

TRANSPORT TECHNICAL NOTE

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

SITE
Land at Rose Farm, Istead Rise, Gravesham.

JOB NAME
Response to Kent County Council Highways & Transportation

1.1 INTRODUCTION

- 1.1.1 This Transport Technical Note (TN) has been produced in response to the representation received from Kent County Council Highways & Transportation (KCC H&T), dated 26th 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 KCC H&T's representation, a copy of which is included at **Appendix A** for reference.

1.2 COMMENTARY

Walking and Cycling

- 1.2.1 KCC H&T have stated the following in relation to walking and cycling:-

"A walking and cycling audit has been undertaken of five routes within Istead Rise and this is welcomed. However, the report does not refer to the lack of dropped kerbs at the A227 / Istead Rise junction and no assessment has been undertaken of the A227 which is a key route for connections to Meopham Station, Meopham Secondary School and Gravesend. The audit has also not included a number of considerations requested in the KCC pre-app response, including severed links, lack of cycleway (and where there is a lack of cycle routes, whether it is considered suitable to cycle on carriageway for all users including children accessing schools) and whether secure cycle parking is provided at destinations (e.g. the Parade only has a single cycle parking space)."

"Paragraph 2.3.7 of the TA states there is a direct cycle route north into Gravesend (along the A227). However, the shared route referred to is not particularly high quality, is not lit and is in need of resurfacing. However, the more fundamental issue is that the route is severed to the north of The Tollgate bridge. At this point pedestrians must cross three lanes of heavily trafficked carriageway, which is difficult and raises safety concerns. No crossing is currently provided. The footway along the A227 south of Istead Rise is also severed before it reaches Meopham, so no connection to the station or other facilities, can be made by pedestrians, and can likely only be made by the most confident of cyclists who choose to cycle on the high speed (50mph) carriageway. Taken together, these factors mean that walking and cycling outside of Istead Rise itself are unlikely to be realistic or attractive choices for most residents, particularly children, older people and those with mobility impairments.

Some local facilities are available at the shopping parade, 600m from the site boundary, although access to these facilities is via Upper Avenue which is relatively steep and therefore unlikely to be suitable for a number of residents. Facilities include a convenience store, pharmacy, a butcher, a dentist and a community centre. The nearest supermarket is located 2.8km away via the shared A227 route to Gravesend noted above, which at over 40 minutes' walk, is likely to be too far for most people, especially those purchasing a weekly shop. A primary school is located adjacent to the site and a secondary school is located within 4.8km to the south in Meopham. However, the information contained within the Design and Access Statement states these schools are soon to be oversubscribed and will not be able to accommodate the demand of 45 primary school and 32 secondary school places anticipated to be needed. Therefore, residents would need to travel out of the area to access schools. Given the lack of footways, cycling facilities and bus provision, and the distance to the train station, it is likely that most, or all of these trips would need to be made by private car, offering no genuine choice of sustainable travel modes."

- 1.2.2 The applicant is content to contribute to the installation of dropped kerbs and tactile paving at the Lewis Road and Istead Rise junctions with the A227 as requested by KCC H&T.
- 1.2.3 The accessibility audit contained within section 2.6 of the submitted Transport Assessment (TA) provides a detailed account of the good quality pedestrian and cycling infrastructure within Istead Rise village. A number of everyday amenities and facilities are accessible within a short walking / cycling distance, with enhancements proposed where appropriate to ensure a continued route is available to the village centre / shopping parade.
- 1.2.4 It is proposed to install an uncontrolled pedestrian crossing point on Downs Road in proximity of the proposed site access, and at the pedestrian access opposite Plot 137 Downs Road. These crossings will support access to the shopping parade

in Istead Rise and ensure direct pedestrian access for users of a range of mobility / accessibility needs. Street lighting is consistent throughout the village with all streets well-overlooked by residential properties, providing a safe and attractive environment. Uncontrolled crossing points are consistent throughout the village and across side road junctions, providing safe and efficient access for all.

- 1.2.5 KCC H&T state that walking and cycling outside of Istead Rise village are unlikely to be realistic or attractive choices for future residents. The assessment of the footway / cycleway provision was limited to Istead Rise village in order to be proportionate to the scale of development proposals; it is accepted that opportunities for active travel movements outside the village, while possible, are more limited. Future residents will have access to a number of everyday services and facilities within a short walking / cycling distance within the village.
- 1.2.6 Meopham railway station is 2.5km from the site (36-minute walk) – given this distance, it is unlikely for anyone to regularly walk this route regardless of the quality of the route or the factors KCC H&T mention in their response. The same can be said of the walking route to the nearest supermarket and buying a weekly shop; it is considered unlikely that someone would walk this distance carrying a significant amount of shopping.
- 1.2.7 On the basis that walking is unlikely to be a popular choice of travel outside of the village of Istead Rise regardless of the infrastructure available, the focus of the audit and infrastructure improvements were on the village area.
- 1.2.8 To assist with travel outside of Istead Rise village, focus shifted to improvements to bus services including a proportionate enhancement to the existing 306 / 308 bus service which stops directly outside the site on Downs Road, and enables access to Meopham Railway Station. This ensures a genuine choice of travel for future residents, together with the proposed enhancements to the bus services.
- 1.2.9 KCC H&T go on to say the following in relation to cycling:-

"In the absence of an existing strategic cycling plan for this rural area of Gravesham, KCC, on behalf of Gravesham Borough Council (GBC) have recently commissioned Jacobs to design a high-level cycle scheme between (1) Istead Rise and Meopham Station and (2) Meopham Station to Meopham Secondary School. In order to support cycling between the site and facilities in Meopham, a financial contribution should be provided towards the detailed design and construction of the new cycle scheme, in the event that one is found to be achievable."

- 1.2.10 It is accepted that given the nature of the A227, on-carriageway cycling is likely to be undertaken by confident cyclists only. The committed enhancements to pedestrian and public transport infrastructure will provide residents with a genuine choice of travel. Notwithstanding, the applicant is willing to proportionately contribute towards the construction of this proposed cycle scheme.

Public Transport

- 1.2.11 KCC H&T have stated the following in relation to public transport:-

"Bus stops are located within 400m of the site, which is acceptable. However, there are no bus shelters and they are only served by one service - the 308 between Gravesham and Sevenoaks. The 308 has a significantly limited service Monday-Saturday with no commuter service from Istead Rise during the AM peak, only one commuter service in the PM peak (the return from Gravesham only), and no services at all on a Sunday. Service 308 currently requires subsidy, indicating commercial unsustainability. The existing level of provision is inadequate and must be improved. KCC are continuing discussions with the applicant on this fundamental matter.

The nearest railway station is located 2.4km to the south of the site in Meopham. As set out under 'walking and cycling', this is not accessible by either pedestrians or less confident cyclists. The 308 bus does not provide services to the station during the AM peak hour leaving the only realistic option of travel by car. In line with paragraph 110 of NPPF, this does not provide a genuine choice of travel modes and for what is likely to be a frequent journey."

- 1.2.12 Improvements are proposed to the bus stop infrastructure on Downs Road, including raised kerbs for the "Longwalk", "Upper Avenue" and "Primary School" stops. A shelter with seating will be provided for the northbound stop, however a shelter with seating is not possible for the stop located on the northern / eastern side of Downs Road due to a lack of space.
- 1.2.13 As detailed within the submitted TA, the service limitations of the 306 / 308 service are recognised, and the applicant is willing to contribute to the sustaining / enhancing of the 308 service. Following publication of the Regulation 19 draft Local Plan, correspondence is ongoing with KCC H&T regarding an appropriate per-dwelling contribution for the enhancement of the 306 / 308 service.

Regulation 19 Local Plan

- 1.2.14 Gravesham have recently published the consultation draft Regulation 19 Local Plan for approval by Gravesham Borough Council's (GBC) Cabinet. The proposal site is amongst three site allocations for residential development within Istead Rise in proximity to the A227 corridor, this includes:-
- LP7.2a: Land West of A227, North of Nash Bank, Istead Rise – 60 dwellings;
 - LP7.2b: Rose Farm, Downs Road, Istead Rise – 150 dwellings (the site);

- LP7.2c: Willerby Farm, Downs Road, Istead Rise – 10 dwellings.
- 1.2.15 Policy LP7.2 details requirements for these emerging sites in Istead Rise; the transport related points are detailed below:-
- Provide a transport assessment which includes measures that reduce private car use and encourage sustainable modes of transport to support a 5% transition from the baseline vehicular trips.
 - Deliver active travel and public transport opportunities related to improving connectivity with Meopham Station, Gravesend Town Centre and Ebbsfleet and the wider PRow network around the settlement.
 - Maximise parking and storage for cycling, provide infrastructure to support electric vehicles and bicycles and minimise parking for private cars.
- 1.2.16 The site's allocation under Policy LP 7.2B of the Regulation 19 consultation Local Plan contains access, highways and sustainable travel specific requirements to the site, requesting the following:-
- A primary and secondary /emergency access onto Downs Road.
 - Walking and cycling routes through the site providing connectivity with Istead Rise local centre, Istead Rise Primary School, and the wider PRow network.
 - Measures (on and offsite) that will facilitate and encourage the use of travel options other than the private car for journeys to and from the site including contributions towards public transport service enhancement and the delivery of a walking and cycling route between Istead Rise and Meopham Station.
- 1.2.17 The site's draft allocation provides evidence to demonstrate its suitability for residential development. The development proposals accord with the applicable transport related policies within the Regulation 19 Local Plan; this compliance is detailed below.
- 1.2.18 In relation to the Istead Rise specific policies:
- A TA has been submitted with the application which includes measures that will reduce car use and encourage sustainable modes of transport include walking and cycling infrastructure enhancements and contributions to enhance public transport service provision, proportionate to the scale of the development proposals.
 - The site will deliver active travel and public transport opportunities connecting the site with Meopham Station, Gravesend Town Centre and

Ebbsfleet International. Improvements to frequencies of the 306 / 308 will enable high quality access to these railway stations.

- The application has been submitted in outline and parking will be subject to a separate future Reserved Matters Application.

1.2.19 In terms of the site-specific transport related requests:

- An emergency access for the site is to be provided onto Long Walk which connects with Downs Road. This is the only suitable place to ensure the emergency access is of sufficient width.
- As detailed within this TN, walking and cycling infrastructure in Istead Rise is already provided to a good standard and will be enhanced as part of the development proposals to ensure direct connectivity to the village centre.
- Measures are proposed to encourage use of travel options other than the car to and from the site, this includes a contribution to enhancing the 306 / 308 bus service and a contribution to the proposed cycle route between Istead Rise and Meopham Station.

1.2.20 This demonstrates a recognition from the local planning authority that development proposals in this location, if they accord with the set requirements, must be considered sustainable with a genuine choice of travel options available to future residents.

Vehicle Access

1.2.21 KCC H&T have stated the following in relation to access:-

"Vehicle access to the site will be taken from Downs Road in the location of the existing access to numbers 64, 68 and 70. Please can the applicant confirm that the gradient of the site access meets the Kent Design Guide levels."

1.2.22 A gradient of 1:25 for 12m from the highway will be provided; internally the levels will be reviewed at the appropriate stage. This is illustrated on an updated access arrangement plan at **Appendix B**.

"An emergency access will be provided at Long Walk. This will allow for pedestrian and cycle connections but will prevent regular vehicle access through the installation of a bollard. This is welcomed. As access is not a reserved matter, the proposal should be shown on a scaled plan with appropriate dimensions. The existing footway along Long Walk terminates just before the site boundary. The footway should be extended to meet the proposed footway within the site to create a continuous connection, or as a

minimum, where this cannot be provided due to lack of space for vehicles using the turning head, a dropped kerb should be provided to allow pedestrian access to the existing footway."

- 1.2.23 A scaled plan of the emergency access is included at **Appendix B**. It is noted that the preferred approach would be to extend the existing footway along Long Walk into the site to provide a continuous connection. To ensure the turning head can be used by the necessary vehicle types, an uncontrolled pedestrian crossing equipped with dropped kerbs and tactile paving is proposed to allow pedestrian access to the existing footway on the western / northern side of the carriageway.

Off Site Improvements

- 1.2.24 KCC H&T have stated the following in relation to the proposed off-site improvements:-

A number of off-site highway improvements are proposed. These include:

- Raised kerbs at the southbound and northbound bus stops on Downs Road, adjacent to the access (as shown on plan H-01 Rev P4 in Appendix H);*
- Raised kerbs at the Long Walk, Upper Avenue and primary school bus stops (not shown on the plans);*
- A bus shelter at the Downs Road southbound stop (as shown on plan H-01 Rev P4 in Appendix H);*
- Refresh the red surfacing on the Downs Road carriageway outside the site access and school (not shown on the plans); • Dropped kerbs on the school access road (as shown on plan H-01 Rev P4 in Appendix H);*
- An uncontrolled crossing point across both the site access and Downs Road (as shown on plan H-01 Rev P4 in Appendix H); although no visibility splays are shown and are required;*
- A connection to Downs Road via the existing pedestrian link and an uncontrolled crossing point at the junction with Downs Road, across from 137 Downs Road (as shown on plan H-02 Rev P1 in Appendix H). The existing access appears to be a vehicle crossover. A bollard should be provided to prevent future vehicle access and the excess kerb should be reinstated where not required for the new crossing;*
- Vegetation removal within the visibility splays, as per the RSA recommendation (not shown on the plans);*

- An emergency vehicle, pedestrian and cycle access connection to Long Walk (not shown on the plans).

Plans H-01 Rev P4 and H-02 Rev P1 should be updated to reflect all of the above proposals and should be conditioned to any permission granted."

- 1.2.25 The associated plans have been updated to reflect the above comments and are included within **Appendix B**.

Trip Generation and Distribution

- 1.2.26 KCC H&T have stated the following in relation to the trip generation and distribution:-

"The proposed vehicle trip rates and resulting anticipated trip generation are set out in tables 5-1 and 5-2 of the TA respectively. The site is anticipated to generate 84 two-way trips in the AM peak and 82 two-way trips in the PM peak. Whilst these trips are generally considered appropriate for a development of this size, the trips do not correspond with the trip rates and the trip rates do not match those in the TRICS output in Appendix K. There is also concern that the sites have not been filtered appropriately. "

- 1.2.27 The trip rates in Table 5-1 were provided in error; the correct data is shown in Table 1 below. Information in Tables 5-2 and beyond are now consistent with the trip rates in this table, which accord with the TRICS output included at Appendix K of the submitted TA.

PERIOD	ARRIVALS	DEPARTURES	TOTAL
AM Peak (0800-0900)	0.139	0.406	0.545
PM Peak (1700-1800)	0.349	0.182	0.531
Daily (0700-1900)	2.338	2.405	4.743

TABLE 1: TRICS TRIP RATES – HOUSES PRIVATELY OWNED (TRIPS / DWELLING)

"A five percent reduction in vehicle trips is proposed to be achieved through the vision-led approach. However, this is below the 10% mode shift typically seen in Travel Plans and supports KCC's concerns that there are limited opportunities for genuine choice of travel modes. It is assumed that the trip generation used in the following junction assessments is based on the TRICS data and has not been reduced by 5% to account for the vision. Please can the applicant confirm if this assumption is correct."

- 1.2.28 A five percent mode shift has been set as a realistic reduction target in relation to the baseline vehicular trip generation forecast for the development and is consistent with Policy LP7.2 of the emerging Local Plan. This development

includes measures to reduce car use and a genuine choice of travel modes amongst future residents. The junction assessments in the TA utilised the trip rates reduced by 5%.

Junction Capacity Assessments

1.2.29 KCC H&T have said the following in relation to junction capacity assessments:-

"The applicant has not used the Kent Transport Model, as KCC previously requested. The KCC pre-app response stated "The site was not included in the Gravesham Core Strategy, which is the currently adopted Local Plan, and therefore the impact on the wider network has not been assessed and approved. It also needs to be considered in line with other emerging sites. Traffic modelling should therefore be undertaken using the KTM (or the closely associated Gravesham Transport Model (GTM)), then, using the outputs, be followed by local junction modelling for junctions which are likely to be over capacity in the 'with development' scenario." However, this approach has not been taken by the applicant, who has referred to the KCC Transport Assessment and Travel Plan Guidance document, 2025 and quoted "For larger developments (typically those over 200 units / 2000 sqm and larger sites not allocated in the Local Plan), use of the strategic Kent Transport Model is likely to be required..." However, the wording leaves opportunity to include smaller sites where necessary. In the absence of such an assessment, KCC cannot advise whether the development would result in severe residual cumulative impacts, nor whether appropriate mitigation can be identified or secured. Local junction modelling in isolation does not provide sufficient confidence that wider network impacts have been appropriately captured, particularly where multiple large developments are proposed within the same catchment.

In addition to this application, there are live applications for 720 units in the local area and additional applications for significant numbers of houses are likely to be submitted imminently. These live applications represent reasonably foreseeable development and must therefore be considered as part of any assessment of residual cumulative impacts.

In line with paragraph 116 of the National Planning Policy Framework (NPPF), KCC need to determine whether the residual cumulative impacts would be severe and whether, where necessary, appropriate mitigation has been proposed. Without a cumulative assessment KCC is unable to determine this and would also be unable to seek mitigation or S106 contributions as the scale and necessity of mitigation cannot be defined. If the applicant does not wish to wait for the Local Plan evidence base, it is imperative that the cumulative impacts of other sites are assessed for the 2042 scenario. To ensure consistency with other applications in the local

area, this assessment should be undertaken using the Kent Transport Model. The sites to be included should be discussed with KCC and GBC."

- 1.2.30 Correspondence has been ongoing with KCC on the above matter following their formal representation. Following this representation and the submission of the TA, the draft Local Plan Regulation 19 submission Gravesham Local Plan has been published, which includes the proposal site as a draft allocation.
- 1.2.31 To inform the sites draft allocation, the Kent Transport Model (KTM) had been utilised to assess the development's impact on the A227 corridor together with other emerging sites. Per **Appendix C**, KCC H&T have confirmed that following discussion with their modelling team, the results of the Local Plan evidence modelling and KTM outputs for other sites, and as this site has a draft allocation, there is no longer a need to use the KTM and local junction modelling will suffice.

"TEMPro growth factors have been applied from 2025 – 2030. However, the baseline was 2024 not 2025. All future base models should be based on a 2042 scenario which is the end of the emerging Local Plan period. Assessing impacts to 2030 risks materially understating peak period congestion and cumulative effects over the plan period."

The junction model results show that the junctions are predicted to work well within capacity in both the AM and PM peak period, in the '2030 Do Minimum' scenario."

- 1.2.32 In accordance with the emerging Local Plan, assessments for the following junctions have been updated to assess a 2042 future year scenario at the end of the Local Plan period.

- (1) Site access junction with Downs Road;
- (2) Downs Road / Arcadia Road priority junction;
- (3) Downs Road / Upper Avenue priority junction;
- (4) Lewis Road / A227 Wrotham Road priority junction;
- (5) Istead Rise / A227 Wrotham Road priority junction; and
- (6) A2 / A227 Wrotham Road roundabout junction (existing and proposed layouts).

- 1.2.33 TEMPro v.8.0 has been used to growth the 2025 data set out in the submitted TA to a 2042 future assessment year traffic flows. The growth factors are shown in Table 1 and the associated traffic flows are included at **Appendix D**. The parameters used for all growth factors are outlined below:-

- Data selections – Trip Ends by time period;

- Scenario – Core;
- Base year 2025, Future Year 2042;
- Trip end selection – Car Driver;
- Trip end by time period selection – Weekday AM and PM, Origin Destination; and
- Road Type – Trunk (A2), A Road (A227), or Minor (Istead Rise Village).

1.2.34 As confirmed within the TEMPro v 8.0 release notes, the 'Core' scenario is the best representation of future travel behaviour and has therefore been applied to this assessment.

Road Type	AM Peak	PM Peak
Trunk	1.113778343	1.12128124
A Road	1.074757599	1.081997636
Minor	1.07465168	1.081891004

TABLE 1: TRAFFIC GROWTH FACTORS – 2025 – 2042

Committed Developments

- 1.2.35 Following the recent publication of the consultation draft Regulation 19 Local Plan for approval by Gravesham Borough Council's Cabinet, it is noted that there are a number of proposed residential site allocations along the A227 corridor to the south of the A2, which are as follows:-
- LP7.2a: Land West of A227, North of Nash Bank, Istead Rise – 60 dwellings;
 - LP7.2b: Rose Farm, Downs Road, Istead Rise – 150 dwellings;
 - LP7.2c: Willerby Farm, Downs Road, Istead Rise – 10 dwellings;
 - LP7.3a: Land West of Norwood Lane, Hook Green – 120 dwellings;
 - LP7.3b Land to the North of Melliker Lane, Hook Green – 160 dwellings;
 - LP7.3c: Land to the South of Melliker Lane, Hook Green – 140 dwellings;
 - LP7.3d: Land West of Wrotham Road, Hook Green – 210 dwellings; and
 - LP7.3e: Lomer Farm, West of Cricketers Drive, Meopham – 205 dwellings.

- 1.2.36 A sensitivity test that involved assigning the trip generation associated with 1000 additional dwellings to the A227 was undertaken within the TA. The trip impact of the 1000 dwellings was calculated by factoring the trip rates and adding the associated arrivals and departures onto the A227, routing past the two Istead Rise junctions. This assessment was undertaken to address the request to use KTM to consider the potential forthcoming future development in the surrounding area. As per **Appendix A**, this sensitivity test is no longer applicable as it was intended to replace the need for use of KTM.
- 1.2.37 The draft Regulation 19 Local Plan has since been released which (excluding the development site) allocated 905 dwellings along this A227 corridor south of the site, as per Section 1.2.32 of this TN. With the development site the total is 1,055 dwellings allocated along the A227 corridor.
- 1.2.38 To account for the emerging draft allocated sites, these sites are now included in the committed development flows for the assessed Istead Rise junctions and have been added to the 2042 'Do Nothing' scenario. This has been undertaken by factoring the 905 dwellings by the agreed trip rates and adding the associated arrivals and departures onto the A227.
- 1.2.39 Given the agreed trip distribution exercise has 62% of trips routing via the A2 / A227 junction, the trip generation associated with the 905 dwellings has also been factored by 62% onto the assessed junctions. This is consistent with the approach taken for the development flows, and is considered robust.
- 1.2.40 For the assessment of the A2 / A227 Wrotham Road junction, the committed development flows were re-utilised from the assessment of the former Tollgate Hotel as requested by National Highways. The 905 allocated dwellings have also been considered within the assessment of the A2 / A227 Wrotham Road junction, distributed based on the agreed distribution percentages within Figure 1 Appendix M of the submitted TA, as detailed in **Appendix D**.
- 1.2.41 The '2042 Do Nothing' scenario has been produced by adding the committed development flows to the 2042 base flows.
- 1.2.42 The '2042 Do Minimum' scenario has been produced by adding the proposed development traffic flows to the '2042 Do Nothing' scenario. All the flows are detailed at **Appendix D**.
- 1.2.43 The junction capacity assessments have been updated for all six assessed junctions. Junctions 10 (ARCADY and PICADY) software has been used to undertake the capacity assessments of the non-signalised junctions (all junctions excluding the proposed mitigation scheme at the A227 / A2 junction). The assessment of the proposed mitigation scheme of the A227 / A2 junction has been modelled using industry-standard LinSig software.

Site Access Junction

- 1.2.44 The PICADY results for the site access junction are summarised in Table 2 below, with the full data outputs included at **Appendix E**. Results are provided only for the 'Do Minimum' scenario as the junction does not exist in the 'Base' or 'Do Nothing' scenarios.

	2042 Do Minimum			
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Site Access	0.13	0.2	0.06	0.1
Downs Road	0.03	0.1	0.08	0.1
Total delay (seconds)	2.24		3.02	

TABLE 2 : SITE ACCESS JUNCTION - PICADY SUMMARY

- 1.2.45 The junction is seen to operate well within practical capacity in the assessed scenario, with the impact of the proposed development shown to be negligible.

Downs Road / Arcadia Road Priority Junction

- 1.2.46 The PICADY results for the Downs Road / Arcadia Road priority junction are summarised in Table 3 below, with the full data outputs included at **Appendix E**.

2042 Do Nothing				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Downs Road	0.06	0.1	0.04	0.0
Arcadia Road	0.23	0.3	0.21	0.3
Total delay (seconds)	4.32		4.71	
2042 Do Minimum				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Downs Road	0.09	0.0	0.05	0.1
Arcadia Road	0.26	0.2	0.28	0.4
Total delay (seconds)	4.62		5.33	

TABLE 3: DOWNS ROAD / ARCADIA ROAD - PICADY SUMMARY

- 1.2.47 The junction is seen to operate well within practical capacity in all assessed scenarios, with the impact of the proposed development shown to be negligible.

Downs Road / Upper Avenue Road Priority Junction

- 1.2.48 The PICADY results for the Downs Road / Upper Avenue priority junction are summarised below, with the full data outputs included at **Appendix E**.

2042 Do Nothing				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Downs Road	0.04	0.0	0.02	0.1
Upper Avenue	0.13	0.2	0.07	0.0
Total delay (seconds)	3.73		3.21	
2042 Do Minimum				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Downs Road	0.04	0.0	0.02	0.0
Upper Avenue	0.14	0.2	0.08	0.1
Total delay (seconds)	3.39		3.21	

TABLE 4: DOWNS ROAD / ARCADIA ROAD - PICADY SUMMARY

- 1.2.49 The junction is seen to operate well within practical capacity in all assessed scenarios, with the impact of the proposed development shown to be negligible.

Lewis Road / A227 Wrotham Road Priority Junction

- 1.2.50 The PICADY results for the Lewis Road / A227 Wrotham Road priority junction are summarised below, with the full data outputs included at **Appendix E**.

2042 Do Nothing				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Lewis Road	0.62	1.7	0.45	0.9
A227 Wrotham Road	0.10	0.1	0.06	0.1
Total delay (seconds)	3.83		1.85	
2042 Do Minimum				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Lewis Road	0.72	2.6	0.50	1.0
A227 Wrotham Road	0.11	0.1	0.06	0.1
Total delay (seconds)	5.72		2.17	

TABLE 5: LEWIS ROAD / A227 WROTHAM ROAD - PICADY SUMMARY

- 1.2.51 The junction is seen to operate within practical capacity within all assessed scenarios, with the impact of the proposed development shown to be negligible.

Istead Rise / A227 Wrotham Road Priority Junction

- 1.2.52 The PICADY results for the Istead Rise / A227 Wrotham Road junction are summarised in Table 6 below, with the full data outputs included at **Appendix E**.

2042 Do Nothing				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Istead Rise	0.83	4.5	0.66	2.0
A227 Wrotham Road	0.46	0.9	0.58	1.5
Total delay (s/pcu)	9.77		5.85	
2042 Do Minimum				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
Istead Rise	0.92	7.6	0.52	2.8
A227 Wrotham Road	0.42	1.1	0.57	2.3
Total delay (s/pcu)	15.13		7.89	

TABLE 6: ISTEAD RISE / A227 WROTHAM ROAD - PICADY SUMMARY

- 1.2.53 The junction is seen to operate within capacity within the '2042 Do Nothing' scenario. With the addition of the development proposals, the Istead Rise Arm will operate slightly over practical capacity in the AM peak hour but within theoretical capacity. The impact of the development in this AM peak hour is considered to be minimal, with an increase in approximately 5 seconds of delay and 3 vehicles in queuing.
- 1.2.54 In a future scenario with this increased development, traffic would likely distribute between junctions as satnavs and local behaviour adjusts to a better equilibrium. This is evident given the high level of spare capacity available at the Lewis Road junction for traffic to reroute to. Other mitigating factors include the fact that peak periods will spread as travel behaviours adjust, and significant modal shift can be expected as all future developments would be expected to make some contributions towards improved sustainable transport offering in the local area.

Further Modelling Comments

"In lieu of using the Kent Transport Model, a sensitivity assessment has been undertaken at the A227 / Lewis Road and A227 / Istead Rise junctions, assuming an additional 1000 dwellings come forward in the local area and route via the A227. The results show that the Lewis Road junction is

predicted to operate above the desired 0.85 RFC in the AM peak, with an RFC of 0.86 and a queue of five vehicles. It is predicted to operate within desired capacity during the PM peak. The Istead Rise junction is predicted to operate above theoretical capacity (RFC 1.0) in both the AM and PM peak periods with RFCs of 1.18 and 1.07 and queues of 26 and 14, respectively. KCC do not agree with the applicant's conclusion that the junction can accommodate this increase as drivers would split between Lewis Road and Istead Rise, and that there will be a "significant modal shift." Table 6.12 of the TA contradicts the applicant's statement as the Lewis Road junction is already predicted to operate above desired capacity in the sensitivity assessment scenario, without re-routing of additional traffic from the Istead Rise junction. In addition, the 5% reduction in car-based trips proposed under the vision-led proposals does not support the significant modal shift stated. Mitigation is likely to be required at this junction."

- 1.2.55 As detailed above, the KTM is no longer required to be used, and the sensitivity test is no longer applicable given the updated assessments provided above and below considering emerging cumulative allocated sites within the Regulation 19 Local Plan.

A227 Wrotham Road / A2 Junction

- 1.2.56 Given KCC H&T have confirmed the KTM is no longer required, this comment (and the sensitivity test) is no longer applicable.

"The assessment of the A2 / A227 Wrotham Road roundabout showed that with the mitigation secured under application GBC/20141214, the junction is anticipated to operate within capacity during the AM and PM peaks under the '2030 Base', '2030 Do Nothing' and '2030 Do Minimum' scenarios. However, an assessment has not been undertaken to demonstrate the impact of the '2030 Sensitivity Test' and therefore the impact of the combined developments is unknown. As above, the future baseline assessment should be based on the emerging Local Plan timescale of 2042. The junction itself is maintained by KCC with the A2 slip roads being maintained by National Highways (NH). It is noted that in their 19th January 2026 response to the application, NH have requested further information from the applicant regarding committed developments, crash data, geometry, layout and model adjustments. KCC will review this and NH's response when it becomes available.

As per the Transport Assessment and Travel Plan Guidance document, 2025, plans showing the geometry used for the junction modelling should have been provided for review. However, the geometry stated in the output tables seems reasonable."

- 1.2.57 Updated assessments of this A2 / A227 Wrotham Road roundabout junction have been submitted in the response to National Highways' formal representation which is available to view on the application portal. These models have been further updated to reflect a 2042 future year and include further committed developments considering the emerging Local Plan allocations.
- 1.2.58 Please refer to the Transport Technical Note submitted in response to the formal representation from National Highways for further detail on the methodology for assessing both the existing and proposed layouts. That assessment has been updated to include a 2042 future year for the purpose of this assessment.

Existing Layout

- 1.2.59 The ARCADY results for the A227 Wrotham Road / A2 existing arrangement are summarised in Table 7, with the full data outputs included at **Appendix E**.

2042 Do Nothing				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
	Southern Roundabout			
Westbound Off Slip	1.95	296.5	2.31	355.4
A227 South	1.27	141.0	1.07	47.4
A227 N	0.65	2.1	0.68	2.3
Total delay (s/pcu)	573.71		623.88	
Northern Roundabout				
A227 S	0.54	1.3	0.53	1.2
Eastbound Off Slip	1.07	40.6	1.27	187.0
A227 N	1.02	42.3	1.00	31.8
Tollgate Hotel	0.59	1.5	0.80	3.2
Total delay (s/pcu)	69.39		169.56	
2042 Do Minimum				
	AM Peak		PM Peak	
	RFC	Q	RFC	Q
	Southern Roundabout			
Westbound Off Slip	1.98	305.1	2.41	376.0
A227 South	1.31	170.1	1.08	52.6
A227 N	0.66	2.1	0.69	2.4
Total delay (s/pcu)	618.90		677.23	
Northern Roundabout				
A227 S	0.54	1.3	0.53	1.3
Eastbound Off Slip	1.09	48.5	1.29	201.2
A227 N	1.03	45.4	1.01	35.2
Tollgate Hotel	0.60	1.5	0.82	3.5
Total delay (s/pcu)	76.99		186.78	

TABLE 7: A227 WROTHAM ROAD / A2 JUNCTION – EXISTING ARRANGEMENT- ARCADY SUMMARY

- 1.2.60 The committed / cumulative development flows have a significant impact on the operation of the junction, as illustrated by the '2042 Do Nothing' results.
- 1.2.61 A comparison of the '2042 Do Nothing' and '2042 Do Minimum' scenarios demonstrates that the impact of the proposed development is negligible on the operation of the junction.

Proposed Signalised Layout

- 1.2.62 Table 8 summarises the performance of the junction in the assessed scenarios. The full LinSig report is included at **Appendix E**.

Scenario	Link	AM Peak		PM Peak	
		DoS %	MMQ	DoS %	MMQ
2042 Do Nothing	Southern Roundabout				
	A227 N Ahead lane	59.4%	5.8	89.6%	13.5
	A227 N Right Turn lane	98.6%	22.4	71.6%	7.5
	A2 Westbound Off Slip	99.2%	19.6	85.5%	7.3
	A227 South	84.7%	5.8	67.1%	2.7
	PRC	-10.2		0.5	
	Cycle time	45 seconds		45 seconds	
	Total Delay (s/pcu)	36.13		16.65	
2042 Do Minimum	Southern Roundabout				
	A227 N Ahead lane	60.4%	5.9	92.0%	15.1
	A227 N Right Turn lane	98.6%	22.4	71.6%	7.5
	A2 Westbound Off Slip	99.6%	20.5	88.3%	8.5
	A227 South	87.8%	6.8	68.2%	2.8
	PRC	-10.7		-2.2	
	Cycle time	45 seconds		45 seconds	
	Total Delay (s/pcu)	37.88		18.71	

TABLE 8: A227 / A2 JUNCTION – PROPOSED ARRANGEMENT- LINSIG SUMMARY

- 1.2.63 With the addition of the committed development traffic in the AM peak, the A227 right turn lane and A2 westbound off-slip operates marginally over capacity in the AM peak. A junction exceeds theoretical capacity with a PRC of -10 or more, which the junction slightly exceeds at -10.2 in the AM peak.

