



Transport Assessment Addendum

**Proposed Residential Development
Land at Ilkeston Road/Sowbrook Lane
Ilkeston**

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Transport Assessment Addendum

Land at Ilkeston Road/Sowbrook Lane, Ilkeston



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Contents

1.0	Introduction	1
1.1	Planning Context	1
2.0	Site Access.....	2
3.0	Sustainable Travel Enhancements	3
3.1	Introduction.....	3
3.2	Active Travel	3
3.3	Public Transport.....	4
3.4	Other Measures.....	5
4.0	Accessibility Assessment.....	6
4.1	Introduction.....	6
4.2	Accessibility	6
4.3	Local Amenities.....	8
5.0	Junction Impact Assessment	10
5.1	Introduction.....	10
5.2	J1: Ilkeston Road / Sowbrook Lane / Lows Lane	11
5.3	J2: Lows Lane / Littlewell Lane	13
5.4	J3: Quarry Hill Road / Merlin Way	14
5.5	J4: Quarry Hill Road / Elka Road	15
5.6	J5: Quarry Hill Road / Longfield Lane	16
5.7	J6: Quarry Hill Road / Little Hallam Hill	17
5.8	Capacity Assessment Summary.....	22
6.0	Summary and Conclusion.....	23
6.1	Summary.....	23
6.2	Conclusion	24

Appendices

Appendix A	A
LHA Responses	A
Appendix B	B
Proposed Access off Sowbrook Lane	B
MAC Drawing-450-TA10B	B
And.....	B
Proposed Access off Ilkeston Road	B
MAC Drawing-450-TA13A	B
And.....	B
Possible Bus Stop Locations	B
MAC Drawing-450-TA17	B
Appendix C.....	C
Proposed Footway Improvement	C
MAC Drawing: 450-TA14A	C
Appendix D	D
Site Layout	D
RDC Drawing: RDC1146/002.....	D
Appendix E.....	E
Bus Timetables and Routes.....	E
Appendix F.....	F
Local Facilities Plan	F
MAC Drawing: 450-TA05A	F
Appendix G	G
J1: Sowbrook Lane/Ilkeston Road/Lowes Lane Input Data and PICADY Report.....	G
Appendix H	H
Junction 1 - Sowbrook Ln/ Ilkeston Ln/ Lows Ln Nil Det Solution	H
MAC Drawing: 450-TA81.....	H
J1: Sowbrook Lane/Ilkeston Road/Lowes Lane NIL Det PICADY Report.....	H
Appendix I	I
Potential Roundabout: Sowbrook Lane/Ilkeston Road/Lowes Lane	I
Glanville Drawing: 8200919/6113	I
and	I

Potential Roundabout: Sowbrook Lane/Ilkeston Road/Lowes Lane Geometry	I
MAC Drawing: 450-TA80.....	I
Appendix J	J
Potential Roundabout: Sowbrook Lane/Ilkeston Road/Lowes Lane Input data and results.....	J
Appendix K	K
J2: Proposed Lows Lane/Littlewell Lane Junction improvement.....	K
MAC Drawing: 450-TA12-Ghost Island Arrangement.....	K
Appendix L.....	L
J2: Proposed Lows Lane/Littlewell Lane Input Data and PICADY Report	L
Appendix M	M
J3: Quarry Hill Road/Merlin Way Input Data and PICADY Report	M
Appendix N	N
J4: Quarry Hill Road/Elka Road Input Data and PICADY Report	N
Appendix O	O
J5: Quarry Hill Road/Longfield Lane Input Data and PICADY Report.....	O
Appendix P	P
J6: Quarry Hill Road/Little Hallam Hill Input Data and ARCADY Report	P

1.0 Introduction

1.1 Planning Context

1.1.1 The Local Planning Authority (LPA) refused planning permission for 196 dwellings at land off Sowbrook Lane, Ilkeston on the 13th October 2022.

1.1.2 This Transport Assessment Addendum has been prepared respond to highway comments raised in the following documents:

- Local Highway Authority's (LHA) comments on MAC Transport Assessment (450-TA-01-A, April 2022) which comprises a response to the Transport Assessment dated 23rd September 2022 and a Travel Plan response dated 29th September 2022; and
- Local Planning Authority's Decision Notice and committee report.

1.1.3 A copy of the of the responses is enclosed in **Appendix A**

1.1.4 This report addresses the following area:

- Site Access
- Sustainable Travel Enhancements
- Accessibility Assessment
- Junction Assessment

2.0 Site Access

2.1.1 Updated access drawings are enclosed in **Appendix B**. These confirm that the relevant design complies with or provides all of the items listed below as requested by the LHA:

- The length of the deceleration lane is was drawn as 40m deacceleration length and 10m turning length as required.
- The access width has been increased to 6.75m, in order to allow for any future bus route into the site, with 2 x 2m footways as current.
- Provide a 2m footway along the site frontage of Ilkeston Road.
- Provided footway and crossing points on Sowbrook Lane within proximity of the access with pedestrian refuges.

2.1.2 In addition, the development will commit to providing bus stops on Ilkeston Road as requested. To demonstrate how these could be delivered these are also shown on the updated access drawings enclosed in **Appendix B**. However, the exact location of the access is to be agreed with the LHA at delivery stage.

3.0 Sustainable Travel Enhancements

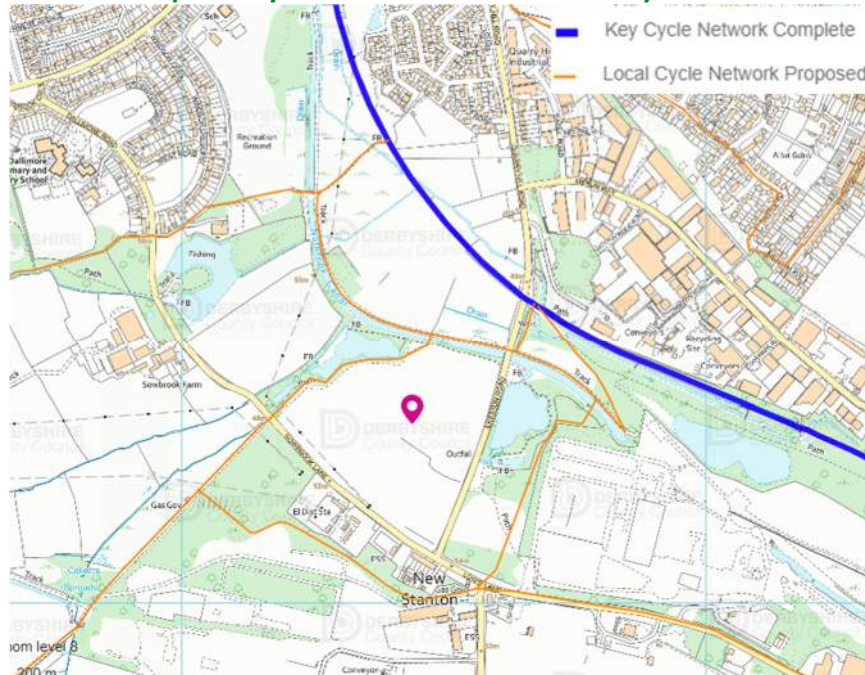
3.1 Introduction

- 3.1.1 This chapter sets out the various sustainable travel highway improvements which will be provided by the development. The accessibility of the site is discussed in Chapter 4.0.

3.2 Active Travel

- 3.2.1 Residents of the development will be able to walk to the facilities located within Kirk Hallam using the existing footway on Sowbrook Lane. This footway has an existing width ranging from 1.4m to 2.0m although typically 1.7 to 1.8m wide.
- 3.2.2 It is proposed to widen the Sowbrook Lane footway to provide upgraded typical width of 2.0m but with a minimum width of 1.8m. The improved footway is shown on the drawing enclosed in **Appendix C**. The widening footway will be delivered via a combination of using the existing verge or a slight narrowing of the road to no less than 6.75m wide. A width reduction to 6.75m is appropriate as this is the width required by the LHA for the road to serve buses. In addition the existing road currently has a pinch point where the width is reduced to 6.15m. Hence, any reduction in width to 6.75m is not a restriction on development. It should also be noted that Sowbrook Lane is subjected to a 7.5 tonne weight restriction so most vehicles on the road would be small in nature.
- 3.2.3 Uncontrolled crossings with pedestrian refuges will be provided across Sowbrook Lane to access this footway from the development site, which can be seen on the access drawings enclosed in **Appendix B**. Uncontrolled crossings will also be provided on Ilkeston Road.
- 3.2.4 The internal layout will be designed to encourage sustainable transport use with cycle parking provided at each dwelling and a good quality internal footway layout.
- 3.2.5 There is an existing informal footpath across the field which runs from Sowbrook Lane towards Nutbrook Canal towards the north-western edge of the site. This informal route to a 3m wide shared footway / cycleway and provided as an official route. The route within the development is shown on the proposed layout drawing enclosed in **Appendix D**. This improvement would provide part of Derbyshire County Council's proposed local cycle network improvements in the area. The extent of proposals within the vicinity of the site are shown in **Inset 3.1** below. When the Council's plans are delivered this would provide an off-carriageway cycle route from the development to the existing Nutbrook Trail which is Route 67 of the National Cycle Network.

Inset 3.1: Proposed Cycle Network within the vicinity of the Site



3.3 Public Transport

- 3.3.1 The site is currently served by the number 14 bus service from an existing bus stop on Lows Lane near Twelve Houses.
- 3.3.2 The development will provide two new bus stops on Ilkeston Road to serve this development, with appropriate facilities. The proposed bus stops are shown on the drawing enclosed in **Appendix B**. As bus stops are adjacent to the development, all dwellings will be located within 400m of the nearest bus stop. As requested by the LHA the main internal road linking Sowbrook Lane and Ilkeston Road will be provided with a width of 6.75m suitable for future bus services.
- 3.3.3 The current bus service is provided by Littles Travel who operate the contract for Derbyshire County Council. The current bus service operates outside of the peak periods as shown in the summary table below and enclosed in **Appendix E**.

Table 3.1: Bus Services and Frequencies - Twelve Houses, Lows Lane

Route No.	Operator/Route	Typical Frequency	
		Mon – Sat	Sun
14	Nelson Street – Ebenezer Street – Ilkeston, Tesco – Ilkeston, Bath Street – Ilkeston, Wharnccliffe Road – <i>Twelve Houses, Lows Lane</i> – Stanton-by-Dale – Sandiacre, White Lion	0955-1055-1155-1255-1355-1455-1555*-1655	No Service
	Sandiacre, White Lion – Stanton-by-dale – <i>Twelve Houses, Lows Lane</i> – Ilkeston, Wharnccliffe Road – Ilkeston, Bath Street – Ilkeston, Tesco – Ebenezer Street -Nelson Street.	1015-1115-1215-1315-1415-1515*-1615*-1715	No Service

*Saturdays and Sundays only

- 3.3.4 The developer will provide funding to the existing operator to enhance the existing number 14 bus service to ensure that it can operate as an hourly bus service between 0700 and 1900 from Monday to Saturday. This would provide an enhancement to the existing council funded service and a wider benefit to the existing communities on the route. The proposed improvement has been discussed with the existing operator and it is a viable option for both the developer and the bus company.

3.4 Other Measures

- 3.4.1 The development has already prepared a Framework Travel Plan. This will encourage the use of sustainable modes of travel by any means to occupiers of the development. The exact measures to be implemented as part of the travel plan will be agreed with the LHA and house builder. A full Travel Plan will be implemented and agreed with the LHA 6 months prior to first occupation.

4.0 Accessibility Assessment

4.1 Introduction

- 4.1.1 The Transport Assessment undertook an assessment of accessibility, the addendum builds further on the assessment.

4.2 Accessibility

- 4.2.1 The proposed development site is well located to enable residents to use active travel measures. The National Travel Survey 2021 (NTS) shows that the average walking distance is 0.8 miles (~1.3km) and for walks over a mile the average distance walked is 1.5 miles (~2.4km). The average trip length has remained consistent since at least 2002 but has seen a slight increase for the last two years. The same survey shows that the average cycle journey is 3.6 miles (5.7km). Whilst the NTS also shows that 82% of journeys under 1 mile (1.6km) are made on foot and of the cycle trips made 80% of these were under 5 miles in length.
- 4.2.2 Current government guidance 'Gear Change A bold vision for cycling and walking' says "58% of car journeys in 2018 were under 5 miles. And in urban areas, more than 40% of journeys were under 2 miles in 2017–18. For many people, these journeys are perfectly suited to cycling and walking." Hence, there is a clear push from Government to encourage as many journeys, of up to 5 miles, as possible to use active travel modes.
- 4.2.3 In 2000 the Institution of Highways and Transportation published the document 'Providing for Journeys on Foot'. This document states that:
- "80% of walk journeys and walk stages in urban areas are less than one mile. The average length of a walk journey is one kilometre (0.6 miles). This differs little by age or sex and has remained constant since 1975/76."*
- It goes on to define an average walking speed thus:
- "An average walking speed of approximately 1.4 m/s can be assumed, which equates to approximately 400m in five minutes or three miles per hour."*
- 4.2.4 Within the document:
- "Table 3.2 contains suggested acceptable walking distances, for pedestrians without a mobility impairment for some common facilities. These may be used for planning and evaluation purposes."*
- Table 3.2 is replicated below as **Table 4.1**. Predicted journey times have been added to distances based on the 1.4m/s walking pace.

