><td style="width: 50%;">Position: Assistant Spatial Planner</td></tr><tr><td colspan="2" style="padding-top: 10px;">National Highways Ground Floor, Building 1000, Cathedral Square, Guildford GU2 7YL www.nationalhighways.co.uk</td></tr></table>		Name: Bidur Rajbhandari	Position: Assistant Spatial Planner	National Highways Ground Floor, Building 1000, Cathedral Square, Guildford GU2 7YL www.nationalhighways.co.uk	
Name: Bidur Rajbhandari	Position: Assistant Spatial Planner				
National Highways Ground Floor, Building 1000, Cathedral Square, Guildford GU2 7YL www.nationalhighways.co.uk					

Annex A National Highways' assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current

¹ Where relevant, further information will be provided within Annex A.

activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

Recommend that planning permission not be granted for a specified period:

It is recommended that the application should not be determined for a period of three months until **19 April 2026**.

National Highways had been consulted by the applicant during pre-application stage with a Transport Scoping Note prepared by DHA dated May 2025. NH had made the following comments:

- *Collision analysis to be undertaken at A27 / A227 Wrotham Road junction*
- *Details to be provided of the measures which are proposed to achieve the aims of the vision*
- *Junction assessment to be undertaken at A2 / A227 Wrotham Road junction*
- *Junctions 2025 base model to be calibrated against the highest 15-minute average queue on each arm in each assessment period using direct intercept adjustment*
- *Assessment to be undertaken at year 2028, any TEMPro alternative assumptions to be clearly documented, the LPA should be consulted on committed development for inclusion in assessment and provided to National Highways for review*
- *Assessment to be undertaken both without and with the committed highway mitigation scheme*

We have reviewed the submitted TA and ITP and note that not all there are still issues that need to be addressed as listed below.

This recommendation can be replaced, renewed, or reviewed during the three-month period, or at its end, dependent on progress made with regards to the outstanding matters.

Reasons

Throughout this response **ACTION points** for the applicant are highlighted in **underlined bold**.

Transport Assessment Review

Collision Analysis

We previously noted there is a requirement for collision analysis to be undertaken at the A2 / A227 Wrotham Road junction, including the slip lanes. The TA has been

reviewed, **this collision analysis is not included and is therefore required to be provided; this is required for the latest 5-year period for which data is available.**

Committed Development

We previously noted that the LPA should be contacted to seek advice on the committed development to include within the assessment and this should be provided to National Highways for review.

The TA notes that committed development assumptions at the SRN have been made consistent with planning application 20240856. However, it is possible that the committed developments have now changed. **The LPA is required to be consulted with regard to committed development assumptions, correspondence with the LPA should be provided for review. We also require the committed development to be shown on traffic flow diagrams, in a manner where we can follow.**

If the LPA confirms the committed development can remain as adopted for planning application 20240856 then we would only require this total committed development to be shown; if the committed development assumptions require to be modified, then we would require to see each committed development shown separately.

Traffic Flow Diagrams

The generated traffic shown in Figures 2 and 3 of Appendix M of the TA has been reviewed and is confirmed to align with the presented trip distribution/assignment.

The National Highways email dated 1 July 2025 to the applicant previously agreed that reference may be made to the publicly available 2023 manual classified count (MCC) data collected in association with planning application 20240856 (Former Tollgate Hotel). **This MCC data is not provided within the TA and should be provided in traffic flow diagram form, it is not necessary to provide the raw data, however the specific source report should be referenced.**

The TA does not contain traffic flow diagrams showing the assessment year base traffic flows or total traffic flows and these should be provided, ensuring alignment with the model inputs.

Junction Assessment

As previously requested, the TA contains assessment at the A2 / A227 Wrotham Road junction, comprising the north and south dumbbell roundabouts.

A227 Wrotham Road / A2 Eastbound off-slip Roundabout

The geometry provided within the submitted Junctions 11 model has been reviewed and we note the following:

- **Former Tollgate Hotel Site Access – we acknowledge for this arm the geometry which is shown is the proposed site access associated with**

planning application 20240856 – this application is currently ‘pending consideration’, therefore the development is not committed and the modelling should be undertaken based on the existing geometry

The demand sets within the Junctions model have been reviewed and we note the following:

- Traffic flow profile is ‘one hour’ – we confirm this is acceptable
- **2025 Base is provided however there is no 2023 Base, this is required to be provided if the intention is to reference the Former Tollgate Hotel 2023 MCC as previously requested by DHA**
- Future year demand sets are stated to be 2030 Do Nothing and 2025 Do Minimum (we assume this is meant to be 2030 Do Minimum), as noted above we have no objection to future year assessment at 2030 rather than 2028 as previously advised
- We previously noted that base models are required to be calibrated against the highest 15- minute average queue on each arm in each assessment period. The ‘direct intercept’ should be adjusted to ensure acceptable calibration for both AM and PM peak periods, either with separate AM and PM models or with separate AM and PM analysis sets within one model.
- **The calibration within the model has been reviewed, it is seen that there is one arm which has a ‘percentage capacity’ adjustment, while the remaining arms have no calibration. The percentage capacity adjustment is not accepted, and all calibration should be undertaken using direct intercept as advised previously.**
- The National Highways email of 1 July 2025 highlights concerns with regard to the Former Tollgate Hotel queue data and provides details of the subsequent calibration approach adopted. ***We acknowledge that calibration has been undertaken for the AM peak, however the 60 passenger car units (PCU) on A20 westbound off-slip is required to be reflected during both the AM and PM peaks.***

A227 Wrotham Road / A2 Westbound off-slip Roundabout

The geometry provided within the Junctions model has been reviewed and we note the following:

- **A20 westbound off-slip – the approach road half-width should be revised from 5m to 3.7m, otherwise the geometry confirmed to be acceptable**
- A227 (south) – geometry confirmed to be acceptable
- A227 (north) – geometry confirmed to be acceptable

With regard to demand sets and calibration, the comments are the same as provided above for the north roundabout.

A227 Wrotham Road / A2 Westbound off-slip Roundabout Mitigation

We previously advised that junction assessment should also be undertaken with the committed mitigation scheme and this has been provided. The network provided within the submitted LinSig model has been reviewed and we note the following:

Proposed pedestrian crossing should be included within the traffic signal phasing

The traffic flows and scenarios within the submitted LinSig model have been reviewed and we note the following:

- **The naming of the six traffic flow matrices is unclear as the base is stated to be 2030 and the do nothing and do minimum scenarios do not have a year**
- **Traffic flow diagrams should be provided which align with the LinSig model inputs**
- **The traffic flow matrices are required to be assigned to scenarios, currently the six matrices are unassigned**

The results within the submitted LinSig model have been reviewed and we note that:

- **The submitted LinSig model does not contain results which align with the TA, there is a need to provide scenarios which align with the traffic flows**

The LinSig modelling should be updated and the resubmitted, together with the soft copy LinSig input file, for review.

Construction Traffic Management Plan

At the appropriate stage of the planning process, National Highways will recommend a suitable planning condition in relation to the preparation, agreement, and adherence to a Construction Traffic Management Plan (CTMP).

Standing advice to the local planning authority

The Climate Change Committee's [2022 Report to Parliament](#) notes that for the UK to achieve net zero carbon status by 2050, action is needed to support a modal shift away from car travel. The NPPF supports this position, with paragraphs 77 and 110 prescribing that significant development should offer a genuine choice of transport modes, while paragraphs 109 to 116 etc advise that appropriate opportunities to

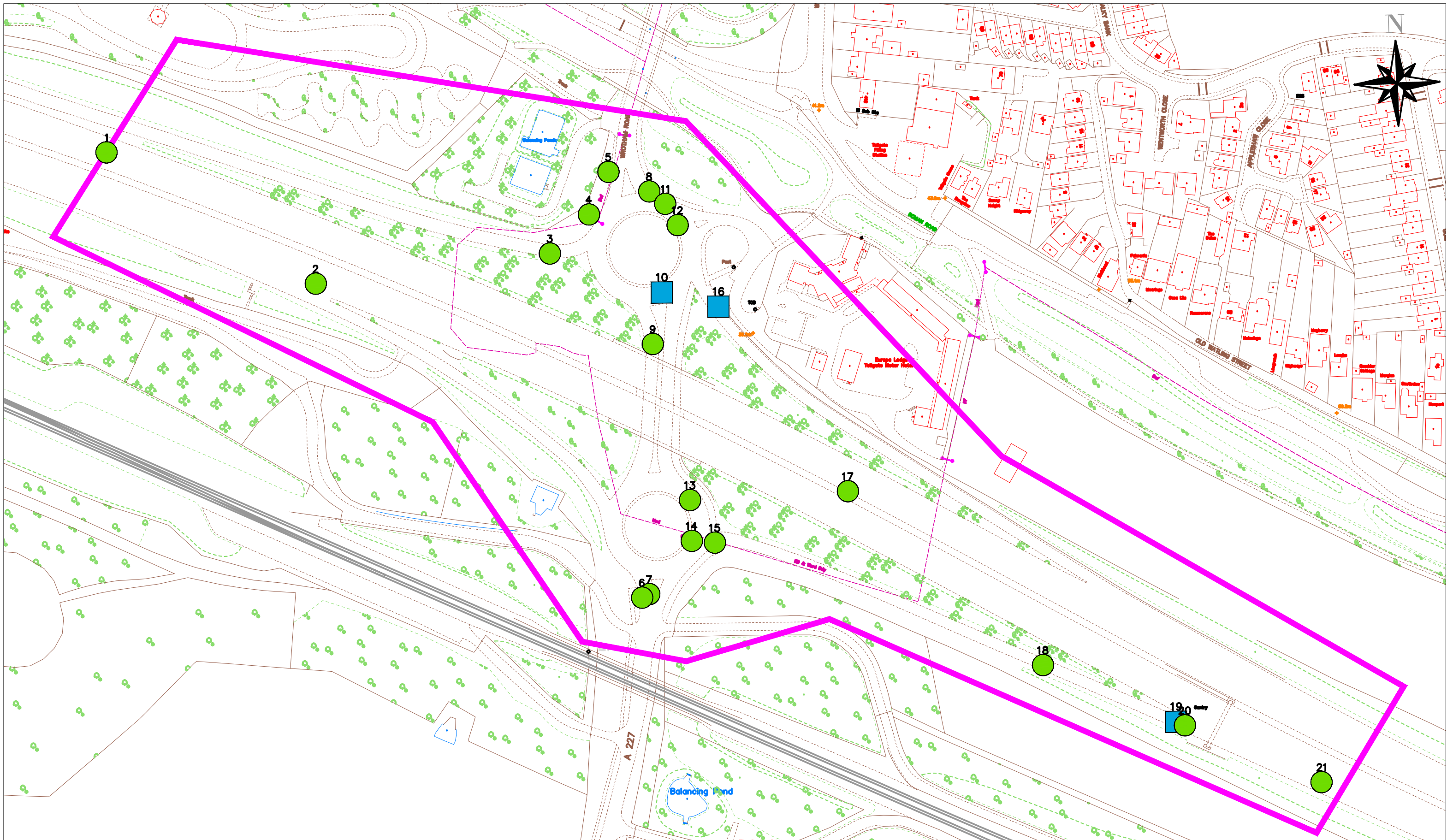
promote walking, cycling and public transport should be taken up as part of a vision-led approach.

Moreover, the carbon reduction hierarchy (avoid-switch-improve) as set out in clause 4.3 of PAS2080:2023 promotes approaches and measures to minimise resource consumption and thereby reduce carbon emissions.

These considerations should be weighed alongside any relevant Local Plan policies to ensure that planning decisions are in line with the necessary transition to net zero carbon.

APPENDIX B





Location: A2 & A227 Junction

5 years personal injury collision data up to 30/09/2025

KCC Ref number: EXT/041/26

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Crash Severity	
	Slight
	Serious
	Fatal

Kent
County
Council
kent.gov.uk

Date: 10-March-2026

Time: 18:16:48

Title: **A2 & A227**

Requested output: **D - Print Crash Report**

Date: 10-March-2026

Accident Date BETWEEN '01-Oct-2020' AND '30-Sep-2025'

There were 21 reported crashes resulting in injury

D-PRINT CRASH REPORT

10-Mar-2026

18:16:48

A2 & A227

Accident Date BETWEEN '01-Oct-2020' AND '30-Sep-2025'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
1	Road No A2 Section 001 Grid 563824E Ref 171324N	SLIGHT	26/02/2021	6	18:25	DRK STL	Dry	Fine			GV
	A2, TRUNK RD, A C/WAY, GRAVESEND, (MAPPED TO COORDS).									Gravesham	
	OLR: D2 was on the A2 driving home to Chatham from place of work in Greenhythe. The lights were flashing that there was an accident and traffic to go down to 40mph. D2 had been stationary for a few seconds when all of a sudden D2's head went forward and back into the car seat. D1 was laughing at D2 and accused D2 of reversing into them, which they didn't, then D1 started shouting and mocking D2, D2 returned to veh as felt threatened.						Veh1, goods < 3.5t, SE -> NW Veh2, car, SE -> NW			Casualties 1 Vehicles 2	
2	Road No A2 Section 001 Grid 563942E Ref 171250N	SLIGHT	23/11/2022	4	06:27	DRK STL	Wet/Damp	Rain Wind			
	A2, TRUNK RD, GRAVESEND, (MAPPED TO COORDS).									Gravesham	
	V1 AT REAR OF 4 CAR QUEUE. SLOW MOVING TRAFFIC IN 4 LANE DUAL CARRIAGEWAY. V1 DOES NOT SLOW SIGNIFICANTLY FOR TRAFFIC, HITS V2, V2 HITS V3, V3 HITS V4. (P/CODE, AGE AND GENDER NOT VISIBLE ON OUR SYSTEM FOR V3 & V4)						Veh1, car, SE -> NW Veh2, car, SE -> NW Veh3, car, SE -> NW Veh4, car, SE -> NW			Casualties 1 Vehicles 4	
3	Road No A2 Section 073 Grid 564074E Ref 171267N	SLIGHT	11/01/2024	5	16:38	DRK STL	Dry	Fine			GV
	A2, WROTHAM RD, TOLLGATE SLIP EASTBOUND OFF, NORTHFLEET, (MAPPED TO COORDS).									Gravesham	
	OLR: Driving on A2 coast bound slip road to Gravesend services, stopped at the roundabout, traffic was heavy so was waiting for safe space to pull out then got hit from behind quite fast and hard. D1 felt instant shock to the back and neck. Exchanged details. OIC has not supplied C2's age.						Veh1, car, NW -> SE Veh2, goods < 3.5t, NW -> SE			Casualties 2 Vehicles 2	

Key Involved

PED Pedestrian
HGV Heavy Goods Vehicle
GV Goods Vehicle
M/C Motor Cycle
P/C Pedal Cycle
PSV Bus/Coach

Street Lighting

L Daylight
STL Street Lights
USL Street Lights Unlit
NSL No Street Lights
STU Street Lights Unknown

FACTORS

+VE Positive Breath Test
R.TURN Right Turn Manoeuvre
O/TAKE Overtaking Manoeuvre
S.VEH Single Vehicle

Special Conditions

ATS OUT Traffic Lights Not Working
ATS DEF Traffic Lights Defective
SIGNS Road Signs Defective or Obscured
RD WRKS Road Works
Surface Road Surface Defective

D-PRINT CRASH REPORT

10-Mar-2026

18:16:48

A2 & A227

Accident Date BETWEEN '01-Oct-2020' AND '30-Sep-2025'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
4	Road No A2 Section 073 Grid 564096E Ref 171289N	SLIGHT	27/11/2021	7	05:29	DRK STL	Wet/Damp	Rain			
	A2, WROTHAM RD J/W A227 WROTHAM RD RNDDBT, NORTHFLEET										Gravesham
	V2 is a police vehicle following V1, a stolen vehicle. After a brief pursuit, V1 left the c/way on the nearside and collided with a lamppost.						Veh1, car, NW -> N Veh2, car, NW -> N			Casualties Vehicles	1 2
5	Road No A227 Section Grid 564107E Ref 171313N	SLIGHT	12/06/2022	1	19:24	L	Dry	Fine		S.VEH	P/C
	A227, WROTHAM RD, GRAVESEND (MAPPED TO COORDS)										Gravesham
	It is believed that R1 has been travelling along Wrotham Rd A227 travelling north towards Gravesend town centre. V1 has not collided with any other vehicles, or roadside furniture. V1 has lost control and gone off bike falling into the footpath.						Veh1, pedal cycle, S -> NE			Casualties Vehicles	1 1
6	Road No A227 Section 001 Grid 564126E Ref 171073N	SLIGHT	22/04/2021	5	10:51	L	Dry	Fine			
	A227, WROTHAM RD J/W A2227 WROTHAM RD RNDDBT, GRAVESEND										Gravesham
	V2 approaches roundabout, V1 brakes behind but collided into the rear of V2, causing minor damage/minor injury.						Veh1, car, S -> N Veh2, car, S -> N			Casualties Vehicles	3 2

Key Involved

PED Pedestrian
HGV Heavy Goods Vehicle
GV Goods Vehicle
M/C Motor Cycle
P/C Pedal Cycle
PSV Bus/Coach

Street Lighting

L Daylight
STL Street Lights
USL Street Lights Unlit
NSL No Street Lights
STU Street Lights Unknown

FACTORS

+VE Positive Breath Test
R.TURN Right Turn Manoeuvre
O/TAKE Overtaking Manoeuvre
S.VEH Single Vehicle

Special Conditions

ATS OUT Traffic Lights Not Working
ATS DEF Traffic Lights Defective
SIGNS Road Signs Defective or Obscured
RD WRKS Road Works
Surface Road Surface Defective

D-PRINT CRASH REPORT

10-Mar-2026

18:16:48

A2 & A227

Accident Date BETWEEN '01-Oct-2020' AND '30-Sep-2025'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
7	Road No A227 Grid 564130E Section Ref 171075N	SLIGHT	10/06/2022	6	17:35	L	Dry	Fine			
	A227 WROTHAM RD J/W A227 WROTHAM RD RNDDBT , GRAVESEND									Gravesham	
	V1 WAS TRAVELLING NORTH ON WROTHAM RD WHILE D1 WAS USING THEIR PHONE AND COLLIDED WITH THE REAR OF V2, WHICH WAS STATIONARY ON THE APPROACH TO THE RNDDBT. (NO AGE OR POSTCODE FOR V1, NO DETAILS FOR V2).						Veh1, taxi, S -> N Veh2, car, S -> N			Casualties 1 Vehicles 2	
8	Road No A227 Grid 564130E Section 001 Ref 171302N	SLIGHT	14/06/2025	7	13:42	L	Dry	Fine			
	A227 WROTHAM RD J/W A227 WROTHAM RD RNDDBT , GRAVESEND									Gravesham	
	OLR: V2 waiting to pull onto rndbt when it was struck from behind by V1.						Veh1, car, N -> SE Veh2, car, N -> SE			Casualties 1 Vehicles 2	
9	Road No A227 Grid 564132E Section 001 Ref 171216N	SLIGHT	24/05/2024	6	15:30	L	Dry	Fine			
	A227, WROTHAM RD NEAR J/W RNDDBT, GRAVESEND.									Gravesham	
	OLR: As V2 was taking the A227 services exit, V1 was in front taking the same turn off, V1 had 2/3 young children jumping around the back seat with no seat belts on. D1 then slammed brakes, coming to an instant stop yards away from the roundabout with no traffic in front. D2 braked and swerved to the left to try and avoid V1 which hit V1's back left side. V1 details only partially taken.						Veh1, car, S -> E Veh2, car, S -> E			Casualties 1 Vehicles 2	

Key Involved

PED Pedestrian
HGV Heavy Goods Vehicle
GV Goods Vehicle
M/C Motor Cycle
P/C Pedal Cycle
PSV Bus/Coach

Street Lighting

L Daylight
STL Street Lights
USL Street Lights Unlit
NSL No Street Lights
STU Street Lights Unknown

FACTORS

+VE Positive Breath Test
R.TURN Right Turn Manoeuvre
O/TAKE Overtaking Manoeuvre
S.VEH Single Vehicle

Special Conditions

ATS OUT Traffic Lights Not Working
ATS DEF Traffic Lights Defective
SIGNS Road Signs Defective or Obscured
RD WRKS Road Works
Surface Road Surface Defective

D-PRINT CRASH REPORT

10-Mar-2026

18:16:48

A2 & A227

Accident Date BETWEEN '01-Oct-2020' AND '30-Sep-2025'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
10	Road No A227 Grid 564137E Section 001 Ref 171245N	SERIOUS	30/05/2021	1	19:32	L	Dry	Fine		+VE	
	A227, WROTHAM RD RNDDBT J/W A2 WROTHAM RD, GRAVESEND									Gravesham	
	V1 was travelling down the slip rd from the A2 towards Gravesend/Istead Rise. At the roundabout at the end (tollgate), V1 has entered the roundabout and collided with the passenger side of V2. V3 has then been hit at front nearside but it is unknown how, believed V2 may have spun slightly and hit V3 or V3 may have hit back of V1 as V1 has damage to rear offside.						Veh1, car, SE -> W Veh2, car, E -> W Veh3, car, E -> W			Casualties 3 Vehicles 3	
11	Road No A227 Grid 564139E Section 001 Ref 171295N	SLIGHT	17/09/2021	6	17:35	L	Dry	Fine			
	A227 WROTHAM RD RNDDBT J/W A227 WROTHAM RD, GRAVESEND (REMAPPED WAS 564189,171266)									Gravesham	
	OLR: V2 had left the junction of the roundabout in the left hand lane to take the exit onto the A2 coastbound when V1 hit the rear of V2. V2 immediately put on their hazard lights and got out of their car, the occupants of the other vehicle were still in theirs but then got out. D1 tried to blame D2 for the collision but V1 passenger said it was their fault and they would pay for the damage to V2. D2 said they would rather go through the insurers and D1 suggested that we should move over so not to obstruct traffic to exchange details. V2 driver agreed and got into their car to move but V1 then sped off.						Veh1, car, N -> S Veh2, car, N -> SE			Casualties 1 Vehicles 2	
12	Road No A227 Grid 564146E Section 001 Ref 171283N	SLIGHT	29/11/2024	6	04:15	DRK STU	Dry	Fine			
	A227 WROTHAM RD RNDDBT J/W A2 TOLLGATE SLIP EASTBOUND ON, GRAVESEND									Gravesham	
	OLR: V2 moving off into rndbt when it was struck from behind by V1, which failed to stop.						Veh1, car, NW -> SE Veh2, car, NW -> SE			Casualties 2 Vehicles 2	