- 1.2.64 The development will have a negligible impact on the operation of the junction, with an increase in delay of only one second in the AM peak hour. The Degree of Saturation only increases by a maximum 0.4% on those impacted arms in the AM peak hour, demonstrating that the proposals will have a negligible impact on the operation of this junction.
- 1.2.65 The junction operates within practical capacity within the PM peak Do Nothing scenario, operating with a minor negative PRC of -2.2 with the addition of the development traffic. This results in an increase in total delay by two seconds, which is considered negligible.

1.3 CONCLUSION

- 1.3.1 It is considered that the above information sufficiently addresses the outstanding matters raised in the representation from KCC H&T.

APPENDIX A





Gravesham Borough Council
Civic Centre
Windmill Street
Gravesend
Kent
DA12 1AU

Highways and Transportation
Kroner House
Eurogate Business Park
Ashford
TN24 8XU
Tel: 03000 418181
Date: 26 January 2026
Our Ref: AC

Application -	GB/20251233
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 154No. residential dwellings (including affordable housing), with all matters reserved except for access. Creation of a new access from Downs Road.

Thank you for your consultation in relation to the above planning application. Kent County Council Highways (KCC) has the following comments to make with respect to highway matters.

Transport Assessment (ref: GS/TV/AH/35213, November 2025 (TA) - General Comments

A vision-led assessment has been set out, which is welcomed. However, KCC questions some of the statements supporting this vision and these concerns are set out in more detail below.

Walking and Cycling

A walking and cycling audit has been undertaken of five routes within Istead Rise and this is welcomed. However, the report does not refer to the lack of dropped kerbs at the A227 / Istead Rise junction and no assessment has been undertaken of the A227 which is a key route for connections to Meopham Station, Meopham Secondary School and Gravesend. The audit has also not included a number of considerations requested in the KCC pre-app response, including severed links, lack of cycleway (and where there is a lack of cycle routes, whether it is considered suitable to cycle on carriageway for all users including children accessing schools) and whether secure cycle parking is provided at destinations (e.g. the Parade only has a single cycle parking space).

Paragraph 2.3.7 of the TA states there is a direct cycle route north into Gravesend (along the A227). However, the shared route referred to is not particularly high quality, is not lit and is in need of resurfacing. However, the more fundamental issue is that the route is severed to the north of The Tollgate bridge. At this point pedestrians must cross three lanes of heavily trafficked carriageway, which is difficult and raises safety concerns. No crossing is currently provided. The footway along the A227 south of Istead Rise is also severed before it reaches Meopham, so no connection to the station or other facilities, can be made by pedestrians, and can likely only be made by the most confident of cyclists who choose to cycle on the high speed (50mph) carriageway. Taken together, these factors mean that walking and cycling outside of Isted Rise itself are unlikely to be realistic or attractive choices for most residents, particularly children, older people and those with mobility impairments.

Some local facilities are available at the shopping parade, 600m from the site boundary, although access to these facilities is via Upper Avenue which is relatively steep and therefore unlikely to be suitable for a number of residents. Facilities include a convenience store, pharmacy, a butcher, a dentist and a community centre. The nearest supermarket is located 2.8km away via the shared A227 route to Gravesend noted above, which at over 40 minutes' walk, is likely to be too far for most people, especially those purchasing a weekly shop. A primary school is located adjacent to the site and a secondary school is located within 4.8km to the south in Meopham. However, the information contained within the Design and Access Statement states these schools are soon to be oversubscribed and will not be able to accommodate the demand of 45 primary school and 32 secondary school places anticipated to be needed. Therefore, residents would need to travel out of the area to access schools. Given the lack of footways, cycling facilities and bus provision, and the distance to the train station, it is likely that most, or all of these trips would need to be made by private car, offering no genuine choice of sustainable travel modes.

A pedestrian, cycle and emergency vehicle access will be created between the site and Long Walk, which is welcomed as this will increase the site's permeability. However, the Parameter Plan shows a 'landscape buffer' in this location, which would prevent the new access being formed. The Parameter Plan must be updated.

The Illustrative Masterplan shows a pedestrian route towards the centre of the site connecting to Downs Road. This is also welcomed. Where possible, this should cater for both pedestrians and cyclists.

In the absence of an existing strategic cycling plan for this rural area of Gravesham, KCC, on behalf of Gravesham Borough Council (GBC) have recently commissioned Jacobs to design a high-level cycle scheme between (1) Istead Rise and Meopham Station and (2) Meopham Station to Meopham Secondary School. In order to support cycling between the site and facilities in Meopham, a financial contribution should be provided towards the detailed design and construction of the new cycle scheme, in the event that one is found to be achievable.

Public Transport

Bus stops are located within 400m of the site, which is acceptable. However, there are no bus shelters and they are only served by one service - the 308 between Gravesham and Sevenoaks. The 308 has a significantly limited service Monday-Saturday with no commuter service from Istead Rise during the AM peak, only one commuter service in the PM peak (the return from Gravesham only), and no services at all on a Sunday. Service 308 currently requires subsidy, indicating commercial unsustainability. The existing level of provision is inadequate and must be improved. KCC are continuing discussions with the applicant on this fundamental matter.

The nearest railway station is located 2.4km to the south of the site in Meopham. As set out under 'walking and cycling', this is not accessible by either pedestrians or less confident cyclists. The 308 bus does not provide services to the station during the AM peak hour leaving the only realistic option of travel by car. In line with paragraph 110 of NPPF, this does not provide a genuine choice of travel modes and for what is likely to be a frequent journey.

Crash Data Assessment

A crash data assessment has been provided for the five-year period to 30th June 2025. The assessment is acceptable.

Vehicle Access

Vehicle access to the site will be taken from Downs Road in the location of the existing access to numbers 64, 68 and 70. Please can the applicant confirm that the gradient of the site access meets the Kent Design Guide levels.

The speed data shows that vehicles are currently speeding along Downs Road, with 85th percentile speeds of 34.6mph northbound and 31.9mph southbound, against a speed limit of 30mph. Proposals have been set out to try and reduce the existing speeds and these are set out later in this response under 'Off-site Highway Improvements'.

Visibility splays of 47m to the north and 53m to the south (in line with the 85th percentile speeds), are achievable and can be seen on plan H-01 Rev P4 in Appendix H. The presence of the existing northbound bus stop to the south of the access, lies within the visibility splay which is not recommended. However, a Road Safety Audit (RSA) has been undertaken (provided in Appendix J) and this was not one of the issues raised by the Auditor.

Double yellow lines are proposed to be implemented within the splay to prevent vehicles parking within in. Whilst KCC do not object to this proposal at this planning stage, this would require a Traffic Regulation Order and is therefore subject to separate consultation and approval.

An emergency access will be provided at Long Walk. This will allow for pedestrian and cycle connections but will prevent regular vehicle access through the installation of a bollard. This is welcomed. As access is not a reserved matter, the proposal should be shown on a scaled plan with appropriate dimensions. The existing footway along Long Walk terminates just before the site boundary. The footway should be extended to meet the proposed footway within the site to create a continuous connection, or as a minimum, where this cannot be provided due to lack of space for vehicles using the turning head, a dropped kerb should be provided to allow pedestrian access to the existing footway.

Vehicle tracking for an 11.3m refuse vehicle has been provided in Appendix H and is acceptable.

Parking

Parking is proposed to be provided in line with parking standards which is acceptable. The provision of one active electric vehicle charging point per unit is welcomed.

Off-site Highway Improvements

A number of off-site highway improvements are proposed. These include:

- Raised kerbs at the southbound and northbound bus stops on Downs Road, adjacent to the access (as shown on plan H-01 Rev P4 in Appendix H);
- Raised kerbs at the Long Walk, Upper Avenue and primary school bus stops (not shown on the plans);
- A bus shelter at the Downs Road southbound stop (as shown on plan H-01 Rev P4 in Appendix H);
- Refresh the red surfacing on the Downs Road carriageway outside the site access and school (not shown on the plans);
- Dropped kerbs on the school access road (as shown on plan H-01 Rev P4 in Appendix H);
- An uncontrolled crossing point across both the site access and Downs Road (as shown on plan H-01 Rev P4 in Appendix H); although no visibility splays are shown and are required;
- A connection to Downs Road via the existing pedestrian link and an uncontrolled crossing point at the junction with Downs Road, across from 137 Downs Road (as shown on plan H-02 Rev P1 in Appendix H). The existing access appears to be a vehicle

crossover. A bollard should be provided to prevent future vehicle access and the excess kerb should be reinstated where not required for the new crossing;

- Vegetation removal within the visibility splays, as per the RSA recommendation (not shown on the plans);
- An emergency vehicle, pedestrian and cycle access connection to Long Walk (not shown on the plans).

Plans H-01 Rev P4 and H-02 Rev P1 should be updated to reflect all of the above proposals and should be conditioned to any permission granted.

Trip Generation and Distribution

The proposed vehicle trip rates and resulting anticipated trip generation are set out in tables 5-1 and 5-2 of the TA respectively. The site is anticipated to generate 84 two-way trips in the AM peak and 82 two-way trips in the PM peak. Whilst these trips are generally considered appropriate for a development of this size, the trips do not correspond with the trip rates and the trip rates do not match those in the TRICS output in Appendix K. There is also concern that the sites have not been filtered appropriately.

Trip rates for non-car modes have been provided in the Interim Travel Plan and, based on 2011 Census data, show that there are anticipated to be 92 daily trips by rail, 24 on foot, three by cycle and 29 by bus. The low percentage of people travelling by foot, cycle and bus is likely reflective of the site's existing accessibility issues.

A five percent reduction in vehicle trips is proposed to be achieved through the vision-led approach. However, this is below the 10% mode shift typically seen in Travel Plans and supports KCC's concerns that there are limited opportunities for genuine choice of travel modes. It is assumed that the trip generation used in the following junction assessments is based on the TRICS data and has not been reduced by 5% to account for the vision. Please can the applicant confirm if this assumption is correct.

Vehicle trips have been distributed using 'Location of usual residence and place of work by method of travel to work' data from the 2011 Census for Middle-Layer Super Output Area (MSOA) 'Gravesham 012', and Google journey planner. This method is acceptable.

Junction Capacity Assessments

The applicant has not used the Kent Transport Model, as KCC previously requested.

The KCC pre-app response stated *"The site was not included in the Gravesham Core Strategy, which is the currently adopted Local Plan, and therefore the impact on the wider network has not been assessed and approved. It also needs to be considered in line with other emerging sites. Traffic modelling should therefore be undertaken using the KTM (or the closely associated Gravesham Transport Model (GTM)), then, using the outputs, be followed by local junction modelling for junctions which are likely to be over capacity in the 'with development' scenario."* However, this approach has not been taken by the applicant, who has referred to the KCC Transport Assessment and Travel Plan Guidance document, 2025 and quoted *"For larger developments (typically those over 200 units / 2000 sqm and larger sites not allocated in the Local Plan), use of the strategic Kent Transport Model is likely to be required..."* However, the wording leaves opportunity to include smaller sites where necessary. In the absence of such an assessment, KCC cannot advise whether the development would result in severe residual cumulative impacts, nor whether appropriate mitigation can be identified or secured. Local junction modelling in isolation does not provide sufficient confidence that wider network impacts have been appropriately captured, particularly where multiple large developments are proposed within the same catchment.

In addition to this application, there are live applications for 720 units in the local area and additional applications for significant numbers of houses are likely to be submitted imminently. These live applications represent reasonably foreseeable development and must therefore be considered as part of any assessment of residual cumulative impacts.

In line with paragraph 116 of the National Planning Policy Framework (NPPF), KCC need to determine whether the residual cumulative impacts would be severe and whether, where necessary, appropriate mitigation has been proposed. Without a cumulative assessment KCC is unable to determine this and would also be unable to seek mitigation or S106 contributions as the scale and necessity of mitigation cannot be defined. If the applicant does not wish to wait for the Local Plan evidence base, it is imperative that the cumulative impacts of other sites are assessed for the 2042 scenario. To ensure consistency with other applications in the local area, this assessment should be undertaken using the Kent Transport Model. The sites to be included should be discussed with KCC and GBC.

The following local junctions have been modelled for capacity using local junction models:

- (1) Site access junction with Downs Road;
- (2) Downs Road / Arcadia Road priority junction;
- (3) Downs Road / Upper Avenue priority junction;
- (4) Lewis Road / A227 Wrotham Road priority junction;
- (5) Istead Rise / A227 Wrotham Road priority junction; and
- (6) A2 / A227 Wrotham Road roundabout.

The junctions have been assessed for the following scenarios:

- 2025 Base;
- 2030 'Do Nothing';
- 2030 'Do Minimum' (With Development);
- 2030 'Sensitivity Test' (as per the 'Do Minimum' scenario, plus 1000 units).

Traffic data was obtained from Automatic Traffic Counters undertaken on the week commencing 8th March 2025, and turning movement counts undertaken on the 14th October 2025. Survey data for the A2 / A227 junction was obtained from a previous application, and is dated 24th October 2024. It is noted that the latter would have been undertaken during the school half term and may not therefore be considered valid.

TEMPro growth factors have been applied from 2025 – 2030. However, the baseline was 2024 not 2025. All future base models should be based on a 2042 scenario which is the end of the emerging Local Plan period. Assessing impacts to 2030 risks materially understating peak period congestion and cumulative effects over the plan period.

The junction model results show that the junctions are predicted to work well within capacity in both the AM and PM peak period, in the '2030 Do Minimum' scenario.

In lieu of using the Kent Transport Model, a sensitivity assessment has been undertaken at the A227 / Lewis Road and A227 / Istead Rise junctions, assuming an additional 1000 dwellings come forward in the local area and route via the A227. The results show that the Lewis Road junction is predicted to operate above the desired 0.85 RFC in the AM peak, with an RFC of 0.86 and a queue of five vehicles. It is predicted to operate within desired capacity during the PM peak. The Istead Rise junction is predicted to operate above theoretical capacity (RFC 1.0) in both the AM and PM peak periods with RFCs of 1.18 and 1.07 and queues of 26 and 14, respectively. KCC do not agree with the applicant's conclusion that the junction can accommodate this increase as drivers would split between Lewis Road and Istead Rise, and that there will be a "*significant modal shift*." Table 6.12 of the TA contradicts the applicant's

statement as the Lewis Road junction is already predicted to operate above desired capacity in the sensitivity assessment scenario, without re-routing of additional traffic from the Istead Rise junction. In addition, the 5% reduction in car-based trips proposed under the vision-led proposals does not support the significant modal shift stated. Mitigation is likely to be required at this junction.

The assessment of the A2 / A227 Wrotham Road roundabout showed that with the mitigation secured under application GBC/20141214, the junction is anticipated to operate within capacity during the AM and PM peaks under the '2030 Base', '2030 Do Nothing' and '2030 Do Minimum' scenarios. However, an assessment has not been undertaken to demonstrate the impact of the '2030 Sensitivity Test' and therefore the impact of the combined developments is unknown. As above, the future baseline assessment should be based on the emerging Local Plan timescale of 2042. The junction itself is maintained by KCC with the A2 slip roads being maintained by National Highways (NH). It is noted that in their 19th January 2026 response to the application, NH have requested further information from the applicant regarding committed developments, crash data, geometry, layout and model adjustments. KCC will review this and NH's response when it becomes available.

As per the Transport Assessment and Travel Plan Guidance document, 2025, plans showing the geometry used for the junction modelling should have been provided for review. However, the geometry stated in the output tables seems reasonable.

Policy

Paragraph 4.8.1 of the TA states "*The proposed development is seen to comply with all relevant national and local transport planning policies.*" However, this is questioned as:

- Referring to NPPF paragraph 110, the TA paragraph 4.1.3 states "*Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.*" As mitigation to address these accessibility constraints has not yet been identified or secured, the development cannot currently be said to offer a genuine choice of transport modes, contrary to the NPPF.
- Referring to NPPF paragraph 115, the TA paragraph 4.1.4 states "*Sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location; Safe and suitable access to the site can be achieved for all users; ... Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision-led approach.*" In addition to the access issues, a satisfactory cumulative impact assessment has not yet been undertaken to determine the impact.
- Referring to NPPF paragraph 116, the TA paragraph 4.1.5 states "*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.*" This cannot yet be determined.
- Referring to NPPF paragraph 117a, the TA paragraph 4.1.6 states [Development should] "*Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport*". "Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;"... "Create places that are safe, secure and

attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles.” It is considered that the proposals are not yet in line with this policy.

- Referring to NPPF paragraph 155c, the TA paragraph 4.1.9, states *“The development would be in a sustainable location, with particular reference to paragraphs 110 and 115 of this Framework.”* KCC do not agree that the site is currently sustainable; further work is required.
- Referring to the Planning Practice Guidance, 2014, the TA paragraph 4.2.2, states *“The Transport Assessment or Transport Statement may propose mitigation measures where these are necessary to avoid unacceptable or “severe” impacts.”* This requirement cannot yet be determined.
- Referring to DfT Circular 01/2022 paragraph 12, the TA paragraph 4.3.3 states *“New development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable.”* Paragraph 48 states *“Where such development has not been identified in an up-to-date development plan (or an emerging plan that is at an advanced stage), developers should demonstrate that the development would be located in an area of high accessibility by sustainable transport modes and would not create a significant constraint to the delivery of any planned improvements to the transport network or allocated sites.”* The site is not currently one of ‘high accessibility’ and the cumulative impact assessment has not yet been completed.
- Referring to GBC’s Local Plan Core Strategy 2014 paragraph 2.6.4, the TA paragraph 4.5.3 states *“There will be a need to ensure that new development is mixed use, is located in areas with best access to services and facilities which minimise the need to travel, particularly by car and minimises impacts on the road network...”*. The adherence to this policy is questioned.
- No reference is made to the Gravesham Design Code. However, section 3.11 of the Code is titled *“Future for the rural areas?”* and states, *“Promote a sustainable network of unique villages co-locating key community facilities and commercial activities and better connected by pedestrian and cycling routes and by excellent, cost-effective public transport” and “Improved pedestrian and cycling permeability throughout each village”*. The proposals do not currently align with the Design Code.

In summary, the proposals do not currently comply with national or local transport policy in relation to sustainable location, accessibility, cumulative impact assessment, or prioritisation of sustainable modes. Further discussions with the applicant on overcoming these issues, are welcomed.

Interim Travel Plan (ref: GS/TV/AH/35213, November 2025 (TP))

The Travel Plan target aims to reduce car-based trips by only 5% over a five-year period. This is below the 10% reduction usually seen in Travel Plans and reflects the site’s rural location.

A baseline mode share survey is proposed to be undertaken within three months of occupation of the site. However, the KCC Transport Assessment and Travel Plan Guidance document, 2025, states *“Targets should be set based on the traffic generation outlined within those documents, as a starting point, as this level of traffic generation was assessed and approved at planning.”*

The Travel Information Pack (TIP) will play a key role in residents’ modal choice. It should contain web links to real time information, estimated journey times to key destinations, information on car sharing and the nearest car clubs, and the offer of personalised travel planning. The TIP should be updated following any changes that have occurred, and should be distributed on day one, and at another point during the lifetime of the Travel Plan should annual targets not be on-track to be achieved.

Trees

A number of KCC maintained trees are located adjacent to the site access however, these do not appear to be included within the scope of the tree survey. Confirmation is required as to whether they have been evaluated and that they will be protected if construction takes place. If any of the trees are proposed to be removed or are damaged during construction, then the full CAVAT fees would be sought.

Drainage

The surface water system is proposed to be maintained by a private management company and therefore cannot be proposed to be adopted by the Highway Authority.

Summary and Conclusion

In summary, KCC's concerns relate to the site's poor non car accessibility, the absence of a robust cumulative transport assessment in the context of significant nearby growth, and uncertainty that the local highway network can safely accommodate the development without further mitigation.

KCC would like to place a holding objection on the application until the above issues have been resolved.

It is important to note that Local Planning Authority (LPA) permission does not convey any approval to carry out works on or affecting the public highway.

Any changes to or affecting the public highway in Kent require the formal agreement of the Highway Authority, Kent County Council (KCC), and it should not be assumed that this will be a given because LPA planning permission has been granted.

For this reason, anyone considering works which may affect the public highway, including any highway-owned street furniture or landscape assets such as grass, shrubs and trees, is advised to engage with KCC Highways and Transportation at an early stage in the design process.

Across the county there are pieces of land next to private homes and gardens and near the highway that do not look like roads or pavements but are actually part of the public highway.

Some of this highway land is owned by Kent County Council whilst some is owned by third party owners. Irrespective of the ownership, this land may have 'highway rights' over the topsoil.

Works on private land may also affect the public highway. These include works to cellars, to retaining walls which support the highway or land above the highway, and to balconies, signs or other structures which project over the highway. Such works also require the approval of the Highway Authority.

Kent County Council has now introduced a pre-application advice service in addition to a full formal technical approval process for new or altered highway assets, with the aim of improving future maintainability. Further details are available on our website below:

<https://www.kent.gov.uk/roads-and-travel/highway-permits-and-licences/highways-permissions-and-technical-guidance>.

This process applies to all development works affecting the public highway other than applications for vehicle crossings, which are covered by a separate approval process. Further details on this are available on our website below:

<https://www.kent.gov.uk/roads-and-travel/highway-permits-and-licences/apply-for-a-dropped-kerb/dropped-kerb-contractor-information>

Once planning approval for any development has been granted by the LPA, it is the responsibility of the applicant to ensure that before development commences, all necessary highway approvals and consents have been obtained, and that the limits of the highway boundary have been clearly established, since failure to do so may result in enforcement action being taken by the Highway Authority.

The applicant must also ensure that the details shown on the approved plans agree in every aspect with those approved under the relevant legislation and common law. It is therefore important for the applicant to contact KCC Highways and Transportation to progress this aspect of the works prior to commencement on site.

Further guidance for applicants, including information about how to clarify the highway boundary and links to application forms for vehicular crossings and other highway matters, may be found on Kent County Council's website:

<https://www.kent.gov.uk/roads-and-travel/highway-permits-and-licences/highways-permissions-and-technical-guidance>.

Alternatively, KCC Highways and Transportation may be contacted by telephone: 03000 418181.

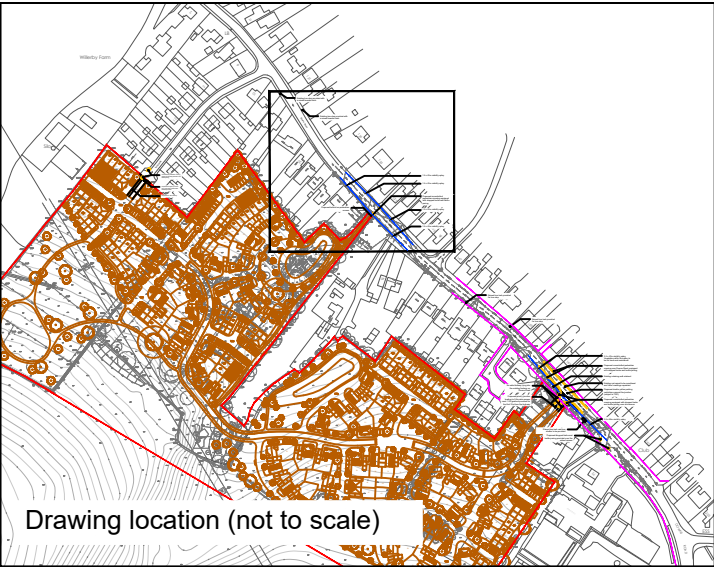
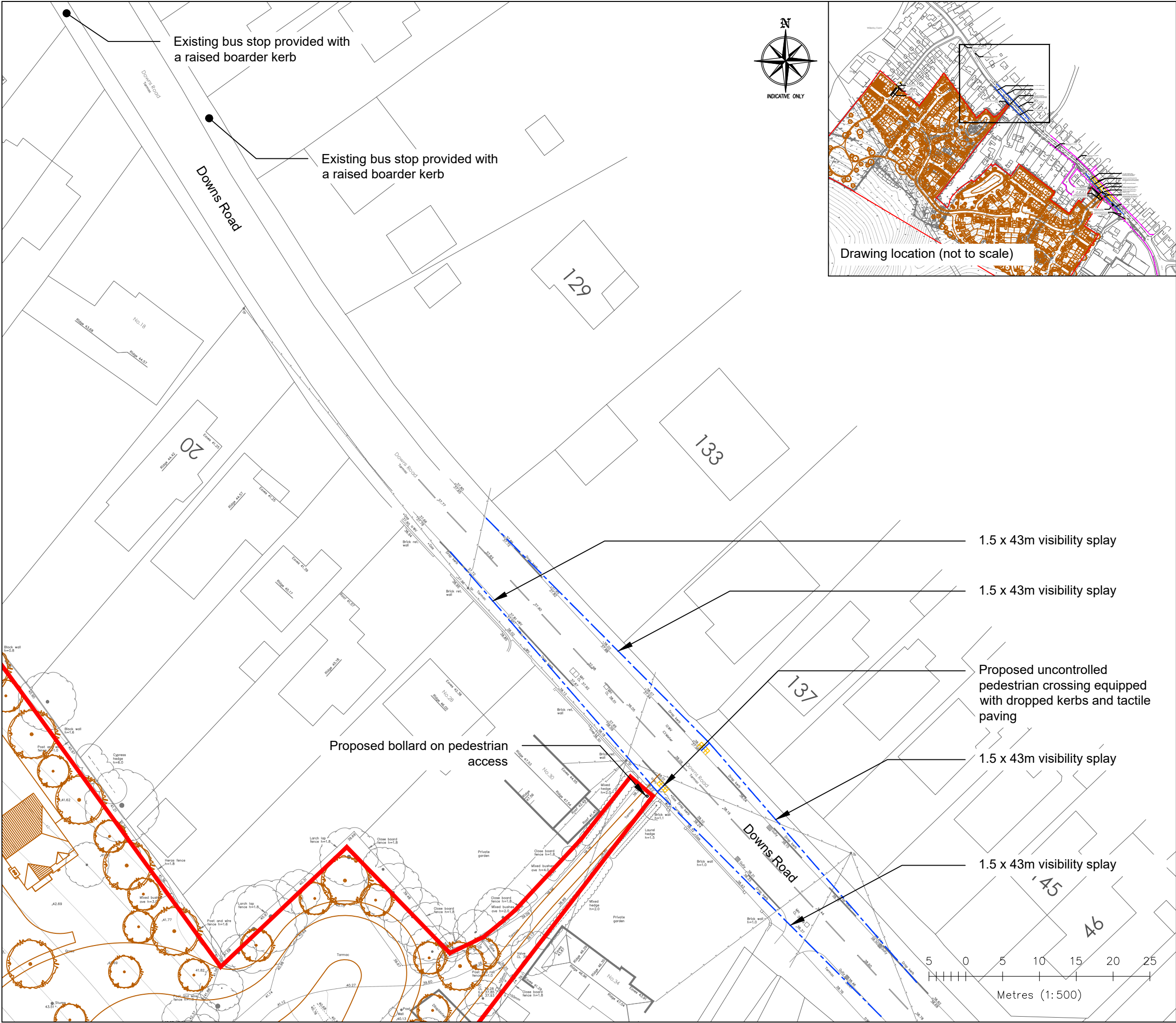
Yours faithfully

Director of Highways & Transportation

*This is a statutory technical response on behalf of KCC as Highway Authority. If you wish to make representations in relation to highways matters associated with the planning application under consideration, please make these directly to the Planning Authority.

APPENDIX B





ONLY SCALE FOR PLANNING PURPOSES

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P3	31.03.26	JM	Bollard	JM	JM
P2	13.03.26	JM	Highways Comments	JM	JM
P1	18.11.25	JM	First Issue	CS	CS

REV	DATE	BY	DESCRIPTION	CHK	APD
-----	------	----	-------------	-----	-----

client
ESQUIRE DEVELOPMENTS LTD

project
ROSE FARM, ISTEAD RISE

title
PEDESTRIAN CROSSING

project	drwg	rev
35213	H-02	P3

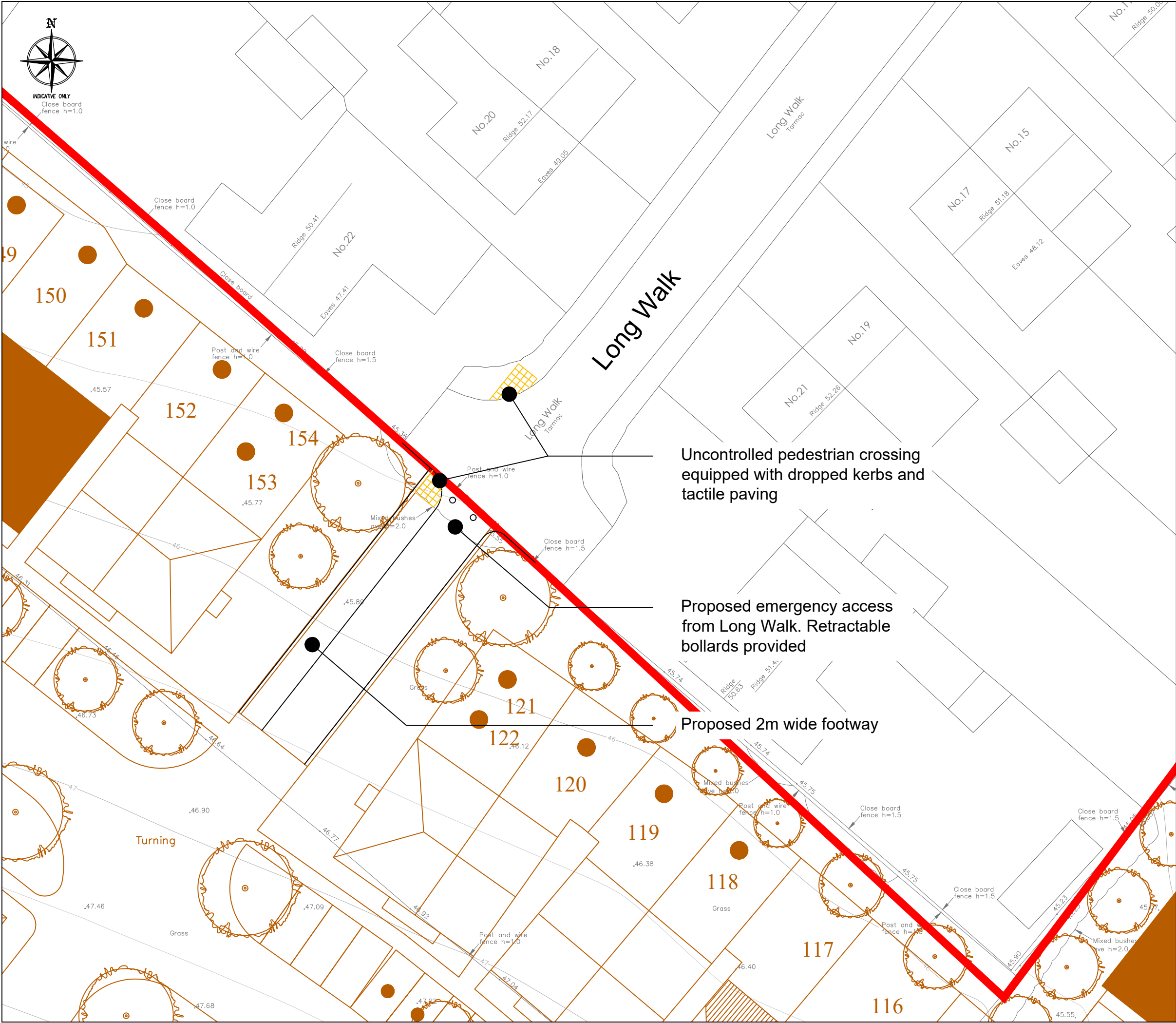
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JM	CS	CS	1:500	31.03.26

status	P
FOR INFORMATION	



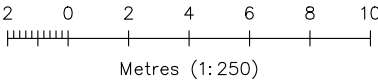
Eclipse House, Eclipse Park, Sittingbourne Road
Maidstone, Kent. ME14 3EN
t: 01622 776226 f: 01622 776227
e: info@dhaplanning.co.uk w: www.dhaplanning.co.uk

CAD Reference:	A3
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P1	13.03.26	JM	First Issue		JM JM
REV	DATE	BY	DESCRIPTION		CHK APD
client					
ESQUIRE DEVELOPMENTS LTD					
project					
ROSE FARM, ISTEAD RISE LONG WALK					
title					
EMERGENCY ACCESS					
project 35213		dwg H-03		rev P1	
Drawn JM	Checked JM	Approved JM	scale @ A3 1:500	date 13.03.26	
status FOR INFORMATION				P	
					
Eclipse House, Eclipse Park. Sittingbourne Road Maidstone, Kent. ME14 3EN					
t: 01622 776226			f: 01622 776227		
e: info@dhaplanning.co.uk			w: www.dhaplanning.co.uk		
CAD Reference:					A3

APPENDIX C



Tom Valek

From: [REDACTED]
Sent: 12 February 2026 11:34
To: Tom Valek
Cc: [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]

Hello Tom

As per our discussion earlier this morning, I can confirm that following my meeting with the modelling team yesterday, seeing the results of the Local Plan evidence modelling and the KTM outputs for other sites, as well as your site being in the Draft Local Plan which you sent to me this morning, there is no longer a need for you to use the KTM. Local modelling will suffice.

Regards

[REDACTED] | Principal Transport and Development Officer – West Kent | Highways,
Transportation & Waste | Kent County Council | Ashford Highway Depot, Henwood Industrial
Estate, Javelin Way, Ashford, TN24 8AD | [REDACTED] www.kent.gov.uk/highways

Please note my working hours are Mon – Fri 0800 - 1430

From: Tom Valek <Tom.Valek@dhatransport.co.uk>
Sent: 12 February 2026 10:51

To: [REDACTED]
[REDACTED]

Subject: Rose Farm - 25/503683/OUT

Dear [REDACTED]

Thank you for your formal representation to the development proposals at Rose Farm, Istead Rise (Reference: GB/20251233). We intend to submit a Technical Note response to your comments in due course but wanted to discuss your comments regarding the junction capacity assessments we are undertook and the request for the use of the Kent Transport Model.