Table 4.1: Suggested Walking Distances - IHT 'Providing for Journeys on Foot'

	Town Centres		Commuting / School / Sight-seeing		Elsewhere	
	Distance	Time	Distance	Time	Distance	Time
Desirable	200m	2m 23s	500m	5m 57s	400m	4m 46s
Acceptable	400m	4m 46s	1000m	11m 54s	800m	9m 32s
Preferred	800m	9m 32s	2000m	23m 48s	1200m	14m 17s
Maximum						

- 4.2.5 The 2km walking distance was subsequently adopted in central government guidance and was incorporated into the former PPG13 advice note, which stated that:

“Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly those under two kilometres”.

- 4.2.6 Current guidance within the Manual for Streets (MfS) continues to adopt this guidance. Paragraph 4.4.1 of MfS states that:

“Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes’ (up to about 800m) walking distance of residential areas which residents may access comfortably on foot. However, this is not an upper limit and PPS13 states that walking offers the greatest potential to replace short car trips, particularly those under 2 km.”

- 4.2.7 There is a range of distances that are acceptable for walking, however, it is clear that 0.8-1mile (1.3km to 1.6km) reflects what the average person is doing with the majority of journeys under 1 mile made on foot. Further 2km has generally been seen as the preferred maximum walking distance.

- 4.2.8 Cycle journeys are generally considered acceptable if the distance is less than 5km.

- 4.2.9 Accessibility to bus services is considered acceptable if bus stops are located within 400m.

4.3 Local Amenities

4.3.1 A summary of the distances and journey times to the local amenities is provided in **Table 4.2**. The location of these facilities in relation to the site is shown on the plan enclosed in **Appendix F**.

Table 4.2: Distance and Journey Times to Local Amenities

Destination	Distance (m)	Journey Time (minutes)	
		Walk	Cycle
Via Sowbrook Lane			
New Station Park - Employment	Adjacent – 800m	<1-9	<1-3
Kirk Hallam Social Bar	700m	8	3
Dallimore Primary School	740m	9	3
Kirk Hallam Community Centre	1,100m	13	5
Butterfly Castle Day Nursery	1,100m	13	5
Kirk Hallam Local Centre:			
- Doctors	1,200m	14	5
- Pharmacy			
- Dentist			
- Convenience Store			
- Post Office			
- Hair dressers			
- Takeaway			
Co-op Convenience Store / PFS	1,400m	17	6
Takeaway – Captain Kirk Fish & Chips	1,400m	17	6
All Saints Church	1,400m	17	6
Ladywood Primary School	1,400m	17	6
Kirk Hallam Community Academy (Secondary)	2,300m	27	10
St John Houghton Catholic School (Secondary)	2,400m	29	10
Via Ilkeston Road			
Leisure – Nut Brook Trail (adjacent)	100	<1	<1
New Station Park - Employment	Adjacent – 800m	<1-9	<1-3
Quarry Hill Industrial Park	700m	-	3
Ilkeston Library	2500	-	10
Supermarket	3600	-	15

Note: Assumes average walking speed of 1.4m/s and average cycling speed of 4m/s

4.3.2 Most facility types are located within Kirk Hallam which is located within a walkable distance from the site via Sowbrook Lane. Most facilities are located less than 1.2km from the site which is less than the average walking distance as identified in the NTS (1.3km). It is also at the lower end of the preferred maximum which ranges from 1km to 2km as identified in the IHT document. The facilities are also within 1.6km (1 mile) of which 82% of trips are made on foot.

- 4.3.3 Cycling to these same facilities is also possible using Sowbrook Lane all of which are located within 5km.
- 4.3.4 Further facilities are located within Ilkeston, however, the only major facility types missing from Kirk Hallam is a library and a full-size supermarket. Both of these are located within 4km of the site so can be reached on a bike.
- 4.3.5 All facilities within Ilkeston including those mentioned above could be accessed via the improved number 14 bus service which the developer will fund to increase the hours of operation ensuring a Monday to Saturday 0700-1900 service is provided.
- 4.3.6 In addition to the local amenities several major employment areas are also within reasonable active travel distances and could be reached on foot or bike or bus such as the newly approved New Station Park (adjacent), Quarry Hill Industrial Park (700m), Ilkeston Town Centre (2.9km), Manners Avenue Industrial Park (3.7km).
- 4.3.7 The above assessment shows that the development is located within walking and cycling distances that are both recommended in national guidance and undertaken by people as demonstrated by the NTS. The site's location will not be a barrier to the use of active modes to access local amenities or employment opportunities.
- 4.3.8 The site is located within a sustainable location.

5.0 Junction Impact Assessment

5.1 Introduction

- 5.1.1 This junction capacity assessments have been updated to reflect the comments from the LHA who have requested that our capacity assessment should include the recently approved development of New Stanton Park (ERE/1221/0002) which was consented on the 25th August 2022. The New Station Park (NSP) development is to comprise:

“demolition of existing buildings and structures to provide; a maximum 261,471 sqm of employment (a mix of Class Eg (iii) (Industrial Processes), B2 (General Industrial) and B8 (Storage & Distribution) with associated car, cycle and HGV parking; service yards; gatehouse(s) and security facilities; electrical substations; provision of cycle and walking infrastructure and foul and surface water infrastructure; removal of trees; retention of open space for biodiversity enhancements and landscaping; utilities; provision of land for safeguarding for future highway improvements; relocation and consolidation of existing railway line; provision of intermodal rail hub, and other associated works and improvements.”

- 5.1.2 Vehicle trip movements for the adjacent development have been taken from the Transport Assessment published on the planning authority’s website prepared by Glanville dated 19 November 2021.
- 5.1.3 It should be noted that we have applied unmodified TEMPRO growth factors so there will be a degree of double counting in the growth factors which would mean that RFC values could be artificially higher than if this double counting was removed. Therefore, this is a conservative assessment.

5.2 J1: Ilkeston Road / Sowbrook Lane / Lows Lane

5.2.1 The full junction input data and results can be found in **Appendix G**. The results of the assessment are summarised below in **Table 5.1** and **Table 5.2**.

Table 5.1: J1 Ilkeston Road/Sowbrook Lane/Lows Lane – AM Peak

	From Original TA						New Assessment			
	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.13	0	0.16	0	0.26	0	0.24	0	0.95	3
B-A	0.56	1	0.65	2	0.79	3	0.79	3	0.93	7
C-AB	0.04	0	0.05	0	0.05	0	0.05	0	0.05	0

Table 5.2: J1 Ilkeston Road/Sowbrook Lane/Lows Lane – PM Peak

	From Original TA						New Assessment			
	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.18	0	0.24	0	0.29	0	0.19	0	0.22	0
B-A	0.49	1	0.61	2	0.70	2	0.43	1	0.51	1
C-AB	0.35	1	0.41	2	0.43	2	0.44	2	0.46	2

5.2.2 The junction is shown to operate within capacity in all future scenarios other than 2026 plus proposed development and NSP. In this scenario a RFC value of 0.95 and 0.93 is recorded on the minor arm which is above the threshold value of 0.85 RFC.

5.2.3 Due to the impact of the development at this junction a nil detriment solution, this will involve some kerb alterations to Sowbrook Lane which are shown in **Appendix H**. The results of the assessment are set out below in **Table 5.3**.

Table 5.3: J1 Ilkeston Road/Sowbrook Lane/Lows Lane – NIL DETRIMENT

	AM Peak				PM Peak			
	2026 + NSP		2026 + Dev + NSP – Nil Det		2026 + Dev + NSP – Nil Det		2026 + Dev + NSP – Nil Det	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.24	0	0.27		0.19	0	0.21	0
B-A	0.79	3	0.85	5	0.43	1	0.52	1
C-AB	0.05	0	0.05	0	0.44	2	0.46	2

5.2.4 With the geometric improvements the RFC values on all arms are 0.85 or lower. There is a slight increase in max queue length (2 vehicles) and a slight increase to vehicle delay (14 seconds), however, the development does not have a significant adverse impact on the highway network.

- 5.2.5 The LHA response notes that the junction is to be upgraded as part of the New Station Park development, however, our understanding from the submitted planning documents is that the land is simply to be safeguarded so that the junction can be upgraded in the future if required.
- 5.2.6 Based on the above nil detriment assessment our view is that the roundabout is not required to support the development of our site and if mitigation is provided this should be in the form of a nil detriment solution.
- 5.2.7 However, for completeness we have undertaken a capacity assessment of this junction using the suggested roundabout, as seen on the drawing enclosed in **Appendix I** with our geometry assessment shown in **Appendix I**. We would note that the NSP development did not undertake their own capacity assessment of this junction in documents that we have seen.
- 5.2.8 The results of the capacity assessment on the possible future roundabout to replace the existing priority Ilkeston Road/Sowbrook Lane/Lows Lane junction is shown below in **Table 5.4** and **Appendix J**.

Table 5.4: Ilkeston Road/Sowbrook Lane/Lows Lane – Roundabout

	AM Peak				PM Peak			
	2026 + NSP		2026 + Dev + NSP		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
A	0.31	1	0.32	1	0.47	1	0.48	1
B	0.17	0	0.19	0	0.07	0	0.08	0
C	0.01	0	0.01	0	0.06	0	0.06	0

- 5.2.9 It is demonstrated that if the roundabout is delivered either as part of the New Station Park development or part of future improvements it can adequately accommodate our development without any need for alterations.
- 5.2.10 To offset the impact of our development at this junction a nil detriment solution will be provided which will comprise widening of the Sowbrook Lane arm of the junction.

5.3 J2: Lows Lane / Littlewell Lane

5.3.1 This junction was shown to operate above capacity within the original Transport Assessment. To mitigate this impact, it was proposed to improve the junction so that it became a ghost island junction, see **Appendix K** for details of the proposed improvements. Therefore, we have used the mitigated junction geometry as the starting point for the assessment when included the New Station Park development.

5.3.2 This junction was not assessed by the New Station Park development.

5.3.3 The full junction input data and results can be found in **Appendix L**. The results of the assessment are summarised below in **Table 5.5** and **Table 5.6**.

Table 5.5: J2 Lows Lane/Littlewell Lane – AM Peak 0800-0900

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.40	1	0.52	1	0.45	1	0.31	1	0.33	1
B-A	0.14	0	0.37	1	0.18	0	0.17	0	0.19	0
C-AB	0.51	1	0.60	2	0.60	2	0.64	2	0.69	2

Table 5.6: J2 Lows Lane/Littlewell Lane – PM Peak 1700-1800

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.65	2	0.74	3	0.73	3	0.84	5	0.90	7
B-A	0.30	1	0.40	1	0.33	1	0.42	1	0.60	1
C-AB	0.49	1	0.55	1	0.54	1	0.48	1	0.50	1

5.3.4 The proposed improvement at the Lows Lane/Littlewell Lane junction provides a significant improvement to its overall operational capacity in all scenarios during both the AM and PM peak periods.

5.3.5 During the AM peak with the adjacent development the B-C movement does exceed theoretical capacity with an RFC value of 0.90 which is in excess of 0.85. However, the impact on queue length is minimal and the overall impact of the development on this junction is shown to minimal and insignificant.

5.3.6 The mitigation also provides a significant improvement on the operational performance of the junction in 2026 compared to its operation without any development. Therefore, further improvements are not considered to be required.

5.3.7 The proposed development does not have a significant adverse impact on this junction.

5.4 J3: Quarry Hill Road / Merlin Way

5.4.1 The full junction input data and results can be found in **Appendix M**. The results of the assessment are summarised below in **Table 5.7** and **Table 5.8**.

5.4.2 This junction was not assessed by the New Station Park development.

Table 5.7: J3 Quarry Hill Road/Merlin Way – AM Peak 0800-0900

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.70	2	1.02	10	1.08	14	1.11	16	1.18	20
B-A	0.72	2	0.97	6	1.04	8	1.07	9	1.14	10
C-B	0.55	1	0.62	2	0.62	2	0.66	2	0.67	2

Table 5.8: J3 Quarry Hill Road/Merlin Way – PM Peak 1700-1800

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.82	4	1.08	21	1.13	28	1.07	20	1.12	26
B-A	0.82	3	1.04	10	1.10	13	1.03	10	1.09	12
C-B	0.57	1	0.63	2	0.64	2	0.62	2	0.63	2

5.4.3 The impact of including the New Station Park development is minor, therefore the original conclusions from our Transport Assessment remain valid which say:

“The junction is shown to operate within its capacity during the 2021 base year during both AM and PM peak periods.