Key

Involved
 PED Pedestrian
 HGV Heavy Goods Vehicle
 GV Goods Vehicle
 M/C Motor Cycle
 P/C Pedal Cycle
 PSV Bus/Coach

Street Lighting
 L Daylight
 STL Street Lights
 USL Street Lights Unlit
 NSL No Street Lights
 STU Street Lights Unknown

FACTORS
 +VE Positive Breath Test
 R.TURN Right Turn Manoeuvre
 O/TAKE Overtaking Manoeuvre
 S.VEH Single Vehicle

Special Conditions
 ATS OUT Traffic Lights Not Working
 ATS DEF Traffic Lights Defective
 SIGNS Road Signs Defective or Obscured
 RD WRKS Road Works
 Surface Road Surface Defective

D-PRINT CRASH REPORT

10-Mar-2026

18:16:48

A2 & A227

Accident Date BETWEEN '01-Oct-2020' AND '30-Sep-2025'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
13	Road No A227 Grid 564153E Section 001 Ref 171128N	SLIGHT	02/06/2023	6	02:32	DRK STL	Dry	Fine			
	A227, WROTHAM RD RND BT J/W A227 WROTHAM RD, GRAVESEND									Gravesham	
	V2 has been driving to work from Wrotham Rd and entered the rndbt. V1 has been coming from a party from the A227 junction, intended to go straight on but instead has turned right and entered the rndbt, travelling in the wrong direction. V1 has not stopped as they deemed it unsafe, however has then had a head on collision with V2. Neither party insured.						Veh1, car, S -> N Veh2, car, N -> S			Casualties 1 Vehicles 2	
14	Road No A227 Grid 564154E Section 001 Ref 171105N	SLIGHT	22/07/2023	7	20:30	L	Wet/Damp	Rain		S.VEH	GV
	A227 WROTHAM RD RND BT J/W A2 WROTHAM RD SLIP, GRAVESEND									Gravesham	
	V1 HAS BEEN TRAVELLING AT SPEED ALONG THE A2 WATLING ST AND HAS TRAVELLED ONTO THE SLIP ROAD TOWARDS WROTHAM RD AND HAS NOT BRAKED AND HIT THE ROUNDABOUT, LIFTING OFF THE GROUND AND THEN BARREL ROLLING OVER A CRASH BARRIER. D1 MADE COMMENTS THAT THE BRAKES WERE NOT WORKING.						Veh1, goods < 3.5t, SE -> NW			Casualties 1 Vehicles 1	
15	Road No A2 Grid 564167E Section 001 Ref 171104N	SLIGHT	24/09/2021	6	17:30	L	Dry	Fine			
	A2, WROTHAM RD J/W A227 WROTHAM RD, NORTHFLEET									Gravesham	
	OLR: D2 was in the left hand lane of the A2 to A227 slip rd, looking to join the roundabout and turn left on Wrotham Rd towards Meopham. D2 had attempted to join the roundabout but the traffic approaching from the right was speeding so D2 held position but V1 behind did not and drove into V2 rear. D1 was abusive and refused to give details. NO DOB FOR D1.						Veh1, car, SE -> SW Veh2, car, SE -> SW			Casualties 2 Vehicles 2	

Key Involved

PED Pedestrian
HGV Heavy Goods Vehicle
GV Goods Vehicle
M/C Motor Cycle
P/C Pedal Cycle
PSV Bus/Coach

Street Lighting

L Daylight
STL Street Lights
USL Street Lights Unlit
NSL No Street Lights
STU Street Lights Unknown

FACTORS

+VE Positive Breath Test
R.TURN Right Turn Manoeuvre
O/TAKE Overtaking Manoeuvre
S.VEH Single Vehicle

Special Conditions

ATS OUT Traffic Lights Not Working
ATS DEF Traffic Lights Defective
SIGNS Road Signs Defective or Obscured
RD WRKS Road Works
Surface Road Surface Defective

D-PRINT CRASH REPORT

10-Mar-2026

18:16:48

A2 & A227

Accident Date BETWEEN '01-Oct-2020' AND '30-Sep-2025'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
16	Road No A2 Section 073 Grid 564169E Ref 171237N	SERIOUS	09/07/2024	3	14:50	L	Wet/Damp	Rain			M/C
	A2 WROTHAM RD, TOLLGATE SLIP EASTBOUND ON, GRAVESEND, (MAPPED TO GRID REFS)								Gravesham		
	OLR: V1/motorcycle, towing V2, another motorcycle. Appears that tow rope broke and V2 fell causing injury to pillion passenger, C1. No details of either V1, V2 or any party known.						Veh1, m/cycle 50 - 125cc, NW -> SE Veh2, m/cycle unknown cc, NW -> SE			Casualties Vehicles	1 2
17	Road No A2 Section 001 Grid 564242E Ref 171133N	SLIGHT	06/01/2021	4	03:56	DRK STL	Wet/Damp	Rain		S.VEH	
	A2, TRUNK RD, A C/WAY, GRAVESEND, (MAPPED TO COORDS).								Gravesham		
	V1 TRAVELLING COASTBOUND ON THE A2 AT COBHAM. DRIVER LOST CONTROL AFTER AQUAPLANNING, DUE TO THE HEAVY RAIN AND FLOODED ROAD. V1 COLLIDED WITH THE CENTRAL CRASH BARRIER.						Veh1, car, NW -> SE			Casualties Vehicles	1 1
18	Road No A2 Section 001 Grid 564352E Ref 171035N	SLIGHT	24/12/2023	1	11:46	L	Dry	Fine		S.VEH	M/C
	A2, WROTHAM RD, TOLLGATE SLIP WESTBOUND OFF, NORTHFLEET.								Gravesham		
	R1 had just purchased the vehicle from an address in Gravesend. R1 was on way home to Luton when throttle to bike became stuck. R1 subsequently lost control and slid down tarmac of slip road for A2 Gravesend.						Veh1, m/cycle > 500cc, SE -> NW			Casualties Vehicles	1 1

Key Involved

PED Pedestrian
HGV Heavy Goods Vehicle
GV Goods Vehicle
M/C Motor Cycle
P/C Pedal Cycle
PSV Bus/Coach

Street Lighting

L Daylight
STL Street Lights
USL Street Lights Unlit
NSL No Street Lights
STU Street Lights Unknown

FACTORS

+VE Positive Breath Test
R.TURN Right Turn Manoeuvre
O/TAKE Overtaking Manoeuvre
S.VEH Single Vehicle

Special Conditions

ATS OUT Traffic Lights Not Working
ATS DEF Traffic Lights Defective
SIGNS Road Signs Defective or Obscured
RD WRKS Road Works
Surface Road Surface Defective

D-PRINT CRASH REPORT

10-Mar-2026

18:16:48

A2 & A227

Accident Date BETWEEN '01-Oct-2020' AND '30-Sep-2025'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
19	Road No A2 Section 001 Grid 564427E Ref 171003N	SERIOUS	18/12/2024	4	17:30	DRK STL	Dry	Fine		+VE	GV
	A2, WATLING ST, B C/WAY, TOLLGATE SLIP WESTBOUND OFF, NORTHFLEET								Gravesham		
	V1 has been travelling on A2 B c/way and has come off at the exit for the A227. Other vehs have been queuing on the slip road. V1 has collided with the rear of V2, which has collided with the rear of V3. V3 has collided with the rear of V4. D1 has failed roadside breath test and has been arrested for drink driving.						Veh1, goods < 3.5t, SE -> NW Veh2, car, SE -> NW Veh3, car, SE -> NW Veh4, car, SE -> NW			Casualties 2 Vehicles 4	
20	Road No A2 Section 001 Grid 564432E Ref 171001N	SLIGHT	04/06/2025	4	16:30	L	Dry	Fine			GV
	A2 WROTHAM RD TOLLGATE SLIP WESTBOUND OFF, NORTHFLEET (MAPPED TO GRID REF)								Gravesham		
	V1 collided with rear of V2 when unable to stop for queueing traffic ahead on slip road.						Veh1, car, SE -> NW Veh2, goods < 3.5t, SE -> NW			Casualties 2 Vehicles 2	
21	Road No A2 Section 001 Grid 564509E Ref 170969N	SLIGHT	18/05/2021	3	10:04	L	Dry	Fine			GVM/C
	A2 TRUNK RD J/W A2 WROTHAM RD, GRAVESEND (MAPPED TO COORDS)								Gravesham		
	V1 and V2 were travelling northwest on the A2 when they both entered the slip road. As V1 changed lane onto the slip road it side swiped V2 causing R2 to fall to the ground.						Veh1, goods < 3.5t, SE -> NW Veh2, m/cycle 125 - 500cc, SE -> NW			Casualties 1 Vehicles 2	

Key Involved

PED Pedestrian
HGV Heavy Goods Vehicle
GV Goods Vehicle
M/C Motor Cycle
P/C Pedal Cycle
PSV Bus/Coach

Street Lighting

L Daylight
STL Street Lights
USL Street Lights Unlit
NSL No Street Lights
STU Street Lights Unknown

FACTORS

+VE Positive Breath Test
R.TURN Right Turn Manoeuvre
O/TAKE Overtaking Manoeuvre
S.VEH Single Vehicle

Special Conditions

ATS OUT Traffic Lights Not Working
ATS DEF Traffic Lights Defective
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RD WRKS Road Works
Surface Road Surface Defective

APPENDIX C



[REDACTED]

From: [REDACTED]
Sent: 13 February 2026 08:57
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Land At Rose Farm, Downs Road, Istead Rose - 25/503683/OUT

[External email - This message originated from outside DHA – prior to opening any attachments or opening links, please ensure their authenticity with the sender]
Good Morning Tom

We agree with Committed dev flow and have no objection to the inclusion of the traffic associated with M block approval.

Kind Regards

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

Web: www.nationalhighways.co.uk

For information about our engagement with the planning system please visit
<https://nationalhighways.co.uk/our-roads/planning-and-the-strategic-road-network-in-england/>

From: Tom Valek [REDACTED]
Sent: 11 February 2026 14:12
To: [REDACTED]
Cc: [REDACTED]
Subject: Land At Rose Farm, Downs Road, Istead Rose - 25/503683/OUT

Good afternoon,

Thank you for your formal representation to the development proposals at Rose Farm (Reference: 25/503683/OUT). Following the comments, we have been discussing the committed development flows with GBC as below. Are you content from the below that the Committed Development flow use is acceptable? Given we also used the MCC survey data collected for the Former Tollgate Hotel application, we are very keen to replicate committed development flows to avoid double counting and remain consistent.

Happ[ly] to discuss.

Regards,

Tom Valek
Senior Transport Planner



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From: [REDACTED]
Sent: 10 February 2026 15:38
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Rose Farm - 25/503683/OUT

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Tom,

Apologies if this sounds stupid but the document attaches doesn't have Appendix P?

Notwithstanding the above the Tollgate application is the most relevant approval which relates to A227/A2 junction modelling which should be used. In regards to committed development the only change to note is M block approval expired. I am happy for you to use that data but would suggest if you are in any date check with National Highways/ KHS.

If you have any questions feel free to call me.

Many thanks.

[REDACTED]

Development Plan and Supplementary Planning Documents including informal design guidance are available at <https://www.gravesham.gov.uk/local-plan-policy>

The Council has adopted a Local List of Validation Requirements (April 1st 2020)

Before you formally submit your application check that you have all the relevant documents, by reading our [Local Validation List](#). Failure to meet these requirements will lead to delays in processing your application, and it may not be registered.

New Supplementary Planning Document - Householder Extensions/Alterations Design Guide SPD -

The Council has adopted a Householder Extensions/Alterations Design Guide SPD. A copy of the SPD, is available on our website at <https://www.gravesham.gov.uk/downloads/file/249/householder-extensions-alterations-design-guide-sdp-including-schedule-of-representations>

From: [REDACTED]
Sent: 10 February 2026 11:11
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Rose Farm - 25/503683/OUT

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Hi [REDACTED],

In the description of those appendices is where I obtained the committed development flows from. This is within the Transport Assessment addendum Figures 153-156, the doc is attached. As we used their MCC survey data etc we were very keen to stay consistent with the committed development flows.

Regards,

Tom Valek
Senior Transport Planner

[REDACTED]

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From: [REDACTED]

Sent: 10 February 2026 10:29

To: [REDACTED]

Subject: RE: Rose Farm - 25/503683/OUT

[External email - This message originated from outside DHA – prior to opening any attachments or opening links, please ensure their authenticity with the sender]

Tom,

Can you please confirm where you saw Appendix P of the submitted Transport Assessment at Figures 8 and 9 for application 20240856.

Many thanks

[REDACTED]

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From: [REDACTED]

Sent: 06 February 2026 12:49

To: [REDACTED]

Subject: RE: Rose Farm - 25/503683/OUT

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Dear [REDACTED]

Thank you for coming back to me and no problem regarding the below. I look forward to hearing further once you have discussed internally.

Regards,

Tom Valek
Senior Transport Planner

[REDACTED]

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From: [REDACTED]

[External email - This message originated from outside DHA – prior to opening any attachments or opening links, please ensure their authenticity with the sender]

Tom,

Many thanks for your e-mail. As there were numerous commitments around the A2/A227 junction including those relating to Coldharbour Road I want to ensure the LPA provide you with the correct information. I will speak with Ade (case officer) and Alison (she is the case officer for Tollgate) to confirm the committed developments for the junction in question.

Many thanks

[Redacted signature block]

Development Plan and Supplementary Planning Documents including informal design guidance are available at <https://www.gravesham.gov.uk/local-plan-policy>

The Council has adopted a Local List of Validation Requirements (April 1st 2020)

Before you formally submit your application check that you have all the relevant documents, by reading our [Local Validation List](#). Failure to meet these requirements will lead to delays in processing your application, and it may not be registered.

New Supplementary Planning Document - Householder Extensions/Alterations Design Guide SPD -

The Council has adopted a Householder Extensions/Alterations Design Guide SPD. A copy of the SPD, is available on our website at <https://www.gravesham.gov.uk/downloads/file/249/householder-extensions-alterations-design-guide-sdp-including-schedule-of-representations>

From [Redacted]
Sent: 02 February 2026 17:06
[Redacted]
Subject: Rose Farm - 25/503683/OUT

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Dear [Redacted],

I am the transport planner working on the planning application at Rose Farm, Istead Rise. I am currently working my way through the National Highways comments.

Comments from National Highways centre around the junction capacity assessments we have undertaken of the A2 / A227. For consistency and robustness, we have looked to ensure that our assessment of this junction is consistent with the proposals at the Former Tollgate Hotel (Reference: 20240856). This included the Committed Developments and associated flows which are included within Appendix P of the submitted Transport Assessment at Figures 8 and 9. The total flows were taken from the Transport Assessment Addendum dated 24th October 2024 - Doc Number TAA01 Figures 155 and 156. We believe these Committed Developments including any considerations for build

out are appropriate, particularly considering the baseline survey data utilised was also obtained from the Former Tollgate Hotel application.

We would therefore appreciate your confirmation on the acceptability of the Committed Developments assessed.

Regards,

Tom Valek
Senior Transport Planner



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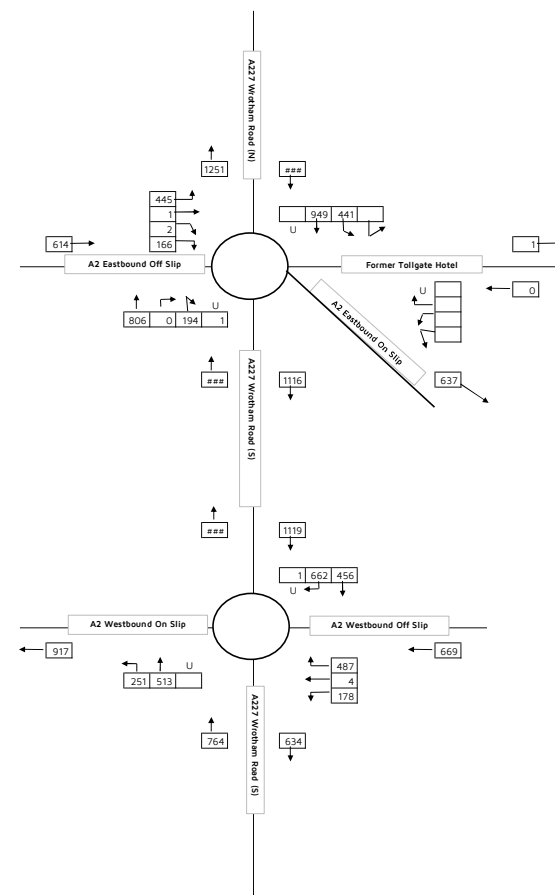
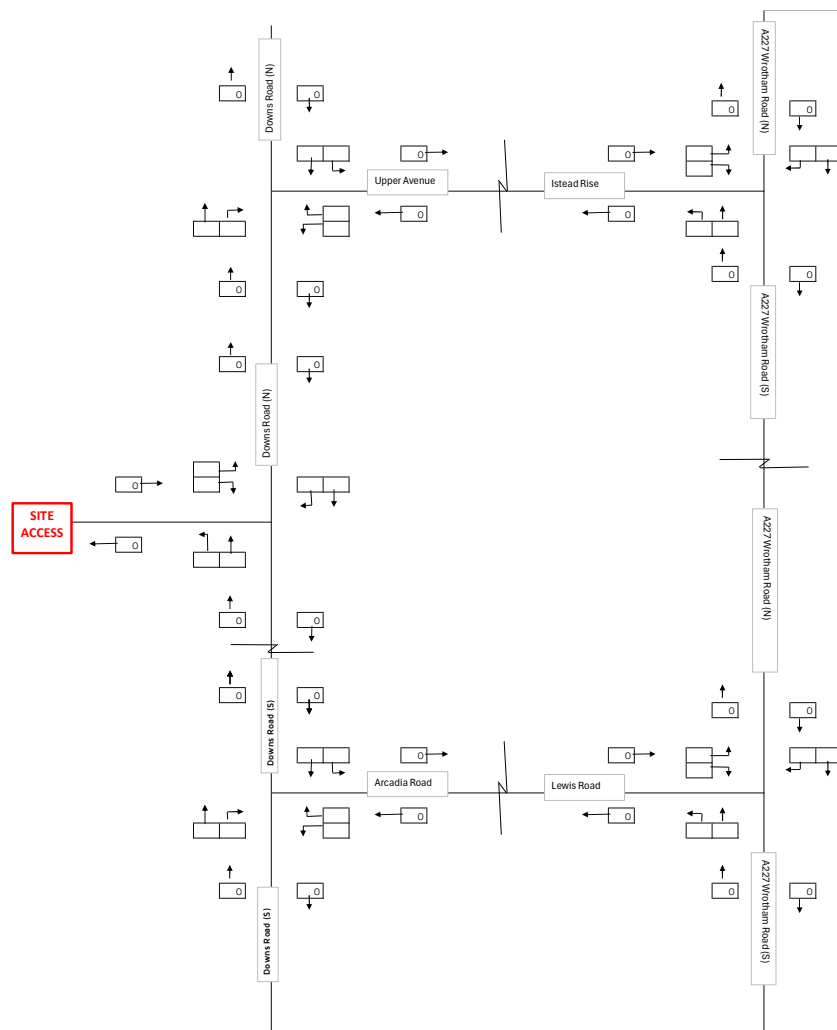
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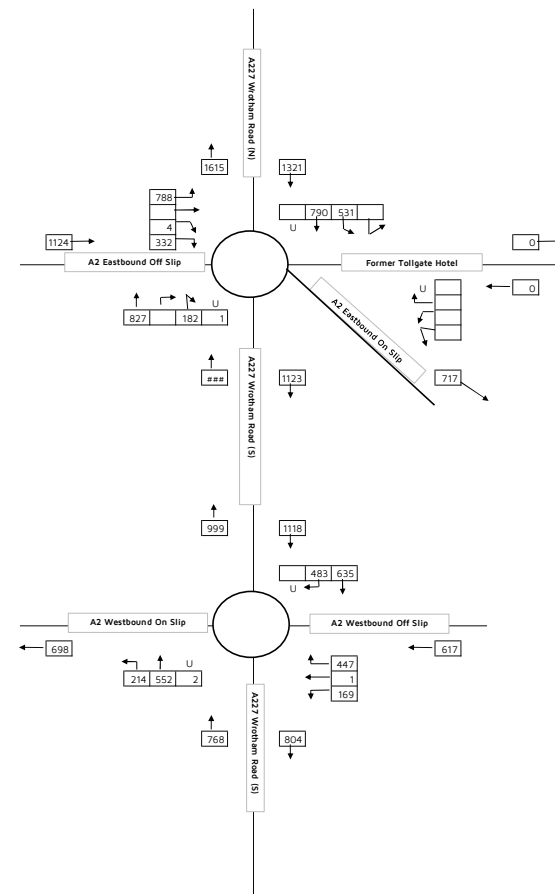
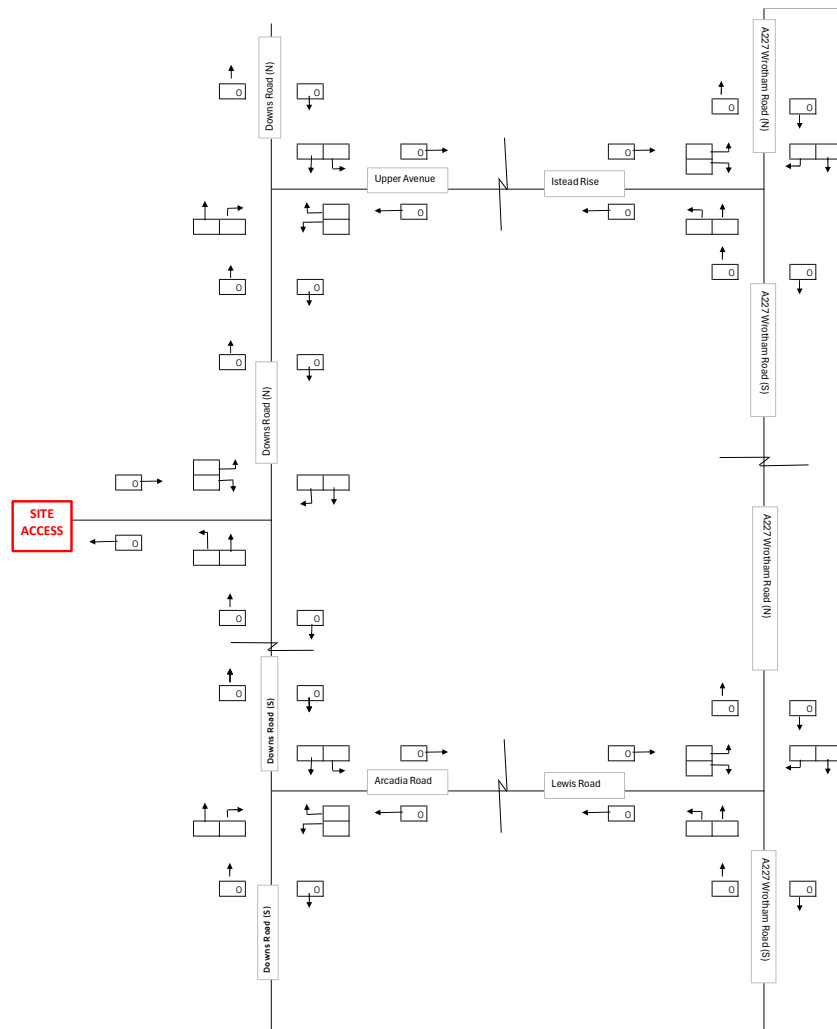
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APPENDIX D