As you will be aware from our submitted Transport Assessment, we believe that the use of strategic modelling for trip distribution associated with the development proposals is not commensurate with the size, scale and impact of the development proposals for numerous reasons detailed fully within the TA. A key particular reason related to the request to use KTM in order to consider the cumulative impact of forthcoming development in the surrounding Gravesham area. Given at the time of writing the TA the draft Local Plan Regulation 19 submission had not yet been published, other emerging sites in the surrounding area were not allocated within the local plan and therefore not considered within KTM.

Although we strongly believe that the sensitivity testing included within the TA provides a robust assessment of potential combined cumulative impacts along the A227 corridor in Gravesham, given the draft Local Plan Regulation 19 submission has now been published, we believe there is the opportunity to move forward on this point. Following the release of the draft Local Plan and the sites subsequent

draft allocation along with numerous other sites in the surrounding area, will you be able to share the associated KTM modelling outputs undertaken by KCC that informed the sites allocation for us to review and utilise? We consider this reflects a suitable compromise whereby KTM outputs that reflect the expected level of local development are utilised.

Happy to discuss.

Regards,

Tom Valek
Senior Transport Planner

Office: 01622 776226
Email: tom.valek@dhatransport.co.uk

[Have a site to discuss? Give us a call or visit our interactive map to get started](#)



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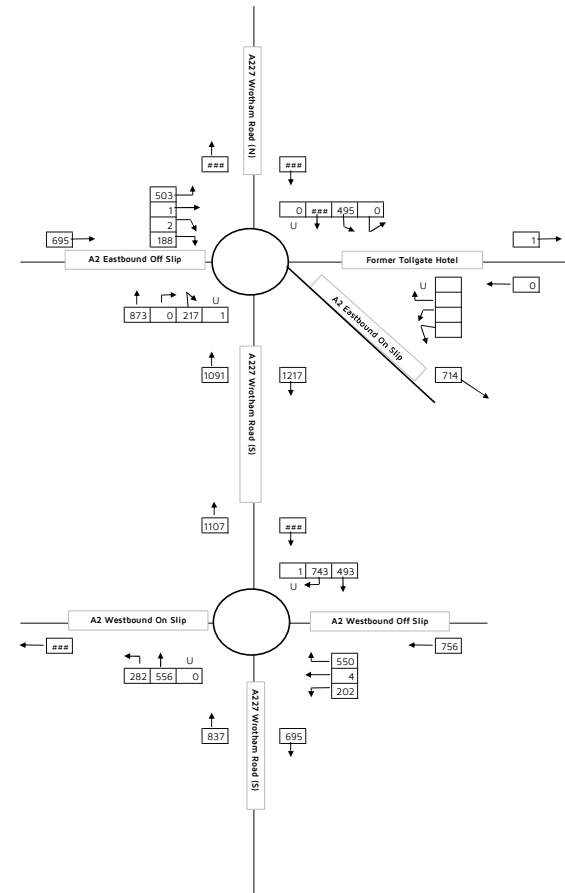
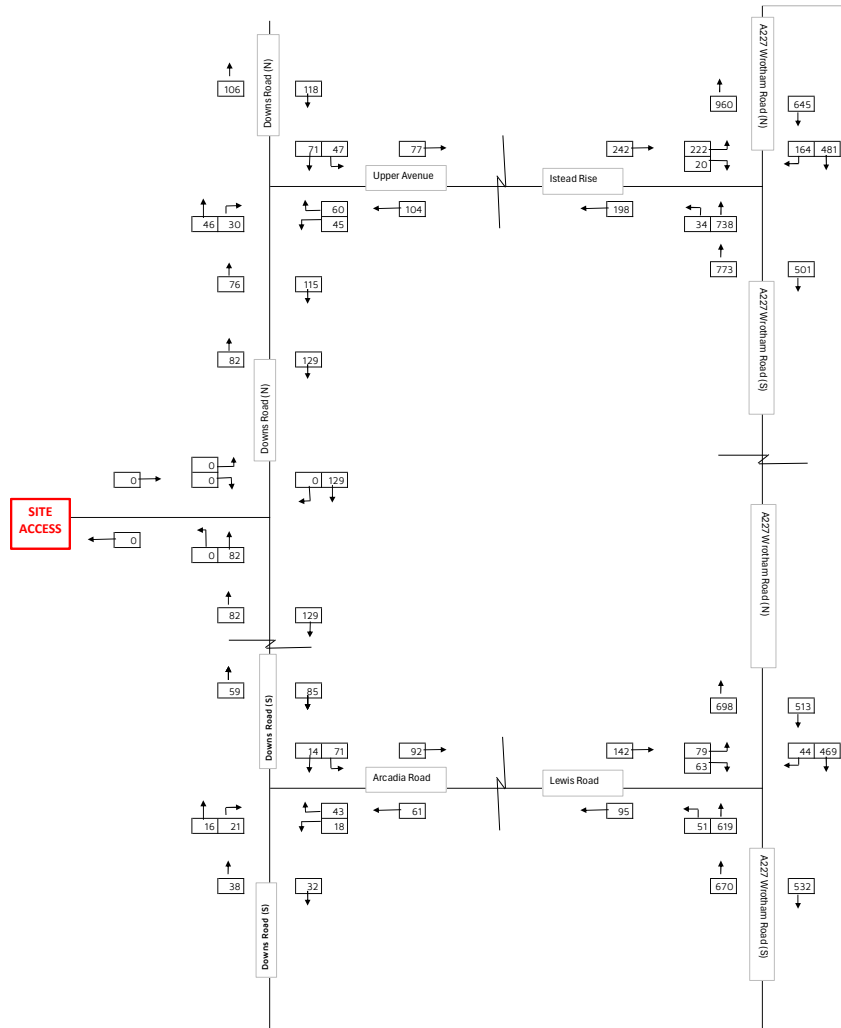
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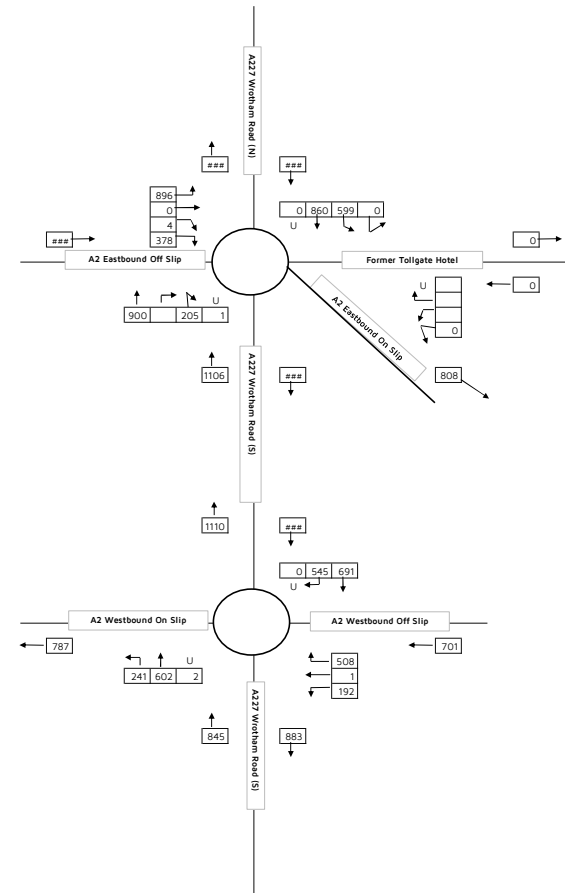
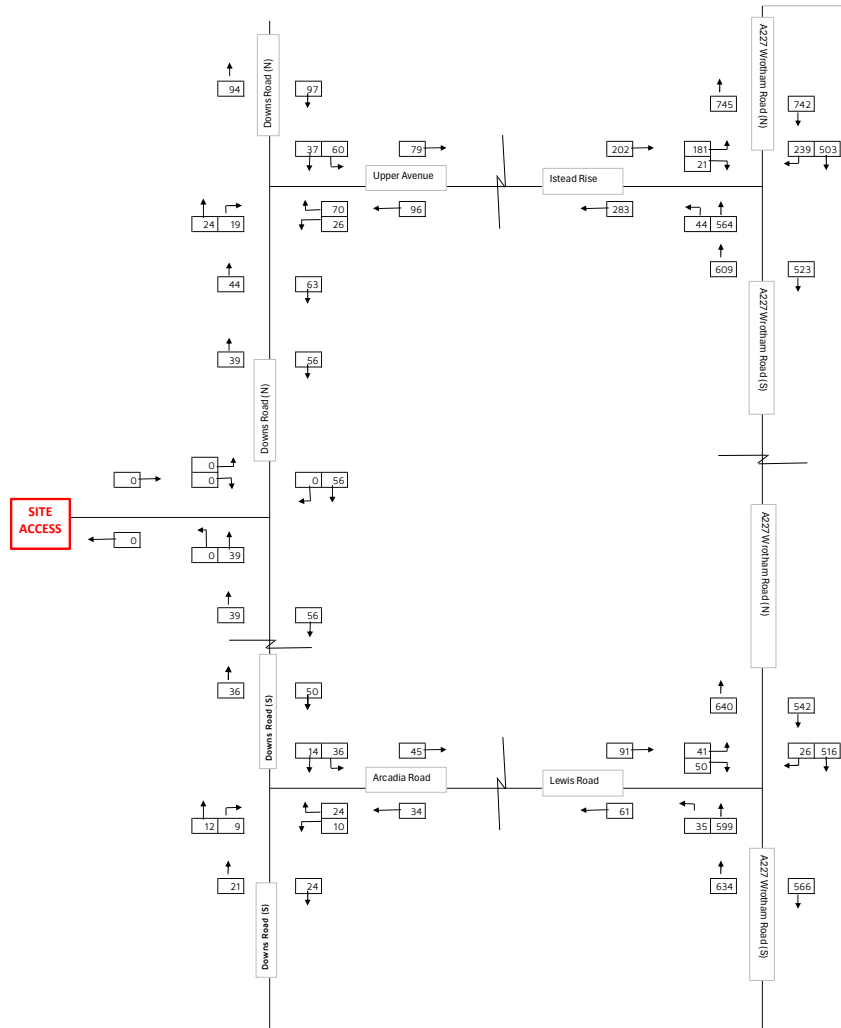
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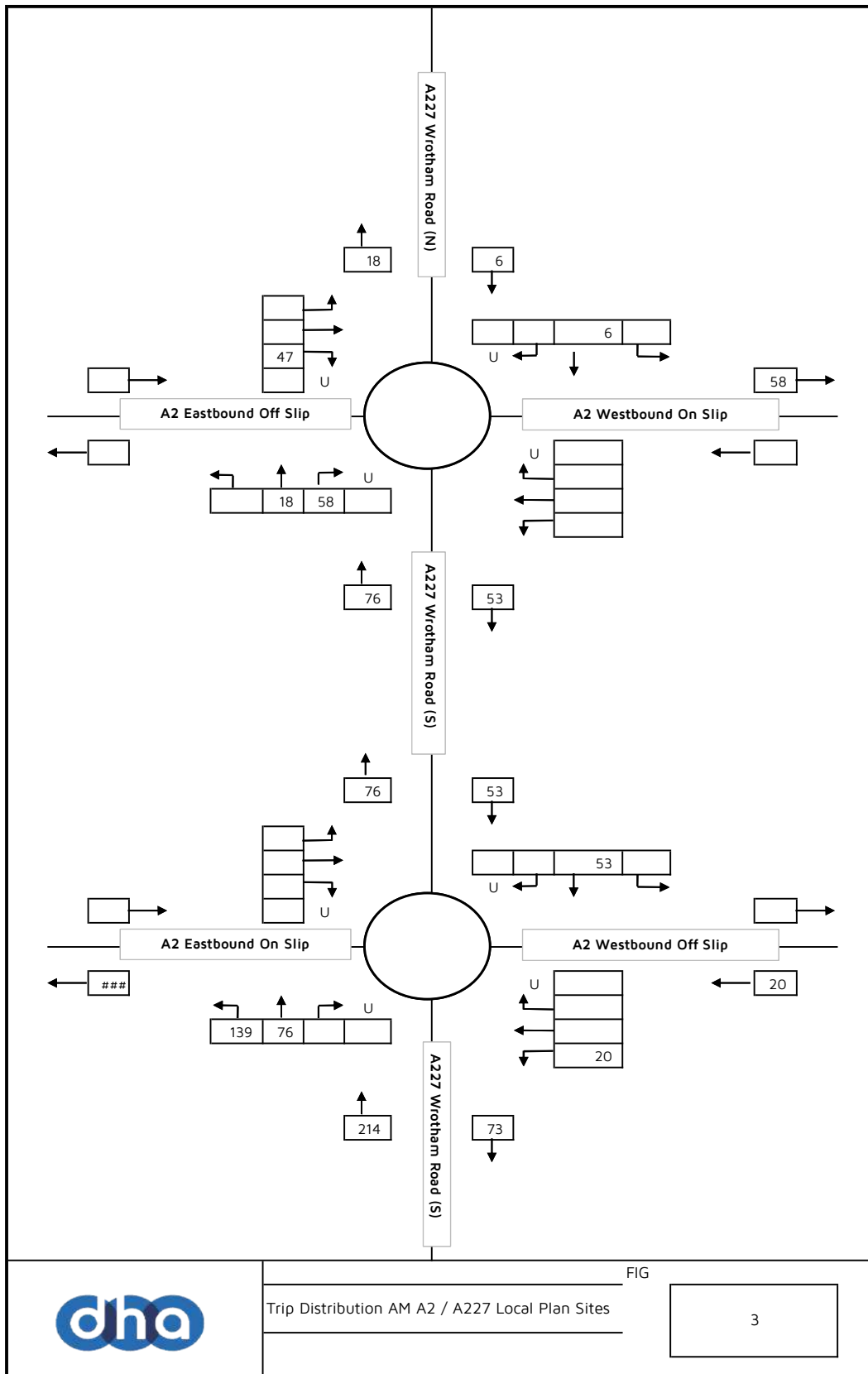
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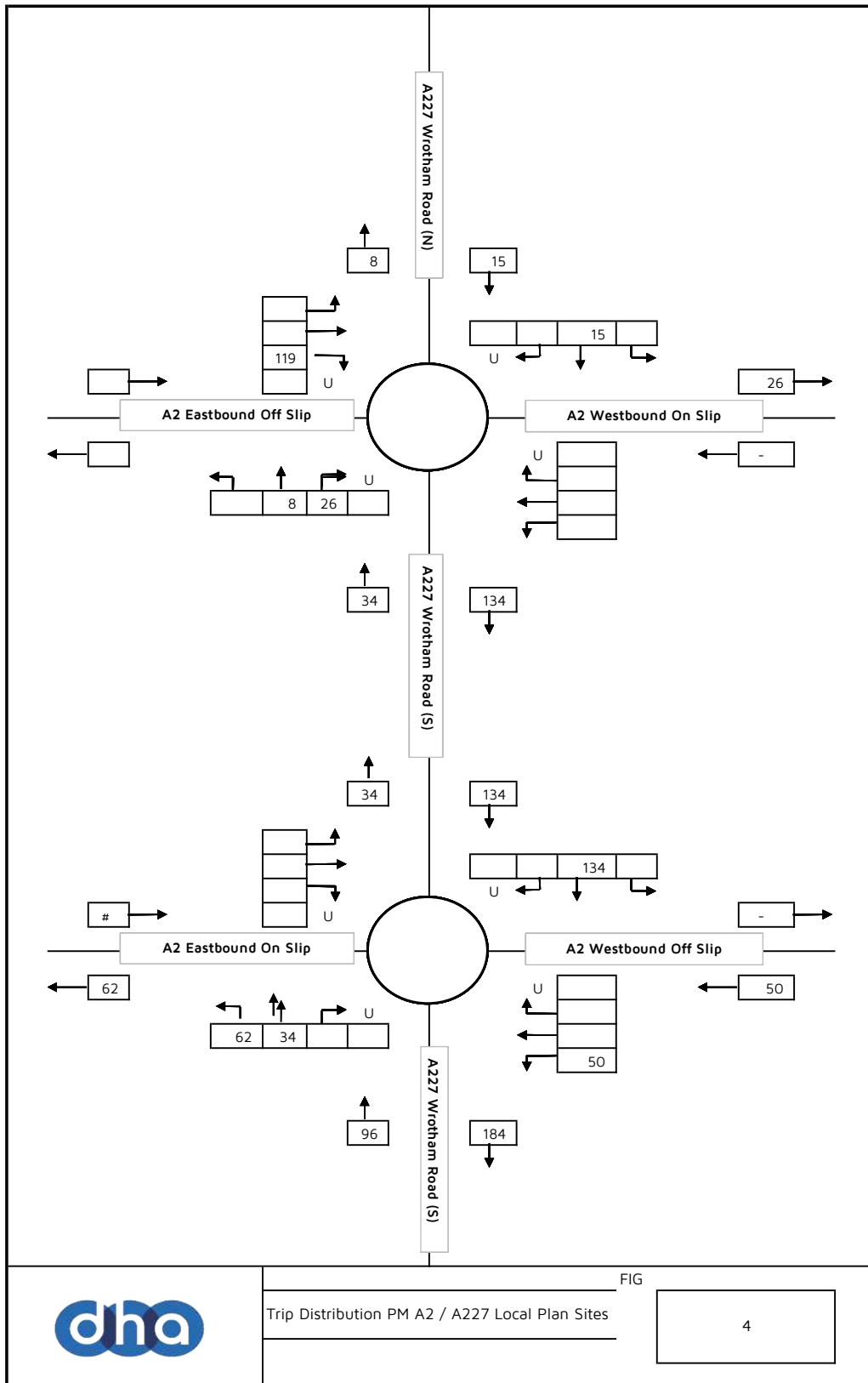
APPENDIX D

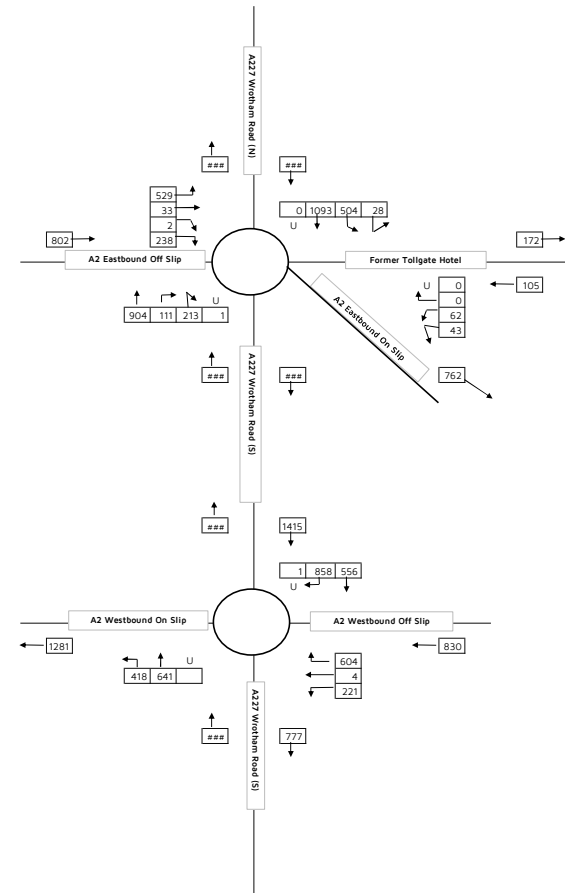
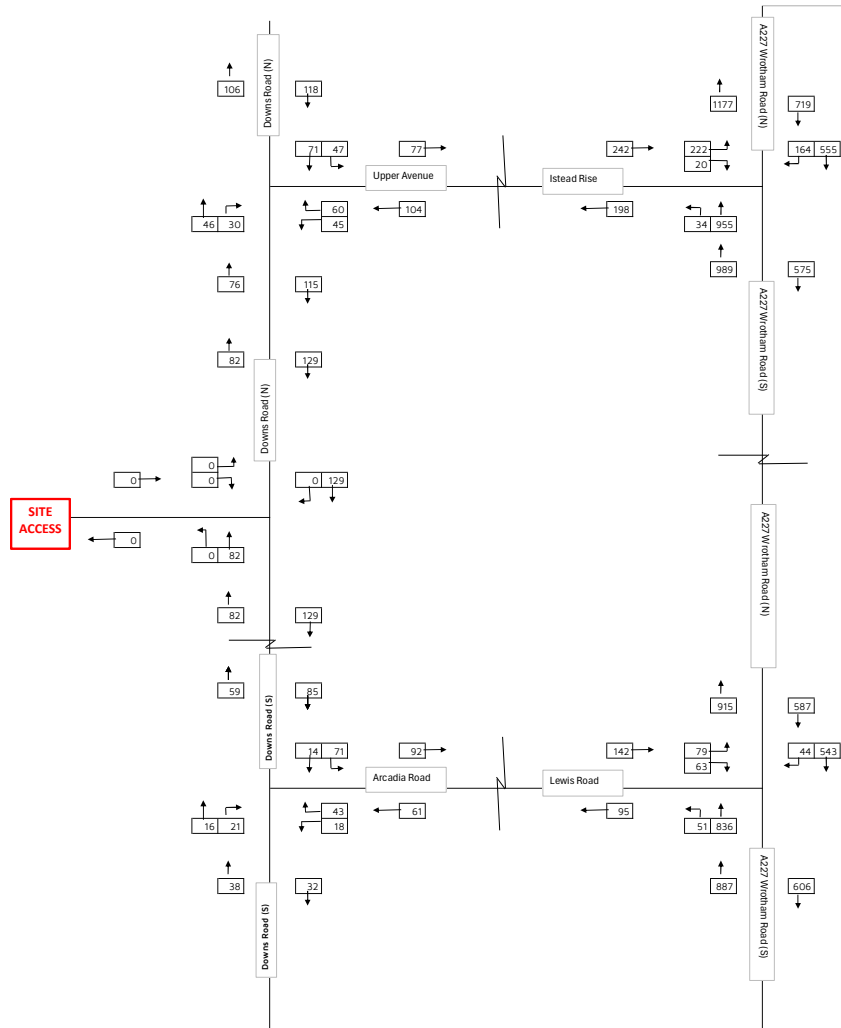


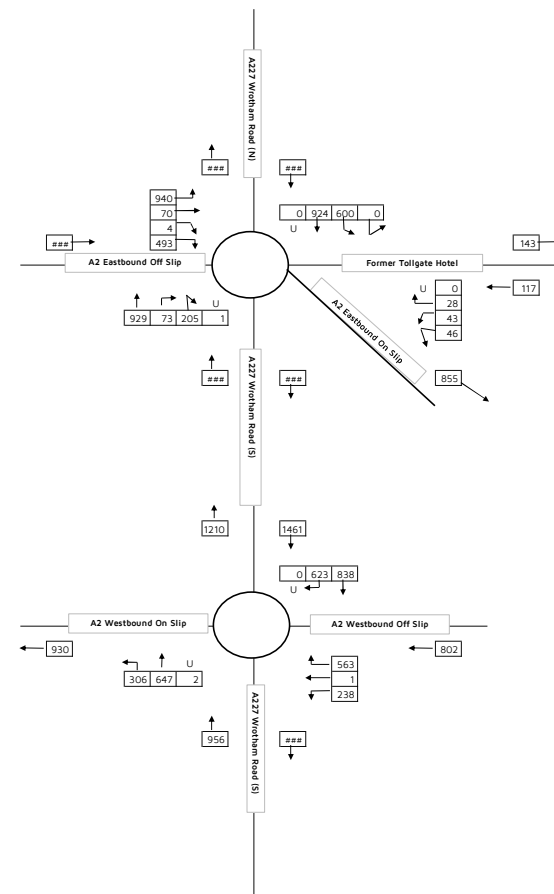
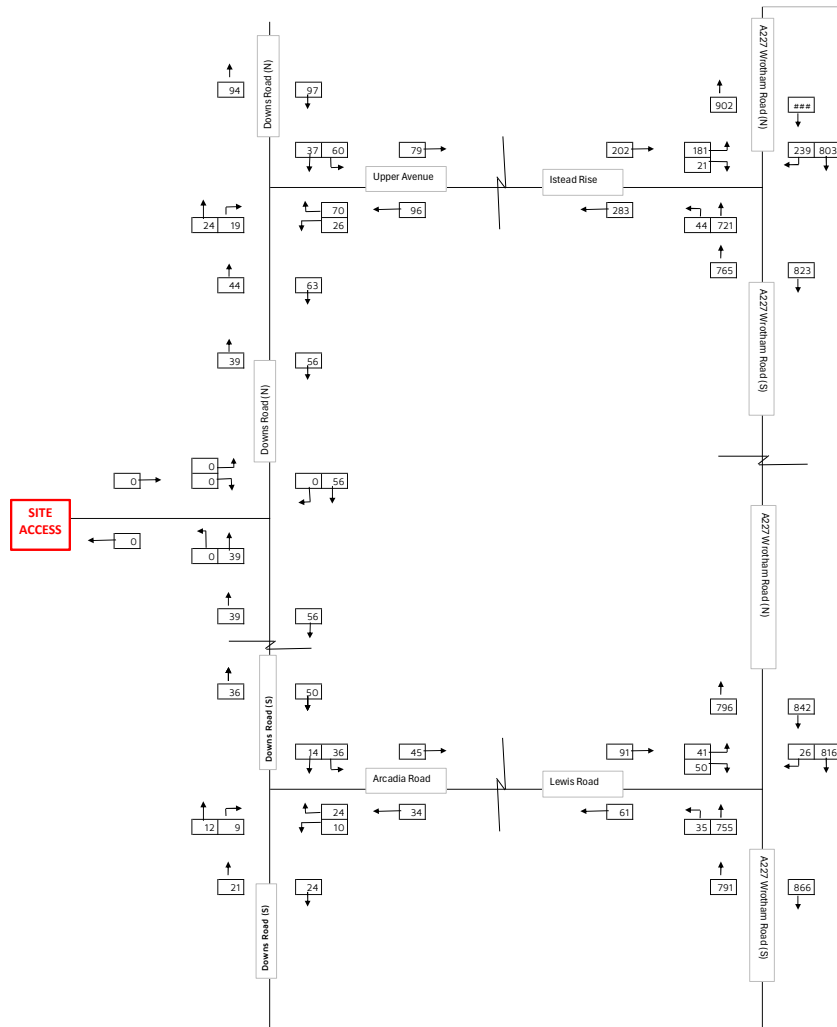


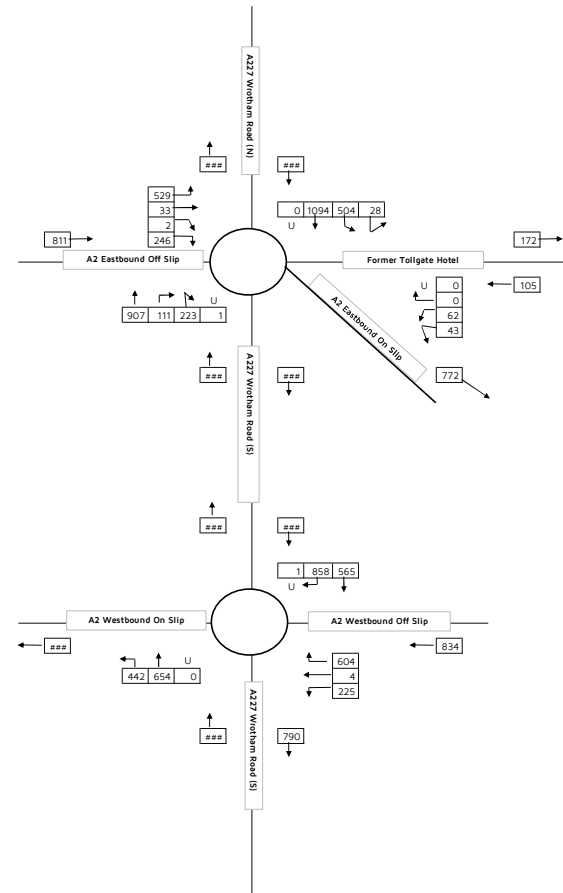
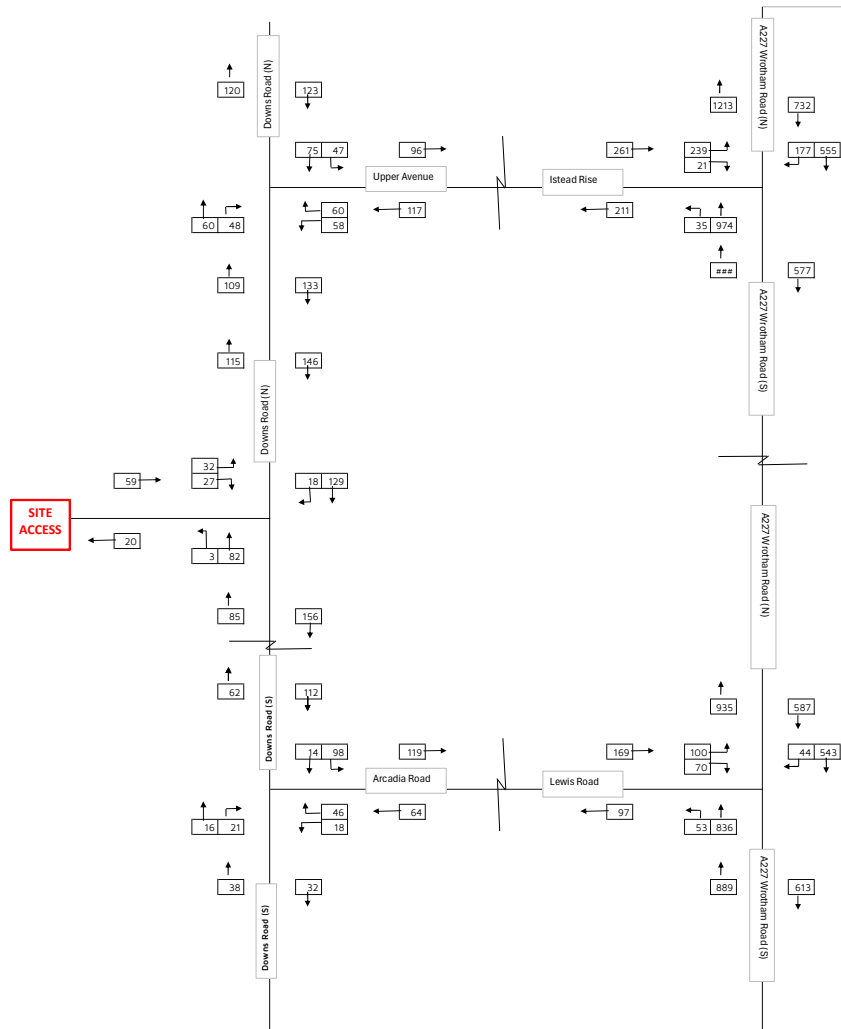


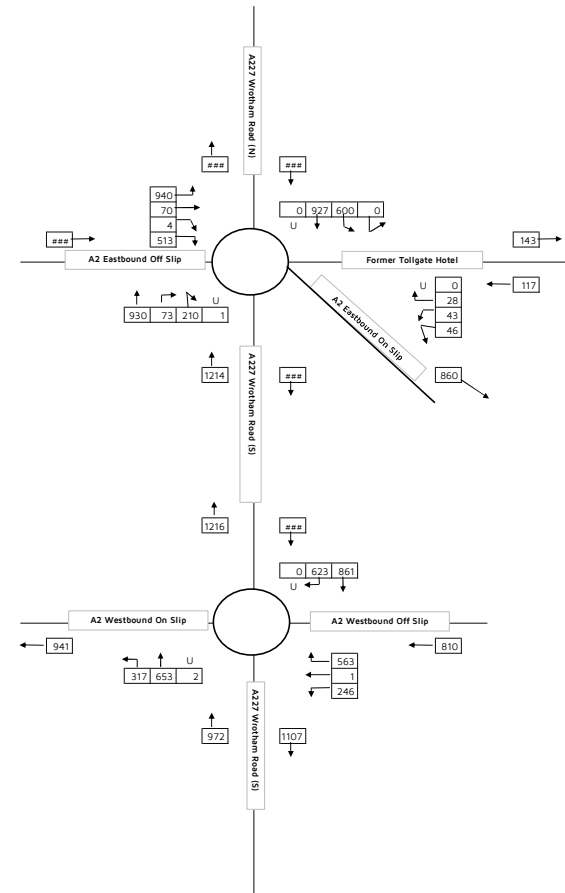
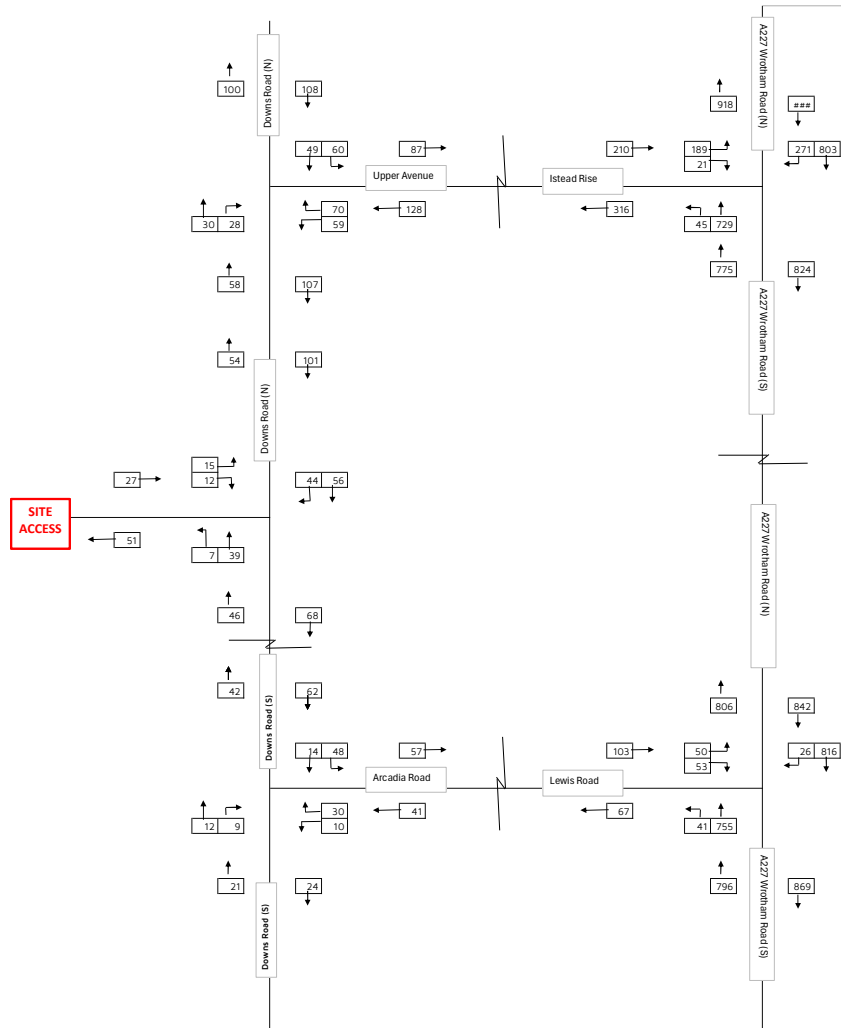