In the 2026 forecast year during both AM and PM peak periods the Merlin Way minor approach is shown to operate beyond its operational capacity with vehicle queues of between 6 to 21 pcu’s. With the addition of development traffic these queues increase on the Merlin Way by 2 to 7 pcu’s during the AM and PM peak periods. The Quarry Hill Road corridor arm remains within its operational capacity during all modelled scenarios.

Merlin Way forms the main access road through the Quarry Hill Industrial Estate and connects with Crompton Road to the east of the estate and joins Hallam Field Road to the north before connecting with Longfield Lane to the east with Quarry Hill Road. It is understood that Merlin Way is a private estate road and is unadopted highway. The availability of alternative access routes into the industrial estate from the local highway network provides opportunity for the reassignment of trips during the peak periods.

Furthermore, it is considered that the proposed development will result in minor impacts at the junction with an increase in total traffic flow of some 4.4% in the AM and 3.6% in the PM peaks.”

5.4.4 Whilst there has been some slight changes to RFC values the overall impact at this is minor and we would note that neither of the development would result in new conflicts at this junction.

5.4.5 The proposed development does not have a significant adverse impact on this junction.

5.5 J4: Quarry Hill Road / Elka Road

5.5.1 The full junction input data and results can be found in **Appendix N**. The results of the assessment are summarised below in **Table 5.9** and **Table 5.10**.

Table 5.9: J4 Quarry Hill Road/Elka Road – AM Peak 0800-0900

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.10	0	0.11	0	0.12	0	0.11	0	0.11	0
B-A	0.24	0	0.28	0	0.30	0	0.28	0	0.30	0
C-AB	0.04	0	0.05	0	0.05	0	0.05	0	0.05	0

Table 5.10: J4 Quarry Hill Road/Elka Road – PM Peak 1700-1800

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.09	0	0.10	0	0.10	0	0.10	0	0.10	0
B-A	0.10	0	0.12	0	0.12	0	0.12	0	0.12	0
C-AB	0.04	0	0.05	0	0.05	0	0.14	0	0.14	0

5.5.2 The junction is shown to operate well within its capacity during both AM and PM peak periods for all modelled scenarios.

5.6 J5: Quarry Hill Road / Longfield Lane

5.6.1 The full junction input data and results can be found in **Appendix O**. The results of the assessment are summarised below in **Table 5.11** and **Table 5.12**.

Table 5.11: J5 Quarry Hill Road/Longfield Lane – AM Peak 0800-0900

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.14	0	0.16	0	0.16	0	0.17	0	0.17	0
B-A	0.28	0	0.33	1	0.35	1	0.35	1	0.37	1
C-AB	0.08	0	0.09	0	0.10	0	0.09	0	0.10	0

Table 5.12: J5 Quarry Hill Road/Longfield Lane – PM Peak 1700-1800

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
B-C	0.06	0	0.06	0	0.07	0	0.06	0	0.07	0
B-A	0.15	0	0.17	0	0.18	0	0.17	0	0.17	0
C-AB	0.16	0	0.18	1	0.18	1	0.18	1	0.19	1

5.6.2 The junction is shown to operate well within its capacity during both AM and PM peak periods for all modelled scenarios.

5.7 J6: Quarry Hill Road / Little Hallam Hill

5.7.1 The full junction input data and results can be found in **Appendix P**. The results of the assessment are summarised below in **Table 5.13** and **Table 5.14**.

Table 5.13: J6 Quarry Hill Road/Little Hallam Hill – AM Peak 0800-0900

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
A	1.23	135	1.32	214	1.33	225	1.44	320	1.45	332
B	0.80	4	0.86	6	0.96	12	0.72	2	0.81	4
C	1.09	36	1.20	69	1.27	86	1.12	48	1.19	66

Table 5.14: J6 Quarry Hill Road/Little Hallam Hill – PM Peak 1700-1800

	2021 Base		2026 Forecast		2026 + Dev		2026 + NSP		2026 + Dev + NSP	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
A	1.00	22	1.08	53	1.12	74	1.04	38	1.08	57
B	0.98	14	1.07	31	1.08	33	1.18	58	1.18	60
C	1.10	38	1.19	68	1.21	72	1.20	71	1.21	75

5.7.2 The junction is shown to currently operate beyond its capacity in the 2021 base year during both the AM and PM peak periods without the proposed development in place. It also operates beyond its operational capacity in all future year scenarios with or without the proposed development.

5.7.3 The impact of this development on the junctions in terms of RFC values is minor. The development has a slightly larger impact on queue length due to the junction already being over capacity. This is discussed further below.

5.7.4 This junction has been subject to a recent assessment as part of a Persimmon Homes development known as Elka's Rise for 350 dwellings off Quarry Hill Road to the south (Ref ERE/0614/0030). The impact of the Persimmon development on this junction was originally assessed in April 2014. This assessment resulted in Persimmon Homes proposing improvement works through the signalisation of the junction, with two approach lanes from the town centre (straight on and left turn) and a small filter lane to hold eastbound traffic turning right onto Quarry Hill Road. The scheme is identified in DCC Highways Capital Programme for 2022-23. However, it has now been agreed by the Council that the junction improvements were not required"

5.7.5 Following on from the approval of the planning application and proposed improvements Persimmon undertook further studies,

5.7.6 The first study was completed by Matrix in a report dated April 2019. This was completed on survey data from when 59 dwellings were occupied equating to a 17% occupancy rate. Matrix undertook a capacity assessment which showed the junction to be operating over capacity in 2023 both without and with the development.

5.7.7 It was noted that the impact of the development was less than in the original study to support the planning application. They also noted:

“At a local level, the Local Highway Authority has recently provided comments on another residential scheme of similar scale within Chesterfield (consultation comments dated October 2017 in relation to planning reference 17/00806/FL), which explained their stance on junctions already at capacity:

“Once the junction becomes saturated the queueing prediction simulation software merely assumes that traffic will be added onto the back of a queue. In other words, a driver will simply wait their turn. Clearly, this is not a realistic assumption; it is not considered likely that drivers will be willing to simply sit in a queue. Drivers more than likely will make behavioural changes to their travel behaviour; this could take a number of forms including re-routing of their journey.”

5.7.8 The latest transport report by SDD dated January 2020. Updates the situation based on the LHA's requirement for the occupation level of the site to be greater than 50%. This report undertook two aspects of work.

5.7.9 The first element was to establish with actual traffic surveys what proportion of their traffic distributed to the north and through this junction. Their counts showed that 47.2% and 46.2% distributed to the north in the AM and PM peak hours respectively rather than 85.5% first used in the original Transport Assessment.

5.7.10 With this data SDD established that their development would increase traffic at the Quarry Hill Road / Little Hallam Hill junction by 2.8% and 3.7% in the AM and PM peak hours respectively. They also undertook a sensitivity test based on an 80% distribution of traffic to the north which found the increases to be 4.7% and 6.4% in the AM and PM peak periods. No new capacity assessment of the junction was completed based on the new traffic flow data so the impact on RFC and queue lengths has not been quantified.

5.7.11 The second element of work looked at the appropriateness of the proposed signals. SDD concluded:

“Ultimately the analysis detailed in this report has identified that the installation of a traffic signal controlled junction, replacing the existing Little Hallam Hill / Quarry Hill Road roundabout junction, would create a significant detriment to its operation, when compared to the retention of the mini-roundabout, in both with development and without development scenarios considered.”

- 5.7.12 In DLP's letter dated 11 December 2020 to Erewash Borough Council to vary the S106 agreement. Part of this letter states:

"In reviewing the works (undertaken in 2012 as part of the initial planning application) with an external highway consultant, it became apparent that there were several errors in the junction capacity model created in relation to the potential signalisation of the roundabout. The 2012 modelling works associated with the signalisation option severely overestimated the level of development traffic through the roundabout. It was determined that implementing the proposed signalisation works would actually be detrimental to the operation of the roundabout and will not result in improved traffic flow nor capacity as a result of the development (when compared to its existing layout). The signalisation as per the plan will result in significant safety issues and any positive impact that was reported in the original determination (as directed by the 2012 Transport Assessment) was significantly over estimated."

- 5.7.13 Because the proposed signal mitigation was no longer considered appropriate and the development would result in less trips at the junction than originally anticipated the requirement for the Persimmon development to provide the signal improvements at the Quarry Hill Road / Little Hallam Hill junction was removed.

- 5.7.14 Using the same assessment method as SDD we can calculate the percentage increase in vehicle trips at the junction from our proposed development. The increases are shown in **Table 5.15** are small and less than that generated by the Persimmon development as noted above.

Table 5.15: Percentage Increase in Traffic at Junction 6

	2026 AM			2026 PM		
	Base	Base + Dev	Change	Base	Base + Dev	Change
Little Hallam Hill East	1316	1330	14	1015	1057	42
Quarry Hill	406	458	52	626	641	15
Little Hallam Hill West	659	659	0	667	667	0
Total	2380	2447	66	2309	2366	57
%age		2.7%			2.4%	

- 5.7.15 The New Station Park development would result in additional traffic routing through this junction they did not undertake a capacity study of the Quarry Hill Road / Little Hallam Hill junction. It is assumed that the LHA considered the impact of the NSP development on this junction to be minimal, hence, no assessment was required. The NSP site did undertake an assessment of the Little Hallam Hill / Little Hallam Lane / Lower Stanton Road junction which is located further downstream which would suggest that the impact on the Quarry Hill Road / Little Hallam Hill junction was considered and deemed to not be necessary of further consider.

5.7.16 Various measures have been considered to improve this junction. However, due to the space constraints, it is not possible to provide geometric improvements to the existing junction nor it is possible to upgrade the junction to a full roundabout. As noted above and identified by others it is not feasible to upgrade to a signal controlled.

5.7.17 The impact of the development on the junction with all background growth and the NSP development on RFC, Max Queue and Delay is summarised below in **Table 5.16** and **Table 5.17**. It should be noted that we have applied unmodified TEMPRO growth factors so there will be a degree of double counting in the growth factors which would mean that RFC values could be artificially high.

Table 5.16: Summary of Development Impact - AM Peak

Arm	RFC			Max Queue (pcu)			Delay (s)		
	2026 + NSP	2026 + Dev + NSP	Diff	2026 + NSP	2026 + Dev + NSP	Diff	2026 + NSP	2026 + Dev + NSP	Diff
A	1.44	1.45	0.01	320	332	12	1072	1111	39
B	0.72	0.81	0.09	2	4	2	20	29	9
C	1.12	1.19	0.07	48	66	18	223	329	106

Table 5.17: Summary of Development Impact - PM Peak

Arm	RFC			Max Queue (pcu)			Delay (s)		
	2026 + NSP	2026 + Dev + NSP	Diff	2026 + NSP	2026 + Dev + NSP	Diff	2026 + NSP	2026 + Dev + NSP	Diff
A	1.04	1.08	0.04	38	57	19	115	162	47
B	1.18	1.18	0	58	60	2	327	345	18
C	1.2	1.21	0.01	71	75	4	424	454	30

5.7.18 In the AM peak period on arms which are overcapacity the maximum increase in RFC value is 0.07. Whilst the maximum queue length increases by 18 pcus on Little Hallam Hill (W-Arm C) and on the same arm delay increased by 106 seconds. On Arm A Little Hallam Hill (E) the increase to queue length is 12 pcus and a delay of 39 seconds.

5.7.19 In the PM peak period on arms which are overcapacity the maximum increase in RFC value is 0.04. Whilst the maximum queue length increases by 19 pcus on Little Hallam Hill (E) and on the same arm delay increased by 47 seconds. The increases on arms B and C where much less.

5.7.20 It is important to put these small increases into context for example **Table 5.16** and **Table 5.17** show the impact of the NSP development on this junction in 2026 which increased RFC values by a peak of 0.12, queues by 106 pcus and delay by 307 seconds. The impact in the PM peak was increased RFC values of 0.11, queues by 26 pcus and delay by 160 seconds. This impact is much larger than the impact this development would have on this junction. As noted above no assessment of this junction or mitigation was provided at by NSP.

- 5.7.21 We would note that the relatively small impact this development would have on the junction is not likely to materialise in full as drivers would either use alternative means of transport or would divert to use alternative routes to avoid high stress areas of the highway network.
- 5.7.22 Whilst the proposed development would have an adverse impact at this junction, we do not consider the impact to be significant or to have a detrimental impact on highway safety.

5.8 Capacity Assessment Summary

- 5.8.1 A capacity assessment has been completed at 6 junctions, as agreed in a scope with the LHA. The new capacity assessments consider the impact of the development along with the recently approved New Stanton Park development.
- 5.8.2 At two of these junctions J1: Ilkeston Road / Sowbrook Lane / Lows Lane and J2: Lows Lane / Littlewell Lane nil detriment improvements are being provided to offset an adverse impact.
- 5.8.3 At two junctions J3: Quarry Hill Road / Merlin Way and J6: Quarry Hill Road / Little Hallam Hill the development will have an adverse impact but this is not deemed to be significant.
- 5.8.4 The remaining junctions operate within capacity in all scenarios.
- 5.8.5 The proposed development will not have a significant adverse impact on highway capacity.