APPENDIX E



Junctions 11		
ARCADY 11 - Roundabout Module		
Version: 11.0.0.2177		
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Filename: A2 - A227 - PM - Rose Farm.j11

Path: C:\Users\Tom.Valek\OneDriveCloudTemp\FNLRVSDP

Report generation date: 20/02/2026 09:24:20

»2023 | Base | PM

»2025 | Base | PM

»2030 | DN | PM

»2030 | DM | PM

Summary of junction performance

	PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	2023 - Base					
Junction 1 - Arm 1	D2	60.8	300.18	1.19	F	83.59
Junction 1 - Arm 2		5.8	26.09	0.85	D	
Junction 1 - Arm 4		1.2	3.45	0.52	A	
Junction 2 - Arm 2		0.9	2.82	0.44	A	10.81
Junction 2 - Arm 3		5.7	17.06	0.85	C	
Junction 2 - Arm 4		4.6	11.56	0.81	B	
Junction 2 - Arm 5		0.0	0.00	0.00	A	
		2025 - Base				
Junction 1 - Arm 1	D4	67.4	331.32	1.21	F	92.02
Junction 1 - Arm 2		6.1	27.40	0.86	D	
Junction 1 - Arm 4		1.2	3.47	0.52	A	
Junction 2 - Arm 2		0.9	2.82	0.44	A	10.81
Junction 2 - Arm 3		5.7	17.06	0.85	C	
Junction 2 - Arm 4		4.6	11.56	0.81	B	
Junction 2 - Arm 5		0.0	0.00	0.00	A	
		2030 - DM				
Junction 1 - Arm 1	D8	193.8	1099.64	1.68	F	300.01
Junction 1 - Arm 2		16.9	68.50	0.97	F	
Junction 1 - Arm 4		1.6	4.16	0.60	A	
Junction 2 - Arm 2		1.1	3.17	0.50	A	63.20
Junction 2 - Arm 3		69.7	151.80	1.09	F	
Junction 2 - Arm 4		12.2	29.27	0.93	D	
Junction 2 - Arm 5		1.7	51.77	0.64	F	
		2030 - DN				
Junction 1 - Arm 1	D6	189.2	1064.18	1.65	F	293.83
Junction 1 - Arm 2		14.6	60.89	0.96	F	
Junction 1 - Arm 4		1.6	4.06	0.59	A	
Junction 2 - Arm 2		1.1	3.16	0.50	A	77.99
Junction 2 - Arm 3		90.1	189.07	1.12	F	
Junction 2 - Arm 4		13.1	31.64	0.94	D	
Junction 2 - Arm 5		2.0	58.61	0.67	F	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	11/11/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DHA\Tom.Valek
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	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	Base	PM	ONE HOUR	16:45	18:15	15	✓
D4	2025	Base	PM	ONE HOUR	16:45	18:15	15	✓
D6	2030	DN	PM	ONE HOUR	16:45	18:15	15	✓
D8	2030	DM	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2023 | 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, 4	83.59	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.81	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	41.22	E

Arms

Arms

Junction	Arm	Name	Description	No give-way line
1	1	A2 Westbound Off Slip		
	2	A227 (S)		
	3	A2 Westbound On Slip		
	4	A227 (N)		
2	1	A2 Eastbound On Slip		
	2	A227 (S)		
	3	A2 Eastbound Off Slip		
	4	A227 (N)		
	5	Former Tollgate Hotel		

Roundabout Geometry

Junction	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)	Entry only	Exit only
1	1	3.70	8.50	10.2	19.1	59.9	60.0	✓	
	2	4.90	9.20	22.2	24.1	59.9	49.0		
	3								✓
	4	7.60	8.10	6.9	20.8	59.9	36.0		
2	1								✓
	2	7.10	9.30	17.9	31.1	63.9	47.0		
	3	7.00	10.20	17.9	40.0	63.9	24.0	✓	
	4	4.60	9.30	22.1	48.8	63.9	50.0		
	5	3.10	5.50	5.4	12.7	63.9	59.0		

Slope / Intercept / Capacity

Arm Intercept Adjustments

Junction	Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1	1	Direct		-335
	2	Direct		-580
	3			
	4	None		
2	1			
	2	None		
	3	Direct		-550
	4	None		
	5	None		

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1	1	0.499	1185
	2	0.622	1577
	3		
	4	0.671	2380
2	1		
	2	0.662	2521
	3	0.741	2312
	4	0.600	2150
	5	0.400	1080

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	Base	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	617	100.000
	2		ONE HOUR	✓	766	100.000
	3					
	4		ONE HOUR	✓	1118	100.000
2	1					
	2		ONE HOUR	✓	1016	100.000
	3		ONE HOUR	✓	1140	100.000
	4		ONE HOUR	✓	1329	100.000
	5		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

		To			
		1	2	3	4
From	1	0	169	1	447
	2	0	0	214	552
	3	0	0	0	0
	4	0	635	483	0

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	183	1	0	832	0
	3	4	337	0	799	0
	4	534	795	0	0	0
	5	0	0	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

Junction 1

	To				
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

Heavy Vehicle %

Junction 2

	To					
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1	1.19	300.18	60.8	F	566	849
	2	0.85	26.09	5.8	D	703	1054
	3						
	4	0.52	3.45	1.2	A	1026	1539
2	1						
	2	0.44	2.82	0.9	A	932	1398
	3	0.85	17.06	5.7	C	1046	1569
	4	0.81	11.56	4.6	B	1220	1829
	5	0.00	0.00	0.0	A	0	0

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	465	116	839	767	0.606	458	0	0.0	1.6	12.566	B
	2	577	144	695	1145	0.504	572	602	0.0	1.1	6.864	A
	3			744				523				
	4	842	210	0	2380	0.354	839	744	0.0	0.6	2.567	A
2	1			849				541				
	2	765	191	0	2521	0.303	763	849	0.0	0.5	2.251	A
	3	858	215	763	1747	0.491	854	0	0.0	1.1	4.416	A
	4	1001	250	394	1914	0.523	996	1223	0.0	1.2	4.290	A
	5	0	0	1389	524	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	555	139	1004	685	0.810	545	0	1.6	4.1	26.618	D
	2	689	172	830	1061	0.649	685	720	1.1	2.0	10.427	B
	3			889				626				
	4	1005	251	0	2380	0.422	1004	889	0.6	0.8	2.877	A
2	1			1016				647				
	2	913	228	0	2521	0.362	913	1016	0.5	0.6	2.463	A
	3	1025	256	913	1636	0.627	1022	0	1.1	1.8	6.418	A
	4	1195	299	471	1868	0.640	1192	1464	1.2	1.9	5.834	A
	5	0	0	1663	415	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	679	170	1229	573	1.187	562	0	4.1	33.5	138.874	F
	2	843	211	939	993	0.849	830	852	2.0	5.3	22.594	C
	3			1005				764				
	4	1231	308	0	2380	0.517	1229	1005	0.8	1.2	3.437	A
2	1			1237				790				
	2	1119	280	0	2521	0.444	1118	1237	0.6	0.9	2.822	A
	3	1255	314	1118	1484	0.846	1241	0	1.8	5.4	15.440	C
	4	1463	366	574	1806	0.810	1453	1785	1.9	4.4	10.925	B
	5	0	0	2027	270	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	679	170	1231	572	1.188	570	0	33.5	60.8	300.182	F
	2	843	211	946	989	0.853	841	855	5.3	5.8	26.091	D
	3			1019				768				
	4	1231	308	0	2380	0.517	1231	1019	1.2	1.2	3.445	A
2	1			1247				794				
	2	1119	280	0	2521	0.444	1119	1247	0.9	0.9	2.824	A
	3	1255	314	1119	1483	0.846	1254	0	5.4	5.7	17.057	C
	4	1463	366	578	1804	0.811	1463	1795	4.4	4.6	11.565	B
	5	0	0	2040	264	0.000	0	0	0.0	0.0	0.000	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	555	139	1007	684	0.811	672	0	60.8	31.5	249.036	F
	2	689	172	922	1004	0.686	702	756	5.8	2.5	13.640	B
	3			992				632				
	4	1005	251	0	2380	0.422	1007	992	1.2	0.8	2.885	A
2	1			1029				653				
	2	913	228	0	2521	0.362	914	1029	0.9	0.6	2.466	A
	3	1025	256	914	1635	0.627	1040	0	5.7	1.9	6.826	A
	4	1195	299	477	1864	0.641	1205	1478	4.6	2.0	6.098	A
	5	0	0	1682	408	0.000	0	0	0.0	0.0	0.000	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	465	116	843	765	0.607	583	0	31.5	1.8	37.948	E
	2	577	144	788	1087	0.530	582	638	2.5	1.3	7.903	A
	3			842				527				
	4	842	210	0	2380	0.354	843	842	0.8	0.6	2.578	A
2	1			856				544				
	2	765	191	0	2521	0.303	765	856	0.6	0.5	2.256	A
	3	858	215	765	1745	0.492	861	0	1.9	1.1	4.498	A
	4	1001	250	396	1912	0.523	1004	1231	2.0	1.2	4.372	A
	5	0	0	1400	520	0.000	0	0	0.0	0.0	0.000	A

2025 | 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, 4	92.02	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	10.81	B

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	44.91	E

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025	Base	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	625	100.000
	2		ONE HOUR	✓	773	100.000
	3					
	4		ONE HOUR	✓	1125	100.000
2	1					
	2		ONE HOUR	✓	1016	100.000
	3		ONE HOUR	✓	1140	100.000
	4		ONE HOUR	✓	1329	100.000
	5		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

	To				
From		1	2	3	4
	1	0	171	1	453
	2	0	2	215	556
	3	0	0	0	0
	4	0	639	486	0

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	183	1	0	832	0
	3	4	337	0	799	0
	4	534	795	0	0	0
	5	0	0	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

Junction 1

	To				
From		1	2	3	4
	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

Heavy Vehicle %

Junction 2

	To					
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1	1.21	331.32	67.4	F	574	860
	2	0.86	27.40	6.1	D	709	1064
	3						
	4	0.52	3.47	1.2	A	1032	1548
2	1						
	2	0.44	2.82	0.9	A	932	1398
	3	0.85	17.06	5.7	C	1046	1569
	4	0.81	11.56	4.6	B	1220	1829
	5	0.00	0.00	0.0	A	0	0

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	471	118	846	764	0.616	464	0	0.0	1.7	12.929	B
	2	582	145	702	1141	0.510	577	608	0.0	1.1	6.973	A
	3			753				526				
	4	847	212	1	2379	0.356	845	751	0.0	0.6	2.573	A
2	1			849				541				
	2	765	191	0	2521	0.303	763	849	0.0	0.5	2.251	A
	3	858	215	763	1747	0.491	854	0	0.0	1.1	4.416	A
	4	1001	250	394	1914	0.523	996	1223	0.0	1.2	4.290	A
	5	0	0	1389	524	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	562	140	1012	681	0.825	551	0	1.7	4.4	28.391	D
	2	695	174	837	1057	0.658	691	727	1.1	2.0	10.721	B
	3			898				630				
	4	1011	253	2	2379	0.425	1011	897	0.6	0.8	2.893	A
2	1			1016				647				
	2	913	228	0	2521	0.362	913	1016	0.5	0.6	2.463	A
	3	1025	256	913	1636	0.627	1022	0	1.1	1.8	6.418	A
	4	1195	299	471	1868	0.640	1192	1464	1.2	1.9	5.834	A
	5	0	0	1663	415	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	688	172	1239	568	1.212	558	0	4.4	36.8	151.287	F
	2	851	213	940	993	0.857	837	858	2.0	5.6	23.528	C
	3			1009				768				
	4	1239	310	2	2378	0.521	1237	1007	0.8	1.2	3.465	A
2	1			1237				790				
	2	1119	280	0	2521	0.444	1118	1237	0.6	0.9	2.822	A
	3	1255	314	1118	1484	0.846	1241	0	1.8	5.4	15.440	C
	4	1463	366	574	1806	0.810	1453	1785	1.9	4.4	10.925	B
	5	0	0	2027	270	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	688	172	1241	567	1.214	566	0	36.8	67.4	331.323	F
	2	851	213	946	989	0.861	849	860	5.6	6.1	27.395	D
	3			1023				772				
	4	1239	310	2	2378	0.521	1239	1021	1.2	1.2	3.473	A
2	1			1247				794				
	2	1119	280	0	2521	0.444	1119	1247	0.9	0.9	2.824	A
	3	1255	314	1119	1483	0.846	1254	0	5.4	5.7	17.057	C
	4	1463	366	578	1804	0.811	1463	1795	4.4	4.6	11.565	B
	5	0	0	2040	264	0.000	0	0	0.0	0.0	0.000	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	562	140	1015	680	0.827	669	0	67.4	40.7	290.563	F
	2	695	174	923	1003	0.693	709	760	6.1	2.6	14.056	B
	3			997				636				
	4	1011	253	2	2379	0.425	1013	995	1.2	0.8	2.904	A
2	1			1029				653				
	2	913	228	0	2521	0.362	914	1029	0.9	0.6	2.466	A
	3	1025	256	914	1635	0.627	1040	0	5.7	1.9	6.826	A
	4	1195	299	477	1864	0.641	1205	1478	4.6	2.0	6.098	A
	5	0	0	1682	408	0.000	0	0	0.0	0.0	0.000	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	471	118	849	762	0.617	626	0	40.7	1.9	62.750	F
	2	582	145	821	1067	0.546	587	654	2.6	1.3	8.336	A
	3			877				530				
	4	847	212	2	2379	0.356	848	876	0.8	0.6	2.587	A
2	1			856				544				
	2	765	191	0	2521	0.303	765	856	0.6	0.5	2.256	A
	3	858	215	765	1745	0.492	861	0	1.9	1.1	4.498	A
	4	1001	250	396	1912	0.523	1004	1231	2.0	1.2	4.372	A
	5	0	0	1400	520	0.000	0	0	0.0	0.0	0.000	A

2030 | DN | 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	293.83	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	77.99	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	166.32	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2030	DN	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	729	100.000
	2		ONE HOUR	✓	826	100.000
	3					
	4		ONE HOUR	✓	1274	100.000
2	1					
	2		ONE HOUR	✓	1132	100.000
	3		ONE HOUR	✓	1387	100.000
	4		ONE HOUR	✓	1448	100.000
	5		ONE HOUR	✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

	To				
From		1	2	3	4
	1	0	192	1	536
	2	0	2	232	592
	3	0	0	0	0
	4	0	679	595	0

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	194	1	0	890	47
	3	70	354	0	893	70
	4	569	879	0	0	0
	5	43	46	0	28	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

Junction 1

	To				
From		1	2	3	4
	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

Heavy Vehicle %

Junction 2

	To					
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1	1.65	1064.18	189.2	F	669	1003
	2	0.96	60.89	14.6	F	758	1137
	3						
	4	0.59	4.06	1.6	A	1169	1754
2	1						
	2	0.50	3.16	1.1	A	1039	1558
	3	1.12	189.07	90.1	F	1273	1909
	4	0.94	31.64	13.1	D	1329	1993
	5	0.67	58.61	2.0	F	107	161

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	549	137	958	708	0.775	535	0	0.0	3.4	21.495	C
	2	622	155	841	1054	0.590	616	652	0.0	1.5	8.908	A
	3			836				620				
	4	959	240	1	2379	0.403	956	835	0.0	0.7	2.777	A
2	1			978				656				
	2	852	213	21	2507	0.340	850	957	0.0	0.6	2.387	A
	3	1044	261	871	1667	0.626	1037	0	0.0	1.8	6.217	A
	4	1090	273	551	1820	0.599	1084	1357	0.0	1.6	5.335	A
	5	88	22	1547	461	0.191	87	88	0.0	0.3	10.550	B

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	655	164	1146	614	1.067	590	0	3.4	19.7	91.283	F
	2	743	186	969	975	0.762	736	767	1.5	3.3	16.109	C
	3			963				742				
	4	1145	286	2	2379	0.481	1144	961	0.7	1.0	3.205	A
2	1			1169				784				
	2	1018	254	25	2504	0.406	1017	1144	0.6	0.7	2.661	A
	3	1247	312	1042	1540	0.810	1237	0	1.8	4.4	12.642	B
	4	1302	325	658	1755	0.742	1296	1621	1.6	3.0	8.514	A
	5	105	26	1849	341	0.309	104	105	0.3	0.5	16.693	C

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	803	201	1403	486	1.651	486	0	19.7	99.0	455.484	F
	2	909	227	1012	948	0.959	876	876	3.3	11.6	42.508	E
	3			987				901				
	4	1403	351	2	2378	0.590	1401	985	1.0	1.6	4.040	A
2	1			1371				941				
	2	1246	312	30	2501	0.498	1245	1342	0.7	1.1	3.151	A
	3	1527	382	1275	1368	1.117	1348	0	4.4	49.2	82.613	F
	4	1594	399	746	1702	0.937	1561	1876	3.0	11.3	23.934	C
	5	129	32	2188	205	0.628	124	120	0.5	1.6	46.586	E

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	803	201	1405	485	1.655	485	0	99.0	178.4	915.176	F
	2	909	227	1012	948	0.960	898	877	11.6	14.6	60.886	F
	3			1002				908				
	4	1403	351	2	2378	0.590	1403	1000	1.6	1.6	4.058	A
2	1			1393				953				
	2	1246	312	31	2500	0.498	1246	1362	1.1	1.1	3.157	A
	3	1527	382	1277	1366	1.118	1363	0	49.2	90.1	189.074	F
	4	1594	399	752	1699	0.938	1587	1888	11.3	13.1	31.641	D
	5	129	32	2218	193	0.667	128	121	1.6	2.0	58.614	F

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	655	164	1149	612	1.070	612	0	178.4	189.2	1064.182	F
	2	743	186	987	964	0.771	785	775	14.6	4.0	26.114	D
	3			1014				757				
	4	1145	286	2	2379	0.482	1147	1012	1.6	1.0	3.221	A
2	1			1271				818				
	2	1018	254	26	2503	0.407	1019	1245	1.1	0.8	2.670	A
	3	1247	312	1045	1538	0.811	1519	0	90.1	22.1	136.852	F
	4	1302	325	759	1695	0.768	1339	1806	13.1	3.8	12.182	B
	5	105	26	1979	289	0.364	110	119	2.0	0.7	22.788	C

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	549	137	962	706	0.777	702	0	189.2	150.9	873.006	F
	2	622	155	966	977	0.637	630	698	4.0	2.0	11.670	B
	3			969				626				
	4	959	240	2	2379	0.403	960	968	1.0	0.7	2.793	A
2	1			1011				668				
	2	852	213	21	2506	0.340	853	990	0.8	0.6	2.395	A
	3	1044	261	874	1664	0.627	1125	0	22.1	1.9	8.505	A
	4	1090	273	583	1800	0.606	1099	1416	3.8	1.7	5.710	A
	5	88	22	1589	444	0.198	90	92	0.7	0.3	11.205	B

2030 | DM | 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	300.01	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	63.20	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	161.25	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2030	DM	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	723	100.000
	2		ONE HOUR	✓	841	100.000
	3					
	4		ONE HOUR	✓	1296	100.000
2	1					
	2		ONE HOUR	✓	1138	100.000
	3		ONE HOUR	✓	1342	100.000
	4		ONE HOUR	✓	1451	100.000
	5		ONE HOUR	✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