APPENDIX E



Junctions 11		
PICADY 11 - Priority Intersection Module		
Version: 11.0.0.2177		
© Copyright TRL Software Limited, 2024		
For sales and distribution information, program advice and maintenance, contact TRL Software:		
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com		
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution		

Filename: Istead Rise.j11

Path: C:\Users\Tom.Valek\OneDriveCloudTemp\5MYRYB9Y

Report generation date: 18/03/2026 11:53:36

»2042 | Base | AM
 »2042 | Base | PM
 »2042 | DN | AM
 »2042 | DN | PM
 »2042 | DM | AM
 »2042 | DM | PM

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	2042 - Base											
1 - Site Access - Stream B-AC	D1	0.0	0.00	0.00	A	0.00	D2	0.0	0.00	0.00	A	0.00
1 - Site Access - Stream C-AB		0.0	0.00	0.00	A			0.0	0.00	0.00	A	
2 - Downs Road / Arcadia Road - Stream B-AC		0.3	10.27	0.23	B	4.32		0.3	10.23	0.21	B	4.71
2 - Downs Road / Arcadia Road - Stream C-AB		0.1	6.61	0.06	A			0.0	6.58	0.04	A	
3 - Downs Road / Upper Avenue - Stream B-AC		0.2	8.77	0.13	A	3.73		0.1	8.10	0.07	A	3.21
3 - Downs Road / Upper Avenue - Stream C-AB		0.0	6.88	0.04	A			0.0	6.66	0.02	A	
4 - Lewis Road / A227 Wrotham - Stream B-AC		1.0	23.47	0.48	C	2.82		0.5	18.82	0.32	C	1.53
4 - Lewis Road / A227 Wrotham - Stream C-AB		0.1	9.05	0.10	A			0.1	8.46	0.06	A	
5 - Istead Rise / A227 Wrotham Road - Stream B-AC		2.1	29.70	0.67	D	5.77		1.2	19.53	0.52	C	5.09
5 - Istead Rise / A227 Wrotham Road - Stream C-AB		0.7	14.47	0.40	B			1.2	16.39	0.53	C	
		2042 - DM										
1 - Site Access - Stream B-AC	D5	0.2	8.90	0.13	A	2.24	D6	0.1	8.01	0.06	A	3.02
1 - Site Access - Stream C-AB		0.1	5.86	0.03	A			0.1	6.41	0.08	A	
2 - Downs Road / Arcadia Road - Stream B-AC		0.4	10.59	0.26	B	4.62		0.4	10.71	0.28	B	5.33
2 - Downs Road / Arcadia Road - Stream C-AB		0.1	6.77	0.09	A			0.1	6.68	0.05	A	
3 - Downs Road / Upper Avenue - Stream B-AC		0.2	8.93	0.14	A	3.39		0.1	8.33	0.08	A	3.21
3 - Downs Road / Upper Avenue - Stream C-AB		0.0	6.97	0.04	A			0.0	6.69	0.02	A	
4 - Lewis Road / A227 Wrotham - Stream B-AC		2.6	52.61	0.72	F	5.72		1.0	34.30	0.50	D	2.17
4 - Lewis Road / A227 Wrotham - Stream C-AB		0.1	10.58	0.11	B			0.1	9.41	0.06	A	
5 - Istead Rise / A227 Wrotham Road - Stream B-AC		7.6	102.50	0.92	F	15.13		2.8	46.37	0.74	E	7.89
5 - Istead Rise / A227 Wrotham Road - Stream C-AB		1.1	20.35	0.51	C			2.3	22.61	0.66	C	
		2042 - DN										
1 - Site Access - Stream B-AC	D3	0.0	0.00	0.00	A	0.00	D4	0.0	0.00	0.00	A	0.00
1 - Site Access - Stream C-AB		0.0	0.00	0.00	A			0.0	0.00	0.00	A	
2 - Downs Road / Arcadia Road - Stream B-AC		0.3	10.27	0.23	B	4.32		0.3	10.23	0.21	B	4.71
2 - Downs Road / Arcadia Road - Stream C-AB		0.1	6.62	0.06	A			0.0	6.58	0.04	A	
3 - Downs Road / Upper Avenue - Stream B-AC		0.2	8.77	0.13	A	3.73		0.1	8.10	0.07	A	3.21
3 - Downs Road / Upper Avenue - Stream C-AB		0.0	6.89	0.04	A			0.0	6.66	0.02	A	
4 - Lewis Road / A227 Wrotham - Stream B-AC		1.7	40.30	0.62	E	3.83		0.9	32.36	0.45	D	1.85
4 - Lewis Road / A227 Wrotham - Stream C-AB		0.1	10.56	0.11	B			0.1	9.37	0.06	A	
5 - Istead Rise / A227 Wrotham Road - Stream B-AC		4.5	66.03	0.83	F	9.77		2.0	34.72	0.66	D	5.85
5 - Istead Rise / A227 Wrotham Road - Stream C-AB		0.9	18.59	0.46	C			1.5	19.46	0.58	C	

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.

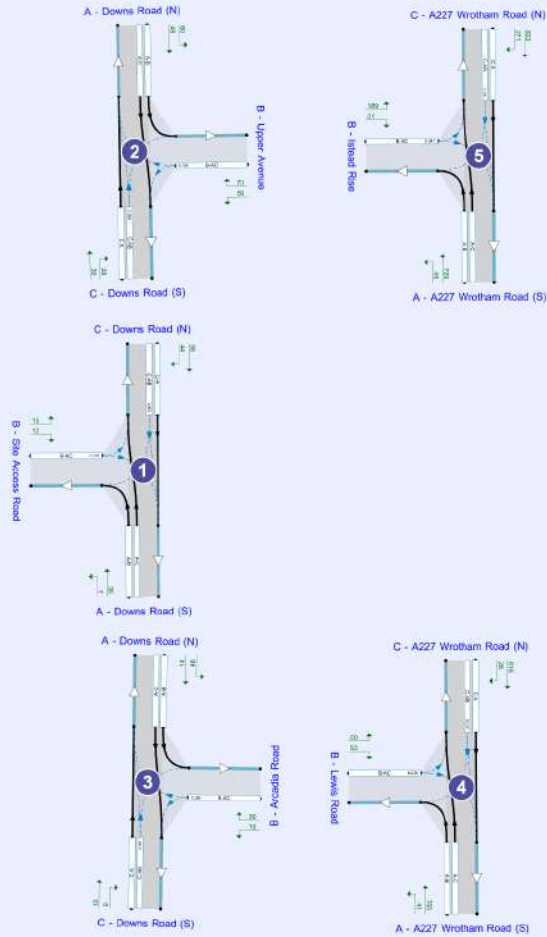
File summary

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



Flows show original traffic demand (PCU/hr)
Streams (downstream end) show RFC ()

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2042	Base	AM	ONE HOUR	07:45	09:15	15
D2	2042	Base	PM	ONE HOUR	16:45	18:15	15
D3	2042	DN	AM	ONE HOUR	07:45	09:15	15
D4	2042	DN	PM	ONE HOUR	16:45	18:15	15
D5	2042	DM	AM	ONE HOUR	07:45	09:15	15
D6	2042	DM	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2042 | Base | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way	Two-way	Two-way		0.00	A
2	Downs Road / Arcadia Road	T-Junction	Two-way	Two-way	Two-way		4.32	A
3	Downs Road / Upper Avenue	T-Junction	Two-way	Two-way	Two-way		3.73	A
4	Lewis Road / A227 Wrotham	T-Junction	Two-way	Two-way	Two-way		2.82	A
5	Istead Rise / A227 Wrotham Road	T-Junction	Two-way	Two-way	Two-way		5.77	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.15	A

Arms

Arms

Junction	Arm	Name	Description	Arm type
1 - Site Access	A	Downs Road (S)		Major
	B	Site Access Road		Minor
	C	Downs Road (N)		Major
2 - Downs Road / Arcadia Road	A	Downs Road (N)		Major
	B	Upper Avenue		Minor
	C	Downs Road (S)		Major
3 - Downs Road / Upper Avenue	A	Downs Road (N)		Major
	B	Arcadia Road		Minor
	C	Downs Road (S)		Major
4 - Lewis Road / A227 Wrotham	A	A227 Wrotham Road (S)		Major
	B	Lewis Road		Minor
	C	A227 Wrotham Road (N)		Major
5 - Istead Rise / A227 Wrotham Road	A	A227 Wrotham Road (S)		Major
	B	Istead Rise		Minor
	C	A227 Wrotham Road (N)		Major

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
1 - Site Access	C - Downs Road (N)	6.50				120.0	✓	0.00
2 - Downs Road / Arcadia Road	C - Downs Road (S)	6.50				100.0	✓	0.00
3 - Downs Road / Upper Avenue	C - Downs Road (S)	6.50				60.0	✓	0.00
4 - Lewis Road / A227 Wrotham	C - A227 Wrotham Road (N)	6.00		✓	3.00	90.0	✓	4.00
5 - Istead Rise / A227 Wrotham Road	C - A227 Wrotham Road (N)	6.10		✓	3.00	80.0	✓	7.00

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

Minor Arm Geometry

Junction	Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
1 - Site Access	B - Site Access Road	One lane	2.75	20	17
2 - Downs Road / Arcadia Road	B - Upper Avenue	One lane	2.75	28	23
3 - Downs Road / Upper Avenue	B - Arcadia Road	One lane	2.75	26	60
4 - Lewis Road / A227 Wrotham	B - Lewis Road	One lane	2.75	24	24
5 - Istead Rise / A227 Wrotham Road	B - Istead Rise	One lane	3.30	28	24

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1 - Site Access	B-A	480	0.086	0.216	0.136	0.309
	B-C	619	0.093	0.235	-	-
	C-B	643	0.244	0.244	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2 - Downs Road / Arcadia Road	B-A	486	0.087	0.219	0.138	0.312
	B-C	622	0.093	0.236	-	-
	C-B	632	0.240	0.240	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
3 - Downs Road / Upper Avenue	B-A	503	0.090	0.226	0.142	0.323
	B-C	645	0.097	0.245	-	-
	C-B	609	0.231	0.231	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
4 - Lewis Road / A227 Wrotham	B-A	485	0.088	0.223	0.140	0.319
	B-C	623	0.096	0.241	-	-
	C-B	681	0.264	0.264	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
5 - Istead Rise / A227 Wrotham Road	B-A	513	0.094	0.236	0.149	0.338
	B-C	658	0.100	0.253	-	-
	C-B	674	0.260	0.260	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2042	Base	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Site Access	A - Downs Road (S)		✓	82	100.000
	B - Site Access Road		✓	0	100.000
	C - Downs Road (N)		✓	129	100.000
2 - Downs Road / Arcadia Road	A - Downs Road (N)		✓	118	100.000
	B - Upper Avenue		✓	105	100.000
	C - Downs Road (S)		✓	76	100.000
3 - Downs Road / Upper Avenue	A - Downs Road (N)		✓	85	100.000
	B - Arcadia Road		✓	61	100.000
	C - Downs Road (S)		✓	37	100.000
4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)		✓	670	100.000
	B - Lewis Road		✓	142	100.000
	C - A227 Wrotham Road (N)		✓	513	100.000
5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)		✓	772	100.000
	B - Istead Rise		✓	242	100.000
	C - A227 Wrotham Road (N)		✓	645	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	0	0	82
	B - Site Access Road	0	0	0
	C - Downs Road (N)	129	0	0

Demand (PCU/hr)

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	0	47	71
	B - Upper Avenue	60	0	45
	C - Downs Road (S)	46	30	0

Demand (PCU/hr)

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	0	71	14
	B - Arcadia Road	43	0	18
	C - Downs Road (S)	16	21	0

Demand (PCU/hr)

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	51	619
	B - Lewis Road	63	0	79
	C - A227 Wrotham Road (N)	469	44	0

Demand (PCU/hr)

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	34	738
	B - Istead Rise	20	0	222
	C - A227 Wrotham Road (N)	481	164	0

Vehicle Mix

Heavy Vehicle %

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	10	10	10
	B - Site Access Road	10	10	10
	C - Downs Road (N)	10	10	10

Heavy Vehicle %

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Upper Avenue	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Arcadia Road	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Lewis Road	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Heavy Vehicle %

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Istead Rise	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Site Access	A - Downs Road (S)	62	62
		B - Site Access Road	0	0
		C - Downs Road (N)	97	97
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	89	89
		B - Upper Avenue	79	79
		C - Downs Road (S)	57	57
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	64	64
		B - Arcadia Road	46	46
		C - Downs Road (S)	28	28
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	504	504
		B - Lewis Road	107	107
		C - A227 Wrotham Road (N)	386	386
08:00-08:15	1 - Site Access	A - Downs Road (S)	74	74
		B - Site Access Road	0	0
		C - Downs Road (N)	116	116
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	106	106
		B - Upper Avenue	94	94
		C - Downs Road (S)	68	68
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	76	76
		B - Arcadia Road	55	55
		C - Downs Road (S)	33	33
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	602	602
		B - Lewis Road	128	128
		C - A227 Wrotham Road (N)	461	461
08:15-08:30	1 - Site Access	A - Downs Road (S)	90	90
		B - Site Access Road	0	0
		C - Downs Road (N)	142	142
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	130	130
		B - Upper Avenue	116	116
		C - Downs Road (S)	84	84
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	94	94
		B - Arcadia Road	67	67
		C - Downs Road (S)	41	41
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	738	738
		B - Lewis Road	156	156
		C - A227 Wrotham Road (N)	565	565
08:30-08:45	1 - Site Access	A - Downs Road (S)	90	90
		B - Site Access Road	0	0
		C - Downs Road (N)	142	142
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	130	130
		B - Upper Avenue	116	116
		C - Downs Road (S)	84	84
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	94	94
		B - Arcadia Road	67	67
		C - Downs Road (S)	41	41
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	738	738
		B - Lewis Road	156	156
		C - A227 Wrotham Road (N)	565	565

	5 - Istead Rise / A227 Wrotham Road	C - A227 Wrotham Road (N)	565	565
		A - A227 Wrotham Road (S)	850	850
		B - Istead Rise	266	266
		C - A227 Wrotham Road (N)	710	710
08:45-09:00	1 - Site Access	A - Downs Road (S)	74	74
		B - Site Access Road	0	0
		C - Downs Road (N)	116	116
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	106	106
		B - Upper Avenue	94	94
		C - Downs Road (S)	68	68
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	76	76
		B - Arcadia Road	55	55
		C - Downs Road (S)	33	33
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	602	602
		B - Lewis Road	128	128
		C - A227 Wrotham Road (N)	461	461
09:00-09:15	1 - Site Access	A - A227 Wrotham Road (S)	694	694
		B - Istead Rise	218	218
		C - A227 Wrotham Road (N)	580	580
	2 - Downs Road / Arcadia Road	A - Downs Road (S)	62	62
		B - Site Access Road	0	0
		C - Downs Road (N)	97	97
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	89	89
		B - Upper Avenue	79	79
		C - Downs Road (S)	57	57
	4 - Lewis Road / A227 Wrotham	A - Downs Road (N)	64	64
		B - Arcadia Road	46	46
		C - Downs Road (S)	28	28
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	504	504
		B - Lewis Road	107	107
		C - A227 Wrotham Road (N)	386	386
	1 - Site Access	A - A227 Wrotham Road (S)	581	581
		B - Istead Rise	182	182
		C - A227 Wrotham Road (N)	486	486

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	B-AC	0.00	0.00	0.0	A
	C-AB	0.00	0.00	0.0	A
	C-A				
	A-B				
	A-C				
2 - Downs Road / Arcadia Road	B-AC	0.23	10.27	0.3	B
	C-AB	0.06	6.61	0.1	A
	C-A				
	A-B				
	A-C				
3 - Downs Road / Upper Avenue	B-AC	0.13	8.77	0.2	A
	C-AB	0.04	6.88	0.0	A
	C-A				
	A-B				
	A-C				
4 - Lewis Road / A227 Wrotham	B-AC	0.48	23.47	1.0	C
	C-AB	0.10	9.05	0.1	A
	C-A				
	A-B				
	A-C				
5 - Istead Rise / A227 Wrotham Road	B-AC	0.67	29.70	2.1	D
	C-AB	0.40	14.47	0.7	B
	C-A				
	A-B				
	A-C				

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	518	0.000	0	0.0	0.000	A
	C-AB	0	0.00	628	0.000	0	0.0	0.000	A
	C-A	97	0.00			97			
	A-B	0	0.00			0			
	A-C	62	0.00			62			
2 - Downs Road / Arcadia Road	B-AC	79	0.00	512	0.154	78	0.2	9.106	A
	C-AB	24	0.00	633	0.038	24	0.0	6.492	A
	C-A	33	0.00			33			
	A-B	35	0.00			35			
	A-C	53	0.00			53			
3 - Downs Road / Upper Avenue	B-AC	46	0.00	525	0.088	46	0.1	8.257	A
	C-AB	16	0.00	602	0.027	16	0.0	6.755	A
	C-A	12	0.00			12			
	A-B	53	0.00			53			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	107	0.00	401	0.267	105	0.4	13.342	B
	C-AB	33	0.00	548	0.060	33	0.1	7.689	A
	C-A	353	0.00			353			
	A-B	38	0.00			38			
	A-C	466	0.00			466			
5 - Istead Rise / A227 Wrotham Road	B-AC	182	0.00	483	0.377	180	0.7	12.954	B
	C-AB	123	0.00	523	0.236	122	0.3	9.843	A
	C-A	362	0.00			362			
	A-B	26	0.00			26			
	A-C	556	0.00			556			

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	514	0.000	0	0.0	0.000	A
	C-AB	0	0.00	625	0.000	0	0.0	0.000	A
	C-A	116	0.00			116			
	A-B	0	0.00			0			
	A-C	74	0.00			74			
2 - Downs Road / Arcadia Road	B-AC	94	0.00	508	0.186	94	0.2	9.571	A
	C-AB	29	0.00	634	0.046	29	0.1	6.544	A
	C-A	39	0.00			39			
	A-B	42	0.00			42			
	A-C	64	0.00			64			
3 - Downs Road / Upper Avenue	B-AC	55	0.00	522	0.105	55	0.1	8.469	A
	C-AB	19	0.00	601	0.032	19	0.0	6.810	A
	C-A	14	0.00			14			
	A-B	64	0.00			64			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	128	0.00	369	0.346	127	0.6	16.288	C
	C-AB	40	0.00	522	0.076	39	0.1	8.209	A
	C-A	422	0.00			422			
	A-B	46	0.00			46			
	A-C	556	0.00			556			
5 - Istead Rise / A227 Wrotham Road	B-AC	218	0.00	449	0.485	216	1.0	16.905	C
	C-AB	147	0.00	494	0.299	147	0.5	11.395	B
	C-A	432	0.00			432			
	A-B	31	0.00			31			
	A-C	663	0.00			663			

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	508	0.000	0	0.0	0.000	A
	C-AB	0	0.00	621	0.000	0	0.0	0.000	A
	C-A	142	0.00			142			
	A-B	0	0.00			0			
	A-C	90	0.00			90			
2 - Downs Road / Arcadia Road	B-AC	116	0.00	501	0.231	115	0.3	10.250	B
	C-AB	36	0.00	635	0.057	36	0.1	6.614	A
	C-A	48	0.00			48			
	A-B	52	0.00			52			
	A-C	78	0.00			78			
3 - Downs Road / Upper Avenue	B-AC	67	0.00	519	0.129	67	0.2	8.764	A
	C-AB	24	0.00	599	0.040	24	0.0	6.884	A
	C-A	17	0.00			17			
	A-B	78	0.00			78			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	156	0.00	325	0.481	155	1.0	23.059	C
	C-AB	48	0.00	486	0.100	48	0.1	9.042	A
	C-A	516	0.00			516			
	A-B	56	0.00			56			
	A-C	682	0.00			682			
5 - Istead Rise / A227 Wrotham Road	B-AC	266	0.00	399	0.668	262	2.0	28.202	D
	C-AB	181	0.00	455	0.398	180	0.7	14.371	B
	C-A	529	0.00			529			
	A-B	37	0.00			37			
	A-C	813	0.00			813			

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	508	0.000	0	0.0	0.000	A
	C-AB	0	0.00	621	0.000	0	0.0	0.000	A
	C-A	142	0.00			142			
	A-B	0	0.00			0			
	A-C	90	0.00			90			
2 - Downs Road / Arcadia Road	B-AC	116	0.00	501	0.231	116	0.3	10.267	B
	C-AB	36	0.00	635	0.057	36	0.1	6.615	A
	C-A	48	0.00			48			
	A-B	52	0.00			52			
	A-C	78	0.00			78			
3 - Downs Road / Upper Avenue	B-AC	67	0.00	519	0.129	67	0.2	8.769	A
	C-AB	24	0.00	599	0.040	24	0.0	6.884	A
	C-A	17	0.00			17			
	A-B	78	0.00			78			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	156	0.00	325	0.481	156	1.0	23.470	C
	C-AB	48	0.00	486	0.100	48	0.1	9.046	A
	C-A	516	0.00			516			
	A-B	56	0.00			56			
	A-C	682	0.00			682			
5 - Istead Rise / A227 Wrotham Road	B-AC	266	0.00	399	0.669	266	2.1	29.702	D
	C-AB	181	0.00	455	0.398	181	0.7	14.470	B
	C-A	529	0.00			529			
	A-B	37	0.00			37			
	A-C	813	0.00			813			

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	514	0.000	0	0.0	0.000	A
	C-AB	0	0.00	625	0.000	0	0.0	0.000	A
	C-A	116	0.00			116			
	A-B	0	0.00			0			
	A-C	74	0.00			74			
2 - Downs Road / Arcadia Road	B-AC	94	0.00	508	0.186	95	0.3	9.594	A
	C-AB	29	0.00	634	0.046	29	0.1	6.548	A
	C-A	39	0.00			39			
	A-B	42	0.00			42			
	A-C	64	0.00			64			
3 - Downs Road / Upper Avenue	B-AC	55	0.00	522	0.105	55	0.1	8.479	A
	C-AB	19	0.00	601	0.032	19	0.0	6.811	A
	C-A	14	0.00			14			
	A-B	64	0.00			64			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	128	0.00	369	0.346	129	0.6	16.604	C
	C-AB	40	0.00	522	0.076	40	0.1	8.217	A
	C-A	422	0.00			422			
	A-B	46	0.00			46			
	A-C	556	0.00			556			
5 - Istead Rise / A227 Wrotham Road	B-AC	218	0.00	449	0.485	222	1.1	17.743	C
	C-AB	147	0.00	494	0.299	148	0.5	11.495	B
	C-A	432	0.00			432			
	A-B	31	0.00			31			
	A-C	663	0.00			663			

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	518	0.000	0	0.0	0.000	A
	C-AB	0	0.00	628	0.000	0	0.0	0.000	A
	C-A	97	0.00			97			
	A-B	0	0.00			0			
	A-C	62	0.00			62			
2 - Downs Road / Arcadia Road	B-AC	79	0.00	512	0.154	79	0.2	9.150	A
	C-AB	24	0.00	633	0.038	24	0.0	6.496	A
	C-A	33	0.00			33			
	A-B	35	0.00			35			
	A-C	53	0.00			53			
3 - Downs Road / Upper Avenue	B-AC	46	0.00	525	0.088	46	0.1	8.276	A
	C-AB	16	0.00	602	0.027	16	0.0	6.758	A
	C-A	12	0.00			12			
	A-B	53	0.00			53			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	107	0.00	401	0.267	108	0.4	13.558	B
	C-AB	33	0.00	548	0.060	33	0.1	7.700	A
	C-A	353	0.00			353			
	A-B	38	0.00			38			
	A-C	466	0.00			466			
5 - Istead Rise / A227 Wrotham Road	B-AC	182	0.00	483	0.378	184	0.7	13.319	B
	C-AB	123	0.00	523	0.236	124	0.3	9.935	A
	C-A	362	0.00			362			
	A-B	26	0.00			26			
	A-C	556	0.00			556			

2042 | Base | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way	Two-way	Two-way		0.00	A
2	Downs Road / Arcadia Road	T-Junction	Two-way	Two-way	Two-way		4.71	A
3	Downs Road / Upper Avenue	T-Junction	Two-way	Two-way	Two-way		3.21	A
4	Lewis Road / A227 Wrotham	T-Junction	Two-way	Two-way	Two-way		1.53	A
5	Istead Rise / A227 Wrotham Road	T-Junction	Two-way	Two-way	Two-way		5.09	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.46	A

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)
D2	2042	Base	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Site Access	A - Downs Road (S)		✓	39	100.000
	B - Site Access Road		✓	0	100.000
	C - Downs Road (N)		✓	56	100.000
2 - Downs Road / Arcadia Road	A - Downs Road (N)		✓	97	100.000
	B - Upper Avenue		✓	96	100.000
	C - Downs Road (S)		✓	43	100.000
3 - Downs Road / Upper Avenue	A - Downs Road (N)		✓	50	100.000
	B - Arcadia Road		✓	34	100.000
	C - Downs Road (S)		✓	21	100.000
4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)		✓	634	100.000
	B - Lewis Road		✓	91	100.000
	C - A227 Wrotham Road (N)		✓	542	100.000
5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)		✓	608	100.000
	B - Istead Rise		✓	202	100.000
	C - A227 Wrotham Road (N)		✓	742	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	0	0	39
	B - Site Access Road	0	0	0
	C - Downs Road (N)	56	0	0

Demand (PCU/hr)

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	0	60	37
	B - Upper Avenue	70	0	26
	C - Downs Road (S)	24	19	0

Demand (PCU/hr)

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	0	36	14
	B - Arcadia Road	24	0	10
	C - Downs Road (S)	12	9	0

Demand (PCU/hr)

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	35	599
	B - Lewis Road	50	0	41
	C - A227 Wrotham Road (N)	516	26	0

Demand (PCU/hr)

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	44	564
	B - Istead Rise	21	0	181
	C - A227 Wrotham Road (N)	503	239	0

Vehicle Mix

Heavy Vehicle %

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	10	10	10
	B - Site Access Road	10	10	10
	C - Downs Road (N)	10	10	10

Heavy Vehicle %

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Upper Avenue	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Arcadia Road	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Lewis Road	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Heavy Vehicle %

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Istead Rise	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Site Access	A - Downs Road (S)	29	29
		B - Site Access Road	0	0
		C - Downs Road (N)	42	42
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	73	73
		B - Upper Avenue	72	72
		C - Downs Road (S)	32	32
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	38	38
		B - Arcadia Road	26	26
		C - Downs Road (S)	16	16
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	477	477
		B - Lewis Road	69	69
		C - A227 Wrotham Road (N)	408	408
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	458	458
		B - Istead Rise	152	152
		C - A227 Wrotham Road (N)	559	559
	1 - Site Access	A - Downs Road (S)	35	35
		B - Site Access Road	0	0
		C - Downs Road (N)	50	50

17:00-17:15	2 - Downs Road / Arcadia Road	A - Downs Road (N)	87	87
		B - Upper Avenue	86	86
		C - Downs Road (S)	39	39
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	45	45
		B - Arcadia Road	31	31
		C - Downs Road (S)	19	19
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	570	570
		B - Lewis Road	82	82
		C - A227 Wrotham Road (N)	487	487
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	547	547
		B - Istead Rise	182	182
		C - A227 Wrotham Road (N)	667	667
17:15-17:30	1 - Site Access	A - Downs Road (S)	43	43
		B - Site Access Road	0	0
		C - Downs Road (N)	62	62
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	107	107
		B - Upper Avenue	106	106
		C - Downs Road (S)	47	47
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	55	55
		B - Arcadia Road	37	37
		C - Downs Road (S)	23	23
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	698	698
		B - Lewis Road	100	100
		C - A227 Wrotham Road (N)	597	597
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	669	669
		B - Istead Rise	222	222
		C - A227 Wrotham Road (N)	817	817
17:30-17:45	1 - Site Access	A - Downs Road (S)	43	43
		B - Site Access Road	0	0
		C - Downs Road (N)	62	62
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	107	107
		B - Upper Avenue	106	106
		C - Downs Road (S)	47	47
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	55	55
		B - Arcadia Road	37	37
		C - Downs Road (S)	23	23
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	698	698
		B - Lewis Road	100	100
		C - A227 Wrotham Road (N)	597	597
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	669	669
		B - Istead Rise	222	222
		C - A227 Wrotham Road (N)	817	817
17:45-18:00	1 - Site Access	A - Downs Road (S)	35	35
		B - Site Access Road	0	0
		C - Downs Road (N)	50	50
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	87	87
		B - Upper Avenue	86	86
		C - Downs Road (S)	39	39
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	45	45
		B - Arcadia Road	31	31
		C - Downs Road (S)	19	19
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	570	570
		B - Lewis Road	82	82
		C - A227 Wrotham Road (N)	487	487
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	547	547
		B - Istead Rise	182	182
		C - A227 Wrotham Road (N)	667	667
		A - Downs Road (S)	29	29

18:00-18:15	1 - Site Access	B - Site Access Road	0	0
		C - Downs Road (N)	42	42
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	73	73
		B - Upper Avenue	72	72
		C - Downs Road (S)	32	32
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	38	38
		B - Arcadia Road	26	26
		C - Downs Road (S)	16	16
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	477	477
		B - Lewis Road	69	69
		C - A227 Wrotham Road (N)	408	408
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	458	458
		B - Istead Rise	152	152
		C - A227 Wrotham Road (N)	559	559

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	B-AC	0.00	0.00	0.0	A
	C-AB	0.00	0.00	0.0	A
	C-A				
	A-B				
	A-C				
2 - Downs Road / Arcadia Road	B-AC	0.21	10.23	0.3	B
	C-AB	0.04	6.58	0.0	A
	C-A				
	A-B				
	A-C				
3 - Downs Road / Upper Avenue	B-AC	0.07	8.10	0.1	A
	C-AB	0.02	6.66	0.0	A
	C-A				
	A-B				
	A-C				
4 - Lewis Road / A227 Wrotham	B-AC	0.32	18.82	0.5	C
	C-AB	0.06	8.46	0.1	A
	C-A				
	A-B				
	A-C				
5 - Istead Rise / A227 Wrotham Road	B-AC	0.52	19.53	1.2	C
	C-AB	0.53	16.39	1.2	C
	C-A				
	A-B				
	A-C				

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	530	0.000	0	0.0	0.000	A
	C-AB	0	0.00	636	0.000	0	0.0	0.000	A
	C-A	42	0.00			42			
	A-B	0	0.00			0			
	A-C	29	0.00			29			
2 - Downs Road / Arcadia Road	B-AC	72	0.00	500	0.144	72	0.2	9.221	A
	C-AB	15	0.00	626	0.024	15	0.0	6.474	A
	C-A	18	0.00			18			
	A-B	45	0.00			45			
	A-C	28	0.00			28			
3 - Downs Road / Upper Avenue	B-AC	26	0.00	530	0.048	25	0.1	7.848	A
	C-AB	7	0.00	606	0.011	7	0.0	6.608	A
	C-A	9	0.00			9			
	A-B	27	0.00			27			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	69	0.00	386	0.178	68	0.2	12.410	B
	C-AB	20	0.00	555	0.035	19	0.0	7.395	A
	C-A	388	0.00			388			
	A-B	26	0.00			26			
	A-C	451	0.00			451			
5 - Istead Rise / A227 Wrotham Road	B-AC	152	0.00	502	0.303	150	0.5	11.193	B
	C-AB	180	0.00	556	0.324	178	0.5	10.432	B
	C-A	379	0.00			379			
	A-B	33	0.00			33			
	A-C	425	0.00			425			

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	528	0.000	0	0.0	0.000	A
	C-AB	0	0.00	635	0.000	0	0.0	0.000	A
	C-A	50	0.00			50			
	A-B	0	0.00			0			
	A-C	35	0.00			35			
2 - Downs Road / Arcadia Road	B-AC	86	0.00	497	0.174	86	0.2	9.631	A
	C-AB	18	0.00	625	0.028	18	0.0	6.517	A
	C-A	21	0.00			21			
	A-B	54	0.00			54			
	A-C	33	0.00			33			
3 - Downs Road / Upper Avenue	B-AC	31	0.00	528	0.058	31	0.1	7.957	A
	C-AB	8	0.00	606	0.014	8	0.0	6.629	A
	C-A	11	0.00			11			
	A-B	32	0.00			32			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	82	0.00	355	0.231	81	0.3	14.475	B
	C-AB	23	0.00	530	0.044	23	0.1	7.811	A
	C-A	464	0.00			464			
	A-B	31	0.00			31			
	A-C	538	0.00			538			
5 - Istead Rise / A227 Wrotham Road	B-AC	182	0.00	472	0.385	181	0.7	13.572	B
	C-AB	215	0.00	534	0.404	215	0.7	12.382	B
	C-A	452	0.00			452			
	A-B	40	0.00			40			
	A-C	507	0.00			507			