6.0 Summary and Conclusion

6.1 Summary

6.1.1 This Transport Assessment Addendum responds to comments raised by the Local Highway Authority and Local Planning Authority.

6.1.2 The proposed development will provide the following sustainable transport initiatives:

- Footway to Kirk Hallam to be upgraded to provide a typical width of 2.0m but no less than 1.8m;
- Uncontrolled crossings with pedestrian refuges will be provided across Sowbrook Lane to access this footway from the development site.
- Provide a new 2m footway along the site frontage of Ilkeston Road
- The internal layout will be designed to encourage sustainable transport with cycle parking provided at each dwelling and a good internal footway layout.
- The existing informal footway along the north western edge of the site will be provided as a 3m wide shared footway / cycleway. This will form part of a wider improvement strategy for cycling in the area as identified by the LHA.
- The proposed access will be widened to 6.75m to provide for future bus access.
- The number 14 bus service will be upgraded with developer funding to provide an hourly service between 0700-1900 Monday to Saturday. Should council funding be removed in the future the developer will provide additional funding to ensure the service operates for 5 years post final occupation on the site.
- New bus stops will be provided on Ilkeston Road to serve this service.
- Framework Travel Plan

6.1.3 A detailed assessment of the site's accessibility and proximity to local facilities demonstrates that the site is located in a sustainable location with most facilities located within a walkable distance and those which are not are accessible via bicycle or bus.

6.1.4 A capacity assessment has been completed at 6 junctions, as agreed in a scope with the LHA. The new capacity assessments consider the impact of the development along with the recently approved New Stanton Park development.

6.1.5 At two of these junctions J1: Ilkeston Road / Sowbrook Lane / Lows Lane and J2: Lows Lane / Littlewell Lane nil detriment improvements are being provided to offset an adverse impact.

6.1.6 At two junctions J3: Quarry Hill Road / Merlin Way and J6: Quarry Hill Road / Little Hallam Hill the development will have an adverse impact but this is not deemed to be significant.

6.1.7 The remaining junctions operate within capacity in all scenarios.

6.1.8 The proposed development will not have a significant adverse impact on highway capacity.

6.2 Conclusion

- 6.2.1 It is therefore concluded that residential development on the Site accords with guiding principles of National Planning Policy Framework (NPPF). Accordingly, it is considered that the development traffic will result in a minor impact on the surrounding highway network.
- 6.2.2 In accordance with NPPF, the impact of traffic generated by the development could not be viewed as severe, and therefore does should not constitute grounds for the development to be prevented or refused.

Appendix A
LHA Responses

From: Sue Highley (Place) <Sue.Highley@derbyshire.gov.uk>
Sent: 29 September 2022 12:41
To: James Grundy
Cc: Planning
Subject: FW: ERE/0722/0038 - Residential Development (196 dwellings)at Land North West Of 1 To 12 Sowbrook Lane Stanton By Dale
Attachments: [Sowbrook Lane Stanton TP Comments.docx](#)

Hi James

Further to my comments on the above application dated 23 September 2022, I have received the comments below and attached from my Sustainable Travel colleague in respect of the Travel Plan.

I would be obliged if you would ask the applicant to address these comments and submit amended details which I will be happy to comment upon in due course.

Kind regards

Sue Highley | Project Engineer - Development Control | 01629 538697 | 0791 773 9339

Place | Derbyshire County Council
County Hall, Matlock, Derbyshire, DE4 3AG

From: Michael Reardon (Place) <Michael.Reardon@derbyshire.gov.uk>
Sent: 26 September 2022 16:18
To: Sue Highley (Place) <Sue.Highley@derbyshire.gov.uk>
Cc: Gill Millward (Place) <Gill.Millward@derbyshire.gov.uk>; Anna Chapman (Place) <Anna.Chapman@derbyshire.gov.uk>
Subject: RE: ERE/0722/0038 - Residential Development (196 dwellings)at Land North West Of 1 To 12 Sowbrook Lane Stanton By Dale

Hello Sue,

Good afternoon, and apologies for the delay.

Travel Plan comments are attached. The main issue with the document is that it lacks an Action Plan. That provided is a list of possible actions, and does not specify what will be done, by whom, and when.

The Travel Plan should be resubmitted with this included. As it stands, the document cannot be said to address the requirements.
As many of the other comments should also be incorporated as reasonably possible.

Notably, the development should include the provision of:

- Bus stops on the development frontage of Ilkeston Road – probably as a condition. Consult Dean Jones in the local bus team for precise specifications.
- Bus taster tickets, secured by whatever means appropriate.
- The upgrading of the existing informal footpath along the North Western edge of the site, as this is a proposed local cycle network route, which links into the Derbyshire Key Cycle Network. Further details and a recommended specification are available on request.

In the event of a S106, the usual considerations apply, ie:

- Travel Plan monitoring fee: £1,110.00 pa x five years, total £5,550.00.
- Greenways / Key Cycle Network contribution. Proposed key and local cycle network links surround all four sides of the development, with clear potential to take trips off the highway. These link to the existing Nutbrook Trail. Consult Gill Millward or Anna Chapman for a developer contribution figure, should provision of the on site link as mentioned above not come to pass.

I trust this is helpful. Any queries, please let me know.

Regards

Michael Reardon

Senior Transport Officer - Smarter Business Travel

Sustainable Travel team, Derbyshire County Council, County Hall, Matlock, Derbyshire DE4 3AG.

01629 538065. M: 07747 006720



From: Sue Highley (Place) <Sue.Highley@derbyshire.gov.uk>

Sent: 23 September 2022 12:23

To: Michael Reardon (Place) <Michael.Reardon@derbyshire.gov.uk>

Subject: FW: ERE/0722/0038 - Residential Development (196 dwellings)at Land North West Of 1 To 12 Sowbrook Lane Stanton By Dale

Hi Michael

I was wondering whether you had any comments on the Travel Plan submitted in respect of the above application or whether I had missed your response.

Thanks

Sue Highley | Project Engineer - Development Control | 01629 538697 | 0791 773 9339

Place | Derbyshire County Council

County Hall, Matlock, Derbyshire, DE4 3AG

From: Place Development Control (Place)

Sent: 12 August 2022 11:55

To: Geoff Blissett (Place) <Geoff.Blissett@derbyshire.gov.uk>; Michael Reardon (Place)

<Michael.Reardon@derbyshire.gov.uk>

Subject: ERE/0722/0038 - Residential Development (196 dwellings)at Land North West Of 1 To 12 Sowbrook Lane Stanton By Dale

<https://register.civicacx.co.uk/Erewash/Planning/Details/ShowDetails?id=37288&pcid=3193e0f4-741f-40ad-823c-3aaa8d2af87a&dpid=DocumentsPage>

[Land at Ilkeston Road Sowbrook Lane Stanton by Dale Ilkeston TP35255 \(derbyshire.local\)](#)

Good morning

These are links to the district council's website and EDRM.

The application is in outline with all matters reserved except for access.

I would be grateful for your comments on the Transport Assessment and Travel Plan.

Thanks

Sue Highley | Project Engineer - Development Control | 01629 538697 | 0791 773 9339

Place | Derbyshire County Council
County Hall, Matlock, Derbyshire, DE4 3AG

From: Place Development Control (Place) <ETE.DevControl@derbyshire.gov.uk>

Sent: 29 July 2022 10:19

To: James Grundy <James.Grundy@erewash.gov.uk>

Subject: ERE/0722/0038 Land North West Of 1 To 12 Sowbrook Lane Stanton By Dale

Referred

Highways Department
County Offices
Matlock
Derbyshire
DE4 3AG

Resources Directorate, Planning & Regeneration
Town Hall Ilkeston
Derbyshire DE7 5RP
Switchboard: 0115 907 2244
E Mail: planning@erewash.gov.uk

Please ask for:
James Grundy

Direct Tel:
07834394117

Application Ref:
ERE/0722/0038

Date:

26 July 2022

Dear Sir/Madam

PLANNING APPLICATION CONSULTATION

APPLICATION REFERENCE
ERE/0722/0038

PROPOSED DEVELOPMENT

Outline Application for up to 196 dwellings with all matters reserved other than the means of access.

LOCATION

Land North West Of 1 To 12 Sowbrook Lane Stanton By Dale
Derbyshire

The application and plans are available for viewing on our website at www.erewash.gov.uk

I would be pleased if you could let me have any observations you may wish to make (including "no comments") within 21 days of the date of this letter.

Please note that by virtue of the provisions of the Local Government (Access to Information) Act 1985, any representations made are likely to be open to public inspection.

Please reply with your comments to planning@erewash.gov.uk

Yours faithfully

Steve Birkinshaw
Head of Planning & Regeneration

Premises Ref: ****41SOWB/1

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From: Sue Highley (Place) <Sue.Highley@derbyshire.gov.uk>
Sent: 23 September 2022 14:44
To: James Grundy
Cc: Planning
Subject: RE: ERE/0722/0038 - Land at Sowbrook Lane/Ilkeston Road, Stanton by Dale

Hi James

I refer to your email below, our more recent conversation and apologise for the delay in replying.

As discussed, as submitted, the proposal is not acceptable in highway terms.

The following comments relate to the Transport Assessment (TA) has submitted a in support of the application.

The Transportation Assessment suggests that the site will generate between 130 – 150 or so two-way trips during the respective weekday peak hours, however, exact numbers are likely to reflect the type of property, mix of private and affordable housing together with tenure of the affordable housing.

The Transportation Assessment includes some analysis of the sites relative accessibility. This considers how individuals can access day-to-day facilities and services, the most important of which are considered to include employment, education, healthcare, food retail and town centres. Whilst the proposals include consideration of local amenities relative to the site, inevitably though, prospective residents will need to travel some distance to access other essential services, education, shopping etc. Although MAC have provided some analysis of the sites sustainability, unfortunately though, there doesn't seem to be much in the provision of local amenities, particularly ones that can be reached on foot. This site is not identified in the Erewash Core Strategy Adopted 2014.

It should be noted that the TA concentrates on amenities in Kirk Hallam, although it is likely that residents would be attracted to the facilities in Ilkeston which are far more comprehensive. There are no footways on Ilkeston Road for a considerable distance north of the site resulting in pedestrians needing to walk in the carriageway. No provision is proposed.

Access to the site is proposed via two new priority junctions, one on Sowbrook Lane, the other Ilkeston Road. Capacity assessment of the main accesses indicates that adequate capacity will be provided and therefore congestion problems at the access junctions unlikely.

The transport assessment considers a number of offsite junctions. These are assessed on the basis of classified turning counts undertaken Thursday 21 October 2021. i.e., post lockdown but before the proposed element development at New Stanton Park (ERE/1221/0002) was consented. MAC notes that 'We are not aware of any permitted developments within the locality of the proposal Site.'

As such, the TA will need to be revised with New Stanton Park included as committed development and a cumulative impact assessment included.

J1: Ilkeston Road/Sowbrook Lane/Lows Lane.

Whilst as the transportation assessment notes that this, junction is shown to operate within capacity in the future year scenarios, presumably on the basis that the ratio of flow to capacity (RFC) calculated in the capacity assessments is less than 0.85, the capacity assessment does indicate that vehicles approaching the junction from Sowbrook Lane will be subject to some delays. More pertinently, however, is that as part of the New Stanton Park discussions, it was agreed that this junction would be improved by the provision of a 50 metre diameter (ICD) roundabout of which the TA makes no reference.

I assume that the construction of the roundabout or a contribution via a Section 106 Agreement would be required by your Authority should the development go ahead.

J2: Lows Lane/Littlewell Lane

The junction is shown to operate beyond its capacity in the 2021 base year during the morning peak hour on the Lows Lane approach arm. In the 2026 forecast year, and the forecast year plus development scenario, capacity assessment of the Lows Lane approach arm indicates that it will operate beyond its capacity during both typical peak periods. The Littlewell Lane approach marginally exceeds its operational capacity with the development in place. Capacity analysis predicts a maximum queue of some 5 vehicles. MAC proposed introduction of a ghost island right turn arrangement in order to provide some mitigation to the junction. The proposed junction improvement is shown on Drawing TA12 provided within Appendix R of the transportation assessment

J3: Quarry Hill Road/Merlin Way

Capacity assessment of this junction indicates that the Merlin Way minor approach would operate beyond its operational capacity with vehicle queues of between 6 to 21 vehicles during typical morning and evening peak hours during 2026, the forecast year. With the addition of development traffic these queues increase on the Merlin Way by 2 to 7 vehicles during peak periods. The Quarry Hill Road arm remains within its operational capacity during all modelled scenarios. It is noted from the trip distribution diagrams, that although development traffic passes through the junction no traffic actually makes any turning movements and therefore does not add to the conflicting movements at the junction.