		To			
From		1	2	3	4
	1	0	186	1	536
	2	0	2	241	598
	3	0	0	0	0
	4	0	701	595	0

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	199	1	0	891	47
	3	4	375	0	893	70
	4	569	882	0	0	0
	5	46	43	0	28	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

Junction 1

	To				
From		1	2	3	4
	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

Heavy Vehicle %

Junction 2

	To					
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1	1.68	1099.64	193.8	F	663	995
	2	0.97	68.50	16.9	F	772	1158
	3						
	4	0.60	4.16	1.6	A	1189	1784
2	1						
	2	0.50	3.17	1.1	A	1044	1566
	3	1.09	151.80	69.7	F	1231	1847
	4	0.93	29.27	12.2	D	1331	1997
	5	0.64	51.77	1.7	F	107	161

Main Results for each time segment

16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	544	136	974	700	0.778	531	0	0.0	3.4	21.904	C
	2	633	158	841	1055	0.600	627	664	0.0	1.6	9.125	A
	3			840				627				
	4	976	244	1	2379	0.410	973	839	0.0	0.8	2.810	A
2	1			994				613				
	2	857	214	21	2507	0.342	854	973	0.0	0.6	2.393	A
	3	1010	253	875	1663	0.607	1004	0	0.0	1.7	5.943	A
	4	1092	273	521	1837	0.595	1086	1358	0.0	1.6	5.227	A
	5	88	22	1520	472	0.186	87	88	0.0	0.2	10.250	B

17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	650	162	1166	604	1.076	582	0	3.4	20.5	95.288	F
	2	756	189	967	976	0.774	749	781	1.6	3.5	16.847	C
	3			965				750				
	4	1165	291	2	2379	0.490	1164	964	0.8	1.0	3.257	A
2	1			1189				733				
	2	1023	256	25	2504	0.409	1022	1164	0.6	0.8	2.671	A
	3	1206	302	1047	1536	0.785	1198	0	1.7	3.8	11.427	B
	4	1304	326	623	1776	0.734	1299	1622	1.6	2.9	8.199	A
	5	105	26	1817	353	0.298	104	105	0.2	0.5	15.842	C

17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	796	199	1427	474	1.679	474	0	20.5	101.1	477.585	F
	2	926	231	1006	952	0.973	888	895	3.5	13.0	45.933	E
	3			985				909				
	4	1427	357	2	2378	0.600	1425	983	1.0	1.6	4.142	A
2	1			1403				886				
	2	1253	313	30	2501	0.501	1252	1373	0.8	1.1	3.167	A
	3	1478	369	1281	1363	1.084	1335	0	3.8	39.4	69.663	F
	4	1598	399	718	1719	0.929	1567	1898	2.9	10.6	22.583	C
	5	129	32	2164	215	0.600	125	121	0.5	1.5	42.311	E

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	796	199	1429	473	1.683	473	0	101.1	181.8	948.238	F
	2	926	231	1006	951	0.973	910	896	13.0	16.9	68.502	F
	3			1000				917				
	4	1427	357	2	2378	0.600	1427	998	1.6	1.6	4.161	A
2	1			1425				897				
	2	1253	313	31	2500	0.501	1253	1394	1.1	1.1	3.174	A
	3	1478	369	1284	1361	1.086	1356	0	39.4	69.7	151.797	F
	4	1598	399	726	1715	0.932	1591	1914	10.6	12.2	29.265	D
	5	129	32	2194	203	0.636	128	122	1.5	1.7	51.769	F

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	650	162	1169	603	1.079	602	0	181.8	193.8	1099.637	F
	2	756	189	983	966	0.783	806	788	16.9	4.4	30.262	D
	3			1022				768				
	4	1165	291	2	2379	0.490	1167	1020	1.6	1.1	3.275	A
2	1			1291				752				
	2	1023	256	26	2503	0.409	1024	1265	1.1	0.8	2.679	A
	3	1206	302	1051	1534	0.787	1465	0	69.7	4.9	83.957	F
	4	1304	326	713	1722	0.757	1339	1803	12.2	3.6	11.165	B
	5	105	26	1933	307	0.342	110	119	1.7	0.6	20.482	C

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	544	136	978	698	0.780	694	0	193.8	156.4	909.334	F
	2	633	158	964	978	0.647	642	708	4.4	2.1	12.102	B
	3			973				634				
	4	976	244	2	2379	0.410	977	971	1.1	0.8	2.828	A
2	1			1010				620				
	2	857	214	21	2506	0.342	858	988	0.8	0.6	2.402	A
	3	1010	253	879	1661	0.608	1023	0	4.9	1.7	6.332	A
	4	1092	273	528	1833	0.596	1100	1374	3.6	1.6	5.457	A
	5	88	22	1540	464	0.190	89	89	0.6	0.3	10.599	B

Junctions 11		
ARCADY 11 - Roundabout Module		
Version: 11.0.0.2177		
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Filename: A2 - A227 - AM - Rose Farm.j11

Path: C:\Users\Tom.Valek\OneDriveCloudTemp\FNLRVSDP

Report generation date: 20/02/2026 09:21:21

»2023 | Base | AM
 »2025 | Base | AM
 »2030 | DN | AM
 »2030 | DM | AM

Summary of junction performance

	AM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	2023 - Base					
Junction 1 - Arm 1	D1	60.1	272.22	1.17	F	81.22
Junction 1 - Arm 2		6.1	27.89	0.86	D	
Junction 1 - Arm 4		1.2	3.45	0.52	A	
Junction 2 - Arm 2		0.9	2.81	0.44	A	8.21
Junction 2 - Arm 3		2.1	11.21	0.66	B	
Junction 2 - Arm 4		4.5	10.77	0.81	B	
Junction 2 - Arm 5		0.0	0.00	0.00	A	
		2025 - Base				
Junction 1 - Arm 1	D3	67.6	303.14	1.19	F	90.22
Junction 1 - Arm 2		6.5	29.41	0.87	D	
Junction 1 - Arm 4		1.2	3.48	0.52	A	
Junction 2 - Arm 2		0.9	2.81	0.44	A	8.21
Junction 2 - Arm 3		2.1	11.21	0.66	B	
Junction 2 - Arm 4		4.5	10.77	0.81	B	
Junction 2 - Arm 5		0.0	0.00	0.00	A	
		2030 - DM				
Junction 1 - Arm 1	D7	202.1	1066.44	1.65	F	316.49
Junction 1 - Arm 2		31.3	115.70	1.03	F	
Junction 1 - Arm 4		1.7	4.28	0.61	A	
Junction 2 - Arm 2		1.1	3.11	0.49	A	25.81
Junction 2 - Arm 3		7.8	35.96	0.89	E	
Junction 2 - Arm 4		16.4	36.37	0.96	E	
Junction 2 - Arm 5		1.2	39.20	0.54	E	
		2030 - DN				
Junction 1 - Arm 1	D5	194.2	1027.31	1.63	F	299.16
Junction 1 - Arm 2		20.2	82.43	0.99	F	
Junction 1 - Arm 4		1.7	4.24	0.61	A	
Junction 2 - Arm 2		1.0	3.07	0.49	A	23.52
Junction 2 - Arm 3		6.8	31.20	0.87	D	
Junction 2 - Arm 4		15.1	33.57	0.95	D	
Junction 2 - Arm 5		1.1	36.57	0.52	E	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages.

File summary

File Description

Title	
Location	
Site number	
Date	11/11/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	DHA\Tom.Valek
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	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	Base	AM	ONE HOUR	07:45	09:15	15	✓
D3	2025	Base	AM	ONE HOUR	07:45	09:15	15	✓
D5	2030	DN	AM	ONE HOUR	07:45	09:15	15	✓
D7	2030	DM	AM	ONE HOUR	07:45	09:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2023 | 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, 4	81.22	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	41.58	E

Arms

Arms

Junction	Arm	Name	Description	No give-way line
1	1	A2 Westbound Off Slip		
	2	A227 (S)		
	3	A2 Westbound On Slip		
	4	A227 (N)		
2	1	A2 Eastbound On Slip		
	2	A227 (S)		
	3	A2 Eastbound Off Slip		
	4	A227 (N)		
	5	Former Tollgate Hotel		

Roundabout Geometry

Junction	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)	Entry only	Exit only
1	1	3.70	8.50	10.2	19.1	59.9	60.0	✓	
	2	4.90	9.20	22.2	24.1	59.9	49.0		
	3								✓
	4	7.60	8.10	6.9	20.8	59.9	36.0		
2	1								✓
	2	7.10	9.30	17.9	31.1	63.9	47.0		
	3	7.00	10.20	17.9	40.0	63.9	24.0	✓	
	4	4.60	9.30	22.1	48.8	63.9	50.0		
	5	3.10	5.50	5.4	12.7	63.9	59.0		

Slope / Intercept / Capacity

Arm Intercept Adjustments

Junction	Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1	1	Direct	Queue	-275
	2	Direct		-440
	3			
	4	None		
2	1			
	2	None		
	3	Direct		-1000
	4	None		
	5	None		

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1	1	0.499	1245
	2	0.622	1717
	3		
	4	0.671	2380
2	1		
	2	0.662	2521
	3	0.741	1862
	4	0.600	2150
	5	0.400	1080

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	Base	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	669	100.000
	2		ONE HOUR	✓	764	100.000
	3					
	4		ONE HOUR	✓	1119	100.000
2	1					
	2		ONE HOUR	✓	1008	100.000
	3		ONE HOUR	✓	624	100.000
	4		ONE HOUR	✓	1400	100.000
	5		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

		To			
		1	2	3	4
From	1	0	178	4	487
	2	0	0	251	513
	3	0	0	0	0
	4	0	456	662	1

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	195	1	0	812	0
	3	2	169	0	452	1
	4	444	956	0	0	0
	5	0	0	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

Junction 1

	To				
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

Heavy Vehicle %

Junction 2

	To					
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1	1.17	272.22	60.1	F	614	921
	2	0.86	27.89	6.1	D	701	1052
	3						
	4	0.52	3.45	1.2	A	1027	1540
2	1						
	2	0.44	2.81	0.9	A	925	1387
	3	0.66	11.21	2.1	B	573	859
	4	0.81	10.77	4.5	B	1285	1927
	5	0.00	0.00	0.0	A	0	0

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	504	126	840	827	0.609	497	0	0.0	1.7	11.785	B
	2	575	144	863	1181	0.487	571	475	0.0	1.0	6.452	A
	3			746				688				
	4	842	211	0	2380	0.354	840	746	0.0	0.6	2.569	A
2	1			844				481				
	2	759	190	0	2521	0.301	757	844	0.0	0.5	2.244	A
	3	470	117	757	1301	0.361	467	0	0.0	0.6	4.736	A
	4	1054	263	276	1985	0.531	1049	948	0.0	1.2	4.211	A
	5	0	0	1324	550	0.000	0	0.75	0.0	0.0	0.000	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	601	150	1005	744	0.808	592	0	1.7	4.1	24.527	C
	2	687	172	1030	1077	0.638	683	567	1.0	1.9	9.978	A
	3			891				823				
	4	1006	251	0	2380	0.423	1005	891	0.6	0.8	2.879	A
2	1			1010				575				
	2	906	227	0	2521	0.360	906	1010	0.5	0.6	2.452	A
	3	561	140	906	1191	0.471	560	0	0.6	1.0	6.257	A
	4	1259	315	330	1952	0.645	1256	1135	1.2	2.0	5.663	A
	5	0	0	1585	446	0.000	0	0.90	0.0	0.0	0.000	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	737	184	1231	632	1.165	620	0	4.1	33.3	126.244	F
	2	841	210	1184	981	0.857	826	666	1.9	5.6	23.628	C
	3			1007				1003				
	4	1232	308	0	2380	0.518	1231	1007	0.8	1.2	3.441	A
2	1			1232				702				
	2	1110	277	0	2521	0.440	1109	1232	0.6	0.9	2.804	A
	3	687	172	1109	1041	0.660	683	0	1.0	2.1	10.932	B
	4	1541	385	404	1908	0.808	1532	1388	2.0	4.4	10.272	B
	5	0	0	1934	307	0.000	0	1	0.0	0.0	0.000	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	737	184	1232	631	1.167	629	0	33.3	60.1	272.224	F
	2	841	210	1192	976	0.862	839	669	5.6	6.1	27.888	D
	3			1023				1008				
	4	1232	308	0	2380	0.518	1232	1023	1.2	1.2	3.449	A
2	1			1239				706				
	2	1110	277	0	2521	0.440	1110	1239	0.9	0.9	2.806	A
	3	687	172	1110	1040	0.661	687	0	2.1	2.1	11.206	B
	4	1541	385	405	1907	0.808	1541	1392	4.4	4.5	10.773	B
	5	0	0	1945	302	0.000	0	1	0.0	0.0	0.000	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	601	150	1007	743	0.809	730	0	60.1	28.0	220.191	F
	2	687	172	1133	1013	0.678	702	605	6.1	2.4	13.287	B
	3			1003				831				
	4	1006	251	0	2380	0.423	1007	1003	1.2	0.8	2.887	A
2	1			1020				580				
	2	906	227	0	2521	0.360	907	1020	0.9	0.6	2.455	A
	3	561	140	907	1190	0.471	565	0	2.1	1.0	6.386	A
	4	1259	315	332	1951	0.645	1268	1140	4.5	2.0	5.883	A
	5	0	0	1600	440	0.000	0	0.91	0.0	0.0	0.000	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	504	126	843	825	0.610	608	0	28.0	1.8	28.235	D
	2	575	144	946	1129	0.510	580	506	2.4	1.2	7.283	A
	3			833				693				
	4	842	211	0	2380	0.354	843	833	0.8	0.6	2.578	A
2	1			850				484				
	2	759	190	0	2521	0.301	759	850	0.6	0.5	2.250	A
	3	470	117	759	1299	0.362	471	0	1.0	0.6	4.792	A
	4	1054	263	278	1984	0.531	1057	953	2.0	1.3	4.289	A
	5	0	0	1334	547	0.000	0	0.76	0.0	0.0	0.000	A

2025 | 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, 4	90.22	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	8.21	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	45.88	E

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025	Base	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	679	100.000
	2		ONE HOUR	✓	770	100.000
	3					
	4		ONE HOUR	✓	1127	100.000
2	1					
	2		ONE HOUR	✓	1008	100.000
	3		ONE HOUR	✓	624	100.000
	4		ONE HOUR	✓	1400	100.000
	5		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

		To			
		1	2	3	4
From	1	0	181	4	494
	2	0	0	253	517
	3	0	0	0	0
	4	0	459	667	1

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	195	1	0	812	0
	3	2	169	0	452	1
	4	444	956	0	0	0
	5	0	0	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

Junction 1

	To				
From		1	2	3	4
	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

Heavy Vehicle %

Junction 2

	To					
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1	1.19	303.14	67.6	F	623	935
	2	0.87	29.41	6.5	D	707	1060
	3						
	4	0.52	3.48	1.2	A	1034	1551
2	1						
	2	0.44	2.81	0.9	A	925	1387
	3	0.66	11.21	2.1	B	573	859
	4	0.81	10.77	4.5	B	1285	1927
	5	0.00	0.00	0.0	A	0	0

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	511	128	846	824	0.621	504	0	0.0	1.7	12.148	B
	2	580	145	871	1175	0.493	575	479	0.0	1.1	6.555	A
	3			754				693				
	4	848	212	0	2380	0.357	846	754	0.0	0.6	2.577	A
2	1			844				481				
	2	759	190	0	2521	0.301	757	844	0.0	0.5	2.244	A
	3	470	117	757	1301	0.361	467	0	0.0	0.6	4.736	A
	4	1054	263	276	1985	0.531	1049	948	0.0	1.2	4.211	A
	5	0	0	1324	550	0.000	0	0.75	0.0	0.0	0.000	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	610	153	1012	741	0.824	600	0	1.7	4.4	26.245	D
	2	692	173	1040	1071	0.647	689	572	1.1	2.0	10.269	B
	3			900				829				
	4	1013	253	0	2380	0.426	1012	900	0.6	0.8	2.894	A
2	1			1010				575				
	2	906	227	0	2521	0.360	906	1010	0.5	0.6	2.452	A
	3	561	140	906	1191	0.471	560	0	0.6	1.0	6.257	A
	4	1259	315	330	1952	0.645	1256	1135	1.2	2.0	5.663	A
	5	0	0	1585	446	0.000	0	0.90	0.0	0.0	0.000	A

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	748	187	1239	628	1.191	617	0	4.4	37.0	138.297	F
	2	848	212	1187	979	0.866	832	669	2.0	5.9	24.681	C
	3			1009				1010				
	4	1241	310	0	2380	0.521	1239	1009	0.8	1.2	3.467	A
2	1			1232				702				
	2	1110	277	0	2521	0.440	1109	1232	0.6	0.9	2.804	A
	3	687	172	1109	1041	0.660	683	0	1.0	2.1	10.932	B
	4	1541	385	404	1908	0.808	1532	1388	2.0	4.4	10.272	B
	5	0	0	1934	307	0.000	0	1	0.0	0.0	0.000	A

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	748	187	1241	627	1.193	625	0	37.0	67.6	303.144	F
	2	848	212	1194	975	0.870	845	672	5.9	6.5	29.413	D
	3			1024				1016				
	4	1241	310	0	2380	0.521	1241	1024	1.2	1.2	3.475	A
2	1			1239				706				
	2	1110	277	0	2521	0.440	1110	1239	0.9	0.9	2.806	A
	3	687	172	1110	1040	0.661	687	0	2.1	2.1	11.206	B
	4	1541	385	405	1907	0.808	1541	1392	4.4	4.5	10.773	B
	5	0	0	1945	302	0.000	0	1	0.0	0.0	0.000	A

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	610	153	1015	740	0.825	728	0	67.6	38.2	262.241	F
	2	692	173	1135	1011	0.684	708	607	6.5	2.5	13.706	B
	3			1006				838				
	4	1013	253	0	2380	0.426	1015	1006	1.2	0.8	2.903	A
2	1			1020				580				
	2	906	227	0	2521	0.360	907	1020	0.9	0.6	2.455	A
	3	561	140	907	1190	0.471	565	0	2.1	1.0	6.386	A
	4	1259	315	332	1951	0.645	1268	1140	4.5	2.0	5.883	A
	5	0	0	1600	440	0.000	0	0.91	0.0	0.0	0.000	A

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	511	128	849	822	0.622	656	0	38.2	1.9	47.567	E
	2	580	145	985	1105	0.525	585	521	2.5	1.2	7.685	A
	3			871				699				
	4	848	212	0	2380	0.357	849	871	0.8	0.6	2.590	A
2	1			850				484				
	2	759	190	0	2521	0.301	759	850	0.6	0.5	2.250	A
	3	470	117	759	1299	0.362	471	0	1.0	0.6	4.792	A
	4	1054	263	278	1984	0.531	1057	953	2.0	1.3	4.289	A
	5	0	0	1334	547	0.000	0	0.76	0.0	0.0	0.000	A

2030 | DN | 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	299.16	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	23.52	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	147.69	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2030	DN	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	775	100.000
	2		ONE HOUR	✓	817	100.000
	3					
	4		ONE HOUR	✓	1313	100.000
2	1					
	2		ONE HOUR	✓	1119	100.000
	3		ONE HOUR	✓	754	100.000
	4		ONE HOUR	✓	1566	100.000
	5		ONE HOUR	✓	105	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

		To			
		1	2	3	4
From	1	0	192	4	579
	2	0	0	267	550
	3	0	0	0	0
	4	0	488	824	1

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	203	1	0	862	53
	3	33	182	0	506	33
	4	481	1057	0	0	28
	5	43	62	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

Junction 1

	To				
From		1	2	3	4
	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

Heavy Vehicle %

Junction 2

	To					
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1	1.63	1027.31	194.2	F	711	1067
	2	0.99	82.43	20.2	F	750	1125
	3						
	4	0.61	4.24	1.7	A	1205	1807
2	1						
	2	0.49	3.07	1.0	A	1027	1540
	3	0.87	31.20	6.8	D	692	1038
	4	0.95	33.57	15.1	D	1437	2155
	5	0.52	36.57	1.1	E	96	145

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	583	146	985	754	0.774	570	0	0.0	3.4	20.220	C
	2	615	154	1048	1066	0.577	609	507	0.0	1.5	8.570	A
	3			837				820				
	4	988	247	0	2380	0.415	985	837	0.0	0.8	2.834	A
2	1			974				569				
	2	842	211	0	2521	0.334	840	974	0.0	0.6	2.353	A
	3	568	142	840	1239	0.458	564	0	0.0	0.9	5.831	A
	4	1179	295	378	1923	0.613	1172	1026	0.0	1.7	5.227	A
	5	79	20	1465	494	0.160	78	85	0.0	0.2	9.498	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	697	174	1179	658	1.059	631	0	3.4	19.7	85.529	F
	2	734	184	1216	961	0.764	727	595	1.5	3.3	16.417	C
	3			962				981				
	4	1180	295	0	2380	0.496	1179	962	0.8	1.1	3.295	A
2	1			1165				681				
	2	1006	251	0	2521	0.399	1005	1165	0.6	0.7	2.612	A
	3	678	169	1005	1117	0.607	675	0	0.9	1.7	8.891	A
	4	1408	352	453	1878	0.749	1402	1227	1.7	3.2	8.209	A
	5	94	24	1753	379	0.249	94	102	0.2	0.4	13.844	B

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	853	213	1443	526	1.622	525	0	19.7	101.7	430.743	F
	2	900	225	1302	908	0.991	854	667	3.3	14.7	51.562	F
	3			969				1188				
	4	1446	361	0	2380	0.607	1443	969	1.1	1.7	4.217	A
2	1			1402				823				
	2	1232	308	0	2521	0.489	1231	1402	0.7	1.0	3.067	A
	3	830	208	1231	950	0.874	812	0	1.7	6.2	25.922	D
	4	1724	431	550	1820	0.947	1686	1493	3.2	12.7	24.565	C
	5	116	29	2112	236	0.491	113	124	0.4	1.0	31.706	D