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	526	0.000	0	0.0	0.000	A
	C-AB	0	0.00	633	0.000	0	0.0	0.000	A
	C-A	62	0.00			62			
	A-B	0	0.00			0			
	A-C	43	0.00			43			
2 - Downs Road / Arcadia Road	B-AC	106	0.00	493	0.214	105	0.3	10.215	B
	C-AB	22	0.00	624	0.035	22	0.0	6.577	A
	C-A	25	0.00			25			
	A-B	66	0.00			66			
	A-C	41	0.00			41			
3 - Downs Road / Upper Avenue	B-AC	37	0.00	526	0.071	37	0.1	8.101	A
	C-AB	10	0.00	605	0.017	10	0.0	6.657	A
	C-A	13	0.00			13			
	A-B	40	0.00			40			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	100	0.00	311	0.323	99	0.5	18.689	C
	C-AB	29	0.00	497	0.058	29	0.1	8.461	A
	C-A	568	0.00			568			
	A-B	39	0.00			39			
	A-C	660	0.00			660			
5 - Istead Rise / A227 Wrotham Road	B-AC	222	0.00	425	0.523	220	1.2	19.167	C
	C-AB	268	0.00	509	0.526	266	1.2	16.158	C
	C-A	549	0.00			549			
	A-B	48	0.00			48			
	A-C	621	0.00			621			

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	526	0.000	0	0.0	0.000	A
	C-AB	0	0.00	633	0.000	0	0.0	0.000	A
	C-A	62	0.00			62			
	A-B	0	0.00			0			
	A-C	43	0.00			43			
2 - Downs Road / Arcadia Road	B-AC	106	0.00	493	0.214	106	0.3	10.229	B
	C-AB	22	0.00	624	0.035	22	0.0	6.577	A
	C-A	25	0.00			25			
	A-B	66	0.00			66			
	A-C	41	0.00			41			
3 - Downs Road / Upper Avenue	B-AC	37	0.00	526	0.071	37	0.1	8.102	A
	C-AB	10	0.00	605	0.017	10	0.0	6.660	A
	C-A	13	0.00			13			
	A-B	40	0.00			40			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	100	0.00	311	0.323	100	0.5	18.815	C
	C-AB	29	0.00	497	0.058	29	0.1	8.462	A
	C-A	568	0.00			568			
	A-B	39	0.00			39			
	A-C	660	0.00			660			
5 - Istead Rise / A227 Wrotham Road	B-AC	222	0.00	425	0.524	222	1.2	19.532	C
	C-AB	268	0.00	509	0.526	268	1.2	16.390	C
	C-A	549	0.00			549			
	A-B	48	0.00			48			
	A-C	621	0.00			621			

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	528	0.000	0	0.0	0.000	A
	C-AB	0	0.00	635	0.000	0	0.0	0.000	A
	C-A	50	0.00			50			
	A-B	0	0.00			0			
	A-C	35	0.00			35			
2 - Downs Road / Arcadia Road	B-AC	86	0.00	497	0.174	87	0.2	9.651	A
	C-AB	18	0.00	625	0.028	18	0.0	6.520	A
	C-A	21	0.00			21			
	A-B	54	0.00			54			
	A-C	33	0.00			33			
3 - Downs Road / Upper Avenue	B-AC	31	0.00	528	0.058	31	0.1	7.960	A
	C-AB	8	0.00	606	0.014	8	0.0	6.631	A
	C-A	11	0.00			11			
	A-B	32	0.00			32			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	82	0.00	355	0.231	83	0.3	14.590	B
	C-AB	23	0.00	530	0.044	23	0.1	7.813	A
	C-A	464	0.00			464			
	A-B	31	0.00			31			
	A-C	538	0.00			538			
5 - Istead Rise / A227 Wrotham Road	B-AC	182	0.00	471	0.385	184	0.7	13.848	B
	C-AB	215	0.00	534	0.404	217	0.8	12.591	B
	C-A	452	0.00			452			
	A-B	40	0.00			40			
	A-C	507	0.00			507			

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	530	0.000	0	0.0	0.000	A
	C-AB	0	0.00	636	0.000	0	0.0	0.000	A
	C-A	42	0.00			42			
	A-B	0	0.00			0			
	A-C	29	0.00			29			
2 - Downs Road / Arcadia Road	B-AC	72	0.00	500	0.144	72	0.2	9.261	A
	C-AB	15	0.00	626	0.024	15	0.0	6.477	A
	C-A	18	0.00			18			
	A-B	45	0.00			45			
	A-C	28	0.00			28			
3 - Downs Road / Upper Avenue	B-AC	26	0.00	530	0.048	26	0.1	7.857	A
	C-AB	7	0.00	606	0.011	7	0.0	6.608	A
	C-A	9	0.00			9			
	A-B	27	0.00			27			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	69	0.00	386	0.178	69	0.2	12.513	B
	C-AB	20	0.00	555	0.035	20	0.0	7.399	A
	C-A	388	0.00			388			
	A-B	26	0.00			26			
	A-C	451	0.00			451			
5 - Istead Rise / A227 Wrotham Road	B-AC	152	0.00	502	0.303	153	0.5	11.379	B
	C-AB	180	0.00	556	0.324	181	0.5	10.599	B
	C-A	379	0.00			379			
	A-B	33	0.00			33			
	A-C	425	0.00			425			

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Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way	Two-way	Two-way		0.00	A
2	Downs Road / Arcadia Road	T-Junction	Two-way	Two-way	Two-way		4.32	A
3	Downs Road / Upper Avenue	T-Junction	Two-way	Two-way	Two-way		3.73	A
4	Lewis Road / A227 Wrotham	T-Junction	Two-way	Two-way	Two-way		3.83	A
5	Istead Rise / A227 Wrotham Road	T-Junction	Two-way	Two-way	Two-way		9.77	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.39	A

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)
D3	2042	DN	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Site Access	A - Downs Road (S)		✓	82	100.000
	B - Site Access Road		✓	0	100.000
	C - Downs Road (N)		✓	129	100.000
2 - Downs Road / Arcadia Road	A - Downs Road (N)		✓	118	100.000
	B - Upper Avenue		✓	105	100.000
	C - Downs Road (S)		✓	76	100.000
3 - Downs Road / Upper Avenue	A - Downs Road (N)		✓	85	100.000
	B - Arcadia Road		✓	61	100.000
	C - Downs Road (S)		✓	37	100.000
4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)		✓	887	100.000
	B - Lewis Road		✓	142	100.000
	C - A227 Wrotham Road (N)		✓	587	100.000
5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)		✓	989	100.000
	B - Istead Rise		✓	242	100.000
	C - A227 Wrotham Road (N)		✓	719	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	0	0	82
	B - Site Access Road	0	0	0
	C - Downs Road (N)	129	0	0

Demand (PCU/hr)

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	0	47	71
	B - Upper Avenue	60	0	45
	C - Downs Road (S)	46	30	0

Demand (PCU/hr)

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	0	71	14
	B - Arcadia Road	43	0	18
	C - Downs Road (S)	16	21	0

Demand (PCU/hr)

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	51	836
	B - Lewis Road	63	0	79
	C - A227 Wrotham Road (N)	543	44	0

Demand (PCU/hr)

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	34	955
	B - Istead Rise	20	0	222
	C - A227 Wrotham Road (N)	555	164	0

Vehicle Mix

Heavy Vehicle %

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	10	10	10
	B - Site Access Road	10	10	10
	C - Downs Road (N)	10	10	10

Heavy Vehicle %

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Upper Avenue	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Arcadia Road	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Lewis Road	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Heavy Vehicle %

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Istead Rise	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Site Access	A - Downs Road (S)	62	62
		B - Site Access Road	0	0
		C - Downs Road (N)	97	97
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	89	89
		B - Upper Avenue	79	79
		C - Downs Road (S)	57	57
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	64	64
		B - Arcadia Road	46	46
		C - Downs Road (S)	28	28
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	668	668
		B - Lewis Road	107	107
		C - A227 Wrotham Road (N)	442	442
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	745	745
		B - Istead Rise	182	182
		C - A227 Wrotham Road (N)	541	541
	1 - Site Access	A - Downs Road (S)	74	74
		B - Site Access Road	0	0
		C - Downs Road (N)	116	116

08:00-08:15	2 - Downs Road / Arcadia Road	A - Downs Road (N)	106	106
		B - Upper Avenue	94	94
		C - Downs Road (S)	68	68
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	76	76
		B - Arcadia Road	55	55
		C - Downs Road (S)	33	33
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	797	797
		B - Lewis Road	128	128
		C - A227 Wrotham Road (N)	528	528
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	889	889
		B - Istead Rise	218	218
		C - A227 Wrotham Road (N)	646	646
08:15-08:30	1 - Site Access	A - Downs Road (S)	90	90
		B - Site Access Road	0	0
		C - Downs Road (N)	142	142
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	130	130
		B - Upper Avenue	116	116
		C - Downs Road (S)	84	84
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	94	94
		B - Arcadia Road	67	67
		C - Downs Road (S)	41	41
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	977	977
		B - Lewis Road	156	156
		C - A227 Wrotham Road (N)	646	646
08:30-08:45	1 - Site Access	A - Downs Road (S)	90	90
		B - Site Access Road	0	0
		C - Downs Road (N)	142	142
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	130	130
		B - Upper Avenue	116	116
		C - Downs Road (S)	84	84
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	94	94
		B - Arcadia Road	67	67
		C - Downs Road (S)	41	41
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	977	977
		B - Lewis Road	156	156
		C - A227 Wrotham Road (N)	646	646
08:45-09:00	1 - Site Access	A - Downs Road (S)	74	74
		B - Site Access Road	0	0
		C - Downs Road (N)	116	116
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	106	106
		B - Upper Avenue	94	94
		C - Downs Road (S)	68	68
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	76	76
		B - Arcadia Road	55	55
		C - Downs Road (S)	33	33
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	797	797
		B - Lewis Road	128	128
		C - A227 Wrotham Road (N)	528	528
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	889	889
		B - Istead Rise	218	218
		C - A227 Wrotham Road (N)	646	646
		A - Downs Road (S)	62	62

09:00-09:15	1 - Site Access	B - Site Access Road	0	0
		C - Downs Road (N)	97	97
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	89	89
		B - Upper Avenue	79	79
		C - Downs Road (S)	57	57
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	64	64
		B - Arcadia Road	46	46
		C - Downs Road (S)	28	28
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	668	668
		B - Lewis Road	107	107
		C - A227 Wrotham Road (N)	442	442
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	745	745
		B - Istead Rise	182	182
		C - A227 Wrotham Road (N)	541	541

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	B-AC	0.00	0.00	0.0	A
	C-AB	0.00	0.00	0.0	A
	C-A				
	A-B				
	A-C				
2 - Downs Road / Arcadia Road	B-AC	0.23	10.27	0.3	B
	C-AB	0.06	6.62	0.1	A
	C-A				
	A-B				
	A-C				
3 - Downs Road / Upper Avenue	B-AC	0.13	8.77	0.2	A
	C-AB	0.04	6.89	0.0	A
	C-A				
	A-B				
	A-C				
4 - Lewis Road / A227 Wrotham	B-AC	0.62	40.30	1.7	E
	C-AB	0.11	10.56	0.1	B
	C-A				
	A-B				
	A-C				
5 - Istead Rise / A227 Wrotham Road	B-AC	0.83	66.03	4.5	F
	C-AB	0.46	18.59	0.9	C
	C-A				
	A-B				
	A-C				

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	518	0.000	0	0.0	0.000	A
	C-AB	0	0.00	628	0.000	0	0.0	0.000	A
	C-A	97	0.00			97			
	A-B	0	0.00			0			
	A-C	62	0.00			62			
2 - Downs Road / Arcadia Road	B-AC	79	0.00	512	0.154	78	0.2	9.106	A
	C-AB	24	0.00	633	0.038	24	0.0	6.492	A
	C-A	33	0.00			33			
	A-B	35	0.00			35			
	A-C	53	0.00			53			
3 - Downs Road / Upper Avenue	B-AC	46	0.00	525	0.088	46	0.1	8.257	A
	C-AB	16	0.00	602	0.027	16	0.0	6.755	A
	C-A	12	0.00			12			
	A-B	53	0.00			53			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	107	0.00	355	0.301	105	0.5	15.724	C
	C-AB	33	0.00	505	0.066	33	0.1	8.390	A
	C-A	409	0.00			409			
	A-B	38	0.00			38			
	A-C	629	0.00			629			
5 - Istead Rise / A227 Wrotham Road	B-AC	182	0.00	438	0.416	179	0.8	15.139	C
	C-AB	123	0.00	481	0.257	122	0.4	10.996	B
	C-A	418	0.00			418			
	A-B	26	0.00			26			
	A-C	719	0.00			719			

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	514	0.000	0	0.0	0.000	A
	C-AB	0	0.00	625	0.000	0	0.0	0.000	A
	C-A	116	0.00			116			
	A-B	0	0.00			0			
	A-C	74	0.00			74			
2 - Downs Road / Arcadia Road	B-AC	94	0.00	508	0.186	94	0.2	9.571	A
	C-AB	29	0.00	634	0.046	29	0.1	6.544	A
	C-A	39	0.00			39			
	A-B	42	0.00			42			
	A-C	64	0.00			64			
3 - Downs Road / Upper Avenue	B-AC	55	0.00	522	0.105	55	0.1	8.469	A
	C-AB	19	0.00	601	0.032	19	0.0	6.810	A
	C-A	14	0.00			14			
	A-B	64	0.00			64			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	128	0.00	314	0.407	127	0.7	21.033	C
	C-AB	40	0.00	470	0.084	39	0.1	9.187	A
	C-A	488	0.00			488			
	A-B	46	0.00			46			
	A-C	752	0.00			752			
5 - Istead Rise / A227 Wrotham Road	B-AC	218	0.00	393	0.554	215	1.3	22.034	C
	C-AB	148	0.00	443	0.333	147	0.5	13.322	B
	C-A	499	0.00			499			
	A-B	31	0.00			31			
	A-C	859	0.00			859			

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	508	0.000	0	0.0	0.000	A
	C-AB	0	0.00	621	0.000	0	0.0	0.000	A
	C-A	142	0.00			142			
	A-B	0	0.00			0			
	A-C	90	0.00			90			
2 - Downs Road / Arcadia Road	B-AC	116	0.00	501	0.231	115	0.3	10.250	B
	C-AB	36	0.00	635	0.057	36	0.1	6.614	A
	C-A	48	0.00			48			
	A-B	52	0.00			52			
	A-C	78	0.00			78			
3 - Downs Road / Upper Avenue	B-AC	67	0.00	519	0.129	67	0.2	8.764	A
	C-AB	24	0.00	599	0.040	24	0.0	6.884	A
	C-A	17	0.00			17			
	A-B	78	0.00			78			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	156	0.00	254	0.617	153	1.6	38.062	E
	C-AB	48	0.00	423	0.115	48	0.1	10.556	B
	C-A	598	0.00			598			
	A-B	56	0.00			56			
	A-C	920	0.00			920			
5 - Istead Rise / A227 Wrotham Road	B-AC	266	0.00	321	0.831	256	4.0	53.974	F
	C-AB	183	0.00	396	0.462	181	0.9	18.341	C
	C-A	609	0.00			609			
	A-B	37	0.00			37			
	A-C	1051	0.00			1051			

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	508	0.000	0	0.0	0.000	A
	C-AB	0	0.00	621	0.000	0	0.0	0.000	A
	C-A	142	0.00			142			
	A-B	0	0.00			0			
	A-C	90	0.00			90			
2 - Downs Road / Arcadia Road	B-AC	116	0.00	501	0.231	116	0.3	10.267	B
	C-AB	36	0.00	635	0.057	36	0.1	6.617	A
	C-A	48	0.00			48			
	A-B	52	0.00			52			
	A-C	78	0.00			78			
3 - Downs Road / Upper Avenue	B-AC	67	0.00	519	0.129	67	0.2	8.769	A
	C-AB	24	0.00	599	0.040	24	0.0	6.887	A
	C-A	17	0.00			17			
	A-B	78	0.00			78			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	156	0.00	254	0.617	156	1.7	40.300	E
	C-AB	48	0.00	423	0.115	48	0.1	10.564	B
	C-A	598	0.00			598			
	A-B	56	0.00			56			
	A-C	920	0.00			920			
5 - Istead Rise / A227 Wrotham Road	B-AC	266	0.00	320	0.832	264	4.5	66.032	F
	C-AB	183	0.00	396	0.462	183	0.9	18.586	C
	C-A	609	0.00			609			
	A-B	37	0.00			37			
	A-C	1051	0.00			1051			

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	514	0.000	0	0.0	0.000	A
	C-AB	0	0.00	625	0.000	0	0.0	0.000	A
	C-A	116	0.00			116			
	A-B	0	0.00			0			
	A-C	74	0.00			74			
2 - Downs Road / Arcadia Road	B-AC	94	0.00	508	0.186	95	0.3	9.596	A
	C-AB	29	0.00	634	0.046	29	0.1	6.548	A
	C-A	39	0.00			39			
	A-B	42	0.00			42			
	A-C	64	0.00			64			
3 - Downs Road / Upper Avenue	B-AC	55	0.00	522	0.105	55	0.1	8.478	A
	C-AB	19	0.00	601	0.032	19	0.0	6.811	A
	C-A	14	0.00			14			
	A-B	64	0.00			64			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	128	0.00	314	0.407	131	0.8	22.091	C
	C-AB	40	0.00	470	0.084	40	0.1	9.199	A
	C-A	488	0.00			488			
	A-B	46	0.00			46			
	A-C	752	0.00			752			
5 - Istead Rise / A227 Wrotham Road	B-AC	218	0.00	393	0.554	230	1.4	25.931	D
	C-AB	148	0.00	443	0.333	149	0.6	13.520	B
	C-A	499	0.00			499			
	A-B	31	0.00			31			
	A-C	859	0.00			859			

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	518	0.000	0	0.0	0.000	A
	C-AB	0	0.00	628	0.000	0	0.0	0.000	A
	C-A	97	0.00			97			
	A-B	0	0.00			0			
	A-C	62	0.00			62			
2 - Downs Road / Arcadia Road	B-AC	79	0.00	512	0.154	79	0.2	9.148	A
	C-AB	24	0.00	633	0.038	24	0.0	6.496	A
	C-A	33	0.00			33			
	A-B	35	0.00			35			
	A-C	53	0.00			53			
3 - Downs Road / Upper Avenue	B-AC	46	0.00	525	0.088	46	0.1	8.276	A
	C-AB	16	0.00	602	0.027	16	0.0	6.761	A
	C-A	12	0.00			12			
	A-B	53	0.00			53			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	107	0.00	355	0.301	108	0.5	16.110	C
	C-AB	33	0.00	505	0.066	33	0.1	8.405	A
	C-A	409	0.00			409			
	A-B	38	0.00			38			
	A-C	629	0.00			629			
5 - Istead Rise / A227 Wrotham Road	B-AC	182	0.00	438	0.416	185	0.8	15.812	C
	C-AB	123	0.00	481	0.257	124	0.4	11.131	B
	C-A	418	0.00			418			
	A-B	26	0.00			26			
	A-C	719	0.00			719			

2042 | DN | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way	Two-way	Two-way		0.00	A
2	Downs Road / Arcadia Road	T-Junction	Two-way	Two-way	Two-way		4.71	A
3	Downs Road / Upper Avenue	T-Junction	Two-way	Two-way	Two-way		3.21	A
4	Lewis Road / A227 Wrotham	T-Junction	Two-way	Two-way	Two-way		1.85	A
5	Istead Rise / A227 Wrotham Road	T-Junction	Two-way	Two-way	Two-way		5.85	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.93	A

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)
D4	2042	DN	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Site Access	A - Downs Road (S)		✓	39	100.000
	B - Site Access Road		✓	0	100.000
	C - Downs Road (N)		✓	56	100.000
2 - Downs Road / Arcadia Road	A - Downs Road (N)		✓	97	100.000
	B - Upper Avenue		✓	96	100.000
	C - Downs Road (S)		✓	43	100.000
3 - Downs Road / Upper Avenue	A - Downs Road (N)		✓	50	100.000
	B - Arcadia Road		✓	34	100.000
	C - Downs Road (S)		✓	21	100.000
4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)		✓	790	100.000
	B - Lewis Road		✓	91	100.000
	C - A227 Wrotham Road (N)		✓	842	100.000
5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)		✓	765	100.000
	B - Istead Rise		✓	201	100.000
	C - A227 Wrotham Road (N)		✓	1042	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	0	0	39
	B - Site Access Road	0	0	0
	C - Downs Road (N)	56	0	0

Demand (PCU/hr)

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	0	60	37
	B - Upper Avenue	70	0	26
	C - Downs Road (S)	24	19	0

Demand (PCU/hr)

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	0	36	14
	B - Arcadia Road	24	0	10
	C - Downs Road (S)	12	9	0

Demand (PCU/hr)

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	35	755
	B - Lewis Road	50	0	41
	C - A227 Wrotham Road (N)	816	26	0

Demand (PCU/hr)

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	44	721
	B - Istead Rise	20	0	181
	C - A227 Wrotham Road (N)	803	239	0

Vehicle Mix

Heavy Vehicle %

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	10	10	10
	B - Site Access Road	10	10	10
	C - Downs Road (N)	10	10	10

Heavy Vehicle %

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Upper Avenue	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Arcadia Road	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Lewis Road	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Heavy Vehicle %

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Istead Rise	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Site Access	A - Downs Road (S)	29	29
		B - Site Access Road	0	0
		C - Downs Road (N)	42	42
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	73	73
		B - Upper Avenue	72	72
		C - Downs Road (S)	32	32
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	38	38
		B - Arcadia Road	26	26
		C - Downs Road (S)	16	16
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	595	595
		B - Lewis Road	69	69
		C - A227 Wrotham Road (N)	634	634
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	576	576
		B - Istead Rise	151	151
		C - A227 Wrotham Road (N)	784	784
	1 - Site Access	A - Downs Road (S)	35	35
		B - Site Access Road	0	0
		C - Downs Road (N)	50	50

17:00-17:15	2 - Downs Road / Arcadia Road	A - Downs Road (N)	87	87
		B - Upper Avenue	86	86
		C - Downs Road (S)	39	39
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	45	45
		B - Arcadia Road	31	31
		C - Downs Road (S)	19	19
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	710	710
		B - Lewis Road	82	82
		C - A227 Wrotham Road (N)	757	757
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	688	688
		B - Istead Rise	181	181
		C - A227 Wrotham Road (N)	937	937
17:15-17:30	1 - Site Access	A - Downs Road (S)	43	43
		B - Site Access Road	0	0
		C - Downs Road (N)	62	62
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	107	107
		B - Upper Avenue	106	106
		C - Downs Road (S)	47	47
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	55	55
		B - Arcadia Road	37	37
		C - Downs Road (S)	23	23
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	870	870
		B - Lewis Road	100	100
		C - A227 Wrotham Road (N)	927	927
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	842	842
		B - Istead Rise	221	221
		C - A227 Wrotham Road (N)	1147	1147
17:30-17:45	1 - Site Access	A - Downs Road (S)	43	43
		B - Site Access Road	0	0
		C - Downs Road (N)	62	62
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	107	107
		B - Upper Avenue	106	106
		C - Downs Road (S)	47	47
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	55	55
		B - Arcadia Road	37	37
		C - Downs Road (S)	23	23
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	870	870
		B - Lewis Road	100	100
		C - A227 Wrotham Road (N)	927	927
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	842	842
		B - Istead Rise	221	221
		C - A227 Wrotham Road (N)	1147	1147
17:45-18:00	1 - Site Access	A - Downs Road (S)	35	35
		B - Site Access Road	0	0
		C - Downs Road (N)	50	50
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	87	87
		B - Upper Avenue	86	86
		C - Downs Road (S)	39	39
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	45	45
		B - Arcadia Road	31	31
		C - Downs Road (S)	19	19
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	710	710
		B - Lewis Road	82	82
		C - A227 Wrotham Road (N)	757	757
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	688	688
		B - Istead Rise	181	181
		C - A227 Wrotham Road (N)	937	937
		A - Downs Road (S)	29	29

18:00-18:15	1 - Site Access	B - Site Access Road	0	0
		C - Downs Road (N)	42	42
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	73	73
		B - Upper Avenue	72	72
		C - Downs Road (S)	32	32
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	38	38
		B - Arcadia Road	26	26
		C - Downs Road (S)	16	16
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	595	595
		B - Lewis Road	69	69
		C - A227 Wrotham Road (N)	634	634
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	576	576
		B - Istead Rise	151	151
		C - A227 Wrotham Road (N)	784	784

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	B-AC	0.00	0.00	0.0	A
	C-AB	0.00	0.00	0.0	A
	C-A				
	A-B				
	A-C				
2 - Downs Road / Arcadia Road	B-AC	0.21	10.23	0.3	B
	C-AB	0.04	6.58	0.0	A
	C-A				
	A-B				
	A-C				
3 - Downs Road / Upper Avenue	B-AC	0.07	8.10	0.1	A
	C-AB	0.02	6.66	0.0	A
	C-A				
	A-B				
	A-C				
4 - Lewis Road / A227 Wrotham	B-AC	0.45	32.36	0.9	D
	C-AB	0.06	9.37	0.1	A
	C-A				
	A-B				
	A-C				
5 - Istead Rise / A227 Wrotham Road	B-AC	0.66	34.72	2.0	D
	C-AB	0.58	19.46	1.5	C
	C-A				
	A-B				
	A-C				

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	530	0.000	0	0.0	0.000	A
	C-AB	0	0.00	636	0.000	0	0.0	0.000	A
	C-A	42	0.00			42			
	A-B	0	0.00			0			
	A-C	29	0.00			29			
2 - Downs Road / Arcadia Road	B-AC	72	0.00	500	0.144	72	0.2	9.221	A
	C-AB	15	0.00	626	0.024	15	0.0	6.474	A
	C-A	18	0.00			18			
	A-B	45	0.00			45			
	A-C	28	0.00			28			
3 - Downs Road / Upper Avenue	B-AC	26	0.00	530	0.048	25	0.1	7.848	A
	C-AB	7	0.00	606	0.011	7	0.0	6.608	A
	C-A	9	0.00			9			
	A-B	27	0.00			27			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	69	0.00	331	0.207	67	0.3	14.959	B
	C-AB	20	0.00	524	0.037	19	0.0	7.849	A
	C-A	614	0.00			614			
	A-B	26	0.00			26			
	A-C	568	0.00			568			
5 - Istead Rise / A227 Wrotham Road	B-AC	151	0.00	461	0.328	149	0.5	12.621	B
	C-AB	180	0.00	525	0.343	178	0.6	11.334	B
	C-A	604	0.00			604			
	A-B	33	0.00			33			
	A-C	543	0.00			543			

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	528	0.000	0	0.0	0.000	A
	C-AB	0	0.00	635	0.000	0	0.0	0.000	A
	C-A	50	0.00			50			
	A-B	0	0.00			0			
	A-C	35	0.00			35			
2 - Downs Road / Arcadia Road	B-AC	86	0.00	497	0.174	86	0.2	9.631	A
	C-AB	18	0.00	625	0.028	18	0.0	6.517	A
	C-A	21	0.00			21			
	A-B	54	0.00			54			
	A-C	33	0.00			33			
3 - Downs Road / Upper Avenue	B-AC	31	0.00	528	0.058	31	0.1	7.957	A
	C-AB	8	0.00	606	0.014	8	0.0	6.629	A
	C-A	11	0.00			11			
	A-B	32	0.00			32			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	82	0.00	287	0.285	81	0.4	19.193	C
	C-AB	23	0.00	493	0.047	23	0.1	8.424	A
	C-A	734	0.00			734			
	A-B	31	0.00			31			
	A-C	679	0.00			679			
5 - Istead Rise / A227 Wrotham Road	B-AC	181	0.00	416	0.434	180	0.8	16.638	C
	C-AB	216	0.00	499	0.434	215	0.8	13.913	B
	C-A	720	0.00			720			
	A-B	40	0.00			40			
	A-C	648	0.00			648			

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	526	0.000	0	0.0	0.000	A
	C-AB	0	0.00	633	0.000	0	0.0	0.000	A
	C-A	62	0.00			62			
	A-B	0	0.00			0			
	A-C	43	0.00			43			
2 - Downs Road / Arcadia Road	B-AC	106	0.00	493	0.214	105	0.3	10.215	B
	C-AB	22	0.00	624	0.035	22	0.0	6.577	A
	C-A	25	0.00			25			
	A-B	66	0.00			66			
	A-C	41	0.00			41			
3 - Downs Road / Upper Avenue	B-AC	37	0.00	526	0.071	37	0.1	8.101	A
	C-AB	10	0.00	605	0.017	10	0.0	6.657	A
	C-A	13	0.00			13			
	A-B	40	0.00			40			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	100	0.00	222	0.451	98	0.9	31.577	D
	C-AB	29	0.00	451	0.063	29	0.1	9.368	A
	C-A	898	0.00			898			
	A-B	39	0.00			39			
	A-C	831	0.00			831			
5 - Istead Rise / A227 Wrotham Road	B-AC	221	0.00	335	0.661	217	1.9	32.375	D
	C-AB	279	0.00	482	0.578	276	1.5	19.000	C
	C-A	868	0.00			868			
	A-B	48	0.00			48			
	A-C	794	0.00			794			

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	526	0.000	0	0.0	0.000	A
	C-AB	0	0.00	633	0.000	0	0.0	0.000	A
	C-A	62	0.00			62			
	A-B	0	0.00			0			
	A-C	43	0.00			43			
2 - Downs Road / Arcadia Road	B-AC	106	0.00	493	0.214	106	0.3	10.229	B
	C-AB	22	0.00	624	0.035	22	0.0	6.577	A
	C-A	25	0.00			25			
	A-B	66	0.00			66			
	A-C	41	0.00			41			
3 - Downs Road / Upper Avenue	B-AC	37	0.00	526	0.071	37	0.1	8.102	A
	C-AB	10	0.00	605	0.017	10	0.0	6.657	A
	C-A	13	0.00			13			
	A-B	40	0.00			40			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	100	0.00	222	0.451	100	0.9	32.355	D
	C-AB	29	0.00	451	0.063	29	0.1	9.369	A
	C-A	898	0.00			898			
	A-B	39	0.00			39			
	A-C	831	0.00			831			
5 - Istead Rise / A227 Wrotham Road	B-AC	221	0.00	334	0.663	221	2.0	34.720	D
	C-AB	279	0.00	482	0.578	279	1.5	19.460	C
	C-A	868	0.00			868			
	A-B	48	0.00			48			
	A-C	794	0.00			794			

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	528	0.000	0	0.0	0.000	A
	C-AB	0	0.00	635	0.000	0	0.0	0.000	A
	C-A	50	0.00			50			
	A-B	0	0.00			0			
	A-C	35	0.00			35			
2 - Downs Road / Arcadia Road	B-AC	86	0.00	497	0.174	87	0.2	9.653	A
	C-AB	18	0.00	625	0.028	18	0.0	6.518	A
	C-A	21	0.00			21			
	A-B	54	0.00			54			
	A-C	33	0.00			33			
3 - Downs Road / Upper Avenue	B-AC	31	0.00	528	0.058	31	0.1	7.959	A
	C-AB	8	0.00	606	0.014	8	0.0	6.631	A
	C-A	11	0.00			11			
	A-B	32	0.00			32			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	82	0.00	287	0.285	84	0.5	19.625	C
	C-AB	23	0.00	493	0.047	23	0.1	8.428	A
	C-A	734	0.00			734			
	A-B	31	0.00			31			
	A-C	679	0.00			679			
5 - Istead Rise / A227 Wrotham Road	B-AC	181	0.00	416	0.435	185	0.9	17.525	C
	C-AB	216	0.00	499	0.434	219	0.9	14.286	B
	C-A	720	0.00			720			
	A-B	40	0.00			40			
	A-C	648	0.00			648			

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	0	0.00	530	0.000	0	0.0	0.000	A
	C-AB	0	0.00	636	0.000	0	0.0	0.000	A
	C-A	42	0.00			42			
	A-B	0	0.00			0			
	A-C	29	0.00			29			
2 - Downs Road / Arcadia Road	B-AC	72	0.00	500	0.144	72	0.2	9.263	A
	C-AB	15	0.00	626	0.024	15	0.0	6.475	A
	C-A	18	0.00			18			
	A-B	45	0.00			45			
	A-C	28	0.00			28			
3 - Downs Road / Upper Avenue	B-AC	26	0.00	530	0.048	26	0.1	7.856	A
	C-AB	7	0.00	606	0.011	7	0.0	6.611	A
	C-A	9	0.00			9			
	A-B	27	0.00			27			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	69	0.00	331	0.207	69	0.3	15.159	C
	C-AB	20	0.00	524	0.037	20	0.0	7.855	A
	C-A	614	0.00			614			
	A-B	26	0.00			26			
	A-C	568	0.00			568			
5 - Istead Rise / A227 Wrotham Road	B-AC	151	0.00	460	0.329	153	0.5	12.918	B
	C-AB	180	0.00	525	0.343	181	0.6	11.556	B
	C-A	604	0.00			604			
	A-B	33	0.00			33			
	A-C	543	0.00			543			