J6: Quarry Hill Road/Little Hallam Hill

The junction is shown to currently operate beyond its capacity in the 2021 base year during both peak periods without the proposed development in place. MAC note that this junction has been identified for reconfiguration associated with the Persimmon Homes (Elke's Rise) development for some 350 dwellings off Quarry Hill Road to the south (ERE/0614/0030). MAC points out that improvement scheme was required as part of the development's Section 106 agreement which will see introduction of signal control to the junction, adding that the scheme is identified in the Derbyshire's Highways Capital Programme for 2022-23. As you are aware though, this is not the case.

To summarise, the main issues raised above are:

- New Stanton Park is now committed development
- No account of the proposed roundabout has been taken
- The signalisation of the Little Hallam Hill/Quarry Hill Road is no longer proposed
- Lack of pedestrian facilities, particularly on Ilkeston Road

The application is in outline with all matters reserved except for access. As such, the following comments relate to the proposed 2 right turn ghost islands as shown on page 115 Appendix J of the TA

The principle of adding right turn ghost islands in these locations is acceptable. However would strongly recommend the following amendments:

1. The length of the deceleration lane is drawn as 40m. this should be 40m + 10m. If kept at 40m then traffic will have to start slowing down on the main line, potentially causing rear end shunts.
2. The access should have a minimum carriageway width of 6.75 m, in order to allow for any future bus route into the site, with 2 x 2 m footways.
3. Minimum 2m wide footway required along the length of Ilkeston Road.
4. Ilkeston Road junction requires an amount of footway along Ilkeston Road to allow for a crossing point on at least 1 side of the junction, if not both. The layout shown would be dangerous for pedestrians.
5. A pedestrian refuge island should be added in the ghost markings to allow safe crossing on both Ilkeston Road and Sowbrook Road. The layout as shown will require all pedestrians to cross a wide 40mph road next to a junction which would be an extremely difficult crossing.
6. They will be required to cut down multiple trees to achieve visibility, some of those trees are council trees. That will need to be agreed and done. If any trees in the visibility splay are going to remain for any reason then the application is open to objection.

I would be obliged if you would ask the applicant to address the above issues which I will be happy to comment upon in due course. Alternatively, on an as submitted basis, the Highway Authority recommends refusal of the proposal on the following grounds:

1. The applicant has not satisfactorily demonstrated that approval of the proposed development would not have a significant impact on the operational capacity or condition of safety on the existing transportation network. For the avoidance of doubt, any further consideration of this development by the Highway Authority would require a cumulative impact assessment to be undertaken on behalf of the developer to understand the impacts of this development along with the approved New Stanton Park development, amended and additional drawings.
2. Approval of the proposal would result in the introduction of a significant number of pedestrian movements at a location where no footways provision exists requiring pedestrians and other vulnerable users to use the carriageway, increasing the potential for conflict with vehicles contrary to the best interests of highway safety.

Kind regards

Sue Highley | Project Engineer - Development Control | 01629 538697 | 0791 773 9339

Place | Derbyshire County Council
County Hall, Matlock, Derbyshire, DE4 3AG

From: James Grundy <James.Grundy@erewash.gov.uk>

Sent: 06 September 2022 12:14

To: Sue Highley (Place) <Sue.Highley@derbyshire.gov.uk>

Subject: ERE/0722/0038 - Land at Sowbrook Lane/Ilkeston Road, Stanton by Dale

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe

Afternoon Sue

I hope all is well with you. Regarding the above application, please could you give me an indication of when you hope to provide comments? We're hoping to take it to committee in October, so I'm starting work on the report now.

The proposed access details take a bit of finding – they're in the transport assessment at appendix J.

Thanks
James

James Grundy
Senior Planning Officer
Resources Directorate, Erewash Borough Council
07834 394117 // James.Grundy@erewash.gov.uk // www.erewash.gov.uk

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<https://www.erewash.gov.uk/privacy.html>

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CONTROLLED

Proposed residential development Sowbrook Lane Stanton by Dale ERE/0722/0038

Travel Plan comments September 2022

Design considerations

Consider provision of the following at each residence, in consultation with the local planning authority:

- Secure and accessible cycle storage, see: <https://www.cambridge.gov.uk/media/6771/cycle-parking-guide-for-new-residential-developments.pdf>
- Infrastructure to enable high speed broadband connection at each residence. As a minimum the development should provide the necessary ducting within the site to facilitate FTTP. (Fibre to the Premises). <https://www.openreach.com/fibre-broadband/fibre-for-developers>
- Infrastructure to enable the provision of electric vehicle charging points, either (i) as an option for new home owners, or (ii) for later installation by others.
- DCC recommends developers follow the design principles outlined in the best practice guide produced by Stagecoach: 'Bus Services & New Residential Developments – General Highways and Urban Design advice to applicants and Highways Authorities' <https://www.stagecoach.com/~media/Files/S/Stagecoach-Group/Attachments/pdf/bus-services-and-new-residential-developments.pdf>

The road layout and geometry should be such to enable access by buses along the main loop road.

Consider shared space design principles where appropriate, in consultation with the Local Planning Authority.

Pedestrian walkways at both proposed access points should be provided to relevant standards to match into existing provision, complete with lighting, surfacing and dropped tactile kerbs as appropriate.

Existing rights of way should remain in place and upgraded to an all weather surface wherever feasible, including

The closest bus stops on Lows Lane near twelve houses (on both North and South sides of Lows Lane) should be upgraded as appropriate, to include raised kerbs, shelters, timetable cases, lighting, highway bus stop markings and real time information wherever feasible and not already in place.

The existing informal footpath running along the North Western edge of the site is a proposed Derbyshire Local Cycle Network route, which connects to the Key Cycle network, one route of which is the Nutbrook Trail.

This existing informal footpath should be upgraded to an all weather walking and cycling route, and provided as part of the development. This enhanced route should be in place and fit for purpose prior to first residential occupation. For more details and a recommended specification, consult sustainable.travel@derbyshire.gov.uk.

2.4 Local Amenities

2.4.2 Table 2.3

Noted. As mentioned in item 2.5.3, there is no footway connection between the Stanton Bridge and the bridge over the Nut Brook Trail.

The distance and journey time to any destination North of the development should be seen in this context, as any pedestrian journey undertaken to these destinations will involve walking directly in a 40 mph limit live traffic lane on Ilkeston Road.

This would include journeys to Quarry Hill Industrial Park and Hallam Fields Junior School, in addition to other destinations in Little Hallam and Hallam Fields.

2.4.3 Noted. The proximity of destinations north of the site via Ilkeston Road is recognised. Nevertheless, unless suitable infrastructure is provided, it is highly unlikely that these routes will be used by pedestrians as this route would involve walking in a live traffic lane, as mentioned above.

5.0 Management Strategy

5.1.1 Noted. The name and contact details of the Travel Plan coordinator should be provided to both the Local Planning Authority and Derbyshire County Council (sustainable.travel@derbyshire.gov.uk) at least one month prior to first residential occupation.

5.1.4 The duties of the Travel Plan coordinator should include the provision of personalised travel planning for all new households upon occupation.

6.0 Travel Plan Measures

6.2 Available measures

Table 6.1 Noted.

Whilst these measures are noted, they represent a list of potential actions, rather than an action plan, ie, the list lacks an indication of what will be put in place, when, and by whom. The Travel Plan is incomplete without an action plan that includes these details. Please amend the document to reflect this.

7.0 Marketing

7.1.2 Any travel information pack should include (but not be limited to) the following:

Public transport

- www.derbybus.info/ for timetable and route maps for bus services throughout Derbyshire.
- www.nationalrail.co.uk for all rail services.

Journey Planning

- <https://www.traveline.info/> for all mode journey planning.

Cycle information

- www.derbyshire.gov.uk/leisure/countryside/access/cycling/default.asp for cycling information throughout Derbyshire, including the Cycle Derbyshire map.
- County Rider, the free adult cycle training scheme for Derbyshire residents. See: www.derbyshire.gov.uk/transport-roads/road-safety/bicycles/county-rider/county-rider.aspx
- Local cycle clubs and activities in the local area. See: www.cyclinguk.org/cycle/cycling-derbyshire for a list of Derbyshire Cycle Clubs and societies.
- See also: www.activederbyshire.org.uk for activities, including cycling, throughout Derbyshire.

Other useful cycle related websites:

- www.sustrans.org for details of the National Cycle Network.
- www.lovetoride.net for cycling rewards and incentives.
- <http://bikeweek.org.uk/> for details of the national cycling focus week.

Walking

- <https://www.derbyshire.gov.uk/leisure/countryside/access/walking/default.asp> for walking information throughout Derbyshire.

Car Club

- www.enterprisecarclub.co.uk for details of Enterprise Car Club, the commercial Car Club currently in operation in Derbyshire.

Car Share

- <https://info.kinto-join.co.uk/derbyshire/> for details of the free of charge journey matching service throughout Derbyshire.

Other measures to be considered:

Public Transport

- Infrastructure. Provision of new bus stop(s) on Ilkeston Road on the Eastern edge of the development, complete with associated works, eg. central pedestrian refuge, to facilitate access to stop on easternmost side (ie. southbound carriageway) of Ilkeston Road.

- Taster tickets. A suitable budget should be set aside for provision of bus taster tickets. Such tickets should be available to all households as part of the travel information / welcome pack, and should be valid for a minimum of four week's commuter journeys on the selected operator's services.

For this development, the amount set aside for bus taster tickets should be calculated as follows:

No. of dwellings	One month Robinn Hood Season card @1 no. per dwelling	Total
196	£78.00	£15,288.00

See [Robin Hood Network Season cards](#)

The above is provided as a budget guide only, and should not preclude the provision of tickets from other providers, subject to demand. For the sake of clarity, it is not a developer contribution request, but an indication of the budget to be set aside by the developer for this purpose. Should the offer of taster tickets not be fully taken up, the funds should be used to support other travel plan initiatives.

Taster ticket price may be subject to negotiation with the operator.

Contact: CT4N, Sherwood Bus Garage, Mansfield Road, Sherwood, Nottingham, NG5 2JN. Tel: (0115) 986 3355. Email: enquiries@ct4n.co.uk

Car Share

- Kinto Join. Ensure all residents are aware of: <https://info.kinto-join.co.uk/derbyshire/> for details of the free of charge journey matching service throughout Derbyshire.
- Site based car share group. Consideration should be given to the establishment of an informal site based car share scheme with journey matches facilitated by the Travel Plan Coordinator.

Cycling:

- Promote County Rider, the free adult cycle training scheme for Derbyshire residents. See: www.derbyshire.gov.uk/transport-roads/road-safety/bicycles/county-rider/county-rider.aspx
- Investigate and promote local cycle clubs and activities in the local area. See: www.cyclinguk.org/cycle/cycling-derbyshire for a list of Derbyshire Cycle Clubs and societies.
- See also: www.activederbyshire.org.uk for activities, including cycling, throughout Derbyshire.

Schools

- Consideration should be given to undertaking initiatives in partnership with local schools. Any such initiative should be recorded on Modeshift STARS, the national sustainable travel accreditation scheme <https://www.modeshiftstars.org/> . This is available to LEA schools free of charge. For further details and support with this scheme, contact sustainable.travel@derbyshire.gov.uk.

Communication and marketing

- Any site based sales website should detail all travel options for residents and site visitors, eg 'How to get to us' page.
- Consideration should be given to establishment of a social media presence, eg. facebook page or twitter account, to facilitate prompt communication between the Travel Plan coordinator and residents.

Residents group

Dependent upon interest and demand, consideration should be given to the establishment of any or all of: (i) a residents group, (ii) a walking group, (iii) a BUG (bicycle user group) or (iv) a dedicated travel plan group. It is to this group (whichever is established or most pro-active) that responsibility for the Travel Plan should be passed beyond the initial monitoring period.

Travel plan document status

The Travel Plan is a working document, and should not be seen as exhaustive. It will be subject to change in the light of progression and completion of the development, results of actions undertaken, and responsive to results of future travel surveys.

Appendix B

Proposed Access off Sowbrook Lane
MAC Drawing-450-TA10B
And
Proposed Access off Ilkeston Road
MAC Drawing-450-TA13A
And
Possible Bus Stop Locations
MAC Drawing-450-TA17



Proposed ghost island right turn site access arrangement along Sowbrook Lane. The main road alignment has been widened to an overall width of 10m across 3 three lanes, and tapers 1 in 20 towards the development side of the main carriageway.