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	853	213	1446	525	1.626	525	0	101.7	183.9	879.401	F
	2	900	225	1303	907	0.992	877	667	14.7	20.2	82.426	F
	3			984				1197				
	4	1446	361	0	2380	0.607	1446	984	1.7	1.7	4.238	A
2	1			1426				833				
	2	1232	308	0	2521	0.489	1232	1426	1.0	1.0	3.072	A
	3	830	208	1232	949	0.874	828	0	6.2	6.8	31.199	D
	4	1724	431	555	1817	0.949	1715	1505	12.7	15.1	33.565	D
	5	116	29	2145	223	0.520	115	125	1.0	1.1	36.574	E

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	697	174	1183	656	1.062	656	0	183.9	194.2	1027.308	F
	2	734	184	1236	948	0.774	799	602	20.2	4.2	34.200	D
	3			1028				1007				
	4	1180	295	0	2380	0.496	1183	1028	1.7	1.1	3.316	A
2	1			1208				700				
	2	1006	251	0	2521	0.399	1007	1208	1.0	0.7	2.620	A
	3	678	169	1007	1116	0.607	698	0	6.8	1.7	9.911	A
	4	1408	352	461	1874	0.751	1454	1244	15.1	3.5	10.431	B
	5	94	24	1811	356	0.265	97	104	1.1	0.4	15.472	C

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	583	146	990	752	0.776	748	0	194.2	153.1	836.619	F
	2	615	154	1184	981	0.627	624	553	4.2	1.9	11.372	B
	3			980				829				
	4	988	247	0	2380	0.415	990	980	1.1	0.8	2.850	A
2	1			986				575				
	2	842	211	0	2521	0.334	843	986	0.7	0.6	2.361	A
	3	568	142	843	1237	0.459	571	0	1.7	0.9	5.969	A
	4	1179	295	381	1921	0.614	1186	1033	3.5	1.8	5.432	A
	5	79	20	1481	488	0.162	80	86	0.4	0.2	9.722	A

2030 | DM | 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	316.49	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	25.81	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	157.53	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2030	DM	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	1		ONE HOUR	✓	779	100.000
	2		ONE HOUR	✓	854	100.000
	3					
	4		ONE HOUR	✓	1322	100.000
2	1					
	2		ONE HOUR	✓	1132	100.000
	3		ONE HOUR	✓	762	100.000
	4		ONE HOUR	✓	1567	100.000
	5		ONE HOUR	✓	105	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

	To				
		1	2	3	4
From	1	0	196	4	579
	2	0	0	291	563
	3	0	0	0	0
	4	0	497	824	1

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	213	1	0	865	53
	3	33	190	0	506	33
	4	481	1058	0	0	28
	5	43	62	0	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

Junction 1

	To				
From		1	2	3	4
	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

Heavy Vehicle %

Junction 2

	To					
		1	2	3	4	5
From	1	10	10	10	10	10
	2	10	10	10	10	10
	3	10	10	10	10	10
	4	10	10	10	10	10
	5	10	10	10	10	10

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1	1.65	1066.44	202.1	F	715	1072
	2	1.03	115.70	31.3	F	784	1175
	3						
	4	0.61	4.28	1.7	A	1213	1820
2	1						
	2	0.49	3.11	1.1	A	1039	1558
	3	0.89	35.96	7.8	E	699	1049
	4	0.96	36.37	16.4	E	1438	2157
	5	0.54	39.20	1.2	E	96	145

Main Results for each time segment

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	586	147	992	751	0.781	572	0	0.0	3.5	20.808	C
	2	643	161	1047	1066	0.603	636	517	0.0	1.6	9.090	A
	3			846				838				
	4	995	249	0	2380	0.418	992	846	0.0	0.8	2.848	A
2	1			981				577				
	2	852	213	0	2521	0.338	850	981	0.0	0.6	2.367	A
	3	574	143	850	1232	0.466	570	0	0.0	0.9	5.946	A
	4	1180	295	392	1915	0.616	1173	1028	0.0	1.7	5.288	A
	5	79	20	1479	489	0.162	78	85	0.0	0.2	9.632	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	700	175	1187	654	1.071	630	0	3.5	21.1	90.547	F
	2	768	192	1212	963	0.797	759	605	1.6	3.9	18.544	C
	3			969				1002				
	4	1188	297	0	2380	0.499	1187	969	0.8	1.1	3.317	A
2	1			1173				690				
	2	1018	254	0	2521	0.404	1017	1173	0.6	0.7	2.632	A
	3	685	171	1017	1109	0.618	682	0	0.9	1.7	9.211	A
	4	1409	352	469	1869	0.754	1403	1230	1.7	3.2	8.386	A
	5	94	24	1769	373	0.253	94	102	0.2	0.4	14.172	B

08:15 - 08:30

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	858	214	1453	521	1.646	520	0	21.1	105.4	452.334	F
	2	940	235	1296	911	1.032	875	677	3.9	20.3	64.535	F
	3			965				1206				
	4	1456	364	0	2380	0.612	1453	965	1.1	1.7	4.262	A
2	1			1409				833				
	2	1246	312	0	2521	0.494	1245	1409	0.7	1.1	3.102	A
	3	839	210	1245	940	0.893	818	0	1.7	7.0	28.702	D
	4	1725	431	568	1809	0.954	1684	1495	3.2	13.5	25.881	D
	5	116	29	2129	229	0.505	113	124	0.4	1.0	33.425	D

08:30 - 08:45

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	858	214	1456	520	1.650	520	0	105.4	189.9	912.631	F
	2	940	235	1297	911	1.033	896	678	20.3	31.3	115.697	F
	3			978				1215				
	4	1456	364	0	2380	0.612	1456	978	1.7	1.7	4.284	A
2	1			1434				844				
	2	1246	312	0	2521	0.494	1246	1434	1.1	1.1	3.107	A
	3	839	210	1246	939	0.894	836	0	7.0	7.8	35.963	E
	4	1725	431	575	1805	0.956	1714	1507	13.5	16.4	36.368	E
	5	116	29	2163	215	0.538	115	125	1.0	1.2	39.200	E

08:45 - 09:00

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	700	175	1191	652	1.074	652	0	189.9	202.1	1066.444	F
	2	768	192	1231	952	0.807	871	612	31.3	5.5	64.381	F
	3			1059				1042				
	4	1188	297	0	2380	0.499	1191	1059	1.7	1.1	3.339	A
2	1			1221				711				
	2	1018	254	0	2521	0.404	1019	1221	1.1	0.7	2.641	A
	3	685	171	1019	1107	0.619	709	0	7.8	1.8	10.521	B
	4	1409	352	479	1863	0.756	1460	1249	16.4	3.6	11.007	B
	5	94	24	1834	347	0.272	98	105	1.2	0.4	16.084	C

09:00 - 09:15

Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	586	147	997	749	0.783	745	0	202.1	162.6	882.396	F
	2	643	161	1179	984	0.653	656	562	5.5	2.1	12.541	B
	3			987				849				
	4	995	249	0	2380	0.418	997	987	1.1	0.8	2.866	A
2	1			993				582				
	2	852	213	0	2521	0.338	853	993	0.7	0.6	2.375	A
	3	574	143	853	1230	0.466	577	0	1.8	1.0	6.098	A
	4	1180	295	395	1913	0.617	1187	1035	3.6	1.8	5.502	A
	5	79	20	1496	482	0.164	80	86	0.4	0.2	9.869	A

APPENDIX F

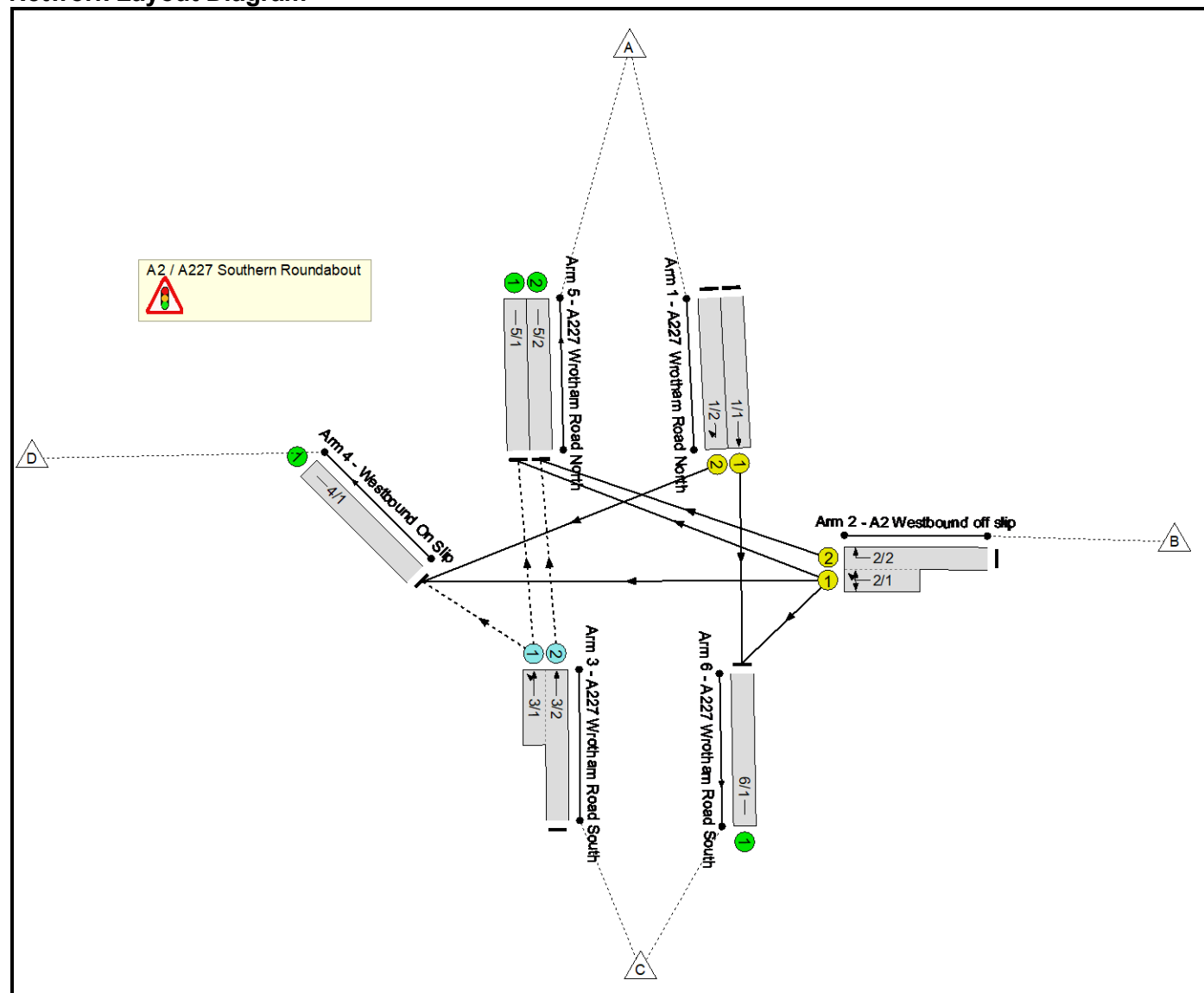


Detailed Input Data And Results

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	A227 Junction.lsg3x
Author:	
Company:	
Address:	
Linsig Version:	3, 3, 0, 6

Network Layout Diagram

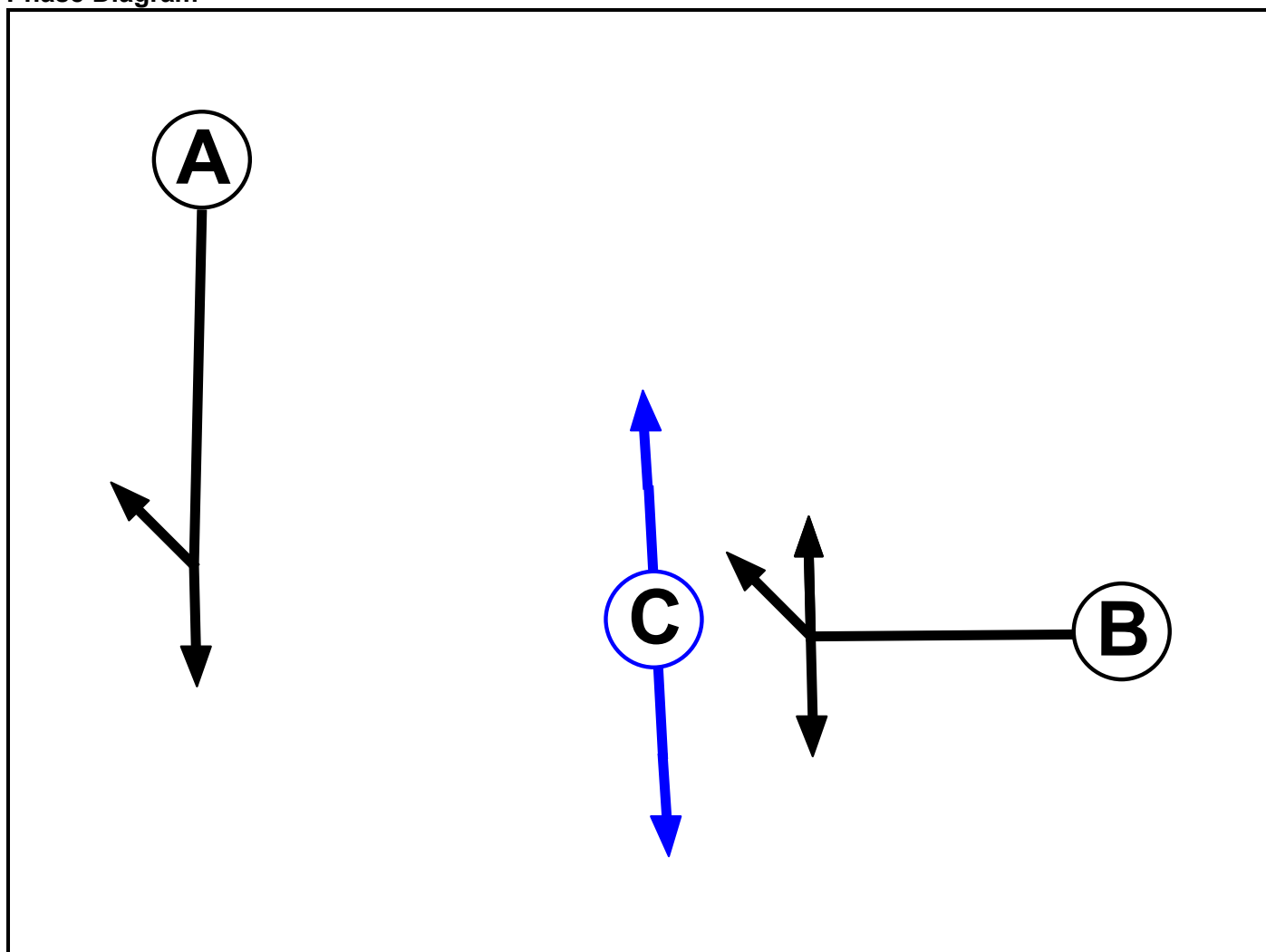


Scenarios

Number	Scenario Name	Flow Group	Network Control Plan	Time	Cycle Time (s)	PRC (%)	Delay (pcuHr)
1	2030 AM Base	2030 AM Base	Network Control Plan 1	08:00 - 09:00	45	11.8	10.89
2	2030 PM Base	2030 PM Base	Network Control Plan 1	17:00 - 18:00	45	26.3	9.38
3	2030 AM DN	2030 AM DN	Network Control Plan 1	08:00 - 09:00	45	-0.4	15.54
4	2030 PM DN	2030 PM DN	Network Control Plan 1	17:00 - 18:00	45	18.4	10.49
5	2030 AM DM	2030 AM DM	Network Control Plan 1	08:00 - 09:00	45	-0.4	15.85
6	2030 PM DM	2030 PM DM	Network Control Plan 1	17:00 - 18:00	45	17.0	11.28

Controller Summary

Controller	Type	SCN	Stage Stream	Num Phases	Num Stages	Controls Junctions	Controller Notes
C1	Gen		Stage Stream 1	3	2	A2 / A227 Southern Roundabout	

Phase Diagram

Phase Input Data

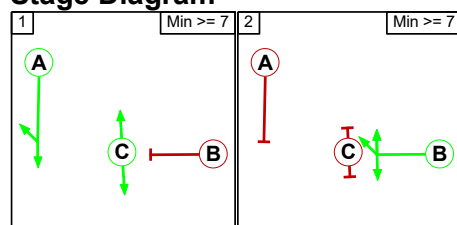
Phase Name	Phase Type	Assoc. Phase	Street Min (s)	Cont Min (s)
A	Traffic		7	7
B	Traffic		7	7
C	Pedestrian		7	7

Phase Intergreens Matrix

Terminating Phase	Starting Phase			
	A	B	C	
	A	6	-	
	B	6	5	
	C	-	7	

Phases in Stage

Stage No.	Phases in Stage
1	A C
2	B

Stage Diagram**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage		
	1	2	
	1	7	
2	6		

Lane Input Data

Junction: A2 / A227 Southern Roundabout												
Lane	Lane Type	Phases	Start Disp. (s)	End Disp. (s)	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient (%)	Nearside Lane	Turns	Turning Radius (m)
1/1 (A227 Wrotham Road North)	U	A	2	3	60.0	Geom	-	3.90	0.00	Y	Arm 6 Ahead	Inf
1/2 (A227 Wrotham Road North)	U	A	2	3	60.0	Geom	-	3.90	0.00	Y	Arm 4 U-Turn	20.00
2/1 (A2 Westbound off slip)	U	B	2	3	5.0	Geom	-	3.90	0.00	Y	Arm 4 Ahead	Inf
											Arm 5 Right	Inf
2/2 (A2 Westbound off slip)	U	B	2	3	60.0	Geom	-	3.90	0.00	Y	Arm 6 Left	25.00
											Arm 5 Right	25.00
3/1 (A227 Wrotham Road South)	O		2	3	5.0	Geom	-	4.25	0.00	Y	Arm 4 Ahead	Inf
											Arm 5 Ahead	Inf
3/2 (A227 Wrotham Road South)	O		2	3	60.0	Geom	-	4.25	0.00	Y	Arm 5 Ahead	Inf
4/1 (Westbound On Slip)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (A227 Wrotham Road North)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (A227 Wrotham Road North)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (A227 Wrotham Road South)	U		2	3	60.0	Inf	-	-	-	-	-	-

Give-Way Lane Input Data

Junction: A2 / A227 Southern Roundabout											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
3/1 (A227 Wrotham Road South)	4/1 (Ahead)	1079	0	1/2	0.31	All	-	-	-	-	-
				2/1	0.31	To 4/1 (Ahead) To 5/1 (Right)					
				2/2	0.31	All					
3/2 (A227 Wrotham Road South)	5/1 (Ahead)	1079	0	1/2	0.31	All	-	-	-	-	-
				2/1	0.31	To 4/1 (Ahead) To 5/1 (Right)					
				2/2	0.31	All					
	5/2 (Ahead)	1079	0	1/2	0.31	All	-	-	-	-	-
				2/1	0.31	To 4/1 (Ahead) To 5/1 (Right)					
				2/2	0.31	All					

Lane Connector Input Data

Junction: A2 / A227 Southern Roundabout				
Org Lane	Dest Lane	Junction	Modelled Mean Cruise Time (s)	Platoon Dispersion
1/1	6/1	Internal	5	35
1/2	4/1	Internal	5	35
2/1	4/1	Internal	5	35
2/1	5/1	Internal	5	35
2/1	6/1	Internal	5	35
2/2	5/2	Internal	5	35
3/1	4/1	Internal	5	35
3/1	5/1	Internal	5	35
3/2	5/2	Internal	5	35

Scenario 1: '2030 AM Base' (FG2: '2030 AM Base', Plan 1: 'Network Control Plan 1')

Lane Saturation Flows

Junction: A2 / A227 Southern Roundabout								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2005	2005
1/2 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 4 U-Turn	20.00	100.0 %	1865	1865
2/1 (A2 Westbound off slip)	3.90	0.00	Y	Arm 4 Ahead	Inf	1.1 %	1944	1944
				Arm 5 Right	Inf	46.3 %		
				Arm 6 Left	25.00	52.6 %		
2/2 (A2 Westbound off slip)	3.90	0.00	Y	Arm 5 Right	25.00	100.0 %	1892	1892
3/1 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 4 Ahead	Inf	66.4 %	2040	2040
				Arm 5 Ahead	Inf	33.6 %		
3/2 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2040	2040
4/1 (Westbound On Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A227 Wrotham Road North Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A227 Wrotham Road North Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A227 Wrotham Road South Lane 1)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 1

Scenario 2: '2030 PM Base' (FG3: '2030 PM Base', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: A2 / A227 Southern Roundabout								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2005	2005
1/2 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 4 U-Turn	20.00	100.0 %	1865	1865
2/1 (A2 Westbound off slip)	3.90	0.00	Y	Arm 4 Ahead	Inf	0.3 %	1942	1942
				Arm 5 Right	Inf	45.5 %		
				Arm 6 Left	25.00	54.2 %		
2/2 (A2 Westbound off slip)	3.90	0.00	Y	Arm 5 Right	25.00	100.0 %	1892	1892
3/1 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 4 Ahead	Inf	56.7 %	2040	2040
				Arm 5 Ahead	Inf	43.3 %		
3/2 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2040	2040
4/1 (Westbound On Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A227 Wrotham Road North Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A227 Wrotham Road North Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A227 Wrotham Road South Lane 1)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 2