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Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way	Two-way	Two-way		2.24	A
2	Downs Road / Arcadia Road	T-Junction	Two-way	Two-way	Two-way		4.62	A
3	Downs Road / Upper Avenue	T-Junction	Two-way	Two-way	Two-way		3.39	A
4	Lewis Road / A227 Wrotham	T-Junction	Two-way	Two-way	Two-way		5.72	A
5	Istead Rise / A227 Wrotham Road	T-Junction	Two-way	Two-way	Two-way		15.13	C

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	9.49	A

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)
D5	2042	DM	AM	ONE HOUR	07:45	09:15	15

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Site Access	A - Downs Road (S)		✓	85	100.000
	B - Site Access Road		✓	59	100.000
	C - Downs Road (N)		✓	147	100.000
2 - Downs Road / Arcadia Road	A - Downs Road (N)		✓	122	100.000
	B - Upper Avenue		✓	118	100.000
	C - Downs Road (S)		✓	108	100.000
3 - Downs Road / Upper Avenue	A - Downs Road (N)		✓	112	100.000
	B - Arcadia Road		✓	64	100.000
	C - Downs Road (S)		✓	37	100.000
4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)		✓	889	100.000
	B - Lewis Road		✓	170	100.000
	C - A227 Wrotham Road (N)		✓	587	100.000
5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)		✓	1009	100.000
	B - Istead Rise		✓	260	100.000
	C - A227 Wrotham Road (N)		✓	732	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	0	3	82
	B - Site Access Road	27	0	32
	C - Downs Road (N)	129	18	0

Demand (PCU/hr)

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	0	47	75
	B - Upper Avenue	60	0	58
	C - Downs Road (S)	60	48	0

Demand (PCU/hr)

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	0	98	14
	B - Arcadia Road	46	0	18
	C - Downs Road (S)	16	21	0

Demand (PCU/hr)

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	53	836
	B - Lewis Road	70	0	100
	C - A227 Wrotham Road (N)	543	44	0

Demand (PCU/hr)

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	35	974
	B - Istead Rise	21	0	239
	C - A227 Wrotham Road (N)	555	177	0

Vehicle Mix

Heavy Vehicle %

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	10	10	10
	B - Site Access Road	10	10	10
	C - Downs Road (N)	10	10	10

Heavy Vehicle %

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Upper Avenue	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Arcadia Road	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Lewis Road	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Heavy Vehicle %

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Istead Rise	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	1 - Site Access	A - Downs Road (S)	64	64
		B - Site Access Road	44	44
		C - Downs Road (N)	111	111
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	92	92
		B - Upper Avenue	89	89
		C - Downs Road (S)	81	81
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	84	84
		B - Arcadia Road	48	48
		C - Downs Road (S)	28	28
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	669	669
		B - Lewis Road	128	128
		C - A227 Wrotham Road (N)	442	442
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	760	760
		B - Istead Rise	196	196
		C - A227 Wrotham Road (N)	551	551
	1 - Site Access	A - Downs Road (S)	76	76
		B - Site Access Road	53	53
		C - Downs Road (N)	132	132

08:00-08:15	2 - Downs Road / Arcadia Road	A - Downs Road (N)	110	110
		B - Upper Avenue	106	106
		C - Downs Road (S)	97	97
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	101	101
		B - Arcadia Road	58	58
		C - Downs Road (S)	33	33
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	799	799
		B - Lewis Road	153	153
		C - A227 Wrotham Road (N)	528	528
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	907	907
		B - Istead Rise	234	234
		C - A227 Wrotham Road (N)	658	658
08:15-08:30	1 - Site Access	A - Downs Road (S)	94	94
		B - Site Access Road	65	65
		C - Downs Road (N)	162	162
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	134	134
		B - Upper Avenue	130	130
		C - Downs Road (S)	119	119
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	123	123
		B - Arcadia Road	70	70
		C - Downs Road (S)	41	41
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	979	979
		B - Lewis Road	187	187
		C - A227 Wrotham Road (N)	646	646
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	1111	1111
		B - Istead Rise	286	286
		C - A227 Wrotham Road (N)	806	806
08:30-08:45	1 - Site Access	A - Downs Road (S)	94	94
		B - Site Access Road	65	65
		C - Downs Road (N)	162	162
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	134	134
		B - Upper Avenue	130	130
		C - Downs Road (S)	119	119
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	123	123
		B - Arcadia Road	70	70
		C - Downs Road (S)	41	41
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	979	979
		B - Lewis Road	187	187
		C - A227 Wrotham Road (N)	646	646
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	1111	1111
		B - Istead Rise	286	286
		C - A227 Wrotham Road (N)	806	806
08:45-09:00	1 - Site Access	A - Downs Road (S)	76	76
		B - Site Access Road	53	53
		C - Downs Road (N)	132	132
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	110	110
		B - Upper Avenue	106	106
		C - Downs Road (S)	97	97
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	101	101
		B - Arcadia Road	58	58
		C - Downs Road (S)	33	33
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	799	799
		B - Lewis Road	153	153
		C - A227 Wrotham Road (N)	528	528
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	907	907
		B - Istead Rise	234	234
		C - A227 Wrotham Road (N)	658	658
		A - Downs Road (S)	64	64

09:00-09:15	1 - Site Access	B - Site Access Road	44	44
		C - Downs Road (N)	111	111
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	92	92
		B - Upper Avenue	89	89
		C - Downs Road (S)	81	81
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	84	84
		B - Arcadia Road	48	48
		C - Downs Road (S)	28	28
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	669	669
		B - Lewis Road	128	128
		C - A227 Wrotham Road (N)	442	442
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	760	760
		B - Istead Rise	196	196
		C - A227 Wrotham Road (N)	551	551

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	B-AC	0.13	8.90	0.2	A
	C-AB	0.03	5.86	0.1	A
	C-A				
	A-B				
	A-C				
2 - Downs Road / Arcadia Road	B-AC	0.26	10.59	0.4	B
	C-AB	0.09	6.77	0.1	A
	C-A				
	A-B				
	A-C				
3 - Downs Road / Upper Avenue	B-AC	0.14	8.93	0.2	A
	C-AB	0.04	6.97	0.0	A
	C-A				
	A-B				
	A-C				
4 - Lewis Road / A227 Wrotham	B-AC	0.72	52.61	2.6	F
	C-AB	0.11	10.58	0.1	B
	C-A				
	A-B				
	A-C				
5 - Istead Rise / A227 Wrotham Road	B-AC	0.92	102.50	7.6	F
	C-AB	0.51	20.35	1.1	C
	C-A				
	A-B				
	A-C				

Main Results for each time segment

07:45 - 08:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	44	0.00	522	0.085	44	0.1	8.282	A
	C-AB	16	0.00	691	0.023	16	0.0	5.863	A
	C-A	95	0.00			95			
	A-B	2	0.00			2			
	A-C	62	0.00			62			
2 - Downs Road / Arcadia Road	B-AC	89	0.00	517	0.172	88	0.2	9.213	A
	C-AB	39	0.00	640	0.061	39	0.1	6.584	A
	C-A	42	0.00			42			
	A-B	35	0.00			35			
	A-C	56	0.00			56			
3 - Downs Road / Upper Avenue	B-AC	48	0.00	521	0.092	48	0.1	8.359	A
	C-AB	16	0.00	597	0.027	16	0.0	6.809	A
	C-A	12	0.00			12			
	A-B	74	0.00			74			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	128	0.00	361	0.354	126	0.6	16.651	C
	C-AB	33	0.00	504	0.066	33	0.1	8.397	A
	C-A	409	0.00			409			
	A-B	40	0.00			40			
	A-C	629	0.00			629			
5 - Istead Rise / A227 Wrotham Road	B-AC	196	0.00	434	0.451	192	0.9	16.171	C
	C-AB	133	0.00	477	0.280	132	0.4	11.418	B
	C-A	418	0.00			418			
	A-B	26	0.00			26			
	A-C	733	0.00			733			

08:00 - 08:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	53	0.00	517	0.103	53	0.1	8.534	A
	C-AB	19	0.00	701	0.028	19	0.0	5.813	A
	C-A	113	0.00			113			
	A-B	3	0.00			3			
	A-C	74	0.00			74			
2 - Downs Road / Arcadia Road	B-AC	106	0.00	511	0.207	106	0.3	9.758	A
	C-AB	47	0.00	641	0.073	47	0.1	6.662	A
	C-A	50	0.00			50			
	A-B	42	0.00			42			
	A-C	67	0.00			67			
3 - Downs Road / Upper Avenue	B-AC	58	0.00	518	0.111	57	0.1	8.594	A
	C-AB	19	0.00	595	0.033	19	0.0	6.876	A
	C-A	14	0.00			14			
	A-B	88	0.00			88			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	153	0.00	320	0.477	151	1.0	23.249	C
	C-AB	40	0.00	470	0.084	39	0.1	9.197	A
	C-A	488	0.00			488			
	A-B	48	0.00			48			
	A-C	752	0.00			752			
5 - Istead Rise / A227 Wrotham Road	B-AC	234	0.00	387	0.603	231	1.6	24.854	C
	C-AB	159	0.00	439	0.363	159	0.6	14.078	B
	C-A	499	0.00			499			
	A-B	31	0.00			31			
	A-C	876	0.00			876			

08:15 - 08:30

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	65	0.00	510	0.127	65	0.2	8.890	A
	C-AB	25	0.00	714	0.035	25	0.1	5.747	A
	C-A	137	0.00			137			
	A-B	3	0.00			3			
	A-C	90	0.00			90			
2 - Downs Road / Arcadia Road	B-AC	130	0.00	504	0.258	130	0.4	10.568	B
	C-AB	59	0.00	644	0.092	59	0.1	6.770	A
	C-A	60	0.00			60			
	A-B	52	0.00			52			
	A-C	83	0.00			83			
3 - Downs Road / Upper Avenue	B-AC	70	0.00	514	0.137	70	0.2	8.920	A
	C-AB	24	0.00	592	0.040	24	0.0	6.966	A
	C-A	17	0.00			17			
	A-B	108	0.00			108			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	187	0.00	260	0.720	181	2.4	47.303	E
	C-AB	48	0.00	423	0.115	48	0.1	10.572	B
	C-A	598	0.00			598			
	A-B	58	0.00			58			
	A-C	920	0.00			920			
5 - Istead Rise / A227 Wrotham Road	B-AC	286	0.00	311	0.921	268	6.1	73.298	F
	C-AB	199	0.00	393	0.506	197	1.1	19.985	C
	C-A	607	0.00			607			
	A-B	39	0.00			39			
	A-C	1072	0.00			1072			

08:30 - 08:45

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	65	0.00	510	0.127	65	0.2	8.896	A
	C-AB	25	0.00	714	0.035	25	0.1	5.748	A
	C-A	137	0.00			137			
	A-B	3	0.00			3			
	A-C	90	0.00			90			
2 - Downs Road / Arcadia Road	B-AC	130	0.00	504	0.258	130	0.4	10.589	B
	C-AB	59	0.00	644	0.092	59	0.1	6.774	A
	C-A	60	0.00			60			
	A-B	52	0.00			52			
	A-C	83	0.00			83			
3 - Downs Road / Upper Avenue	B-AC	70	0.00	514	0.137	70	0.2	8.925	A
	C-AB	24	0.00	592	0.040	24	0.0	6.969	A
	C-A	17	0.00			17			
	A-B	108	0.00			108			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	187	0.00	260	0.720	186	2.6	52.607	F
	C-AB	48	0.00	423	0.115	48	0.1	10.580	B
	C-A	598	0.00			598			
	A-B	58	0.00			58			
	A-C	920	0.00			920			
5 - Istead Rise / A227 Wrotham Road	B-AC	286	0.00	310	0.922	280	7.6	102.500	F
	C-AB	199	0.00	393	0.506	199	1.1	20.349	C
	C-A	607	0.00			607			
	A-B	39	0.00			39			
	A-C	1072	0.00			1072			

08:45 - 09:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	53	0.00	517	0.103	53	0.1	8.544	A
	C-AB	19	0.00	701	0.028	19	0.0	5.816	A
	C-A	113	0.00			113			
	A-B	3	0.00			3			
	A-C	74	0.00			74			
2 - Downs Road / Arcadia Road	B-AC	106	0.00	511	0.207	106	0.3	9.789	A
	C-AB	47	0.00	641	0.074	47	0.1	6.668	A
	C-A	50	0.00			50			
	A-B	42	0.00			42			
	A-C	67	0.00			67			
3 - Downs Road / Upper Avenue	B-AC	58	0.00	518	0.111	58	0.1	8.604	A
	C-AB	19	0.00	595	0.033	19	0.0	6.879	A
	C-A	14	0.00			14			
	A-B	88	0.00			88			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	153	0.00	320	0.478	159	1.1	25.402	D
	C-AB	40	0.00	470	0.084	40	0.1	9.210	A
	C-A	488	0.00			488			
	A-B	48	0.00			48			
	A-C	752	0.00			752			
5 - Istead Rise / A227 Wrotham Road	B-AC	234	0.00	387	0.604	257	1.8	34.866	D
	C-AB	159	0.00	439	0.363	161	0.6	14.348	B
	C-A	499	0.00			499			
	A-B	31	0.00			31			
	A-C	876	0.00			876			

09:00 - 09:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	44	0.00	522	0.085	45	0.1	8.301	A
	C-AB	16	0.00	691	0.023	16	0.0	5.864	A
	C-A	95	0.00			95			
	A-B	2	0.00			2			
	A-C	62	0.00			62			
2 - Downs Road / Arcadia Road	B-AC	89	0.00	517	0.172	89	0.2	9.264	A
	C-AB	39	0.00	640	0.061	39	0.1	6.594	A
	C-A	42	0.00			42			
	A-B	35	0.00			35			
	A-C	56	0.00			56			
3 - Downs Road / Upper Avenue	B-AC	48	0.00	521	0.092	48	0.1	8.380	A
	C-AB	16	0.00	597	0.027	16	0.0	6.813	A
	C-A	12	0.00			12			
	A-B	74	0.00			74			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	128	0.00	361	0.354	130	0.6	17.234	C
	C-AB	33	0.00	504	0.066	33	0.1	8.412	A
	C-A	409	0.00			409			
	A-B	40	0.00			40			
	A-C	629	0.00			629			
5 - Istead Rise / A227 Wrotham Road	B-AC	196	0.00	434	0.452	199	0.9	17.138	C
	C-AB	133	0.00	477	0.280	134	0.4	11.582	B
	C-A	418	0.00			418			
	A-B	26	0.00			26			
	A-C	733	0.00			733			

2042 | DM | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way	Two-way	Two-way		3.02	A
2	Downs Road / Arcadia Road	T-Junction	Two-way	Two-way	Two-way		5.33	A
3	Downs Road / Upper Avenue	T-Junction	Two-way	Two-way	Two-way		3.21	A
4	Lewis Road / A227 Wrotham	T-Junction	Two-way	Two-way	Two-way		2.17	A
5	Istead Rise / A227 Wrotham Road	T-Junction	Two-way	Two-way	Two-way		7.89	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.13	A

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)
D6	2042	DM	PM	ONE HOUR	16:45	18:15	15

Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Site Access	A - Downs Road (S)		✓	46	100.000
	B - Site Access Road		✓	27	100.000
	C - Downs Road (N)		✓	100	100.000
2 - Downs Road / Arcadia Road	A - Downs Road (N)		✓	109	100.000
	B - Upper Avenue		✓	129	100.000
	C - Downs Road (S)		✓	58	100.000
3 - Downs Road / Upper Avenue	A - Downs Road (N)		✓	62	100.000
	B - Arcadia Road		✓	40	100.000
	C - Downs Road (S)		✓	21	100.000
4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)		✓	796	100.000
	B - Lewis Road		✓	103	100.000
	C - A227 Wrotham Road (N)		✓	842	100.000
5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)		✓	774	100.000
	B - Istead Rise		✓	210	100.000
	C - A227 Wrotham Road (N)		✓	1074	100.000

Origin-Destination Data

Demand (PCU/hr)

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	0	7	39
	B - Site Access Road	12	0	15
	C - Downs Road (N)	56	44	0

Demand (PCU/hr)

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	0	60	49
	B - Upper Avenue	70	0	59
	C - Downs Road (S)	30	28	0

Demand (PCU/hr)

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	0	48	14
	B - Arcadia Road	30	0	10
	C - Downs Road (S)	12	9	0

Demand (PCU/hr)

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	41	755
	B - Lewis Road	53	0	50
	C - A227 Wrotham Road (N)	816	26	0

Demand (PCU/hr)

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	0	45	729
	B - Istead Rise	21	0	189
	C - A227 Wrotham Road (N)	803	271	0

Vehicle Mix

Heavy Vehicle %

1 - Site Access

	To			
		A - Downs Road (S)	B - Site Access Road	C - Downs Road (N)
From	A - Downs Road (S)	10	10	10
	B - Site Access Road	10	10	10
	C - Downs Road (N)	10	10	10

Heavy Vehicle %

2 - Downs Road / Arcadia Road

	To			
		A - Downs Road (N)	B - Upper Avenue	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Upper Avenue	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

3 - Downs Road / Upper Avenue

	To			
		A - Downs Road (N)	B - Arcadia Road	C - Downs Road (S)
From	A - Downs Road (N)	10	10	10
	B - Arcadia Road	10	10	10
	C - Downs Road (S)	10	10	10

Heavy Vehicle %

4 - Lewis Road / A227 Wrotham

	To			
		A - A227 Wrotham Road (S)	B - Lewis Road	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Lewis Road	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Heavy Vehicle %

5 - Istead Rise / A227 Wrotham Road

	To			
		A - A227 Wrotham Road (S)	B - Istead Rise	C - A227 Wrotham Road (N)
From	A - A227 Wrotham Road (S)	10	10	10
	B - Istead Rise	10	10	10
	C - A227 Wrotham Road (N)	10	10	10

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	1 - Site Access	A - Downs Road (S)	35	35
		B - Site Access Road	20	20
		C - Downs Road (N)	75	75
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	82	82
		B - Upper Avenue	97	97
		C - Downs Road (S)	44	44
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	47	47
		B - Arcadia Road	30	30
		C - Downs Road (S)	16	16
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	599	599
		B - Lewis Road	78	78
		C - A227 Wrotham Road (N)	634	634
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	583	583
		B - Istead Rise	158	158
		C - A227 Wrotham Road (N)	809	809
	1 - Site Access	A - Downs Road (S)	41	41
		B - Site Access Road	24	24
		C - Downs Road (N)	90	90

17:00-17:15	2 - Downs Road / Arcadia Road	A - Downs Road (N)	98	98
		B - Upper Avenue	116	116
		C - Downs Road (S)	52	52
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	56	56
		B - Arcadia Road	36	36
		C - Downs Road (S)	19	19
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	716	716
		B - Lewis Road	93	93
		C - A227 Wrotham Road (N)	757	757
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	696	696
		B - Istead Rise	189	189
		C - A227 Wrotham Road (N)	966	966
17:15-17:30	1 - Site Access	A - Downs Road (S)	51	51
		B - Site Access Road	30	30
		C - Downs Road (N)	110	110
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	120	120
		B - Upper Avenue	142	142
		C - Downs Road (S)	64	64
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	68	68
		B - Arcadia Road	44	44
		C - Downs Road (S)	23	23
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	876	876
		B - Lewis Road	113	113
		C - A227 Wrotham Road (N)	927	927
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	852	852
		B - Istead Rise	231	231
		C - A227 Wrotham Road (N)	1182	1182
17:30-17:45	1 - Site Access	A - Downs Road (S)	51	51
		B - Site Access Road	30	30
		C - Downs Road (N)	110	110
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	120	120
		B - Upper Avenue	142	142
		C - Downs Road (S)	64	64
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	68	68
		B - Arcadia Road	44	44
		C - Downs Road (S)	23	23
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	876	876
		B - Lewis Road	113	113
		C - A227 Wrotham Road (N)	927	927
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	852	852
		B - Istead Rise	231	231
		C - A227 Wrotham Road (N)	1182	1182
17:45-18:00	1 - Site Access	A - Downs Road (S)	41	41
		B - Site Access Road	24	24
		C - Downs Road (N)	90	90
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	98	98
		B - Upper Avenue	116	116
		C - Downs Road (S)	52	52
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	56	56
		B - Arcadia Road	36	36
		C - Downs Road (S)	19	19
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	716	716
		B - Lewis Road	93	93
		C - A227 Wrotham Road (N)	757	757
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	696	696
		B - Istead Rise	189	189
		C - A227 Wrotham Road (N)	966	966
		A - Downs Road (S)	35	35

18:00-18:15	1 - Site Access	B - Site Access Road	20	20
		C - Downs Road (N)	75	75
	2 - Downs Road / Arcadia Road	A - Downs Road (N)	82	82
		B - Upper Avenue	97	97
		C - Downs Road (S)	44	44
	3 - Downs Road / Upper Avenue	A - Downs Road (N)	47	47
		B - Arcadia Road	30	30
		C - Downs Road (S)	16	16
	4 - Lewis Road / A227 Wrotham	A - A227 Wrotham Road (S)	599	599
		B - Lewis Road	78	78
		C - A227 Wrotham Road (N)	634	634
	5 - Istead Rise / A227 Wrotham Road	A - A227 Wrotham Road (S)	583	583
		B - Istead Rise	158	158
		C - A227 Wrotham Road (N)	809	809

Results

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - Site Access	B-AC	0.06	8.01	0.1	A
	C-AB	0.08	6.41	0.1	A
	C-A				
	A-B				
	A-C				
2 - Downs Road / Arcadia Road	B-AC	0.28	10.71	0.4	B
	C-AB	0.05	6.68	0.1	A
	C-A				
	A-B				
	A-C				
3 - Downs Road / Upper Avenue	B-AC	0.08	8.33	0.1	A
	C-AB	0.02	6.69	0.0	A
	C-A				
	A-B				
	A-C				
4 - Lewis Road / A227 Wrotham	B-AC	0.50	34.30	1.0	D
	C-AB	0.06	9.41	0.1	A
	C-A				
	A-B				
	A-C				
5 - Istead Rise / A227 Wrotham Road	B-AC	0.74	46.37	2.8	E
	C-AB	0.66	22.61	2.3	C
	C-A				
	A-B				
	A-C				

Main Results for each time segment

16:45 - 17:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	20	0.00	532	0.038	20	0.0	7.737	A
	C-AB	35	0.00	662	0.053	35	0.1	6.314	A
	C-A	40	0.00			40			
	A-B	5	0.00			5			
	A-C	29	0.00			29			
2 - Downs Road / Arcadia Road	B-AC	97	0.00	521	0.186	96	0.2	9.304	A
	C-AB	22	0.00	627	0.035	22	0.0	6.539	A
	C-A	22	0.00			22			
	A-B	45	0.00			45			
	A-C	37	0.00			37			
3 - Downs Road / Upper Avenue	B-AC	30	0.00	523	0.058	30	0.1	8.021	A
	C-AB	7	0.00	604	0.011	7	0.0	6.631	A
	C-A	9	0.00			9			
	A-B	36	0.00			36			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	78	0.00	337	0.230	76	0.3	15.094	C
	C-AB	20	0.00	523	0.037	19	0.0	7.867	A
	C-A	614	0.00			614			
	A-B	31	0.00			31			
	A-C	568	0.00			568			
5 - Istead Rise / A227 Wrotham Road	B-AC	158	0.00	456	0.347	156	0.6	13.114	B
	C-AB	205	0.00	524	0.390	202	0.7	12.185	B
	C-A	604	0.00			604			
	A-B	34	0.00			34			
	A-C	549	0.00			549			

17:00 - 17:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	24	0.00	528	0.046	24	0.1	7.853	A
	C-AB	43	0.00	666	0.064	43	0.1	6.353	A
	C-A	47	0.00			47			
	A-B	6	0.00			6			
	A-C	35	0.00			35			
2 - Downs Road / Arcadia Road	B-AC	116	0.00	517	0.224	116	0.3	9.862	A
	C-AB	26	0.00	626	0.042	26	0.1	6.599	A
	C-A	26	0.00			26			
	A-B	54	0.00			54			
	A-C	44	0.00			44			
3 - Downs Road / Upper Avenue	B-AC	36	0.00	522	0.069	36	0.1	8.152	A
	C-AB	8	0.00	603	0.014	8	0.0	6.656	A
	C-A	11	0.00			11			
	A-B	43	0.00			43			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	93	0.00	293	0.316	92	0.5	19.593	C
	C-AB	23	0.00	492	0.048	23	0.1	8.449	A
	C-A	734	0.00			734			
	A-B	37	0.00			37			
	A-C	679	0.00			679			
5 - Istead Rise / A227 Wrotham Road	B-AC	189	0.00	408	0.463	187	0.9	17.841	C
	C-AB	248	0.00	501	0.494	246	1.1	15.429	C
	C-A	718	0.00			718			
	A-B	40	0.00			40			
	A-C	655	0.00			655			

17:15 - 17:30

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	30	0.00	524	0.057	30	0.1	8.011	A
	C-AB	53	0.00	671	0.080	53	0.1	6.409	A
	C-A	57	0.00			57			
	A-B	8	0.00			8			
	A-C	43	0.00			43			
2 - Downs Road / Arcadia Road	B-AC	142	0.00	512	0.277	142	0.4	10.684	B
	C-AB	33	0.00	625	0.052	33	0.1	6.682	A
	C-A	31	0.00			31			
	A-B	66	0.00			66			
	A-C	54	0.00			54			
3 - Downs Road / Upper Avenue	B-AC	44	0.00	519	0.085	44	0.1	8.331	A
	C-AB	10	0.00	602	0.017	10	0.0	6.691	A
	C-A	13	0.00			13			
	A-B	53	0.00			53			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	113	0.00	228	0.497	111	1.0	33.251	D
	C-AB	29	0.00	450	0.064	29	0.1	9.407	A
	C-A	898	0.00			898			
	A-B	45	0.00			45			
	A-C	831	0.00			831			
5 - Istead Rise / A227 Wrotham Road	B-AC	231	0.00	316	0.733	225	2.6	40.866	E
	C-AB	339	0.00	515	0.659	335	2.2	21.636	C
	C-A	843	0.00			843			
	A-B	50	0.00			50			
	A-C	803	0.00			803			

17:30 - 17:45

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	30	0.00	524	0.057	30	0.1	8.012	A
	C-AB	53	0.00	671	0.080	53	0.1	6.410	A
	C-A	57	0.00			57			
	A-B	8	0.00			8			
	A-C	43	0.00			43			
2 - Downs Road / Arcadia Road	B-AC	142	0.00	512	0.277	142	0.4	10.707	B
	C-AB	33	0.00	625	0.052	33	0.1	6.682	A
	C-A	31	0.00			31			
	A-B	66	0.00			66			
	A-C	54	0.00			54			
3 - Downs Road / Upper Avenue	B-AC	44	0.00	519	0.085	44	0.1	8.333	A
	C-AB	10	0.00	602	0.017	10	0.0	6.691	A
	C-A	13	0.00			13			
	A-B	53	0.00			53			
	A-C	15	0.00			15			
4 - Lewis Road / A227 Wrotham	B-AC	113	0.00	228	0.497	113	1.0	34.299	D
	C-AB	29	0.00	450	0.064	29	0.1	9.408	A
	C-A	898	0.00			898			
	A-B	45	0.00			45			
	A-C	831	0.00			831			
5 - Istead Rise / A227 Wrotham Road	B-AC	231	0.00	314	0.737	230	2.8	46.371	E
	C-AB	339	0.00	515	0.659	339	2.3	22.615	C
	C-A	843	0.00			843			
	A-B	50	0.00			50			
	A-C	803	0.00			803			

17:45 - 18:00

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	24	0.00	528	0.046	24	0.1	7.855	A
	C-AB	43	0.00	666	0.064	43	0.1	6.356	A
	C-A	47	0.00			47			
	A-B	6	0.00			6			
	A-C	35	0.00			35			
2 - Downs Road / Arcadia Road	B-AC	116	0.00	517	0.224	116	0.3	9.893	A
	C-AB	26	0.00	626	0.042	26	0.1	6.601	A
	C-A	26	0.00			26			
	A-B	54	0.00			54			
	A-C	44	0.00			44			
3 - Downs Road / Upper Avenue	B-AC	36	0.00	522	0.069	36	0.1	8.157	A
	C-AB	8	0.00	603	0.014	8	0.0	6.659	A
	C-A	11	0.00			11			
	A-B	43	0.00			43			
	A-C	13	0.00			13			
4 - Lewis Road / A227 Wrotham	B-AC	93	0.00	293	0.316	95	0.5	20.138	C
	C-AB	23	0.00	492	0.048	23	0.1	8.454	A
	C-A	734	0.00			734			
	A-B	37	0.00			37			
	A-C	679	0.00			679			
5 - Istead Rise / A227 Wrotham Road	B-AC	189	0.00	407	0.464	196	1.0	19.390	C
	C-AB	248	0.00	501	0.494	252	1.1	16.182	C
	C-A	718	0.00			718			
	A-B	40	0.00			40			
	A-C	655	0.00			655			

18:00 - 18:15

Junction	Stream	Total Demand (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Site Access	B-AC	20	0.00	532	0.038	20	0.0	7.744	A
	C-AB	35	0.00	662	0.053	35	0.1	6.317	A
	C-A	40	0.00			40			
	A-B	5	0.00			5			
	A-C	29	0.00			29			
2 - Downs Road / Arcadia Road	B-AC	97	0.00	521	0.187	97	0.3	9.360	A
	C-AB	22	0.00	627	0.035	22	0.0	6.542	A
	C-A	22	0.00			22			
	A-B	45	0.00			45			
	A-C	37	0.00			37			
3 - Downs Road / Upper Avenue	B-AC	30	0.00	523	0.058	30	0.1	8.031	A
	C-AB	7	0.00	604	0.011	7	0.0	6.631	A
	C-A	9	0.00			9			
	A-B	36	0.00			36			
	A-C	11	0.00			11			
4 - Lewis Road / A227 Wrotham	B-AC	78	0.00	337	0.230	78	0.3	15.332	C
	C-AB	20	0.00	523	0.037	20	0.0	7.875	A
	C-A	614	0.00			614			
	A-B	31	0.00			31			
	A-C	568	0.00			568			
5 - Istead Rise / A227 Wrotham Road	B-AC	158	0.00	455	0.347	160	0.6	13.477	B
	C-AB	205	0.00	524	0.390	206	0.7	12.518	B
	C-A	604	0.00			604			
	A-B	34	0.00			34			
	A-C	549	0.00			549			

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\5MYRYB9Y

Report generation date: 18/03/2026 12:06:55

»2023 | Base | AM
 »2025 | Base | AM
 »2042 | DN | AM
 »2042 | 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	
	2042 - DM					
Junction 1 - Arm 1	D7	305.1	1660.91	1.98	F	618.90
Junction 1 - Arm 2		170.1	624.72	1.31	F	
Junction 1 - Arm 4		2.1	4.88	0.66	A	
Junction 2 - Arm 2		1.3	3.43	0.54	A	76.99
Junction 2 - Arm 3		48.5	171.49	1.09	F	
Junction 2 - Arm 4		45.4	86.04	1.03	F	
Junction 2 - Arm 5		1.5	50.02	0.60	F	
	2042 - DN					
Junction 1 - Arm 1	D5	296.5	1601.28	1.95	F	573.71
Junction 1 - Arm 2		141.0	529.45	1.27	F	
Junction 1 - Arm 4		2.1	4.82	0.65	A	
Junction 2 - Arm 2		1.3	3.39	0.54	A	69.39
Junction 2 - Arm 3		40.6	146.95	1.07	F	
Junction 2 - Arm 4		42.3	80.93	1.02	F	
Junction 2 - Arm 5		1.5	47.99	0.59	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	2042	DN	AM	ONE HOUR	07:45	09:15	15	✓
D7	2042	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				
From		1	2	3	4
	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

2042 | 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	573.71	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	69.39	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	304.17	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	2042	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	✓	829	100.000
	2		ONE HOUR	✓	1059	100.000
	3					
	4		ONE HOUR	✓	1415	100.000
2	1					
	2		ONE HOUR	✓	1229	100.000
	3		ONE HOUR	✓	833	100.000
	4		ONE HOUR	✓	1625	100.000
	5		ONE HOUR	✓	105	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

	To				
From		1	2	3	4
	1	0	221	4	604
	2	0	0	418	641
	3	0	0	0	0
	4	0	556	858	1

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	213	1	0	904	111
	3	33	238	0	529	33
	4	504	1093	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	1.95	1601.28	296.5	F	761	1141
	2	1.27	529.45	141.0	F	972	1458
	3						
	4	0.65	4.82	2.1	A	1298	1948
2	1						
	2	0.54	3.39	1.3	A	1128	1692
	3	1.07	146.95	40.6	F	764	1147
	4	1.02	80.93	42.3	F	1491	2237
	5	0.59	47.99	1.5	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	624	156	1062	716	0.871	601	0	0.0	5.7	30.169	D
	2	797	199	1085	1042	0.765	784	577	0.0	3.3	14.657	B
	3			913				956				
	4	1065	266	0	2380	0.448	1062	913	0.0	0.9	2.997	A
2	1			1042				593				
	2	925	231	0	2521	0.367	923	1042	0.0	0.6	2.474	A
	3	627	157	923	1178	0.532	622	0	0.0	1.2	7.059	A
	4	1223	306	471	1868	0.655	1215	1074	0.0	2.0	5.998	A
	5	79	20	1557	457	0.173	78	129	0.0	0.2	10.419	B

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	745	186	1271	612	1.218	604	0	5.7	41.0	165.599	F
	2	952	238	1214	962	0.990	906	660	3.3	14.9	49.507	E
	3			989				1131				
	4	1272	318	0	2380	0.535	1271	989	0.9	1.3	3.565	A
2	1			1245				709				
	2	1105	276	0	2521	0.438	1104	1245	0.6	0.9	2.794	A
	3	749	187	1104	1044	0.717	743	0	1.2	2.7	12.914	B
	4	1461	365	563	1812	0.806	1452	1284	2.0	4.3	10.720	B
	5	94	24	1861	336	0.281	94	154	0.2	0.4	16.286	C