- Notes:
- Based on Topographical Survey by JPP, project number 23775, drawing number 01 dated September 2021.
 - Based on Ordnance Survey Mapping ©Crown Copyright and database rights 2022 OS AC0000849896

- Key
- Site Boundary = 103,431m² (10.343 ha)
 - Extent of Existing Water Features (OS Data)
 - Highway Boundary Extent (Based on Topographical Survey)



T: 01604 340544 Northampton Office
E: info@mac-ltd.co.uk W: mac-ltd.co.uk
Martin Andrews Consulting Ltd

- Transport Assessments
- Flood Risk Assessments
- Highway Advice
- Access Design
- Drainage Strategies
- Vehicle tracking

Client: Wulff Asset Management Limited		Project: Sowbrook Lane Ilkeston	
Title: Proposed Access off Sowbrook Lane	Date: 06.01.22		
	Drw: SH		
	Chk: MJA		
Drawing No: 450-TA10		Revision: B	Scale: 1:500 Size: A1



- Notes:
- Based on Topographical Survey by JPP, project number 23775, drawing number 01 dated September 2021.
 - Based on Ordnance Survey Mapping ©Crown Copyright and database rights 2022 OS AC0000849896
 - Any vegetation within the visibility splay to be trimmed back and maintained so as to be outside of the visibility splay requirement.

- Key
- Site Boundary = 103,431m² (10.343 ha)
 - Extent of Existing Water Features (OS Data)
 - Highway Boundary Extent (Based on Topographical Survey)

Proposed ghost island right turn site access arrangement along Ilkeston Road. The main road alignment has been widened to an overall width of 10m across 3 three lanes, and tapers 1 in 20 towards the development side of the main carriageway.



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Martin Andrews Consulting Ltd

- Transport Assessments
- Flood Risk Assessments
- Highway Advice
- Access Design
- Drainage Strategies
- Vehicle tracking

Client: Wulff Asset Management Limited		Project: Sowbrook Lane Ilkeston	
Title: Proposed Access off Ilkeston Road	Drawing No: 450-TA13		Date: 31.01.23
			Drw: SH
			Chk: MJA
		Revision: A	Scale: 1:500
			Size: A1



- Notes:
- Based on Topographical Survey by JPP, project number 23775, drawing number 01 dated September 2021.
 - Based on Ordnance Survey Mapping ©Crown Copyright and database rights 2022 OS AC0000849896
 - Bus stop locations shown are indicative and subject to agreement with LHA

- Key
- Site Boundary = 103,431m² (10.343 ha)
 - Extent of Existing Water Features (OS Data)
 - Highway Boundary Extent (Based on Topographical Survey)

Proposed access into the development

Enclosed shelter bus stop

Proposed bus stops

Proposed ghost island right turn site access arrangement along Ilkeston Road. The main road alignment has been widened to an overall width of 10m across 3 lanes, and tapers 1 in 20 towards the development side of the main carriageway.

Cantilever shelter bus stop

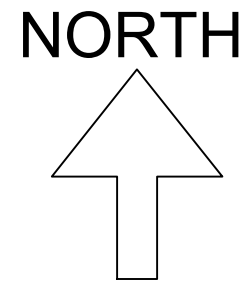
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Martin Andrews Consulting Ltd

- Transport Assessments
- Flood Risk Assessments
- Highway Advice
- Access Design
- Drainage Strategies
- Vehicle tracking

Client: Wulff Asset Management Limited		Project: Sowbrook Lane Ilkeston	
Title: Possible Bus Stop Locations		Date: 31.01.23	
		Drw: SH	
		Chk: MJA	
Drawing No: 450-TA17		Revision: -	
		Scale: 1:500	
		Size: A1	

Appendix C

Proposed Footway Improvement
MAC Drawing: 450-TA14A



Notes

1. Based on Topographical Survey by JPM, project number 23775, drawing number 01 dated September 2021.
2. Based on Pre-Application Indicative Layout - Land at Ilkeston Road/Sowbrook Lane, Stanton By Dale by RDC Development Consultants.
3. Based on Ordnance Survey Mapping ©Crown Copyright and database rights 2021 OS 100019990

Key

- Site Boundary
- Visibility Splay - 2.4m x 120m
- Carriageway
- Proposed footway
- Existing footway

MAC

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Martin Andrews Consulting Ltd

- Transport Assessments
- Flood Risk Assessments
- Highway Advice
- Access Design
- Drainage Strategies
- Vehicle tracking

Client: Wulff Asset Management		Project: Land at Ilkeston/Sowbrook Rd Ilkeston	
Title: Proposed Footway Improvement		Date: 17/02/22	Drw: SH
Drawing No: 450-TA14		Revision: A	Scale: 1:500 Size: A0

Appendix D

Site Layout

RDC Drawing: RDC1146/002



- Key
- 1. Main Site access from Ilkeston Road
 - 2. Secondary site access from Sowbrook Road
 - 3. Pumping Station
 - 4. Local Equipped Area of Play
 - 5. Gas Main
 - 6. Detention Basin
 - 7. Existing Category A tree
 - 8. Local Area of Play
 - 9. Circular Pedestrian Route
 - 10. Access to canal side footpath
 - 11. Existing Pond
 - 12. Buildings to front out with 50m offset to sub station
 - 13. Sub Station
 - 14. Public Open Space
 - 15. Abandoned Mineshaft
 - 16. Retained Hedge
 - 17. Children's Trim Trail
 - 18. Retention of existing Public Right of Way
 - 19. Tree lined Avenue

NOTE: CAD BASE FOR COMMENTS PRIOR TO PRESENTATION DRAWING

Appendix E
Bus Timetables and Routes



Monday to Friday

Codes	Hol						
Cotmanhay, Nelson Street	0934	1032	1132	1232	1332	1432	1532 1632
Ilkeston, Ebenezer Street	0936	1034	1134	1234	1334	1434	1534 1634
Ilkeston, Tesco	0940	1040	1140	1240	1340	1440	1540 1640
Ilkeston, Bath Street, Stop N	0943	1043	1143	1243	1343	1443	1543 1643
Ilkeston, Wharncliffe Road, Stop G	0947	1047	1147	1247	1347	1447	1547 1647
Stanton By Dale, Twelve Houses	0955	1055	1155	1255	1355	1455	1555 1655
Stanton By Dales, The Spinney	0957	1057	1157	1257	1357	1457	1557 1657
Sandiacre, White Lion	1005	1105	1205	1305	1405	1505	1605 1705

Hol Runs during School Holidays Only

Saturday

Cotmanhay, Nelson Street	0934	1032	1132	1232	1332	1432	1532 1632
Ilkeston, Ebenezer Street	0936	1034	1134	1234	1334	1434	1534 1634
Ilkeston, Tesco	0940	1040	1140	1240	1340	1440	1540 1640
Ilkeston, Bath Street, Stop N	0943	1043	1143	1243	1343	1443	1543 1643
Ilkeston, Wharncliffe Road, Stop G	0947	1047	1147	1247	1347	1447	1547 1647
Stanton By Dale, Twelve Houses	0955	1055	1155	1255	1355	1455	1555 1655
Stanton By Dales, The Spinney	0957	1057	1157	1257	1357	1457	1557 1657
Sandiacre, White Lion	1005	1105	1205	1305	1405	1505	1605 1705

No service on Sundays or Bank Holiday Mondays

This service is operated under contract to Derbyshire County Council



Monday to Friday

Codes							Hol	Sch	Hol			
Sandiacre, White Lion	...	1005	1105	1205	1305	1405	1505	...	1605	1705	Hol	Runs during School Holidays Only Runs on Schooldays Only
Stanton By Dale, The Spinney	...	1013	1113	1213	1313	1413	1513	...	1613	1713	Sch	
Stanton By Dale, Twelve Houses	...	1015	1115	1215	1315	1415	1515	...	1615	1715		
Ilkeston, Wharncliffe Road, Stop D	0926	1024	1124	1224	1324	1424	1524	1624	1624	1724		
Ilkeston, Bath Street, Stop L	0928	1026	1126	1226	1326	1426	1526	1626	1626	...		
Cotmanhay, Nelson Street	0934	1032	1132	1232	1332	1432	1532	1632	1632	...		
Ilkeston, Ebenezer Street	0936	1034	1134	1234	1334	1434	1534	1634	1634	...		
Ilkeston, Tesco	0940	1038	1138	1238	1338	1438	1538	1638	1638	...		

Saturday

Sandiacre, White Lion	...	1005		05		1505	1605	1705
Stanton By Dale, The Spinney	...	1013	Then	13		1513	1613	1713
Stanton By Dale, Twelve Houses	...	1015	at	15		1515	1615	1715
Ilkeston, Wharncliffe Road, Stop D	0926	1024	these	24		1524	1624	1724
Ilkeston, Bath Street, Stop L	0928	1026	mins	26	until	1526	1626	...
Cotmanhay, Nelson Street	0934	1032	past	32		1532	1632	...
Ilkeston, Ebenezer Street	0936	1034	the	34		1534	1634	...
Ilkeston, Tesco	0940	1038	hour	38		1538	1638	...

No service on Sundays or Bank Holiday Mondays

This service is operated under contract to Derbyshire County Council

Appendix F

Local Facilities Plan
MAC Drawing: 450-TA05A

- Site Boundary
- Walking distances - radial
- Local Centre feature: Doctors, Pharmacy, Dentist, Convenience Store, Post office, Takeaway, Hair dressers
- School - Primary and Nursery (P&N), Secondary (S)
- Kirk Hallam Social Bar - Public House (PH)
- Pioneer Meadows Nature Reserve
- Existing Bus Stop
- Proposed Bus Stop

Appendix G

J1: Sowbrook Lane/Ilkeston Road/Lowes Lane Input Data and PICADY Report



Junction Turning Flows
Survey Date

Junction 1 - Lows Lane / Sowbrook Lane / Ilkeston Road

Tuesday 28th September 2021

Link

Arm A - Lows Lane

Arm B - Sowbrook Lane

Arm C - Ilkeston Road

AM Peak 07:30 - 08:30

PM Peak 16:15 - 17:15



AM Peak 2021				
	A	B	C	Total
A		80	478	558
B	149		44	193
C	660	10		670
Total	809	90	522	1421

PM Peak 2021				
	A	B	C	Total
A		216	584	800
B	102		68	170
C	591	83		674
Total	693	299	652	1644

HGV Proportion AM Peak 2021				
	A	B	C	Average
A		3	16	9
B	0		5	2
C	12	0		6
Average	6	1	10	6

HGV Proportion PM Peak 2021				
	A	B	C	Average
A		0	13	6
B	0		1	1
C	8	0		4
Average	4	0	7	4

AM Peak Distribution				
	A	B	C	Total
A	0%	22%	22%	44%
B	22%	0%	0%	22%
C	22%	0%	0%	22%
Total	44%	22%	22%	

PM Peak Distribution				
	A	B	C	Total
A	0%	22%	22%	44%
B	22%	0%	0%	22%
C	22%	0%	0%	22%
Total	44%	22%	22%	

AM Peak Forecast 2026				
	A	B	C	Total
A	0	86	515	601
B	160	0	47	208
C	710	11	0	721
Total	871	97	562	1530

PM Peak Forecast 2026				
	A	B	C	Total
A	0	233	629	863
B	110	0	73	183
C	637	89	0	726
Total	747	323	703	1772

1.0764

AM Peak Proposed Dev				
	A	B	C	Total
A	0	9	7	16
B	27	0	0	27
C	27	0	0	27
Total	53	9	7	70

1.078

PM Peak Proposed Dev				
	A	B	C	Total
A	0	28	21	49
B	8	0	0	8
C	8	0	0	8
Total	15	28	21	65

36

AM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	95	522	617
B	187	0	47	234
C	737	11	0	748
Total	924	106	570	1599

36

PM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	261	651	912
B	118	0	73	191
C	645	89	0	734
Total	762	351	724	1837

AM New Stanton Park (NSP)				
	A	B	C	Total
A	0	-77	-63	-140
B	40	0	0	40
C	98	0	0	98
Total	138	-77	-63	-2

PM New Stanton Park (NSP)				
	A	B	C	Total
A	0	96	44	140
B	-37	0	0	-37
C	-32	0	0	-32
Total	-69	96	44	71

AM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	9	452	461
B	200	0	47	248
C	808	11	0	819
Total	1009	20	499	1528

PM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	329	673	1003
B	73	0	73	146
C	605	89	0	694
Total	678	419	747	1843

AM Peak 2026 plus Proposed Dev + NSP				
	A	B	C	Total
A	0	18	459	477
B	227	0	47	274
C	835	11	0	846
Total	1062	29	507	1597

PM Peak 2026 Plus Proposed Dev + NSP				
	A	B	C	Total
A	0	357	695	1052
B	81	0	73	154
C	613	89	0	702
Total	693	447	768	1908

Junctions 9						
PICADY 9 - Priority Intersection Module						
Version: 9.5.0.6896 © Copyright TRL Limited, 2018						
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk						
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: 450-J1-2 Access.j9

Path: C:\Users\Administrator\MAC\Projects 400 - 499 - Documents\450 - Sowbrook Lane, Ilkeston\Design\TA\Junction 9-PICADY (196 Dev)