Scenario 3: '2030 AM DN' (FG4: '2030 AM DN', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: A2 / A227 Southern Roundabout								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2005	2005
1/2 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 4 U-Turn	20.00	100.0 %	1865	1865
2/1 (A2 Westbound off slip)	3.90	0.00	Y	Arm 4 Ahead	Inf	1.0 %	1948	1948
				Arm 5 Right	Inf	50.1 %		
				Arm 6 Left	25.00	48.9 %		
2/2 (A2 Westbound off slip)	3.90	0.00	Y	Arm 5 Right	25.00	100.0 %	1892	1892
3/1 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 4 Ahead	Inf	65.4 %	2040	2040
				Arm 5 Ahead	Inf	34.6 %		
3/2 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2040	2040
4/1 (Westbound On Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A227 Wrotham Road North Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A227 Wrotham Road North Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A227 Wrotham Road South Lane 1)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 3

Scenario 4: '2030 PM DN' (FG5: '2030 PM DN', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: A2 / A227 Southern Roundabout								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2005	2005
1/2 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 4 U-Turn	20.00	100.0 %	1865	1865
2/1 (A2 Westbound off slip)	3.90	0.00	Y	Arm 4 Ahead	Inf	0.3 %	1948	1948
				Arm 5 Right	Inf	50.7 %		
				Arm 6 Left	25.00	49.0 %		
2/2 (A2 Westbound off slip)	3.90	0.00	Y	Arm 5 Right	25.00	100.0 %	1892	1892
3/1 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 4 Ahead	Inf	0.0 %	2040	2040
				Arm 5 Ahead	Inf	100.0 %		
3/2 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2040	2040
4/1 (Westbound On Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A227 Wrotham Road North Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A227 Wrotham Road North Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A227 Wrotham Road South Lane 1)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 4

Scenario 5: '2030 AM DM' (FG6: '2030 AM DM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: A2 / A227 Southern Roundabout								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2005	2005
1/2 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 4 U-Turn	20.00	100.0 %	1865	1865
2/1 (A2 Westbound off slip)	3.90	0.00	Y	Arm 4 Ahead	Inf	1.0 %	1947	1947
				Arm 5 Right	Inf	49.4 %		
				Arm 6 Left	25.00	49.6 %		
2/2 (A2 Westbound off slip)	3.90	0.00	Y	Arm 5 Right	25.00	100.0 %	1892	1892
3/1 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 4 Ahead	Inf	68.1 %	2040	2040
				Arm 5 Ahead	Inf	31.9 %		
3/2 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2040	2040
4/1 (Westbound On Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A227 Wrotham Road North Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A227 Wrotham Road North Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A227 Wrotham Road South Lane 1)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 5

Scenario 6: '2030 PM DM' (FG7: '2030 PM DM', Plan 1: 'Network Control Plan 1')**Lane Saturation Flows**

Junction: A2 / A227 Southern Roundabout								
Lane	Lane Width (m)	Gradient (%)	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2005	2005
1/2 (A227 Wrotham Road North)	3.90	0.00	Y	Arm 4 U-Turn	20.00	100.0 %	1865	1865
2/1 (A2 Westbound off slip)	3.90	0.00	Y	Arm 4 Ahead	Inf	0.3 %	1946	1946
				Arm 5 Right	Inf	49.0 %		
				Arm 6 Left	25.00	50.7 %		
2/2 (A2 Westbound off slip)	3.90	0.00	Y	Arm 5 Right	25.00	100.0 %	1892	1892
3/1 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 4 Ahead	Inf	57.6 %	2040	2040
				Arm 5 Ahead	Inf	42.4 %		
3/2 (A227 Wrotham Road South)	4.25	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2040	2040
4/1 (Westbound On Slip Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A227 Wrotham Road North Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A227 Wrotham Road North Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A227 Wrotham Road South Lane 1)	Infinite Saturation Flow						Inf	Inf

Bonus Green Times

No Bonus Greens are defined For Scenario 6

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Test'	08:00	09:00	01:00	
2: '2030 AM Base'	08:00	09:00	01:00	
3: '2030 PM Base'	17:00	18:00	01:00	
4: '2030 AM DN'	08:00	09:00	01:00	
5: '2030 PM DN'	17:00	18:00	01:00	
6: '2030 AM DM'	08:00	09:00	01:00	
7: '2030 PM DM'	17:00	18:00	01:00	

Traffic Flows, Desired**FG1: 'Test'****Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	2	0	472	715	1189
	B	504	0	184	4	692
	C	526	0	0	255	781
	D	0	0	0	0	0
	Tot.	1032	0	656	974	2662

FG2: '2030 AM Base'**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	1	0	479	709	1189
	B	525	0	192	4	721
	C	540	0	0	269	809
	D	0	0	0	0	0
	Tot.	1066	0	671	982	2719

FG3: '2030 PM Base'**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	667	517	1184
	B	481	0	182	1	664
	C	580	0	0	229	809
	D	0	0	0	0	0
	Tot.	1061	0	849	747	2657

FG4: '2030 AM DN'**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	1	0	488	824	1313
	B	579	0	192	4	775
	C	550	0	0	267	817
	D	0	0	0	0	0
	Tot.	1130	0	680	1095	2905

Detailed Input Data And Results

FG5: '2030 PM DN'

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	679	595	1274
	B	536	0	178	1	715
	C	592	0	0	0	592
	D	0	0	0	0	0
	Tot.	1128	0	857	596	2581

FG6: '2030 AM DM'

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	1	0	497	824	1322
	B	579	0	196	4	779
	C	563	0	0	291	854
	D	0	0	0	0	0
	Tot.	1143	0	693	1119	2955

FG7: '2030 PM DM'

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	702	595	1297
	B	536	0	186	1	723
	C	598	0	0	242	840
	D	0	0	0	0	0
	Tot.	1134	0	888	838	2860

Scenario 1: '2030 AM Base' (FG2: '2030 AM Base', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	479	709	1188
	B	525	0	192	4	721
	C	540	0	0	269	809
	D	0	0	0	0	0
	Tot.	1065	0	671	982	2718

Traffic Flows, Difference**Difference :**

	Destination					
		A	B	C	D	Tot.
Origin	A	-1	0	0	0	-1
	B	0	0	0	0	0
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	-1	0	0	0	-1

Scenario 2: '2030 PM Base' (FG3: '2030 PM Base', Plan 1: 'Network Control Plan 1')**Traffic Flows, Actual****Actual Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	667	517	1184
	B	481	0	182	1	664
	C	580	0	0	229	809
	D	0	0	0	0	0
	Tot.	1061	0	849	747	2657

Traffic Flows, Difference**Difference :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	0	0	0	0
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	0	0	0	0	0

Scenario 3: '2030 AM DN' (FG4: '2030 AM DN', Plan 1: 'Network Control Plan 1')**Traffic Flows, Actual****Actual Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	488	824	1312
	B	579	0	192	4	775
	C	550	0	0	267	817
	D	0	0	0	0	0
	Tot.	1129	0	680	1095	2904

Traffic Flows, Difference**Difference :**

	Destination					
		A	B	C	D	Tot.
Origin	A	-1	0	0	0	-1
	B	0	0	0	0	0
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	-1	0	0	0	-1

Scenario 4: '2030 PM DN' (FG5: '2030 PM DN', Plan 1: 'Network Control Plan 1')**Traffic Flows, Actual****Actual Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	679	595	1274
	B	536	0	178	1	715
	C	592	0	0	0	592
	D	0	0	0	0	0
	Tot.	1128	0	857	596	2581

Traffic Flows, Difference**Difference :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	0	0	0	0
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	0	0	0	0	0

Scenario 5: '2030 AM DM' (FG6: '2030 AM DM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Actual****Actual Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	497	824	1321
	B	579	0	196	4	779
	C	563	0	0	291	854
	D	0	0	0	0	0
	Tot.	1142	0	693	1119	2954

Traffic Flows, Difference**Difference :**

	Destination					
		A	B	C	D	Tot.
Origin	A	-1	0	0	0	-1
	B	0	0	0	0	0
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	-1	0	0	0	-1

Scenario 6: '2030 PM DM' (FG7: '2030 PM DM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Actual****Actual Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	702	595	1297
	B	536	0	186	1	723
	C	598	0	0	242	840
	D	0	0	0	0	0
	Tot.	1134	0	888	838	2860

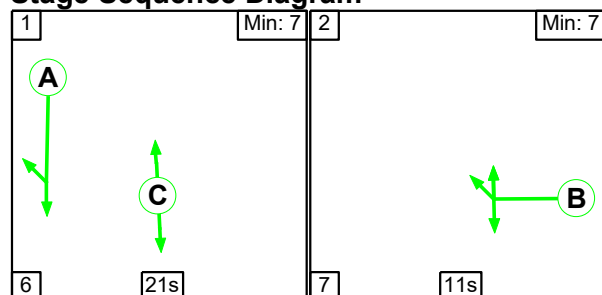
Traffic Flows, Difference**Difference :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	0	0	0
	B	0	0	0	0	0
	C	0	0	0	0	0
	D	0	0	0	0	0
	Tot.	0	0	0	0	0

Traffic Lane Flows

Lane	Scenario 1: 2030 AM Base	Scenario 2: 2030 PM Base	Scenario 3: 2030 AM DN	Scenario 4: 2030 PM DN	Scenario 5: 2030 AM DM	Scenario 6: 2030 PM DM
Junction: A2 / A227 Southern Roundabout						
1/1	479	667	488	679	497	702
1/2	709	517	824	595	824	595
2/1 (short)	365	336	393	363	395	367
2/2 (with short)	721(In) 356(Out)	664(In) 328(Out)	775(In) 382(Out)	715(In) 352(Out)	779(In) 384(Out)	723(In) 356(Out)
3/1 (short)	405	404	408	296	427	420
3/2 (with short)	809(In) 404(Out)	809(In) 405(Out)	817(In) 409(Out)	592(In) 296(Out)	854(In) 427(Out)	840(In) 420(Out)
4/1	982	747	1095	596	1119	838
5/1	305	328	338	480	331	358
5/2	760	733	791	648	811	776
6/1	671	849	680	857	693	888

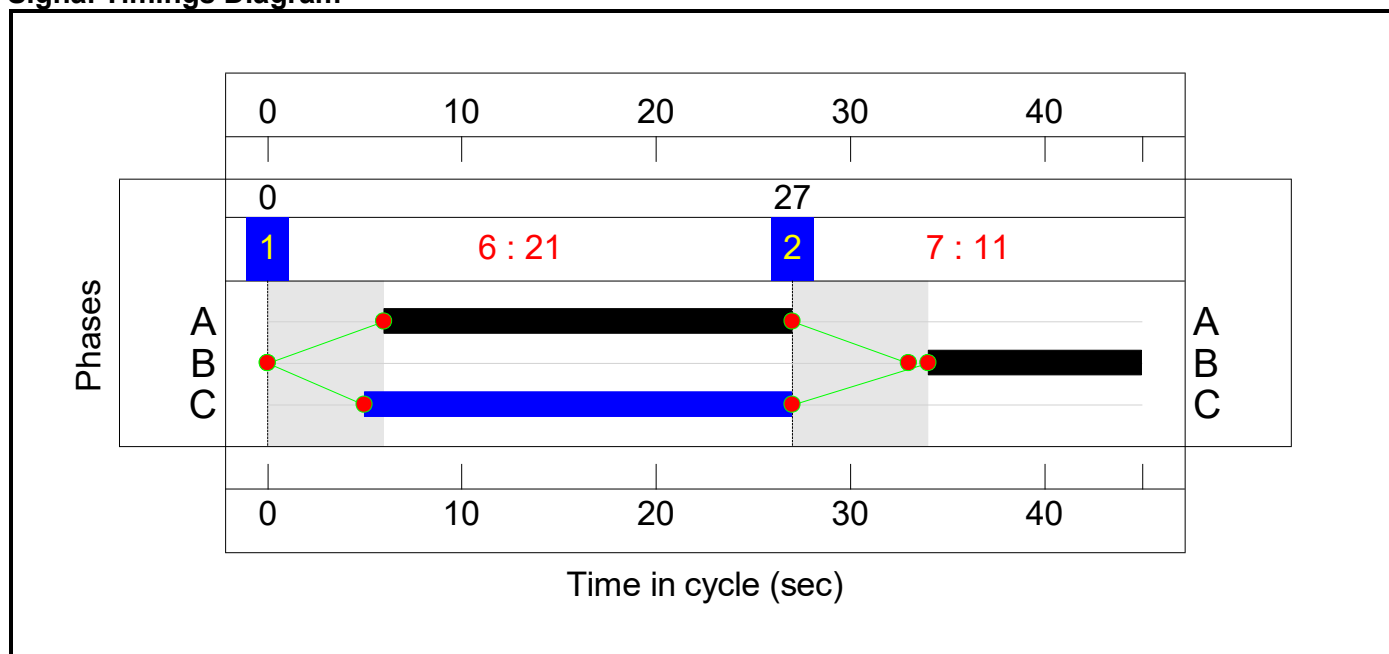
Scenario 1: '2030 AM Base' (FG2: '2030 AM Base', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram**Stage Timings**

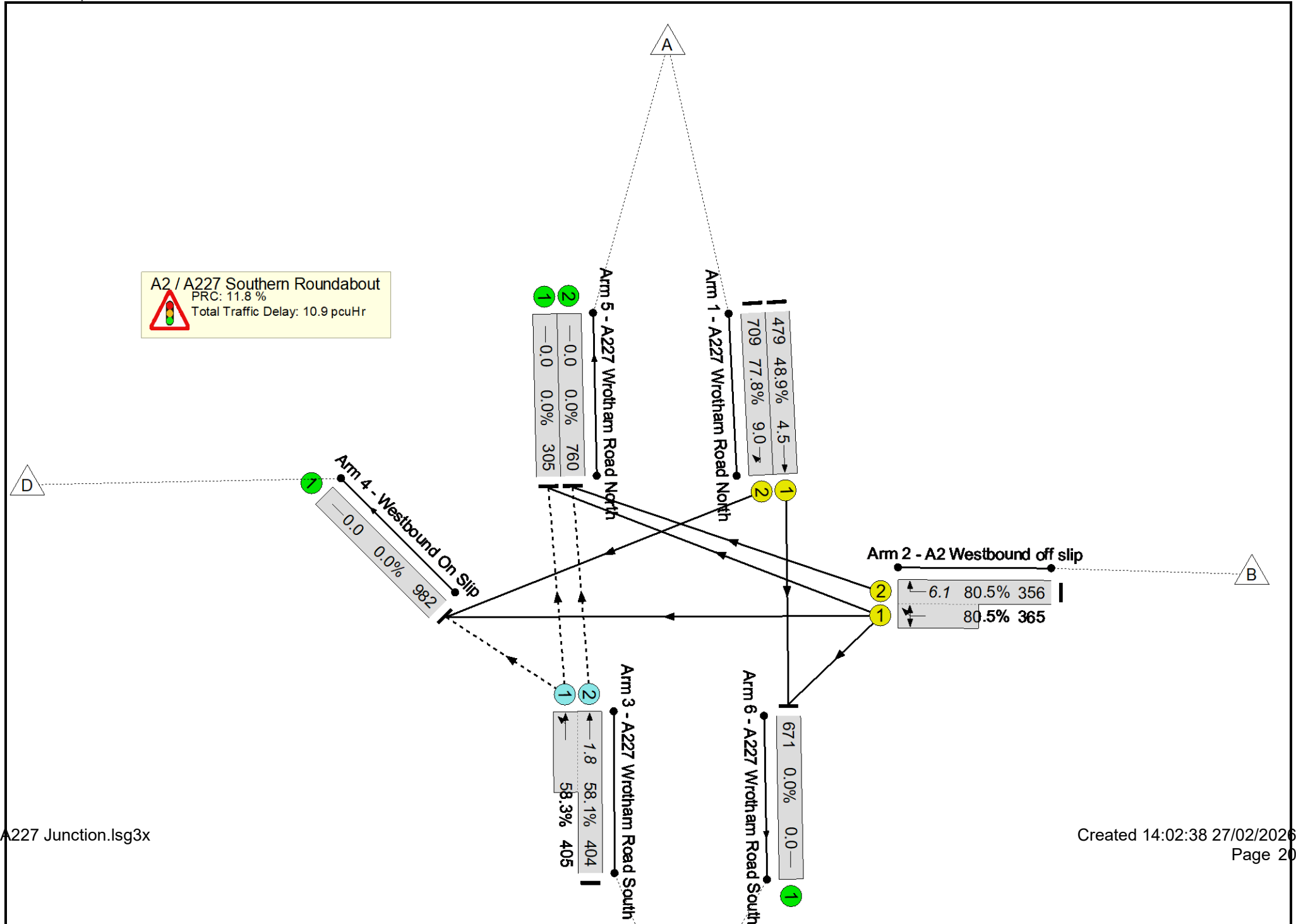
Stage	1	2
Duration	21	11
Change Point	0	27

Phase Timings

Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	A227 Wrotham Road North U-Turn Ahead	Traffic	21	6	27
B	A2 Westbound off slip Ahead Right Left	Traffic	11	34	0
C	Pedestrians across	Pedestrian	22	5	27

Signal Timings Diagram**Lane Green Times**

Junction: A2 / A227 Southern Roundabout					
Lane	Description	Type	Phases	Start Green	End Green
1/1	A227 Wrotham Road North Ahead	U	A	6	27
1/2	A227 Wrotham Road North U-Turn	U	A	6	27
2/1	A2 Westbound off slip Ahead Right Left	U	B	34	0
2/2	A2 Westbound off slip Right	U	B	34	0



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	80.5%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	80.5%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	21	-	-	479	2005	980	48.9%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	21	-	-	709	1865	912	77.8%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	11	-	-	721	1892:1944	442+453	80.5 : 80.5%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	809	2040:2040	695+695	58.1 : 58.3%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	982	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	305	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	760	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	671	Inf	Inf	0.0%

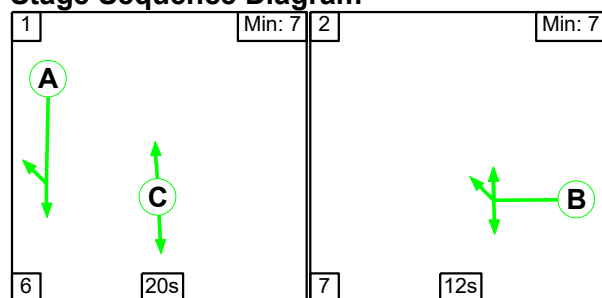
Detailed Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	1222	396	0	6.0	4.9	0.0	10.9	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1222	396	0	6.0	4.9	0.0	10.9	-	-	-	-	
1/1	479	479	-	-	-	1.0	0.5	-	1.5	11.3	4.0	0.5	4.5	
1/2	709	709	-	-	-	1.9	1.7	-	3.6	18.2	7.3	1.7	9.0	
2/2+2/1	721	721	-	-	-	3.0	2.0	-	5.0	25.0	4.1	2.0	6.1	
3/2+3/1	809	809	1222	396	0	0.1	0.7	-	0.8	3.5	1.1	0.7	1.8	
4/1	982	982	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	305	305	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	760	760	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	671	671	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): 11.8 PRC Over All Lanes (%): 11.8 Total Delay for Signalled Lanes (pcuHr): 10.10 Total Delay Over All Lanes(pcuHr): 10.89 Cycle Time (s): 45														

Detailed Input Data And Results

Scenario 2: '2030 PM Base' (FG3: '2030 PM Base', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