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	913	228	1555	470	1.940	470	0	41.0	151.6	746.553	F
	2	1166	291	1289	916	1.273	913	736	14.9	78.2	195.633	F
	3			896				1305				
	4	1558	389	0	2380	0.655	1555	896	1.3	2.1	4.781	A
2	1			1447				840				
	2	1353	338	0	2521	0.537	1352	1447	0.9	1.3	3.383	A
	3	917	229	1352	861	1.065	831	0	2.7	24.2	73.377	F
	4	1789	447	661	1754	1.020	1698	1522	4.3	27.1	43.549	E
	5	116	29	2174	211	0.549	112	184	0.4	1.2	39.176	E

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	913	228	1558	469	1.947	469	0	151.6	262.6	1601.278	F
	2	1166	291	1290	915	1.274	915	737	78.2	140.9	433.328	F
	3			896				1308				
	4	1558	389	0	2380	0.655	1558	896	2.1	2.1	4.817	A
2	1			1475				851				
	2	1353	338	0	2521	0.537	1353	1475	1.3	1.3	3.391	A
	3	917	229	1353	860	1.067	852	0	24.2	40.6	146.950	F
	4	1789	447	669	1749	1.023	1728	1536	27.1	42.3	80.926	F
	5	116	29	2211	196	0.590	115	186	1.2	1.5	47.989	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	745	186	1275	610	1.222	610	0	262.6	296.5	1548.479	F
	2	952	238	1221	958	0.994	952	664	140.9	141.0	529.454	F
	3			1021				1152				
	4	1272	318	0	2380	0.535	1275	1021	2.1	1.3	3.597	A
2	1			1396				766				
	2	1105	276	0	2521	0.438	1106	1396	1.3	0.9	2.803	A
	3	749	187	1106	1042	0.718	899	0	40.6	3.1	50.813	F
	4	1461	365	621	1778	0.822	1607	1385	42.3	5.7	35.723	E
	5	94	24	2065	254	0.371	97	163	1.5	0.7	25.686	D

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	624	156	1067	714	0.875	711	0	296.5	274.8	1446.613	F
	2	797	199	1169	990	0.805	983	609	141.0	94.7	433.084	F
	3			1114				1038				
	4	1065	266	0	2380	0.448	1067	1114	1.3	0.9	3.018	A
2	1			1062				603				
	2	925	231	0	2521	0.367	926	1062	0.9	0.6	2.484	A
	3	627	157	926	1176	0.533	634	0	3.1	1.3	7.405	A
	4	1223	306	476	1864	0.656	1237	1084	5.7	2.1	6.456	A
	5	79	20	1584	447	0.177	81	130	0.7	0.2	10.872	B

2042 | 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	618.90	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	76.99	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	330.52	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	2042	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	✓	833	100.000
	2		ONE HOUR	✓	1096	100.000
	3					
	4		ONE HOUR	✓	1424	100.000
2	1					
	2		ONE HOUR	✓	1242	100.000
	3		ONE HOUR	✓	841	100.000
	4		ONE HOUR	✓	1626	100.000
	5		ONE HOUR	✓	105	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

	To				
From		1	2	3	4
	1	0	225	4	604
	2	0	0	442	654
	3	0	0	0	0
	4	0	565	858	1

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	223	1	0	907	111
	3	33	246	0	529	33
	4	504	1094	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	1.98	1660.91	305.1	F	764	1147
	2	1.31	624.72	170.1	F	1006	1509
	3						
	4	0.66	4.88	2.1	A	1307	1960
2	1						
	2	0.54	3.43	1.3	A	1140	1710
	3	1.09	171.49	48.5	F	772	1158
	4	1.03	86.04	45.4	F	1492	2238
	5	0.60	50.02	1.5	F	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	627	157	1068	713	0.880	603	0	0.0	6.0	31.311	D
	2	825	206	1085	1043	0.791	810	587	0.0	3.8	16.090	C
	3			921				973				
	4	1072	268	0	2380	0.450	1068	921	0.0	0.9	3.013	A
2	1			1049				601				
	2	935	234	0	2521	0.371	932	1049	0.0	0.6	2.489	A
	3	633	158	932	1171	0.541	628	0	0.0	1.3	7.227	A
	4	1224	306	485	1859	0.658	1216	1076	0.0	2.1	6.076	A
	5	79	20	1571	452	0.175	78	129	0.0	0.2	10.576	B

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	749	187	1279	608	1.232	601	0	6.0	43.0	174.158	F
	2	985	246	1210	965	1.021	923	670	3.8	19.3	59.296	F
	3			988				1146				
	4	1280	320	0	2380	0.538	1279	988	0.9	1.3	3.591	A
2	1			1253				718				
	2	1117	279	0	2521	0.443	1116	1253	0.6	0.9	2.817	A
	3	756	189	1116	1036	0.730	750	0	1.3	2.8	13.573	B
	4	1462	365	579	1803	0.811	1452	1286	2.1	4.4	11.011	B
	5	94	24	1877	329	0.287	94	154	0.2	0.4	16.736	C

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	917	229	1565	465	1.970	465	0	43.0	156.0	777.098	F
	2	1207	302	1283	919	1.313	917	746	19.3	91.7	229.137	F
	3			886				1315				
	4	1568	392	0	2380	0.659	1565	886	1.3	2.1	4.838	A
2	1			1448				849				
	2	1367	342	0	2521	0.543	1366	1448	0.9	1.3	3.425	A
	3	926	231	1366	850	1.089	825	0	2.8	27.9	82.178	F
	4	1790	448	675	1745	1.026	1694	1517	4.4	28.6	45.472	E
	5	116	29	2185	207	0.560	112	184	0.4	1.3	40.670	E

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	917	229	1568	464	1.977	464	0	156.0	269.3	1660.913	F
	2	1207	302	1284	919	1.314	918	747	91.7	163.8	500.718	F
	3			885				1317				
	4	1568	392	0	2380	0.659	1568	885	2.1	2.1	4.876	A
2	1			1475				860				
	2	1367	342	0	2521	0.543	1367	1475	1.3	1.3	3.433	A
	3	926	231	1367	849	1.091	844	0	27.9	48.5	171.492	F
	4	1790	448	682	1741	1.028	1723	1529	28.6	45.4	86.038	F
	5	116	29	2220	192	0.601	115	185	1.3	1.5	50.024	F

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	749	187	1283	606	1.236	606	0	269.3	305.1	1595.336	F
	2	985	246	1216	961	1.025	960	673	163.8	170.1	624.716	F
	3			1013				1163				
	4	1280	320	0	2380	0.538	1283	1013	2.1	1.3	3.621	A
2	1			1421				779				
	2	1117	279	0	2521	0.443	1118	1421	1.3	0.9	2.826	A
	3	756	189	1118	1034	0.731	936	0	48.5	3.4	74.850	F
	4	1462	365	649	1761	0.830	1619	1406	45.4	6.1	42.487	E
	5	94	24	2103	239	0.395	97	165	1.5	0.8	28.504	D

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	627	157	1074	710	0.883	708	0	305.1	285.0	1501.017	F
	2	825	206	1164	993	0.831	987	617	170.1	129.7	547.671	F
	3			1103				1048				
	4	1072	268	0	2380	0.450	1074	1103	1.3	0.9	3.034	A
2	1			1071				611				
	2	935	234	0	2521	0.371	936	1071	0.9	0.7	2.500	A
	3	633	158	936	1169	0.542	641	0	3.4	1.3	7.626	A
	4	1224	306	490	1856	0.660	1240	1087	6.1	2.2	6.588	A
	5	79	20	1600	440	0.180	81	130	0.8	0.2	11.087	B

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\5MYRYB9Y

Report generation date: 25/03/2026 17:17:42

»2023 | Base | PM
 »2025 | Base | PM
 »2042 | DN | PM
 »2042 | 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	
	2042 - DM					
Junction 1 - Arm 1	D8	376.0	2523.64	2.41	F	677.23
Junction 1 - Arm 2		52.6	164.41	1.08	F	
Junction 1 - Arm 4		2.4	5.32	0.69	A	
Junction 2 - Arm 2		1.3	3.40	0.53	A	186.78
Junction 2 - Arm 3		201.2	451.65	1.29	F	
Junction 2 - Arm 4		35.2	73.74	1.01	F	
Junction 2 - Arm 5		3.5	107.86	0.82	F	
	2042 - DN					
Junction 1 - Arm 1	D6	355.4	2313.20	2.31	F	623.88
Junction 1 - Arm 2		47.4	151.77	1.07	F	
Junction 1 - Arm 4		2.3	5.14	0.68	A	
Junction 2 - Arm 2		1.2	3.38	0.53	A	169.56
Junction 2 - Arm 3		187.0	411.30	1.27	F	
Junction 2 - Arm 4		31.8	67.75	1.00	F	
Junction 2 - Arm 5		3.2	97.73	0.80	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	2042	DN	PM	ONE HOUR	16:45	18:15	15	✓
D8	2042	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

2042 | 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	623.88	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	169.56	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	362.59	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	2042	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	✓	802	100.000
	2		ONE HOUR	✓	955	100.000
	3					
	4		ONE HOUR	✓	1461	100.000
2	1					
	2		ONE HOUR	✓	1208	100.000
	3		ONE HOUR	✓	1507	100.000
	4		ONE HOUR	✓	1524	100.000
	5		ONE HOUR	✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

		To			
From		1	2	3	4
	1	0	238	1	563
	2	0	2	306	647
	3	0	0	0	0
	4	0	838	623	0

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	205	1	0	929	73
	3	4	493	0	940	70
	4	600	924	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	2.31	2313.20	355.4	F	736	1104
	2	1.07	151.77	47.4	F	876	1314
	3						
	4	0.68	5.14	2.3	A	1341	2011
2	1						
	2	0.53	3.38	1.2	A	1108	1663
	3	1.27	411.30	187.0	F	1383	2074
	4	1.00	67.75	31.8	F	1398	2098
	5	0.80	97.73	3.2	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	604	151	1098	638	0.946	568	0	0.0	8.9	44.557	E
	2	719	180	867	1038	0.693	709	799	0.0	2.4	11.735	B
	3			881				695				
	4	1100	275	1	2379	0.462	1096	879	0.0	0.9	3.078	A
2	1			1114				637				
	2	909	227	21	2507	0.363	907	1094	0.0	0.6	2.472	A
	3	1135	284	928	1625	0.698	1125	0	0.0	2.5	7.775	A
	4	1147	287	633	1771	0.648	1139	1420	0.0	2.0	6.199	A
	5	88	22	1665	414	0.213	87	107	0.0	0.3	12.056	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	721	180	1314	531	1.359	528	0	8.9	57.3	268.244	F
	2	859	215	930	999	0.860	845	911	2.4	5.7	23.929	C
	3			945				831				
	4	1313	328	2	2379	0.552	1312	943	0.9	1.3	3.707	A
2	1			1327				762				
	2	1086	271	25	2504	0.434	1085	1302	0.6	0.8	2.789	A
	3	1355	339	1110	1490	0.909	1330	0	2.5	8.6	22.071	C
	4	1370	343	751	1699	0.806	1361	1689	2.0	4.3	11.390	B
	5	105	26	1985	287	0.367	104	127	0.3	0.6	21.531	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	883	221	1607	384	2.297	384	0	57.3	182.0	1092.540	F
	2	1051	263	955	984	1.069	960	1037	5.7	28.7	78.871	F
	3			922				992				
	4	1609	402	2	2378	0.676	1605	920	1.3	2.3	5.094	A
2	1			1478				906				
	2	1330	333	29	2501	0.532	1328	1449	0.8	1.2	3.372	A
	3	1659	415	1358	1306	1.270	1301	0	8.6	98.2	157.111	F
	4	1678	419	796	1672	1.003	1606	1862	4.3	22.2	39.885	E
	5	129	32	2262	176	0.734	122	141	0.6	2.4	66.921	F

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	883	221	1611	383	2.308	383	0	182.0	307.1	2313.198	F
	2	1051	263	955	983	1.069	977	1038	28.7	47.4	151.766	F
	3			932				999				
	4	1609	402	2	2378	0.676	1609	930	2.3	2.3	5.143	A
2	1			1501				921				
	2	1330	333	30	2501	0.532	1330	1471	1.2	1.2	3.382	A
	3	1659	415	1360	1305	1.272	1304	0	98.2	187.0	385.214	F
	4	1678	419	798	1671	1.004	1639	1866	22.2	31.8	67.746	F
	5	129	32	2296	162	0.796	125	141	2.4	3.2	97.728	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	721	180	1319	528	1.366	528	0	307.1	355.4	2036.293	F
	2	859	215	933	997	0.861	975	914	47.4	18.4	126.591	F
	3			1033				875				
	4	1313	328	2	2378	0.552	1317	1031	2.3	1.4	3.742	A
2	1			1450				811				
	2	1086	271	27	2502	0.434	1088	1423	1.2	0.8	2.803	A
	3	1355	339	1115	1486	0.912	1477	0	187.0	156.3	411.295	F
	4	1370	343	807	1666	0.822	1475	1785	31.8	5.6	28.640	D
	5	105	26	2148	221	0.475	114	134	3.2	1.1	39.176	E

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	604	151	1103	635	0.950	634	0	355.4	347.9	1998.247	F
	2	719	180	915	1008	0.713	781	821	18.4	2.9	21.764	C
	3			975				721				
	4	1100	275	2	2379	0.462	1102	974	1.4	1.0	3.106	A
2	1			1288				649				
	2	909	227	22	2506	0.363	910	1266	0.8	0.6	2.484	A
	3	1135	284	932	1621	0.700	1610	0	156.3	37.4	219.286	F
	4	1147	287	816	1660	0.691	1160	1726	5.6	2.5	8.097	A
	5	88	22	1846	342	0.258	91	130	1.1	0.4	15.931	C

2042 | 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	677.23	F
2	untitled	Standard Roundabout		1, 2, 3, 4, 5	186.78	F

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	396.14	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	2042	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	✓	810	100.000
	2		ONE HOUR	✓	972	100.000
	3					
	4		ONE HOUR	✓	1484	100.000
2	1					
	2		ONE HOUR	✓	1214	100.000
	3		ONE HOUR	✓	1527	100.000
	4		ONE HOUR	✓	1527	100.000
	5		ONE HOUR	✓	117	100.000

Origin-Destination Data

Demand (PCU/hr)

Junction 1

		To			
From		1	2	3	4
	1	0	246	1	563
	2	0	2	317	653
	3	0	0	0	0
	4	0	861	623	0

Demand (PCU/hr)

Junction 2

	To					
		1	2	3	4	5
From	1	0	0	0	0	0
	2	210	1	0	930	73
	3	4	513	0	940	70
	4	600	927	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	2.41	2523.64	376.0	F	743	1115
	2	1.08	164.41	52.6	F	892	1338
	3						
	4	0.69	5.32	2.4	A	1362	2043
2	1						
	2	0.53	3.40	1.3	A	1114	1671
	3	1.29	451.65	201.2	F	1401	2102
	4	1.01	73.74	35.2	F	1401	2102
	5	0.82	107.86	3.5	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	610	152	1115	630	0.968	569	0	0.0	10.3	49.386	E
	2	732	183	863	1040	0.703	722	820	0.0	2.5	12.083	B
	3			882				704				
	4	1117	279	1	2379	0.470	1113	880	0.0	1.0	3.120	A
2	1			1129				643				
	2	914	228	21	2507	0.365	911	1108	0.0	0.6	2.475	A
	3	1150	287	932	1621	0.709	1139	0	0.0	2.6	8.050	A
	4	1150	287	651	1759	0.653	1141	1420	0.0	2.0	6.328	A
	5	88	22	1686	406	0.217	87	107	0.0	0.3	12.364	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	728	182	1334	520	1.399	518	0	10.3	62.8	302.712	F
	2	874	218	920	1005	0.869	860	932	2.5	6.1	24.997	C
	3			939				840				
	4	1334	334	2	2379	0.561	1332	937	1.0	1.4	3.778	A
2	1			1343				768				
	2	1091	273	25	2504	0.436	1090	1318	0.6	0.8	2.800	A
	3	1373	343	1115	1486	0.924	1344	0	2.6	9.7	24.234	C
	4	1373	343	772	1687	0.814	1363	1688	2.0	4.5	11.868	B
	5	105	26	2008	277	0.379	104	127	0.3	0.6	22.642	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	892	223	1632	372	2.398	372	0	62.8	192.8	1191.383	F
	2	1070	268	943	991	1.080	969	1061	6.1	31.3	83.640	F
	3			912				1001				
	4	1634	408	2	2379	0.687	1630	910	1.4	2.4	5.263	A
2	1			1484				912				
	2	1337	334	29	2501	0.534	1335	1455	0.8	1.3	3.391	A
	3	1681	420	1364	1302	1.292	1297	0	9.7	105.8	169.397	F
	4	1681	420	811	1663	1.011	1604	1850	4.5	23.9	42.271	E
	5	129	32	2275	170	0.756	121	140	0.6	2.5	72.044	F

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	892	223	1636	370	2.411	370	0	192.8	323.3	2523.637	F
	2	1070	268	943	991	1.080	985	1062	31.3	52.6	164.407	F
	3			921				1008				
	4	1634	408	2	2378	0.687	1634	919	2.4	2.4	5.315	A
2	1			1507				927				
	2	1337	334	30	2501	0.535	1337	1477	1.3	1.3	3.401	A
	3	1681	420	1367	1300	1.294	1299	0	105.8	201.2	414.500	F
	4	1681	420	812	1663	1.011	1636	1854	23.9	35.2	73.744	F
	5	129	32	2308	157	0.820	125	140	2.5	3.5	107.862	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	728	182	1340	517	1.407	517	0	323.3	376.0	2172.744	F
	2	874	218	922	1004	0.870	983	935	52.6	25.2	146.164	F
	3			1022				883				
	4	1334	334	2	2378	0.561	1338	1020	2.4	1.4	3.821	A
2	1			1470				823				
	2	1091	273	27	2502	0.436	1093	1442	1.3	0.9	2.812	A
	3	1373	343	1120	1482	0.926	1474	0	201.2	175.9	451.648	F
	4	1373	343	822	1657	0.829	1490	1772	35.2	6.0	33.709	D
	5	105	26	2179	209	0.504	114	133	3.5	1.2	45.148	E

18:00 - 18:15

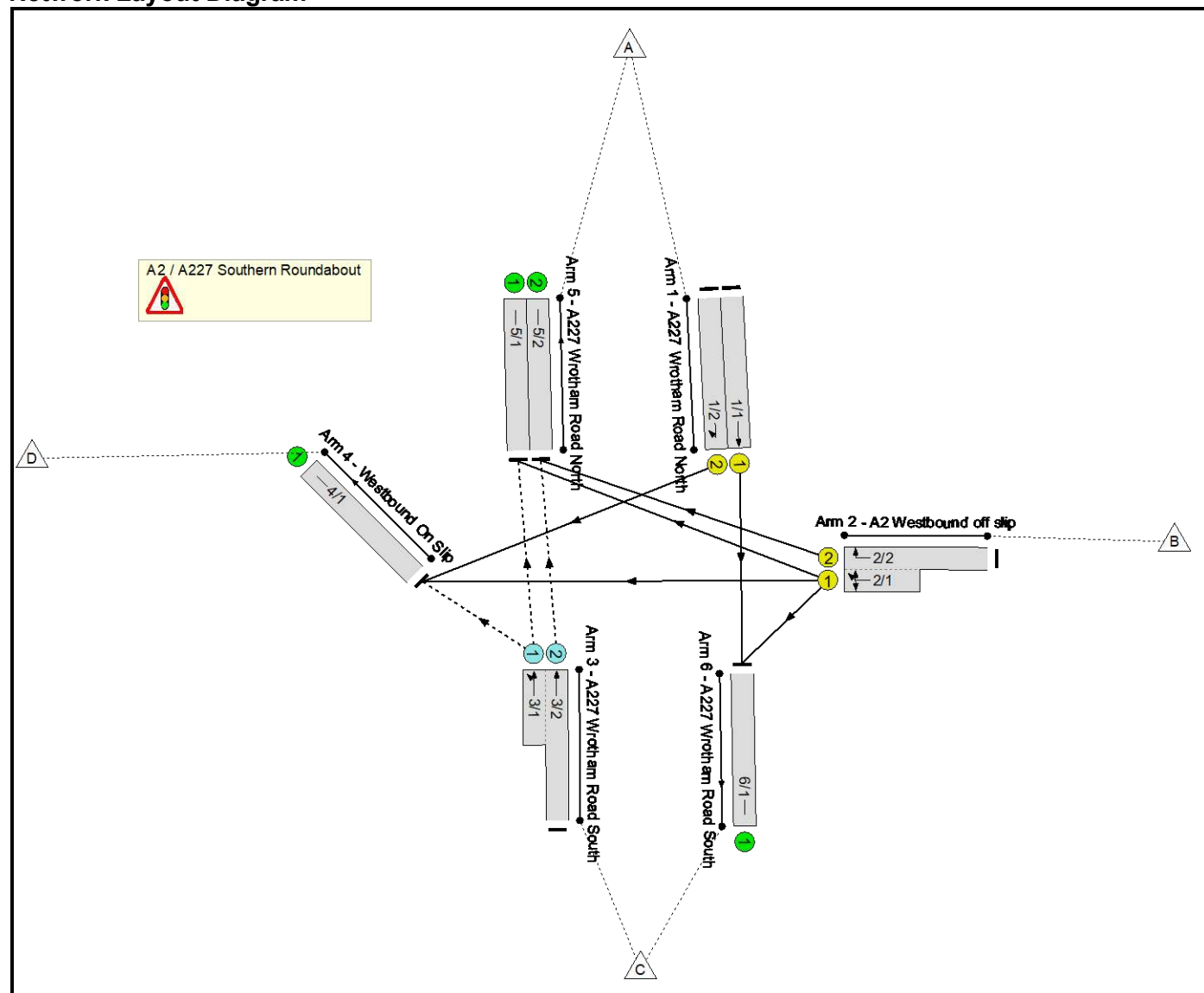
Junction	Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1	610	152	1121	627	0.973	625	0	376.0	372.2	2154.889	F
	2	732	183	905	1015	0.721	820	841	25.2	3.1	28.799	D
	3			987				738				
	4	1117	279	2	2379	0.470	1119	985	1.4	1.0	3.147	A
2	1			1302				655				
	2	914	228	22	2506	0.365	915	1281	0.9	0.6	2.489	A
	3	1150	287	937	1618	0.711	1608	0	175.9	61.3	267.676	F
	4	1150	287	832	1651	0.696	1163	1713	6.0	2.6	8.334	A
	5	88	22	1867	334	0.264	91	129	1.2	0.4	16.541	C

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

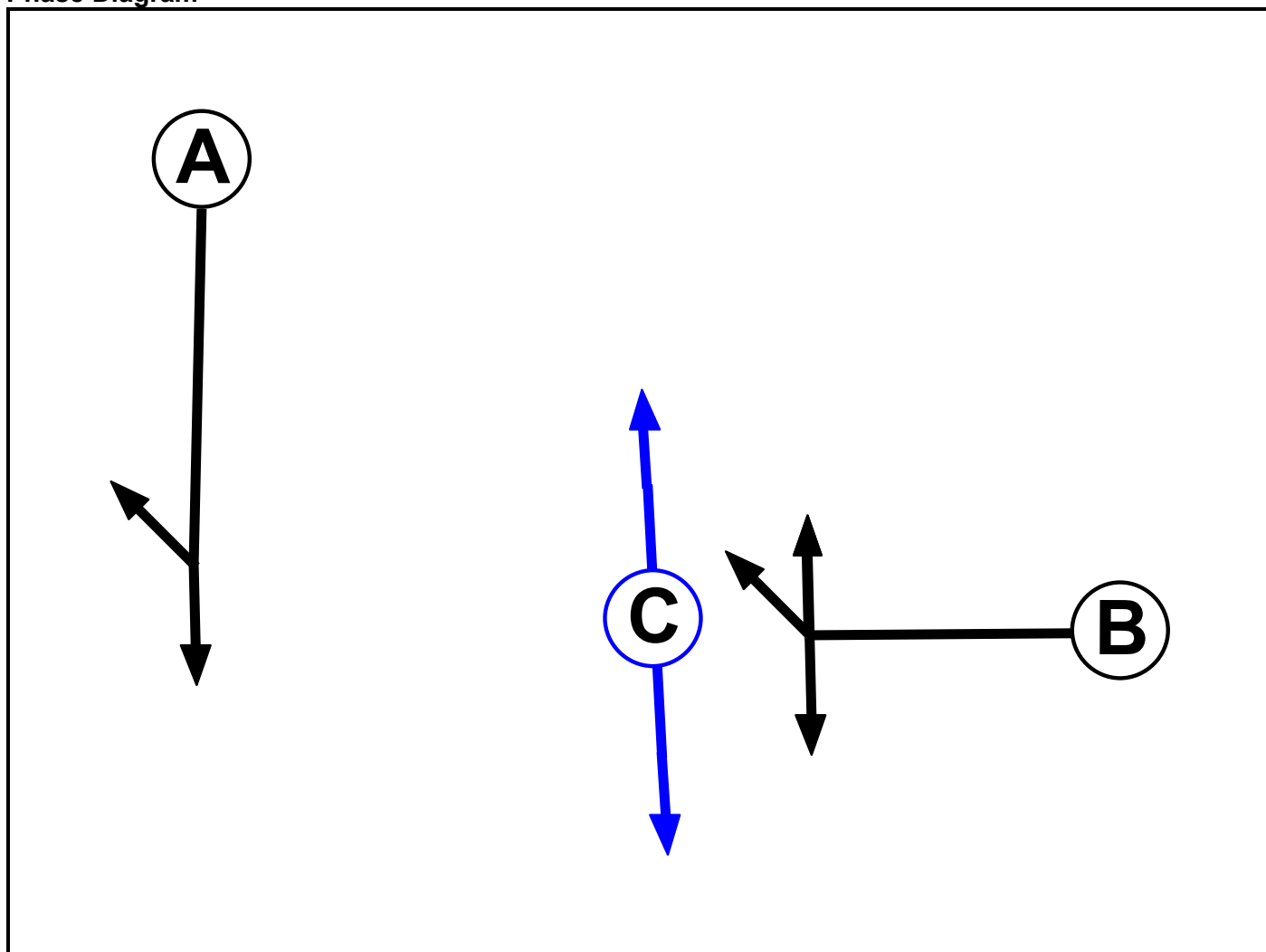


Scenarios

Number	Scenario Name	Flow Group	Network Control Plan	Time	Cycle Time (s)	PRC (%)	Delay (pcuHr)
1	2042 DN AM	2042 AM DN	Network Control Plan 1	08:00 - 09:00	45	-10.2	36.13
2	2042 DN PM	2042 PM DN	Network Control Plan 1	17:00 - 18:00	45	0.5	16.65
3	2042 DM AM	2042 AM DM	Network Control Plan 1	08:00 - 09:00	45	-10.7	37.88
4	2042 DM PM	2042 PM DM	Network Control Plan 1	17:00 - 18:00	45	-2.2	18.71

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

Detailed Input Data And Results

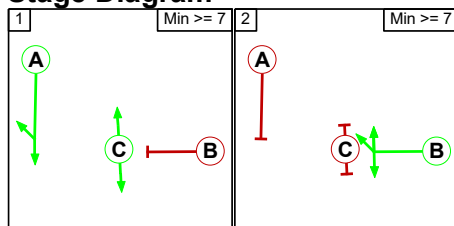
Phase Intergreens Matrix

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
From Stage	2	6
	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: '2042 DN AM' (FG2: '2042 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	0.8 %	1953	1953
				Arm 5 Right	Inf	54.9 %		
				Arm 6 Left	25.00	44.3 %		
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	79.0 %	2040	2040
				Arm 5 Ahead	Inf	21.0 %		
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 1

Scenario 2: '2042 DN PM' (FG3: '2042 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	0.2 %	1937	1937
				Arm 5 Right	Inf	41.1 %		
				Arm 6 Left	25.00	58.6 %		
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	64.2 %	2040	2040
				Arm 5 Ahead	Inf	35.8 %		
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: '2042 DM AM' (FG4: '2042 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	0.8 %	1952	1952
				Arm 5 Right	Inf	54.3 %		
				Arm 6 Left	25.00	44.9 %		
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	80.7 %	2040	2040
				Arm 5 Ahead	Inf	19.3 %		
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 3

Scenario 4: '2042 DM PM' (FG5: '2042 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	0.2 %	1939	1939
				Arm 5 Right	Inf	43.1 %		
				Arm 6 Left	25.00	56.7 %		
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	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 4

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Test'	08:00	09:00	01:00	
2: '2042 AM DN'	08:00	09:00	01:00	
3: '2042 PM DN'	17:00	18:00	01:00	
4: '2042 AM DM'	08:00	09:00	01:00	
5: '2042 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: '2042 AM DN'**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	1	0	556	858	1415
	B	604	0	221	4	829
	C	641	0	0	418	1059
	D	0	0	0	0	0
	Tot.	1246	0	777	1280	3303

FG3: '2042 PM DN'**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	838	623	1461
	B	563	0	238	1	802
	C	647	0	0	306	953
	D	0	0	0	0	0
	Tot.	1210	0	1076	930	3216

FG4: '2042 AM DM'**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	565	858	1423
	B	604	0	225	4	833
	C	654	0	0	442	1096
	D	0	0	0	0	0
	Tot.	1258	0	790	1304	3352

Detailed Input Data And Results

FG5: '2042 PM DM'

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	861	623	1484
	B	563	0	246	1	810
	C	653	0	0	317	970
	D	0	0	0	0	0
	Tot.	1216	0	1107	941	3264

Scenario 1: '2042 DN AM' (FG2: '2042 AM DN', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	556	858	1414
	B	604	0	221	4	829
	C	641	0	0	418	1059
	D	0	0	0	0	0
	Tot.	1245	0	777	1280	3302

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: '2042 DN PM' (FG3: '2042 PM DN', Plan 1: 'Network Control Plan 1')

Traffic Flows, Actual

Actual Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	838	623	1461
	B	563	0	238	1	802
	C	647	0	0	306	953
	D	0	0	0	0	0
	Tot.	1210	0	1076	930	3216

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: '2042 DM AM' (FG4: '2042 AM DM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Actual****Actual Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	565	858	1423
	B	604	0	225	4	833
	C	654	0	0	442	1096
	D	0	0	0	0	0
	Tot.	1258	0	790	1304	3352

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 4: '2042 DM PM' (FG5: '2042 PM DM', Plan 1: 'Network Control Plan 1')**Traffic Flows, Actual****Actual Flow :**

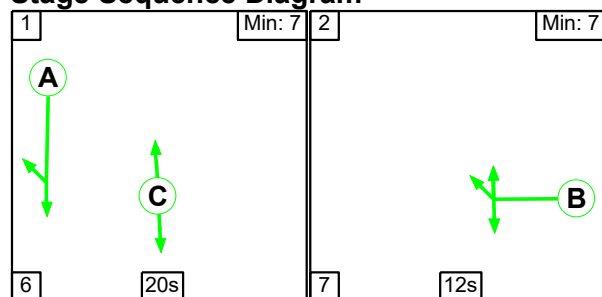
	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	861	623	1484
	B	563	0	246	1	810
	C	653	0	0	317	970
	D	0	0	0	0	0
	Tot.	1216	0	1107	941	3264

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

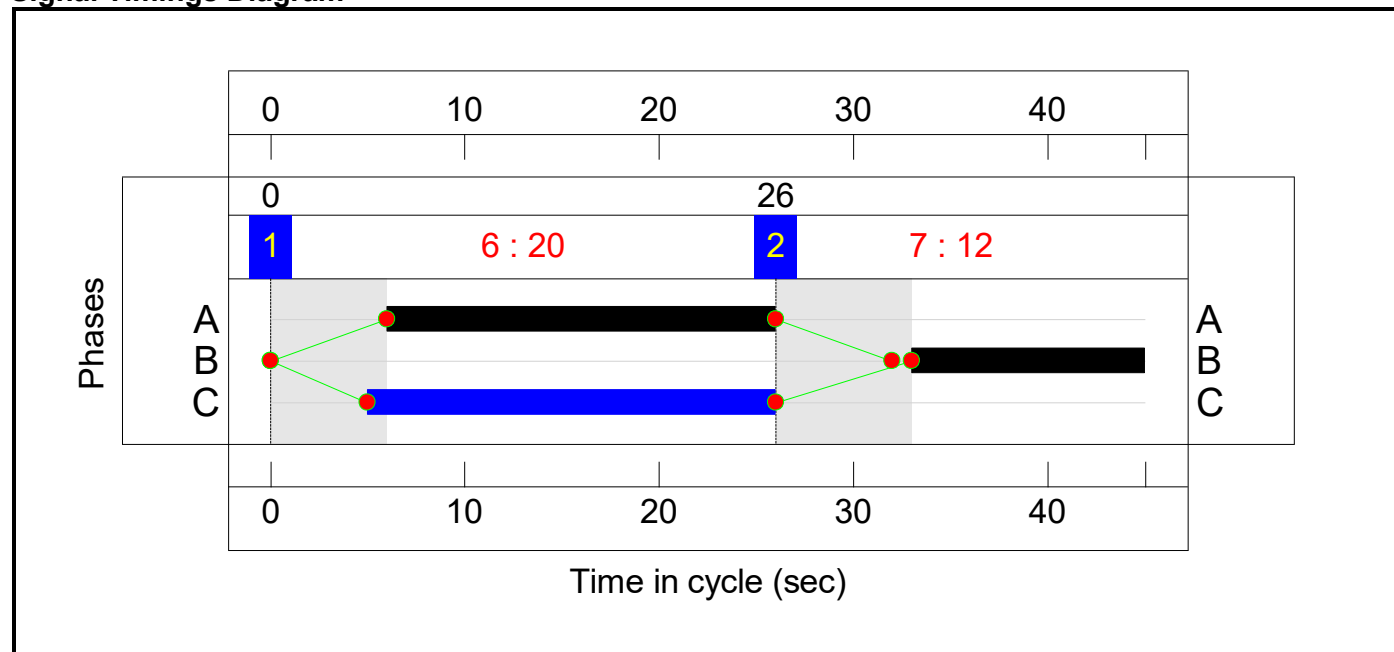
Lane	Scenario 1: 2042 DN AM	Scenario 2: 2042 DN PM	Scenario 3: 2042 DM AM	Scenario 4: 2042 DM PM
Junction: A2 / A227 Southern Roundabout				
1/1	556	838	565	861
1/2	858	623	858	623
2/1 (short)	499	406	501	434
2/2 (with short)	829(In) 330(Out)	802(In) 396(Out)	833(In) 332(Out)	810(In) 376(Out)
3/1 (short)	529	477	548	485
3/2 (with short)	1059(In) 530(Out)	953(In) 476(Out)	1096(In) 548(Out)	970(In) 485(Out)
4/1	1280	930	1304	941
5/1	385	338	378	355
5/2	860	872	880	861
6/1	777	1076	790	1107