Report generation date: 17/02/2023 16:01:25

- »2021, AM
- »2021, PM
- »2026 Forecast, AM
- »2026 Forecast, PM
- »2026 Forecast Plus Proposed Dev, AM
- »2026 Forecast Plus Proposed Dev, PM
- »2026 Forecast Plus NSP, AM
- »2026 Forecast Plus NSP, PM
- »2026 Forecast Plus Proposed Development + NSP, AM
- »2026 Forecast Plus Proposed Development + NSP, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021						
Stream B-C	0.1	10.71	0.13	0.2	10.56	0.18
Stream B-A	1.2	27.46	0.56	0.9	30.81	0.49
Stream C-AB	0.1	4.00	0.04	1.2	6.04	0.35
2026 Forecast						
Stream B-C	0.2	13.64	0.16	0.3	13.84	0.24
Stream B-A	1.8	38.21	0.65	1.5	46.01	0.61
Stream C-AB	0.1	3.92	0.05	1.7	6.52	0.41
2026 Forecast Plus Proposed Dev						
Stream B-C	0.3	24.46	0.26	0.4	18.63	0.29
Stream B-A	3.3	62.24	0.79	2.1	62.40	0.70
Stream C-AB	0.1	3.87	0.05	1.9	6.76	0.43
2026 Forecast Plus NSP						
Stream B-C	0.3	21.58	0.24	0.2	10.81	0.19
Stream B-A	3.2	56.54	0.79	0.7	33.64	0.43
Stream C-AB	0.1	3.63	0.05	1.9	7.26	0.44
2026 Forecast Plus Proposed Development + NSP						
Stream B-C	3.0	196.35	0.95	0.3	12.44	0.22
Stream B-A	7.0	107.75	0.93	1.0	41.72	0.51
Stream C-AB	0.1	3.58	0.05	2.1	7.60	0.46

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	
Location	
Site number	
Date	23/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:15	08:45	15	✓	✓
D2	2021	PM	ONE HOUR	16:00	17:30	15	✓	✓
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓
D4	2026 Forecast	PM	ONE HOUR	16:00	17:30	15	✓	✓
D5	2026 Forecast Plus Proposed Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓
D6	2026 Forecast Plus Proposed Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Lows Lane		Major
B	Sowbrook Lane		Minor
C	Ilkeston Road		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.80			189.2	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	6.07	3.40	3.06	2.92	✓	1.00	42	166

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	620	0.109	0.275	0.173	0.393
1	B-C	744	0.110	0.278	-	-
1	C-B	684	0.256	0.256	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	558	100.000
B		ONE HOUR	✓	193	100.000
C		ONE HOUR	✓	670	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	80	478
	B	149	0	44
	C	660	10	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	3	16
	B	0	0	5
	C	12	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.13	10.71	0.1	B	44	44
B-A	0.56	27.46	1.2	D	149	149
C-AB	0.04	4.00	0.1	A	32	32
C-A					637	637
A-B					80	80
A-C					478	478

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	491	0.081	39	0.1	0.1	7.971	A
B-A	134	33	355	0.377	133	0.4	0.6	16.165	C
C-AB	25	6	932	0.027	25	0.0	0.0	3.955	A
C-A	577	144			577				
A-B	72	18			72				
A-C	430	107			430				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	48	12	389	0.125	48	0.1	0.1	10.558	B
B-A	164	41	295	0.557	162	0.6	1.2	26.602	D
C-AB	40	10	1002	0.040	40	0.0	0.1	3.725	A
C-A	697	174			697				
A-B	88	22			88				
A-C	527	132			527				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	48	12	385	0.126	48	0.1	0.1	10.705	B
B-A	164	41	295	0.557	164	1.2	1.2	27.457	D
C-AB	40	10	1002	0.040	40	0.1	0.1	3.744	A
C-A	697	174			697				
A-B	88	22			88				
A-C	527	132			527				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	487	0.081	40	0.1	0.1	8.048	A
B-A	134	33	355	0.377	136	1.2	0.6	16.631	C
C-AB	25	6	932	0.027	25	0.1	0.0	3.996	A
C-A	577	144			577				
A-B	72	18			72				
A-C	430	107			430				

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.12	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	800	100.000
B		ONE HOUR	✓	170	100.000
C		ONE HOUR	✓	674	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	216	584
	B	102	0	68
	C	591	83	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	13
	B	0	0	1
	C	8	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.18	10.56	0.2	B	68	68
B-A	0.49	30.81	0.9	D	102	102
C-AB	0.35	6.04	1.2	A	257	257
C-A					417	417
A-B					216	216
A-C					584	584

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	61	15	520	0.117	61	0.1	0.1	7.839	A
B-A	92	23	300	0.306	91	0.3	0.4	17.186	C
C-AB	196	49	861	0.228	195	0.4	0.6	5.407	A
C-A	409	102			409				
A-B	195	49			195				
A-C	525	131			525				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	75	19	420	0.178	74	0.1	0.2	10.413	B
B-A	112	28	229	0.490	110	0.4	0.9	29.826	D
C-AB	317	79	919	0.345	314	0.6	1.2	5.968	A
C-A	425	106			425				
A-B	238	60			238				
A-C	643	161			643				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	75	19	415	0.180	75	0.2	0.2	10.561	B
B-A	112	28	229	0.491	112	0.9	0.9	30.811	D
C-AB	318	80	920	0.346	318	1.2	1.2	6.039	A
C-A	424	106			424				
A-B	238	60			238				
A-C	643	161			643				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	61	15	517	0.118	61	0.2	0.1	7.912	A
B-A	92	23	299	0.306	94	0.9	0.5	17.662	C
C-AB	198	49	862	0.229	200	1.2	0.7	5.506	A
C-A	408	102			408				
A-B	195	49			195				
A-C	525	131			525				

2026 Forecast, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2026 Forecast, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.09	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	601	100.000
B		ONE HOUR	✓	207	100.000
C		ONE HOUR	✓	721	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	86	515
	B	160	0	47
	C	710	11	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	3	16
	B	0	0	5
	C	12	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.16	13.64	0.2	B	47	47
B-A	0.65	38.21	1.8	E	160	160
C-AB	0.05	3.92	0.1	A	40	40
C-A					681	681
A-B					86	86
A-C					515	515

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	462	0.091	42	0.1	0.1	8.567	A
B-A	144	36	335	0.430	143	0.5	0.7	18.659	C
C-AB	30	7	955	0.031	30	0.0	0.0	3.877	A
C-A	618	155			618				
A-B	77	19			77				
A-C	463	116			463				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	325	0.159	51	0.1	0.2	13.149	B
B-A	176	44	269	0.654	172	0.7	1.7	35.777	E
C-AB	50	12	1033	0.048	50	0.0	0.1	3.646	A
C-A	744	186			744				
A-B	95	24			95				
A-C	567	142			567				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	316	0.164	52	0.2	0.2	13.639	B
B-A	176	44	269	0.655	176	1.7	1.8	38.211	E
C-AB	50	12	1033	0.048	50	0.1	0.1	3.661	A
C-A	744	186			744				
A-B	95	24			95				
A-C	567	142			567				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	455	0.093	43	0.2	0.1	8.730	A
B-A	144	36	335	0.430	148	1.8	0.8	19.666	C
C-AB	30	7	955	0.031	30	0.1	0.0	3.920	A
C-A	618	155			618				
A-B	77	19			77				
A-C	463	116			463				

2026 Forecast, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2026 Forecast, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.32	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2026 Forecast	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	862	100.000
B		ONE HOUR	✓	183	100.000
C		ONE HOUR	✓	726	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	233	629
	B	110	0	73
	C	637	89	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	13
	B	0	0	1
	C	8	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.24	13.84	0.3	B	73	73
B-A	0.61	46.01	1.5	E	110	110
C-AB	0.41	6.52	1.7	A	309	309
C-A					417	417
A-B					233	233
A-C					629	629

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	491	0.134	65	0.1	0.2	8.455	A
B-A	99	25	276	0.358	98	0.3	0.5	20.147	C
C-AB	231	58	880	0.262	230	0.5	0.8	5.534	A
C-A	422	105			422				
A-B	209	52			209				
A-C	565	141			565				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	351	0.229	80	0.2	0.3	13.248	B
B-A	121	30	199	0.608	118	0.5	1.4	42.620	E
C-AB	385	96	945	0.407	382	0.8	1.6	6.404	A
C-A	414	104			414				
A-B	257	64			257				
A-C	693	173			693				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	340	0.236	80	0.3	0.3	13.838	B
B-A	121	30	198	0.611	121	1.4	1.5	46.010	E
C-AB	388	97	947	0.409	387	1.6	1.7	6.516	A
C-A	412	103			412				
A-B	257	64			257				
A-C	693	173			693				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	484	0.136	66	0.3	0.2	8.622	A
B-A	99	25	275	0.360	102	1.5	0.6	21.273	C
C-AB	233	58	883	0.264	237	1.7	0.8	5.663	A
C-A	419	105			419				
A-B	209	52			209				
A-C	565	141			565				

2026 Forecast Plus Proposed Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2026 Forecast Plus Proposed Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		7.33	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2026 Forecast Plus Proposed Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	617	100.000
B		ONE HOUR	✓	234	100.000
C		ONE HOUR	✓	748	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	95	522
	B	187	0	47
	C	737	11	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	3	16
	B	0	0	5
	C	12	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.26	24.46	0.3	C	47	47
B-A	0.79	62.24	3.3	F	187	187
C-AB	0.05	3.87	0.1	A	42	42
C-A					706	706
A-B					95	95
A-C					522	522

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	420	0.101	42	0.1	0.1	9.527	A
B-A	168	42	328	0.513	166	0.6	1.0	22.097	C
C-AB	31	8	969	0.032	31	0.0	0.0	3.825	A
C-A	641	160			641				
A-B	85	21			85				
A-C	469	117			469				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	223	0.232	51	0.1	0.3	20.870	C
B-A	206	51	260	0.792	198	1.0	3.0	52.672	F
C-AB	53	13	1051	0.051	53	0.0	0.1	3.592	A
C-A	770	193			770				
A-B	105	26			105				
A-C	575	144			575				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	199	0.261	52	0.3	0.3	24.457	C
B-A	206	51	260	0.793	205	3.0	3.3	62.241	F
C-AB	53	13	1051	0.051	53	0.1	0.1	3.609	A
C-A	770	193			770				
A-B	105	26			105				
A-C	575	144			575				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	403	0.105	43	0.3	0.1	10.033	B
B-A	168	42	328	0.513	177	3.3	1.1	25.124	D
C-AB	31	8	969	0.032	32	0.1	0.0	3.866	A
C-A	641	160			641				
A-B	85	21			85				
A-C	469	117			469				

2026 Forecast Plus Proposed Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2026 Forecast Plus Proposed Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		5.60	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2026 Forecast Plus Proposed Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	912	100.000
B		ONE HOUR	✓	191	100.000
C		ONE HOUR	✓	734	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	261	651
	B	118	0	73
	C	645	89	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	13
	B	0	0	1
	C	8	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.29	18.63	0.4	C	73	73
B-A	0.70	62.40	2.1	F	118	118
C-AB	0.43	6.76	1.9	A	322	322
C-A					412	412
A-B					261	261
A-C					651	651

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	468	0.140	65	0.1	0.2	8.949	A
B-A	106	27	266	0.399	105	0.4	0.6	22.198	C
C-AB	238	60	877	0.271	237	0.5	0.8	5.621	A
C-A	422	105			422				
A-B	235	59			235				
A-C	585	146			585				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	293	0.275	80	0.2	0.4	16.828	C
B-A	130	32	186	0.697	125	0.6	1.9	54.589	F
C-AB	402	101	944	0.426	398	0.8	1.8	6.628	A
C-A	406	101			406				
A-B	287	72			287				
A-C	717	179			717				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	273	0.294	80	0.4	0.4	18.627	C
B-A	130	32	185	0.701	129	1.9	2.1	62.401	F
C-AB	405	101	946	0.428	405	1.8	1.8	6.760	A
C-A	403	101			403				
A-B	287	72			287				
A-C	717	179			717				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	456	0.144	67	0.4	0.2	9.256	A
B-A	106	27	265	0.400	112	2.1	0.7	24.263	C
C-AB	241	60	880	0.273	244	1.8	0.9	5.764	A
C-A	419	105			419				
A-B	235	59			235				
A-C	585	146			585				

2026 Forecast Plus NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2026 Forecast Plus NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		7.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	461	100.000
B		ONE HOUR	✓	247	100.000
C		ONE HOUR	✓	819	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	9	452
	B	200	0	47
	C	808	11	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	3	16
	B	0	0	5
	C	12	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.24	21.58	0.3	C	47	47
B-A	0.79	56.54	3.2	F	200	200
C-AB	0.05	3.63	0.1	A	46	46
C-A					773	773
A-B					9	9
A-C					452	452