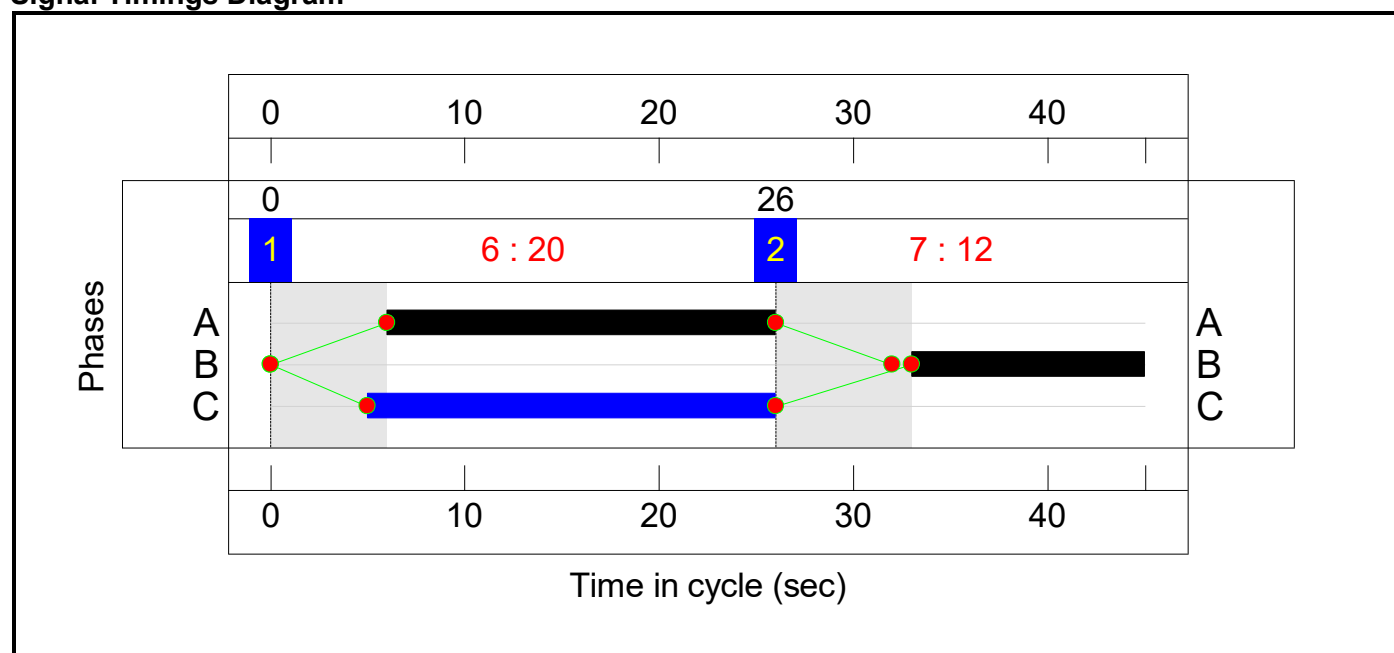
Stage Timings

Stage	1	2
Duration	20	12
Change Point	0	26

Phase Timings

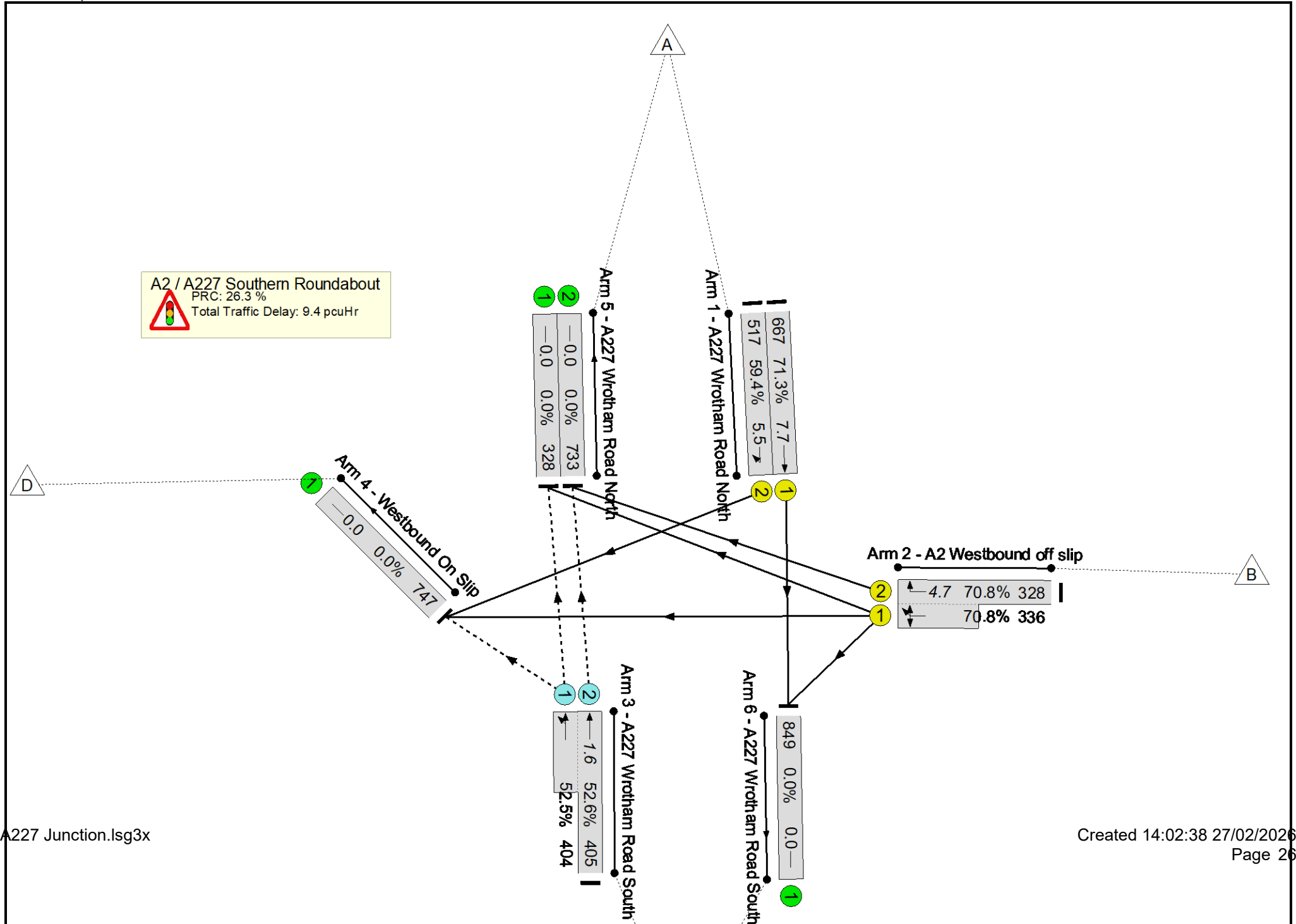
Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	A227 Wrotham Road North U-Turn Ahead	Traffic	20	6	26
B	A2 Westbound off slip Ahead Right Left	Traffic	12	33	0
C	Pedestrians across	Pedestrian	21	5	26

Signal Timings Diagram



Lane Green Times

Junction: A2 / A227 Southern Roundabout					
Lane	Description	Type	Phases	Start Green	End Green
1/1	A227 Wrotham Road North Ahead	U	A	6	26
1/2	A227 Wrotham Road North U-Turn	U	A	6	26
2/1	A2 Westbound off slip Ahead Right Left	U	B	33	0
2/2	A2 Westbound off slip Right	U	B	33	0



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	71.3%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	71.3%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	20	-	-	667	2005	936	71.3%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	20	-	-	517	1865	870	59.4%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	12	-	-	664	1892:1942	463+474	70.8 : 70.8%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	809	2040:2040	769+769	52.6 : 52.5%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	747	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	328	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	733	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	849	Inf	Inf	0.0%

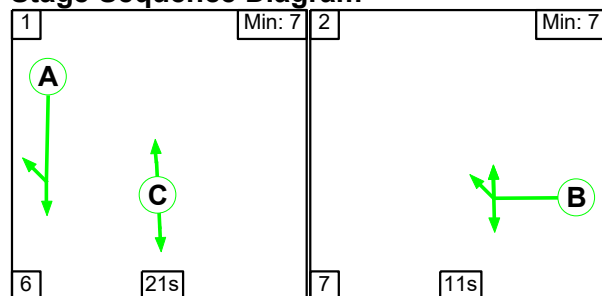
Detailed Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	1222	396	0	5.7	3.7	0.0	9.4	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1222	396	0	5.7	3.7	0.0	9.4	-	-	-	-	
1/1	667	667	-	-	-	1.8	1.2	-	3.0	16.2	6.5	1.2	7.7	
1/2	517	517	-	-	-	1.3	0.7	-	2.0	13.9	4.7	0.7	5.5	
2/2+2/1	664	664	-	-	-	2.5	1.2	-	3.7	20.3	3.5	1.2	4.7	
3/2+3/1	809	809	1222	396	0	0.1	0.6	-	0.6	2.8	1.0	0.6	1.6	
4/1	747	747	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	328	328	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	733	733	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	849	849	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): 26.3 PRC Over All Lanes (%): 26.3 Total Delay for Signalled Lanes (pcuHr): 8.75 Total Delay Over All Lanes(pcuHr): 9.38 Cycle Time (s): 45														

Detailed Input Data And Results

Scenario 3: '2030 AM DN' (FG4: '2030 AM DN', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



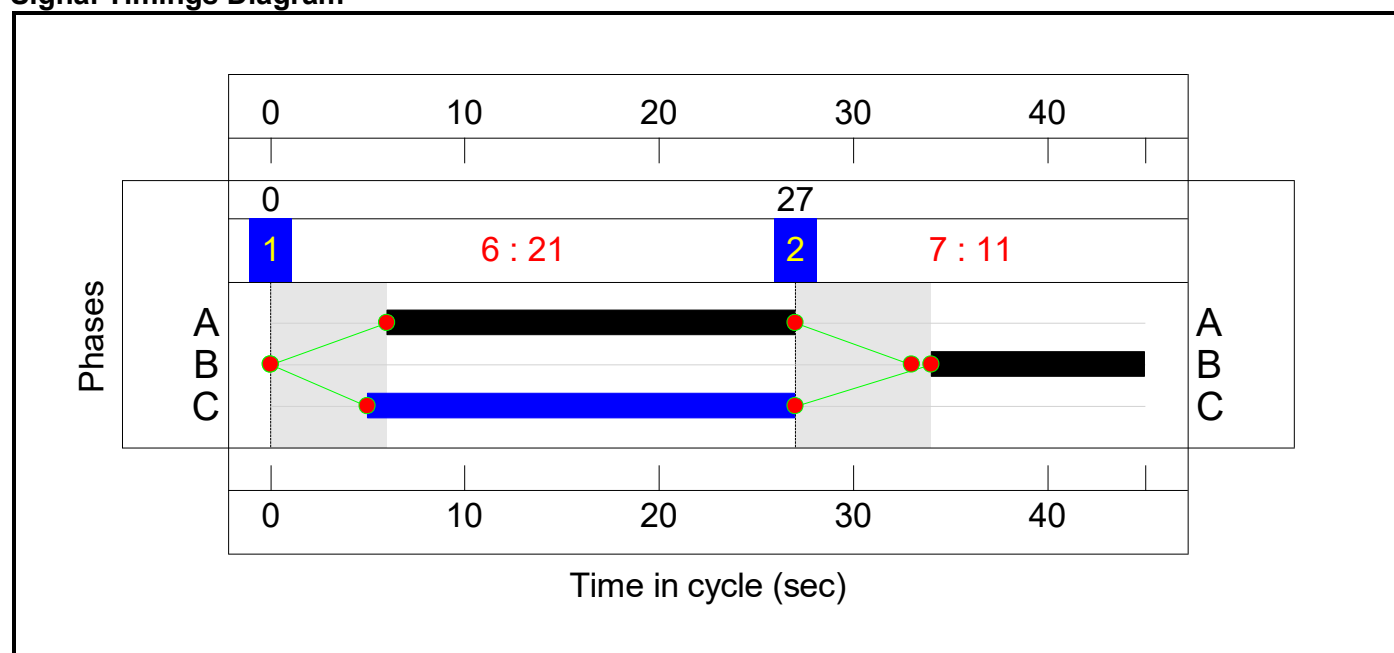
Stage Timings

Stage	1	2
Duration	21	11
Change Point	0	27

Phase Timings

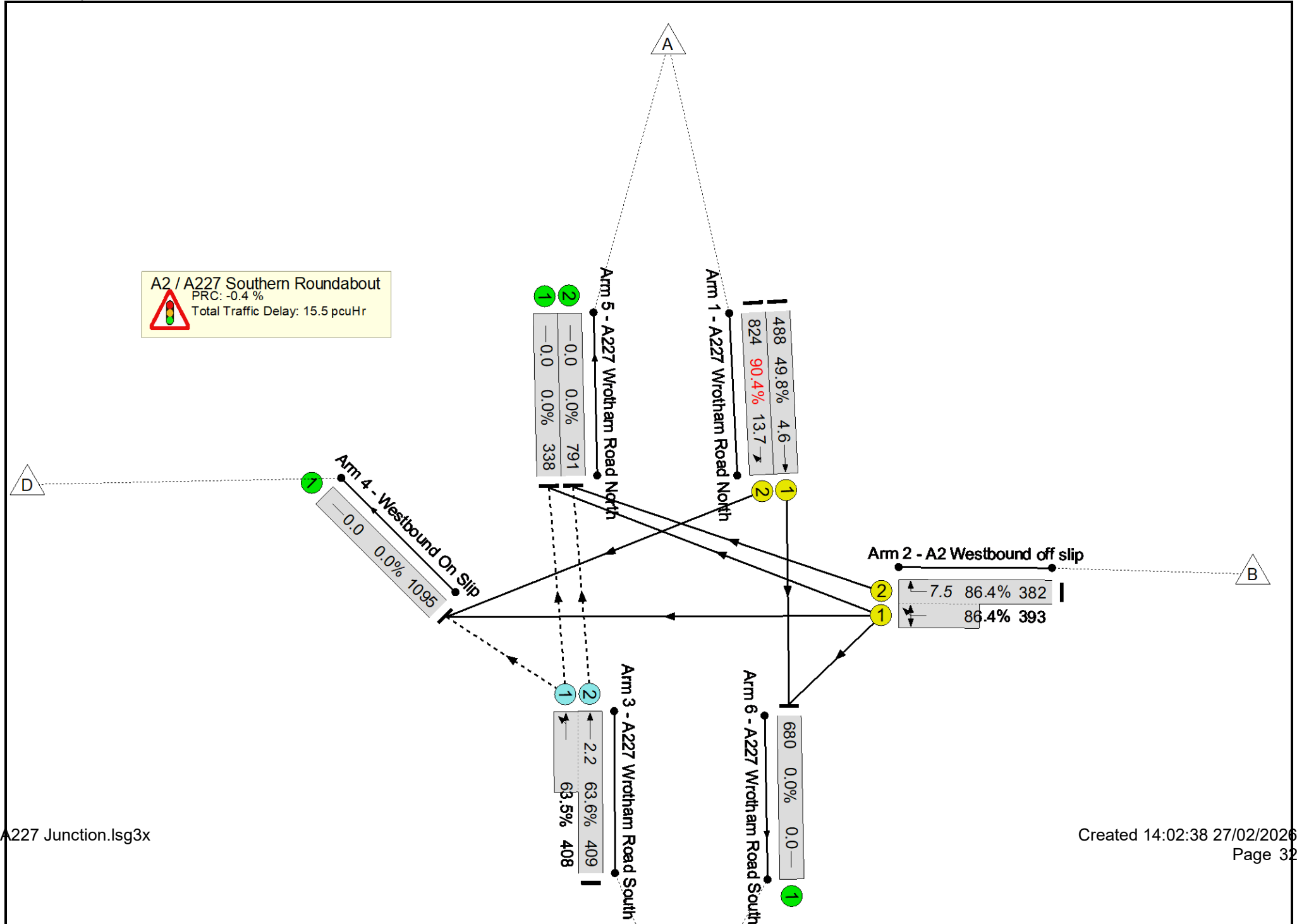
Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	A227 Wrotham Road North U-Turn Ahead	Traffic	21	6	27
B	A2 Westbound off slip Ahead Right Left	Traffic	11	34	0
C	Pedestrians across	Pedestrian	22	5	27

Signal Timings Diagram



Lane Green Times

Junction: A2 / A227 Southern Roundabout					
Lane	Description	Type	Phases	Start Green	End Green
1/1	A227 Wrotham Road North Ahead	U	A	6	27
1/2	A227 Wrotham Road North U-Turn	U	A	6	27
2/1	A2 Westbound off slip Ahead Right Left	U	B	34	0
2/2	A2 Westbound off slip Right	U	B	34	0

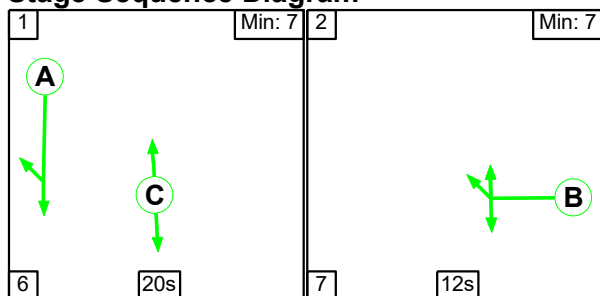


Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	90.4%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	90.4%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	21	-	-	488	2005	980	49.8%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	21	-	-	824	1865	912	90.4%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	11	-	-	775	1892:1948	442+455	86.4 : 86.4%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	817	2040:2040	643+643	63.6 : 63.5%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	1095	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	338	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	791	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	680	Inf	Inf	0.0%

Detailed Input Data And Results

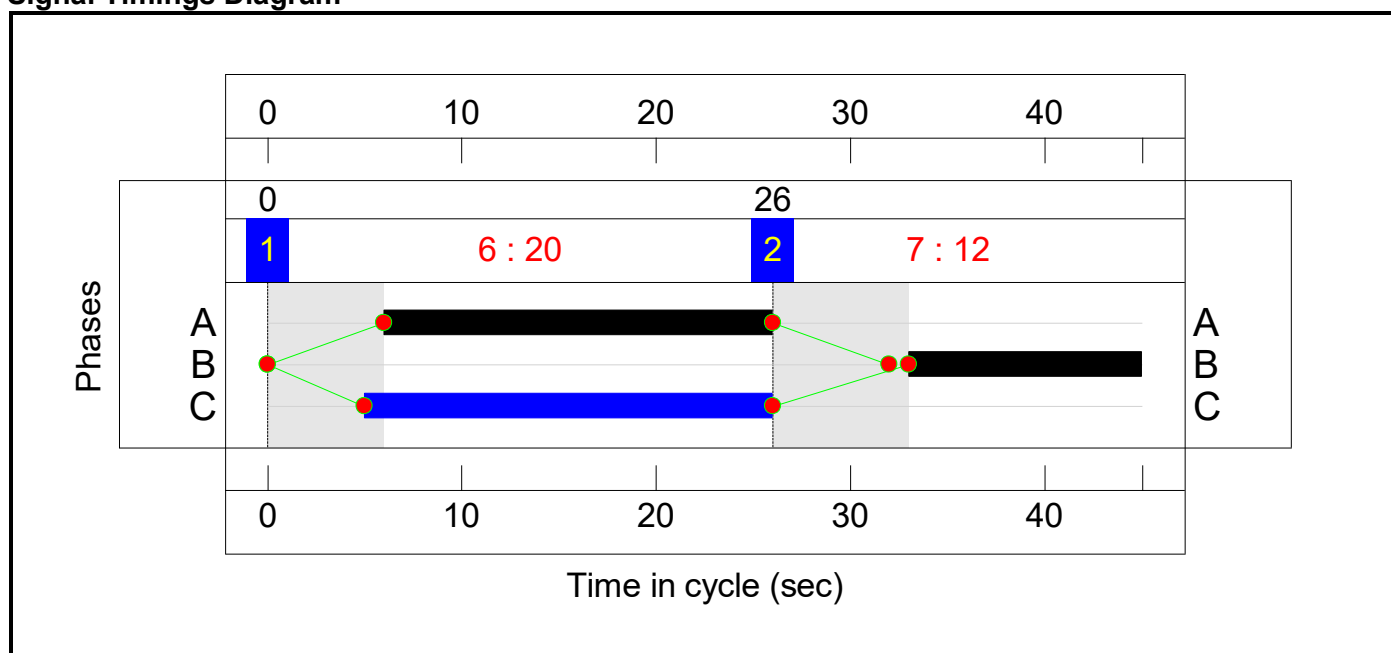
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	1227	407	0	6.9	8.7	0.0	15.5	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1227	407	0	6.9	8.7	0.0	15.5	-	-	-	-	
1/1	488	488	-	-	-	1.1	0.5	-	1.5	11.4	4.1	0.5	4.6	
1/2	824	824	-	-	-	2.4	4.3	-	6.7	29.2	9.4	4.3	13.7	
2/2+2/1	775	775	-	-	-	3.3	3.0	-	6.3	29.2	4.5	3.0	7.5	
3/2+3/1	817	817	1227	407	0	0.1	0.9	-	1.0	4.4	1.4	0.9	2.2	
4/1	1095	1095	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	338	338	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	791	791	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	680	680	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): -0.4 PRC Over All Lanes (%): -0.4 Total Delay for Signalled Lanes (pcuHr): 14.53 Total Delay Over All Lanes(pcuHr): 15.54 Cycle Time (s): 45														

Stage Sequence Diagram**Stage Timings**

Stage	1	2
Duration	20	12
Change Point	0	26

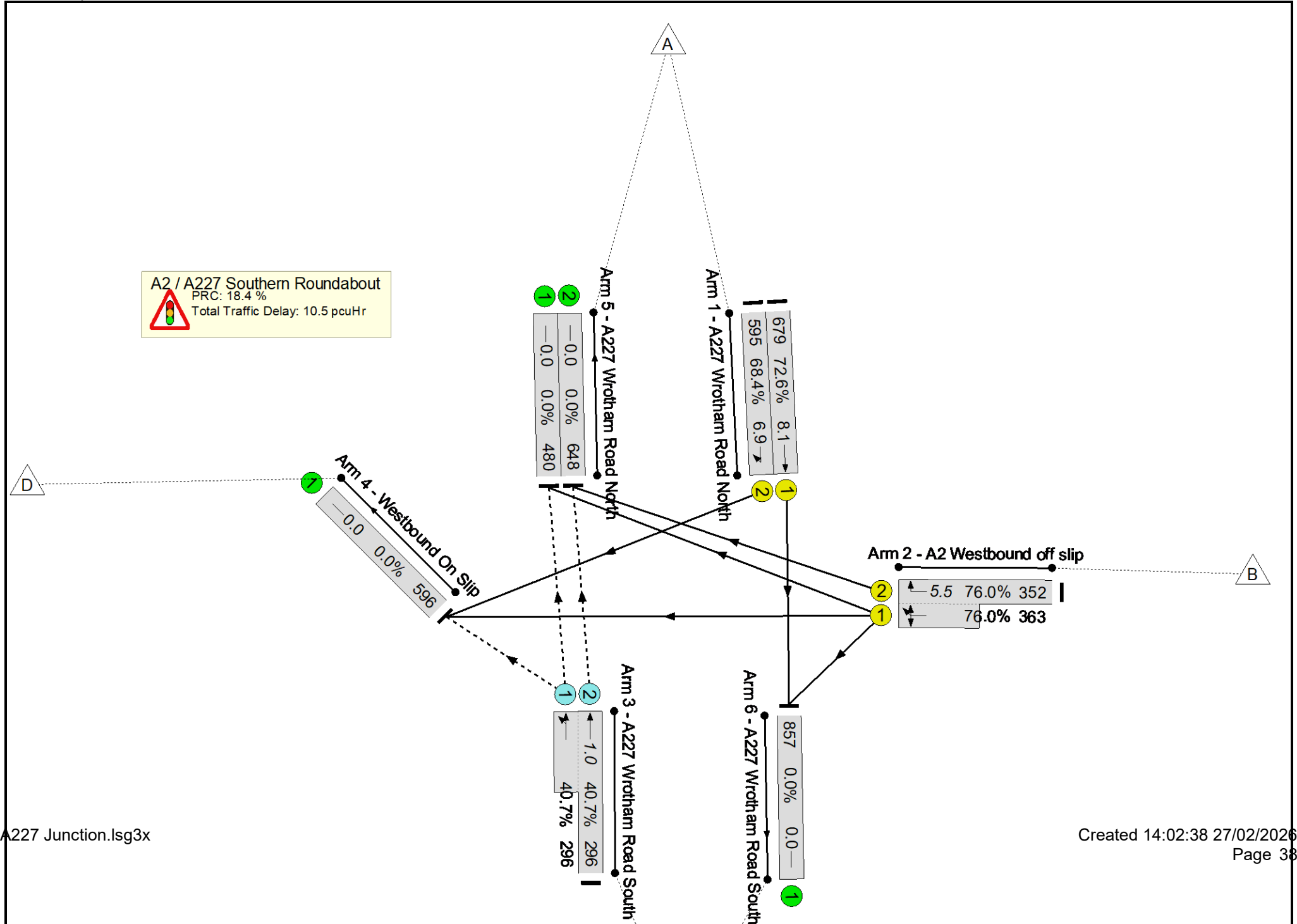
Phase Timings

Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	A227 Wrotham Road North U-Turn Ahead	Traffic	20	6	26
B	A2 Westbound off slip Ahead Right Left	Traffic	12	33	0
C	Pedestrians across	Pedestrian	21	5	26