Scenario 1: '2042 DN AM' (FG2: '2042 AM DN', Plan 1: 'Network Control Plan 1')**Stage Sequence Diagram****Stage Timings**

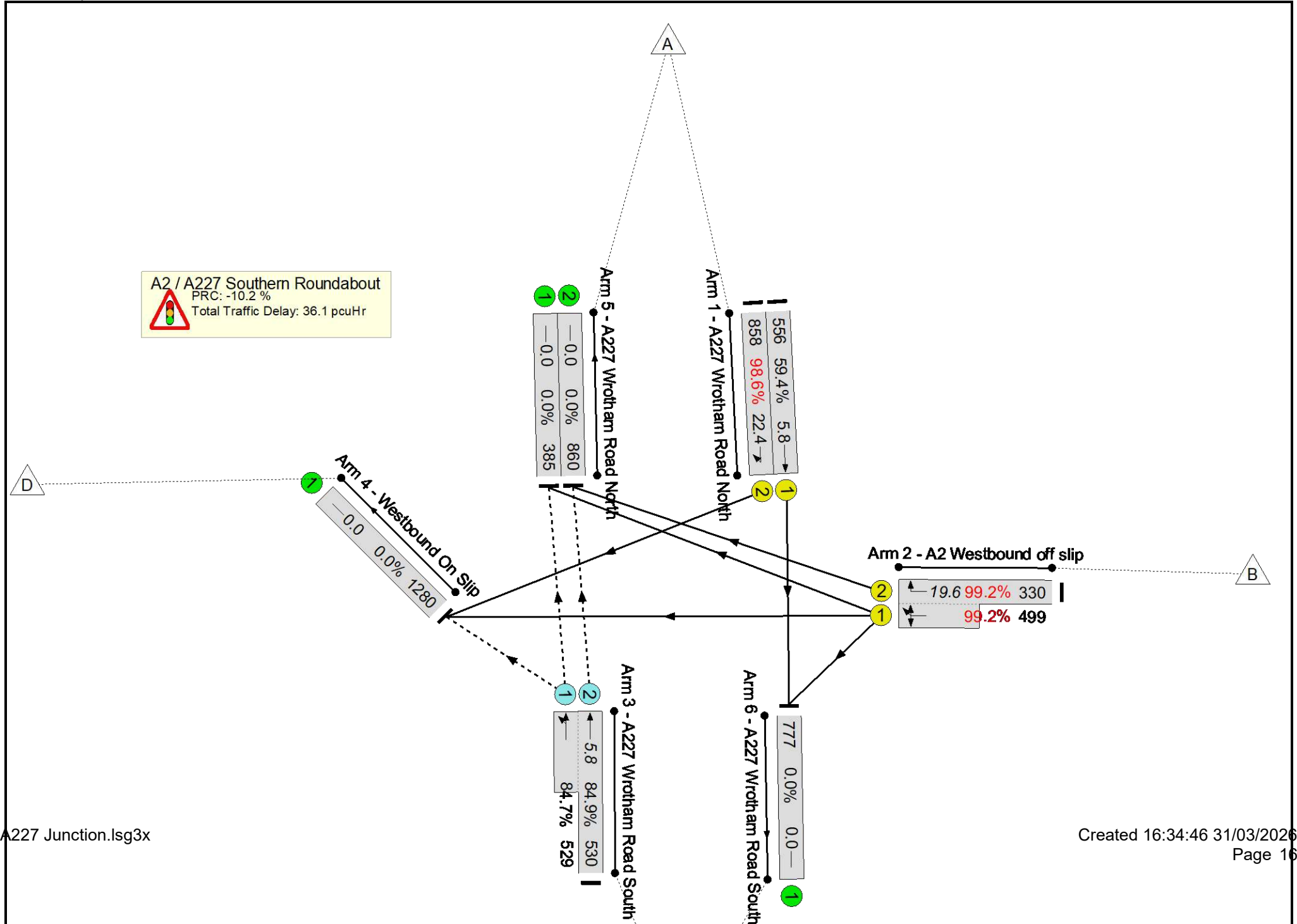
Stage	1	2
Duration	20	12
Change Point	0	26

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	-	-		-	-	-	-	-	-	-	99.2%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	99.2%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	20	-	-	556	2005	936	59.4%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	20	-	-	858	1865	870	98.6%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	12	-	-	829	1892:1953	333+503	99.2 : 99.2%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	1059	2040:2040	624+624	84.9 : 84.7%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	1280	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	385	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	860	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	777	Inf	Inf	0.0%

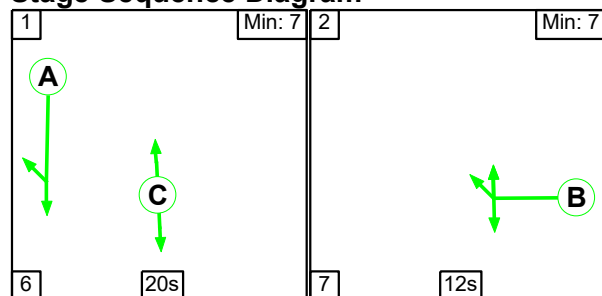
Detailed Input Data And Results

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	-	-	1443	675	0	8.0	28.1	0.0	36.1	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1443	675	0	8.0	28.1	0.0	36.1	-	-	-	-	
1/1	556	556	-	-	-	1.4	0.7	-	2.1	13.6	5.1	0.7	5.8	
1/2	858	858	-	-	-	2.8	11.9	-	14.7	61.7	10.5	11.9	22.4	
2/2+2/1	829	829	-	-	-	3.5	12.8	-	16.3	70.7	6.9	12.8	19.6	
3/2+3/1	1059	1059	1443	675	0	0.3	2.7	-	3.1	10.4	3.1	2.7	5.8	
4/1	1280	1280	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	860	860	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	777	777	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): -10.2 PRC Over All Lanes (%): -10.2 Total Delay for Signalled Lanes (pcuHr): 33.08 Total Delay Over All Lanes(pcuHr): 36.13 Cycle Time (s): 45														

Detailed Input Data And Results

Scenario 2: '2042 DN PM' (FG3: '2042 PM DN', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



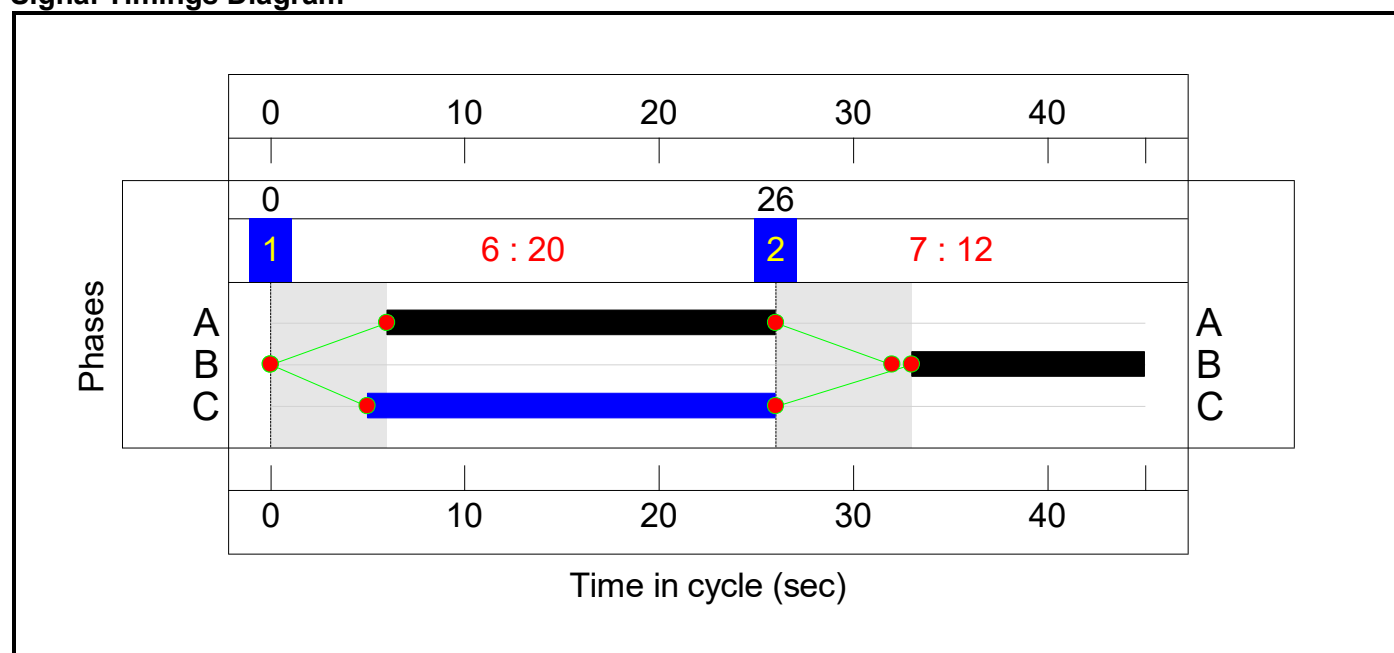
Stage Timings

Stage	1	2
Duration	20	12
Change Point	0	26

Phase Timings

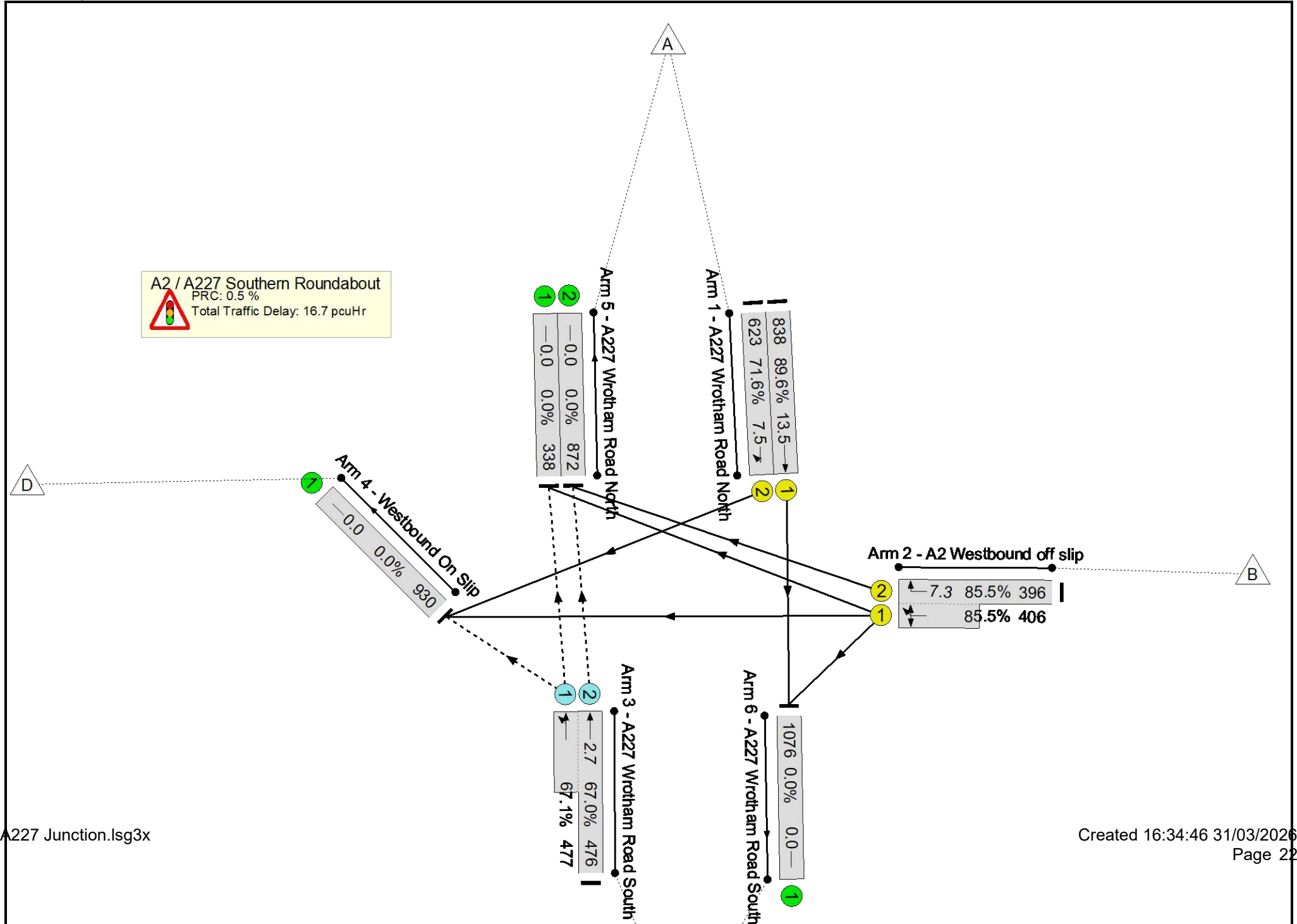
Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	A227 Wrotham Road North U-Turn Ahead	Traffic	20	6	26
B	A2 Westbound off slip Ahead Right Left	Traffic	12	33	0
C	Pedestrians across	Pedestrian	21	5	26

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	-	-		-	-	-	-	-	-	-	89.6%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	89.6%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	20	-	-	838	2005	936	89.6%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	20	-	-	623	1865	870	71.6%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	12	-	-	802	1892:1937	463+475	85.5 : 85.5%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	953	2040:2040	711+711	67.0 : 67.1%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	930	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	-		-	-	-	-	872	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	1076	Inf	Inf	0.0%

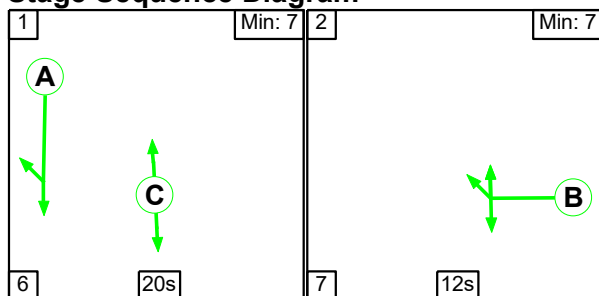
Detailed Input Data And Results

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	-	-	1437	469	0	7.6	9.1	0.0	16.7	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1437	469	0	7.6	9.1	0.0	16.7	-	-	-	-	
1/1	838	838	-	-	-	2.6	4.0	-	6.5	28.0	9.5	4.0	13.5	
1/2	623	623	-	-	-	1.7	1.2	-	2.9	16.8	6.2	1.2	7.5	
2/2+2/1	802	802	-	-	-	3.2	2.8	-	6.0	27.1	4.5	2.8	7.3	
3/2+3/1	953	953	1437	469	0	0.2	1.0	-	1.2	4.4	1.7	1.0	2.7	
4/1	930	930	-	-	-	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	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	1076	1076	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): 0.5 PRC Over All Lanes (%): 0.5 Total Delay for Signalled Lanes (pcuHr): 15.48 Total Delay Over All Lanes(pcuHr): 16.65 Cycle Time (s): 45														

Detailed Input Data And Results

Scenario 3: '2042 DM AM' (FG4: '2042 AM DM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram



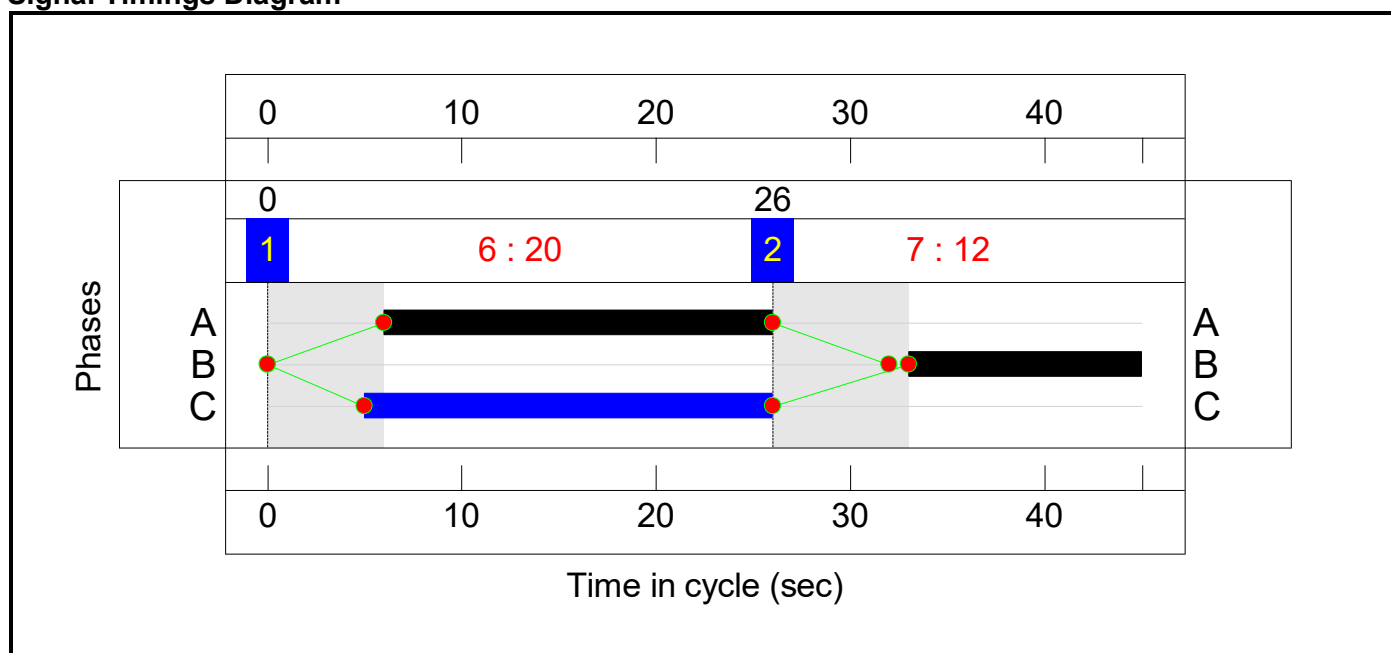
Stage Timings

Stage	1	2
Duration	20	12
Change Point	0	26

Phase Timings

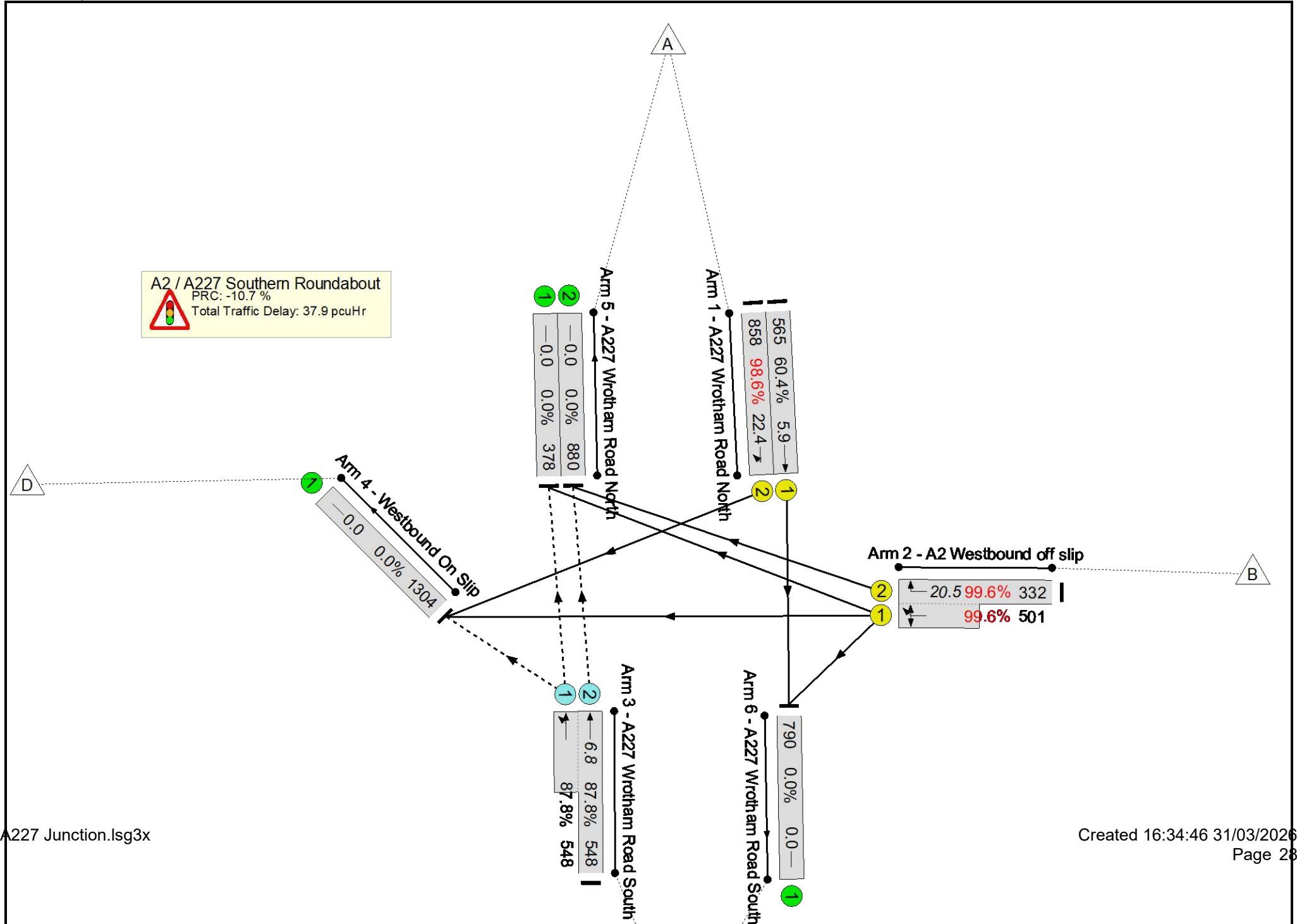
Phase Name	Description	Phase	Green Period 1		
			Total Green	Start Time	End Time
A	A227 Wrotham Road North U-Turn Ahead	Traffic	20	6	26
B	A2 Westbound off slip Ahead Right Left	Traffic	12	33	0
C	Pedestrians across	Pedestrian	21	5	26

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



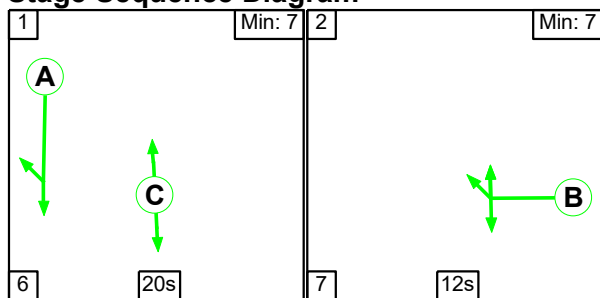
Detailed Input Data And Results

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	-	-		-	-	-	-	-	-	-	99.6%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	99.6%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	20	-	-	565	2005	936	60.4%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	20	-	-	858	1865	870	98.6%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	12	-	-	833	1892:1952	333+503	99.6 : 99.6%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	1096	2040:2040	624+624	87.8 : 87.8%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	1304	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	378	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	880	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	790	Inf	Inf	0.0%

Detailed Input Data And Results

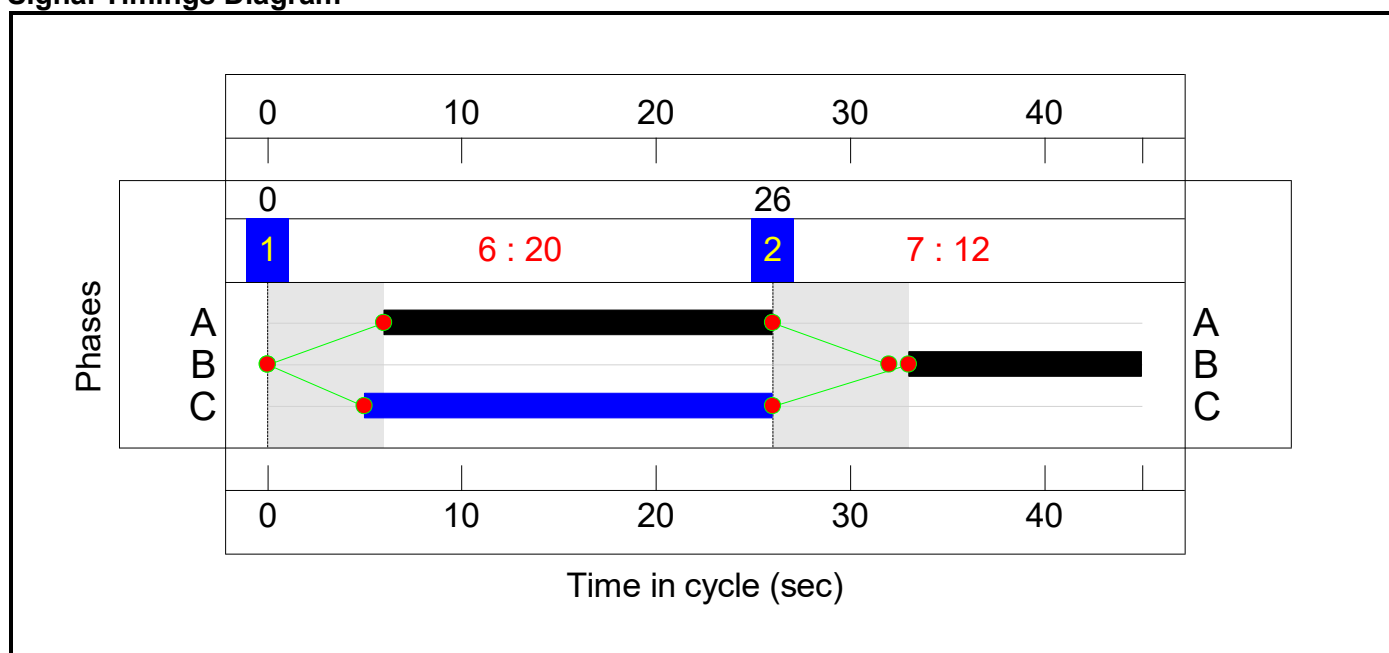
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
Network	-	-	1443	749	0	8.2	29.7	0.0	37.9	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1443	749	0	8.2	29.7	0.0	37.9	-	-	-	-	
1/1	565	565	-	-	-	1.4	0.8	-	2.2	13.8	5.2	0.8	5.9	
1/2	858	858	-	-	-	2.8	11.9	-	14.7	61.7	10.5	11.9	22.4	
2/2+2/1	833	833	-	-	-	3.5	13.6	-	17.2	74.1	6.9	13.6	20.5	
3/2+3/1	1096	1096	1443	749	0	0.4	3.4	-	3.9	12.7	3.3	3.4	6.8	
4/1	1304	1304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	378	378	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	880	880	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	790	790	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): -10.7 PRC Over All Lanes (%): -10.7 Total Delay for Signalled Lanes (pcuHr): 34.02 Total Delay Over All Lanes(pcuHr): 37.88 Cycle Time (s): 45														

Stage Sequence Diagram**Stage Timings**

Stage	1	2
Duration	20	12
Change Point	0	26

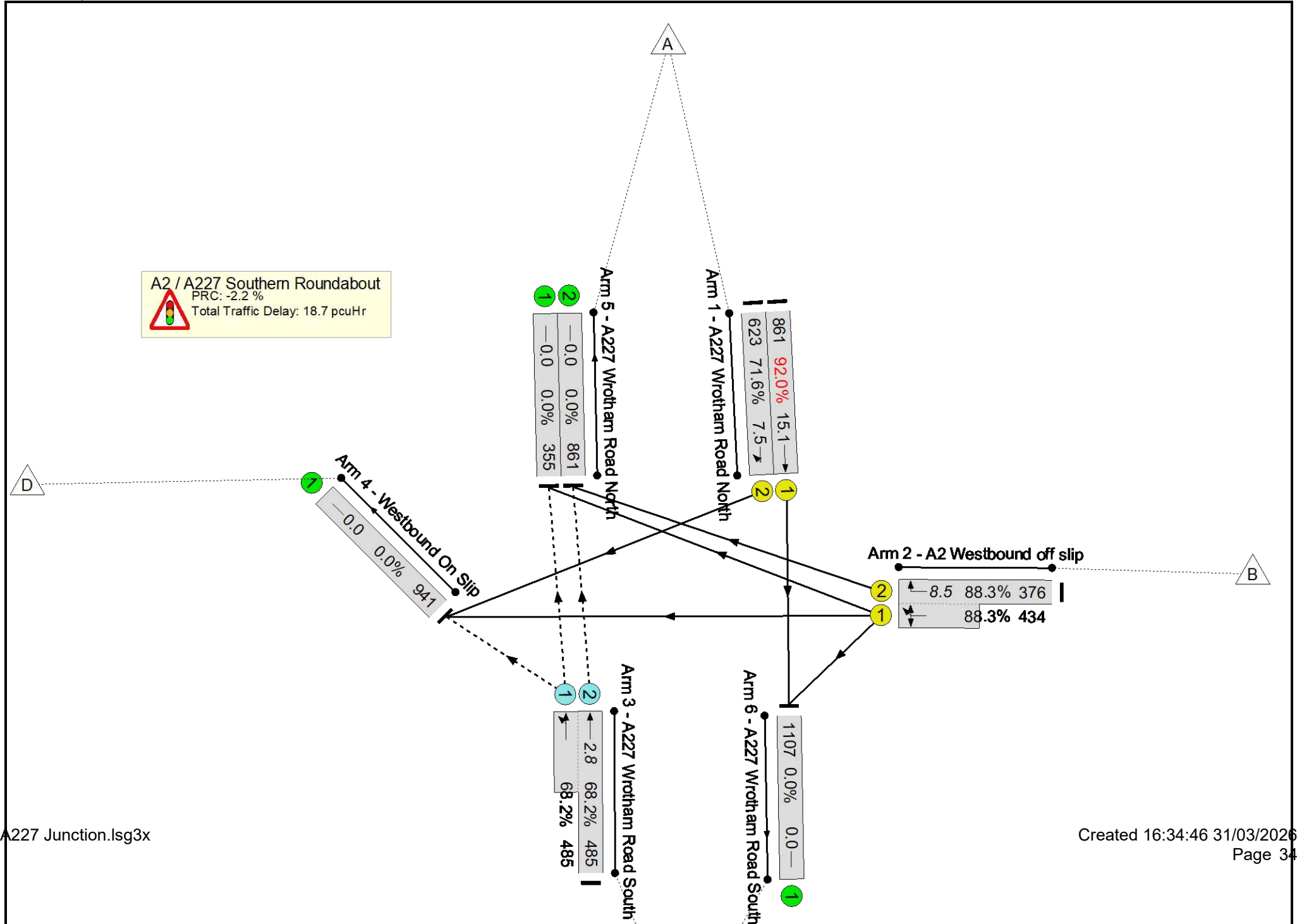
Phase Timings

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	-	-		-	-	-	-	-	-	-	92.0%
A2 / A227 Southern Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	-	92.0%
1/1	A227 Wrotham Road North Ahead	U	N/A	N/A	A		1	20	-	-	861	2005	936	92.0%
1/2	A227 Wrotham Road North U-Turn	U	N/A	N/A	A		1	20	-	-	623	1865	870	71.6%
2/2+2/1	A2 Westbound off slip Ahead Right Left	U	N/A	N/A	B		1	12	-	-	810	1892:1939	426+491	88.3 : 88.3%
3/2+3/1	A227 Wrotham Road South Ahead Ahead2	O	N/A	N/A	-		-	-	-	-	970	2040:2040	711+711	68.2 : 68.2%
4/1	Westbound On Slip	U	N/A	N/A	-		-	-	-	-	941	Inf	Inf	0.0%
5/1	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	355	Inf	Inf	0.0%
5/2	A227 Wrotham Road North	U	N/A	N/A	-		-	-	-	-	861	Inf	Inf	0.0%
6/1	A227 Wrotham Road South	U	N/A	N/A	-		-	-	-	-	1107	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	-	-	1453	487	0	7.8	10.9	0.0	18.7	-	-	-	-	
A2 / A227 Southern Roundabout	-	-	1453	487	0	7.8	10.9	0.0	18.7	-	-	-	-	
1/1	861	861	-	-	-	2.7	5.1	-	7.8	32.4	10.0	5.1	15.1	
1/2	623	623	-	-	-	1.7	1.2	-	2.9	16.8	6.2	1.2	7.5	
2/2+2/1	810	810	-	-	-	3.3	3.6	-	6.8	30.2	4.9	3.6	8.5	
3/2+3/1	970	970	1453	487	0	0.2	1.1	-	1.2	4.6	1.8	1.1	2.8	
4/1	941	941	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/1	355	355	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
5/2	861	861	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
6/1	1107	1107	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
C1 PRC for Signalled Lanes (%): -2.2 PRC Over All Lanes (%): -2.2 Total Delay for Signalled Lanes (pcuHr): 17.47 Total Delay Over All Lanes(pcuHr): 18.71 Cycle Time (s): 45														