Signal Timings Diagram

Lane Green Times

Junction: A2 / A227 Southern Roundabout					
Lane	Description	Type	Phases	Start Green	End Green
1/1	A227 Wrotham Road North Ahead	U	A	6	26
1/2	A227 Wrotham Road North U-Turn	U	A	6	26
2/1	A2 Westbound off slip Ahead Right Left	U	B	33	0
2/2	A2 Westbound off slip Right	U	B	33	0

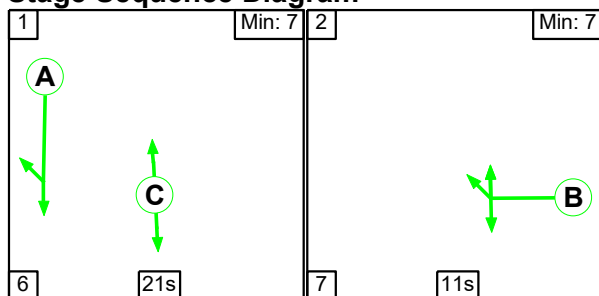


Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	76.0%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	76.0%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	20	-	-	679	2005	936	72.6%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	20	-	-	595	1865	870	68.4%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	12	-	-	715	1892:1948	463+477	76.0 : 76.0%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	592	2040:2040	728+728	40.7 : 40.7%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	596	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	480	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	648	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	857	Inf	Inf	0.0%

Detailed Input Data And Results

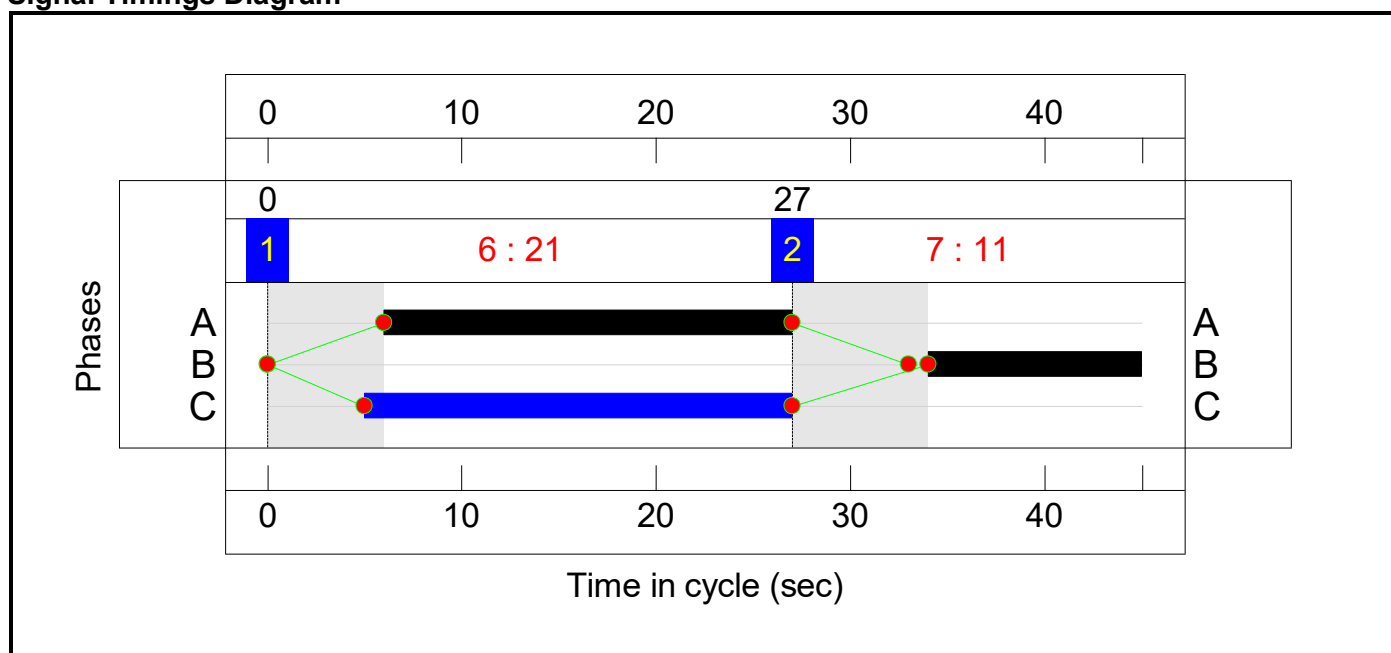
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	895	289	0	6.2	4.3	0.0	10.5	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	895	289	0	6.2	4.3	0.0	10.5	-	-	-	-	
1/1	679	679	-	-	-	1.8	1.3	-	3.1	16.6	6.8	1.3	8.1	
1/2	595	595	-	-	-	1.6	1.1	-	2.6	15.9	5.8	1.1	6.9	
2/2+2/1	715	715	-	-	-	2.8	1.6	-	4.3	21.9	3.9	1.6	5.5	
3/2+3/1	592	592	895	289	0	0.0	0.3	-	0.4	2.3	0.7	0.3	1.0	
4/1	596	596	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	480	480	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	648	648	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	857	857	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): 18.4 PRC Over All Lanes (%): 18.4 Total Delay for Signalled Lanes (pcuHr): 10.10 Total Delay Over All Lanes(pcuHr): 10.49 Cycle Time (s): 45														

Stage Sequence Diagram**Stage Timings**

Stage	1	2
Duration	21	11
Change Point	0	27

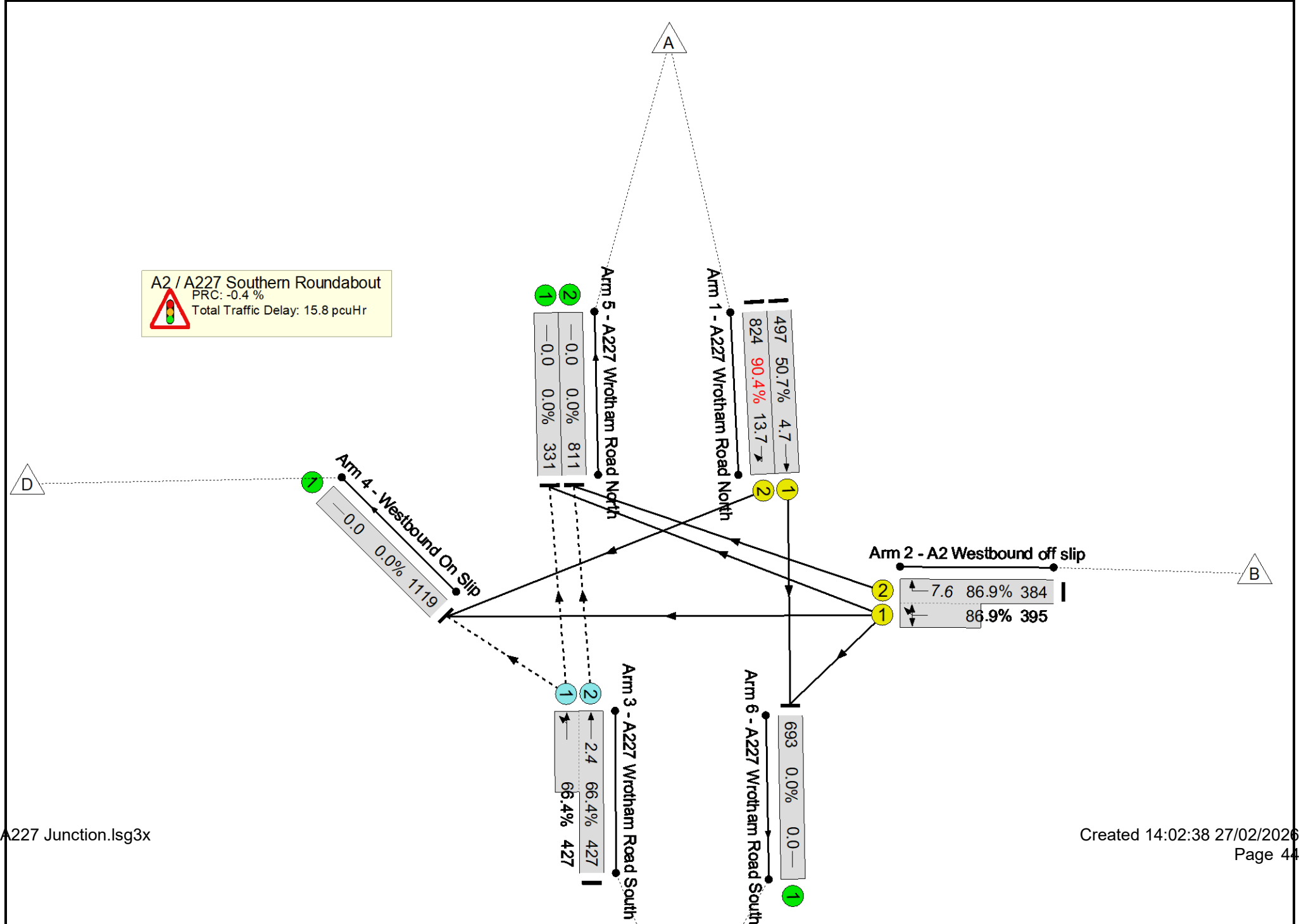
Phase Timings

Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	A227 Wrotham Road North U-Turn Ahead	Traffic	21	6	27
B	A2 Westbound off slip Ahead Right Left	Traffic	11	34	0
C	Pedestrians across	Pedestrian	22	5	27

Signal Timings Diagram

Lane Green Times

Junction: A2 / A227 Southern Roundabout					
Lane	Description	Type	Phases	Start Green	End Green
1/1	A227 Wrotham Road North Ahead	U	A	6	27
1/2	A227 Wrotham Road North U-Turn	U	A	6	27
2/1	A2 Westbound off slip Ahead Right Left	U	B	34	0
2/2	A2 Westbound off slip Right	U	B	34	0

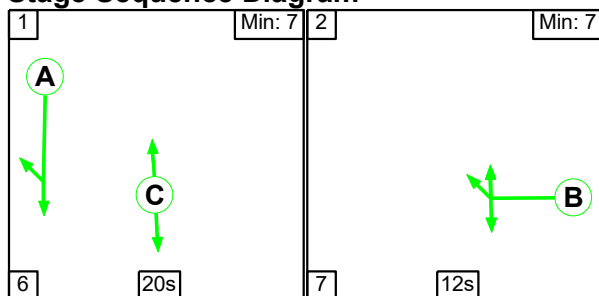


Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	90.4%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	90.4%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	21	-	-	497	2005	980	50.7%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	21	-	-	824	1865	912	90.4%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	11	-	-	779	1892:1947	442+455	86.9 : 86.9%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	854	2040:2040	643+643	66.4 : 66.4%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	1119	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	331	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	811	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	693	Inf	Inf	0.0%

Detailed Input Data And Results

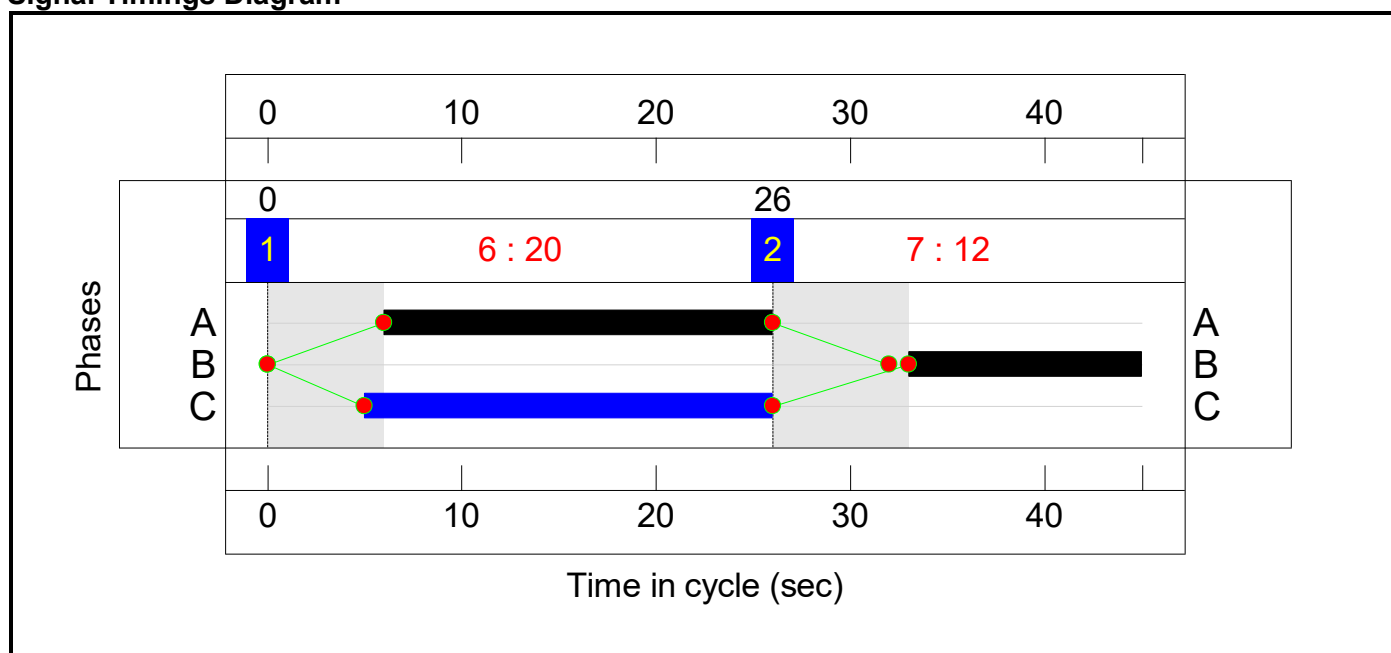
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	1263	445	0	6.9	8.9	0.0	15.8	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1263	445	0	6.9	8.9	0.0	15.8	-	-	-	-	
1/1	497	497	-	-	-	1.1	0.5	-	1.6	11.5	4.1	0.5	4.7	
1/2	824	824	-	-	-	2.4	4.3	-	6.7	29.2	9.4	4.3	13.7	
2/2+2/1	779	779	-	-	-	3.3	3.1	-	6.4	29.7	4.5	3.1	7.6	
3/2+3/1	854	854	1263	445	0	0.2	1.0	-	1.1	4.8	1.4	1.0	2.4	
4/1	1119	1119	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	331	331	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	811	811	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	693	693	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): -0.4 PRC Over All Lanes (%): -0.4 Total Delay for Signalled Lanes (pcuHr): 14.71 Total Delay Over All Lanes(pcuHr): 15.85 Cycle Time (s): 45														

Stage Sequence Diagram**Stage Timings**

Stage	1	2
Duration	20	12
Change Point	0	26

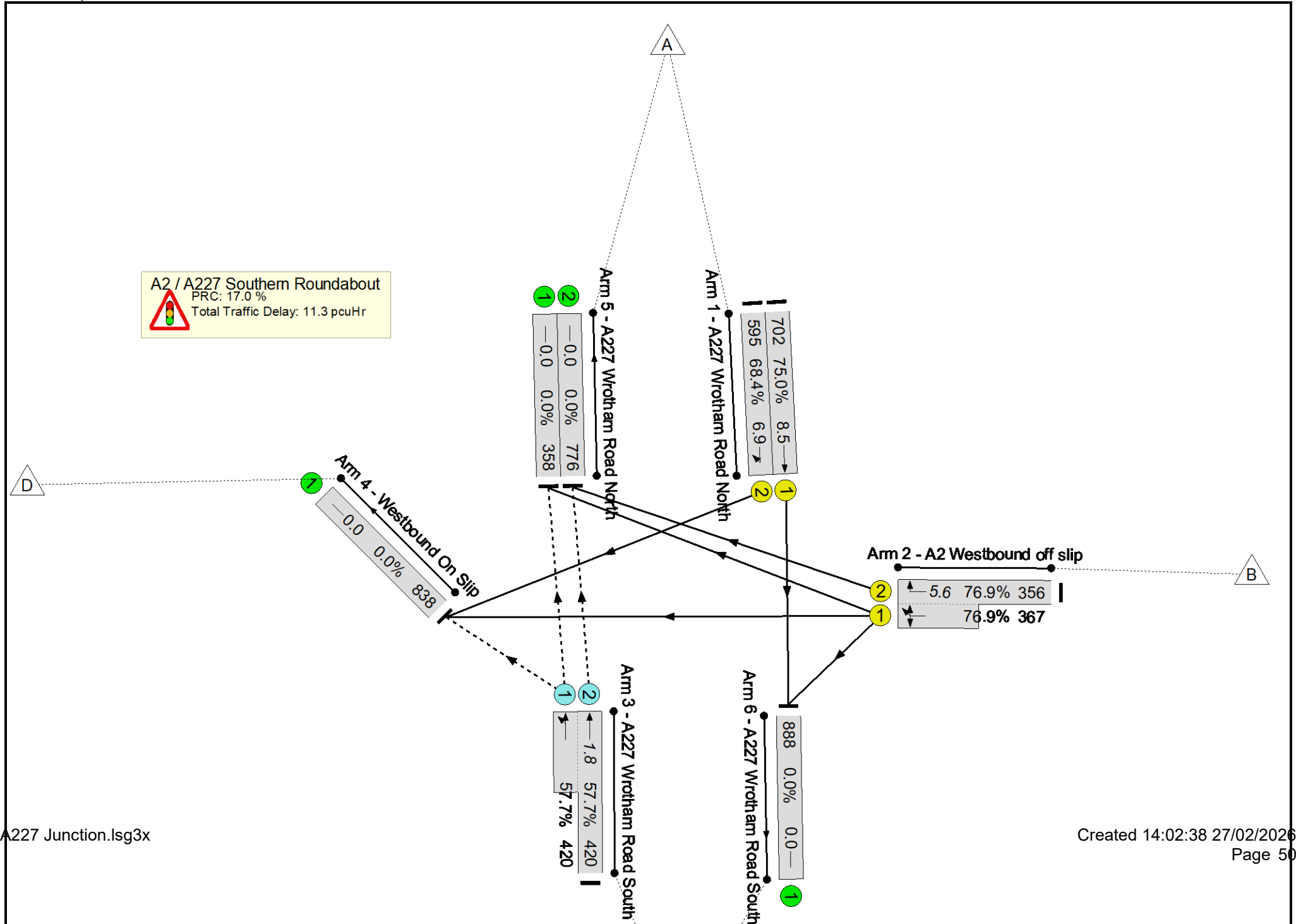
Phase Timings

Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	A227 Wrotham Road North U-Turn Ahead	Traffic	20	6	26
B	A2 Westbound off slip Ahead Right Left	Traffic	12	33	0
C	Pedestrians across	Pedestrian	21	5	26

Signal Timings Diagram

Lane Green Times

Junction: A2 / A227 Southern Roundabout					
Lane	Description	Type	Phases	Start Green	End Green
1/1	A227 Wrotham Road North Ahead	U	A	6	26
1/2	A227 Wrotham Road North U-Turn	U	A	6	26
2/1	A2 Westbound off slip Ahead Right Left	U	B	33	0
2/2	A2 Westbound off slip Right	U	B	33	0



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Bonus Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	-	76.9%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	76.9%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	20	-	-	702	2005	936	75.0%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	20	-	-	595	1865	870	68.4%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	12	-	-	723	1892:1946	463+477	76.9 : 76.9%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	840	2040:2040	728+728	57.7 : 57.7%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	838	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	358	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	776	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	888	Inf	Inf	0.0%

Detailed Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	1269	411	0	6.4	4.9	0.0	11.3	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1269	411	0	6.4	4.9	0.0	11.3	-	-	-	-	
1/1	702	702	-	-	-	1.9	1.5	-	3.4	17.5	7.0	1.5	8.5	
1/2	595	595	-	-	-	1.6	1.1	-	2.6	15.9	5.8	1.1	6.9	
2/2+2/1	723	723	-	-	-	2.8	1.6	-	4.5	22.2	4.0	1.6	5.6	
3/2+3/1	840	840	1269	411	0	0.1	0.7	-	0.8	3.4	1.2	0.7	1.8	
4/1	838	838	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	358	358	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	776	776	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	888	888	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): 17.0 PRC Over All Lanes (%): 17.0 Total Delay for Signalled Lanes (pcuHr): 10.49 Total Delay Over All Lanes(pcuHr): 11.28 Cycle Time (s): 45														