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	434	0.097	42	0.1	0.1	9.172	A
B-A	180	45	344	0.522	178	0.6	1.0	21.426	C
C-AB	33	8	1033	0.032	33	0.0	0.0	3.587	A
C-A	703	176			703				
A-B	8	2			8				
A-C	406	102			406				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	241	0.215	51	0.1	0.3	18.899	C
B-A	220	55	280	0.786	213	1.0	2.9	48.613	E
C-AB	58	14	1127	0.051	58	0.0	0.1	3.353	A
C-A	844	211			844				
A-B	10	2			10				
A-C	498	124			498				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	218	0.237	52	0.3	0.3	21.580	C
B-A	220	55	280	0.786	219	2.9	3.2	56.537	F
C-AB	58	14	1127	0.051	58	0.1	0.1	3.366	A
C-A	844	211			844				
A-B	10	2			10				
A-C	498	124			498				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	418	0.101	43	0.3	0.1	9.621	A
B-A	180	45	344	0.522	188	3.2	1.1	24.134	C
C-AB	33	8	1033	0.032	34	0.1	0.0	3.627	A
C-A	703	176			703				
A-B	8	2			8				
A-C	406	102			406				

2026 Forecast Plus NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2026 Forecast Plus NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1002	100.000
B		ONE HOUR	✓	146	100.000
C		ONE HOUR	✓	694	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	329	673
	B	73	0	73
	C	605	89	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	13
	B	0	0	1
	C	8	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.19	10.81	0.2	B	73	73
B-A	0.43	33.64	0.7	D	73	73
C-AB	0.44	7.26	1.9	A	312	312
C-A					382	382
A-B					329	329
A-C					673	673

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	515	0.127	65	0.1	0.1	8.000	A
B-A	66	16	270	0.243	65	0.2	0.3	17.498	C
C-AB	231	58	837	0.276	229	0.5	0.8	5.926	A
C-A	393	98			393				
A-B	296	74			296				
A-C	605	151			605				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	417	0.193	80	0.1	0.2	10.663	B
B-A	80	20	188	0.428	79	0.3	0.7	32.549	D
C-AB	390	97	895	0.436	386	0.8	1.9	7.107	A
C-A	374	94			374				
A-B	362	91			362				
A-C	741	185			741				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	413	0.194	80	0.2	0.2	10.807	B
B-A	80	20	187	0.430	80	0.7	0.7	33.636	D
C-AB	393	98	897	0.438	393	1.9	1.9	7.261	A
C-A	371	93			371				
A-B	362	91			362				
A-C	741	185			741				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	513	0.128	66	0.2	0.1	8.067	A
B-A	66	16	270	0.244	67	0.7	0.3	17.929	C
C-AB	233	58	840	0.278	237	1.9	0.9	6.089	A
C-A	391	98			391				
A-B	296	74			296				
A-C	605	151			605				

2026 Forecast Plus Proposed Development + NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D9 - 2026 Forecast Plus Proposed Development + NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		19.32	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	477	100.000
B		ONE HOUR	✓	274	100.000
C		ONE HOUR	✓	846	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	18	459
	B	227	0	47
	C	835	11	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	3	16	
	0	0	5	
	12	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.95	196.35	3.0	F	47	47
B-A	0.93	107.75	7.0	F	227	227
C-AB	0.05	3.58	0.1	A	48	48
C-A					798	798
AB					18	18
AC					459	459

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	382	0.111	42	0.1	0.1	10.574	B
B-A	204	51	337	0.605	201	0.8	1.4	26.037	D
C-AB	35	9	1047	0.034	35	0.0	0.0	3.544	A
C-A	725	181			725				
AB	16	4			16				
AC	413	103			413				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	109	0.475	49	0.1	0.8	57.797	F
B-A	250	62	271	0.923	234	1.4	5.5	76.349	F
C-AB	62	15	1145	0.054	62	0.0	0.1	3.311	A
C-A	870	217			870				
AB	20	5			20				
AC	505	126			505				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	55	0.949	43	0.8	3.0	196.354	F
B-A	250	62	270	0.926	244	5.5	7.0	107.752	F
C-AB	62	15	1145	0.054	62	0.1	0.1	3.326	A
C-A	870	217			870				
AB	20	5			20				
AC	505	126			505				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	336	0.126	54	3.0	0.1	13.278	B
B-A	204	51	335	0.609	225	7.0	1.7	37.885	E
C-AB	35	9	1047	0.034	35	0.1	0.0	3.581	A
C-A	725	181			725				
A-B	16	4			16				
A-C	413	103			413				

2026 Forecast Plus Proposed Development + NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D10 - 2026 Forecast Plus Proposed Development + NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1052	100.000
B		ONE HOUR	✓	154	100.000
C		ONE HOUR	✓	702	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	357	695
	B	81	0	73
	C	613	89	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	13	
	0	0	1	
	8	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.22	12.44	0.3	B	73	73
B-A	0.51	41.72	1.0	E	81	81
C-AB	0.46	7.60	2.1	A	325	325
C-A					377	377
A-B					357	357
A-C					695	695

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	495	0.133	65	0.1	0.2	8.380	A
B-A	73	18	262	0.278	72	0.2	0.4	18.881	C
C-AB	238	60	834	0.285	237	0.5	0.9	6.028	A
C-A	393	98			393				
A-B	321	80			321				
A-C	625	156			625				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	376	0.214	80	0.2	0.3	12.106	B
B-A	89	22	176	0.507	87	0.4	0.9	39.529	E
C-AB	409	102	893	0.458	404	0.9	2.1	7.409	A
C-A	364	91			364				
A-B	393	98			393				
A-C	765	191			765				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	370	0.217	80	0.3	0.3	12.440	B
B-A	89	22	175	0.510	89	0.9	1.0	41.724	E
C-AB	412	103	896	0.460	412	2.1	2.1	7.597	A
C-A	361	90			361				
A-B	393	98			393				
A-C	765	191			765				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	491	0.134	66	0.3	0.2	8.489	A
B-A	73	18	261	0.279	75	1.0	0.4	19.643	C
C-AB	241	60	838	0.288	246	2.1	1.0	6.210	A
C-A	390	97			390				
A-B	321	80			321				
A-C	625	156			625				

Appendix H

Junction 1 - Sowbrook Ln/ Ilkeston Ln/ Lows Ln Nil Det Solution
MAC Drawing: 450-TA81
J1: Sowbrook Lane/Ilkeston Road/Lowes Lane NIL Det PICADY Report



- Notes:**
1. Based on Topographical Survey by JPP, project number 23775, drawing number 01 dated September 2021.
 2. Based on Ordnance Survey Mapping ©Crown Copyright and database rights 2022 OS AC0000849896

Key:

 Carriageway

 T: 01604 340544 Northampton Office E: info@mac-ltd.co.uk W: mac-ltd.co.uk Martin Andrews Consulting Ltd	• Transport Assessments • Flood Risk Assessments • Highway Advice • Access Design • Drainage Strategies • Vehicle tracking	Client: Wulff Asset Management Limited		Project: Sowbrook Lane Ilkeston				
		Title: Junction 1 - Sowbrook Ln/ Ilkeston Ln/ Lows In Nil Det Solution			Date: 17.02.23			
					Drw: SH			
					Chk: MJA			
		Drawing No: 450-TA81			Revision: -		Scale: As noted	
							Size: A3	

Junctions 9						
PICADY 9 - Priority Intersection Module						
Version: 9.5.0.6896						
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Filename: 450-J1-2 Access-Nil Det-MA.j9

Path: C:\Users\Administrator\MAC\Projects 400 - 499 - Documents\450 - Sowbrook Lane, Ilkeston\Design\TA\Junction 9-PICADY (196 Dev)

Report generation date: 17/02/2023 16:03:25

»2026 Forecast Plus Proposed Development + NSP - Nil Det, AM

»2026 Forecast Plus Proposed Development + NSP - Nil Det, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2026 Forecast Plus Proposed Development + NSP - Nil Det						
Stream B-C	0.4	27.44	0.28	0.3	12.09	0.21
Stream B-A	4.6	71.38	0.85	1.1	45.24	0.53
Stream C-AB	0.1	3.78	0.05	2.2	7.60	0.46

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

File summary

File Description

Title	
Location	
Site number	
Date	23/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2026 Forecast Plus Proposed Development + NSP - Nil Det	AM	ONE HOUR	07:15	08:45	15	✓
D10	2026 Forecast Plus Proposed Development + NSP - Nil Det	PM	ONE HOUR	16:00	17:30	15	✓

Analysis Set Details

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

2026 Forecast Plus Proposed Development + NSP - Nil Det, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		9.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Lows Lane		Major
B	Sowbrook Lane		Minor
C	Ilkeston Road		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.80			189.2	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	7.60	5.94	5.00	5.00	✓	3.00	42	166

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	667	0.117	0.296	0.186	0.423
1	B-C	662	0.098	0.248	-	-
1	C-B	684	0.256	0.256	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2026 Forecast Plus Proposed Development + NSP - Nil Det	AM	ONE HOUR	07:15	08:45	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	477	100.000
B		ONE HOUR	✓	274	100.000
C		ONE HOUR	✓	846	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	18	459
	B	227	0	47
	C	835	11	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	3	16
	B	0	0	5
	C	12	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.28	27.44	0.4	D	43	65
B-A	0.85	71.38	4.6	F	208	312
C-AB	0.05	3.78	0.1	A	40	60
C-A					736	1104
A-B					17	25
A-C					421	632

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	35	9	476	0.074	35	0.0	0.1	8.153	A
B-A	171	43	411	0.415	168	0.0	0.7	14.612	B
C-AB	23	6	980	0.024	23	0.0	0.0	3.762	A
C-A	614	153			614				
A-B	14	3			14				
A-C	346	86			346				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	420	0.101	42	0.1	0.1	9.513	A
B-A	204	51	362	0.564	202	0.7	1.2	22.186	C
C-AB	35	9	1047	0.034	35	0.0	0.0	3.544	A
C-A	725	181			725				
A-B	16	4			16				
A-C	413	103			413				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	222	0.233	51	0.1	0.3	20.970	C
B-A	250	62	293	0.852	239	1.2	4.0	57.128	F
C-AB	62	15	1145	0.054	62	0.0	0.1	3.311	A
C-A	870	217			870				
A-B	20	5			20				
A-C	505	126			505				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	52	13	182	0.284	51	0.3	0.4	27.441	D
B-A	250	62	294	0.851	248	4.0	4.6	71.380	F
C-AB	62	15	1145	0.054	62	0.1	0.1	3.326	A
C-A	870	217			870				
A-B	20	5			20				
A-C	505	126			505				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	42	11	404	0.105	43	0.4	0.1	9.999	A
B-A	204	51	363	0.563	217	4.6	1.4	26.600	D
C-AB	35	9	1047	0.034	35	0.1	0.0	3.581	A
C-A	725	181			725				
A-B	16	4			16				
A-C	413	103			413				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	35	9	473	0.075	36	0.1	0.1	8.226	A
B-A	171	43	412	0.415	173	1.4	0.7	15.261	C
C-AB	23	6	980	0.024	23	0.0	0.0	3.783	A
C-A	614	153			614				
A-B	14	3			14				
A-C	346	86			346				

2026 Forecast Plus Proposed Development + NSP - Nil Det, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2026 Forecast Plus Proposed Development + NSP - Nil Det	PM	ONE HOUR	16:00	17:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1052	100.000
B		ONE HOUR	✓	154	100.000
C		ONE HOUR	✓	702	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	357	695
	B	81	0	73
	C	613	89	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	13
	B	0	0	1
	C	8	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.21	12.09	0.3	B	67	100
B-A	0.53	45.24	1.1	E	74	111
C-AB	0.46	7.60	2.2	A	270	405
C-A					374	561
A-B					328	491
A-C					638	957

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	55	14	518	0.106	54	0.0	0.1	7.754	A
B-A	61	15	306	0.200	60	0.0	0.2	14.602	B
C-AB	159	40	797	0.200	157	0.0	0.5	5.624	A
C-A	369	92			369				
A-B	269	67			269				
A-C	523	131			523				

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	470	0.140	65	0.1	0.2	8.905	A
B-A	73	18	248	0.294	72	0.2	0.4	20.392	C
C-AB	238	60	834	0.285	237	0.5	0.9	6.028	A
C-A	393	98			393				
A-B	321	80			321				
A-C	625	156			625				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	383	0.210	80	0.2	0.3	11.869	B
B-A	89	22	169	0.529	87	0.4	1.0	42.732	E
C-AB	409	102	893	0.458	404	0.9	2.1	7.409	A
C-A	364	91			364				
A-B	393	98			393				
A-C	765	191			765				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	80	20	378	0.213	80	0.3	0.3	12.092	B
B-A	89	22	168	0.531	89	1.0	1.1	45.242	E
C-AB	412	103	896	0.460	412	2.1	2.1	7.597	A
C-A	361	90			361				
A-B	393	98			393				
A-C	765	191			765				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	66	16	466	0.141	66	0.3	0.2	9.017	A
B-A	73	18	248	0.294	75	1.1	0.4	21.192	C
C-AB	241	60	838	0.288	246	2.1	1.0	6.210	A
C-A	390	97			390				
A-B	321	80			321				
A-C	625	156			625				

17:15 - 17:30

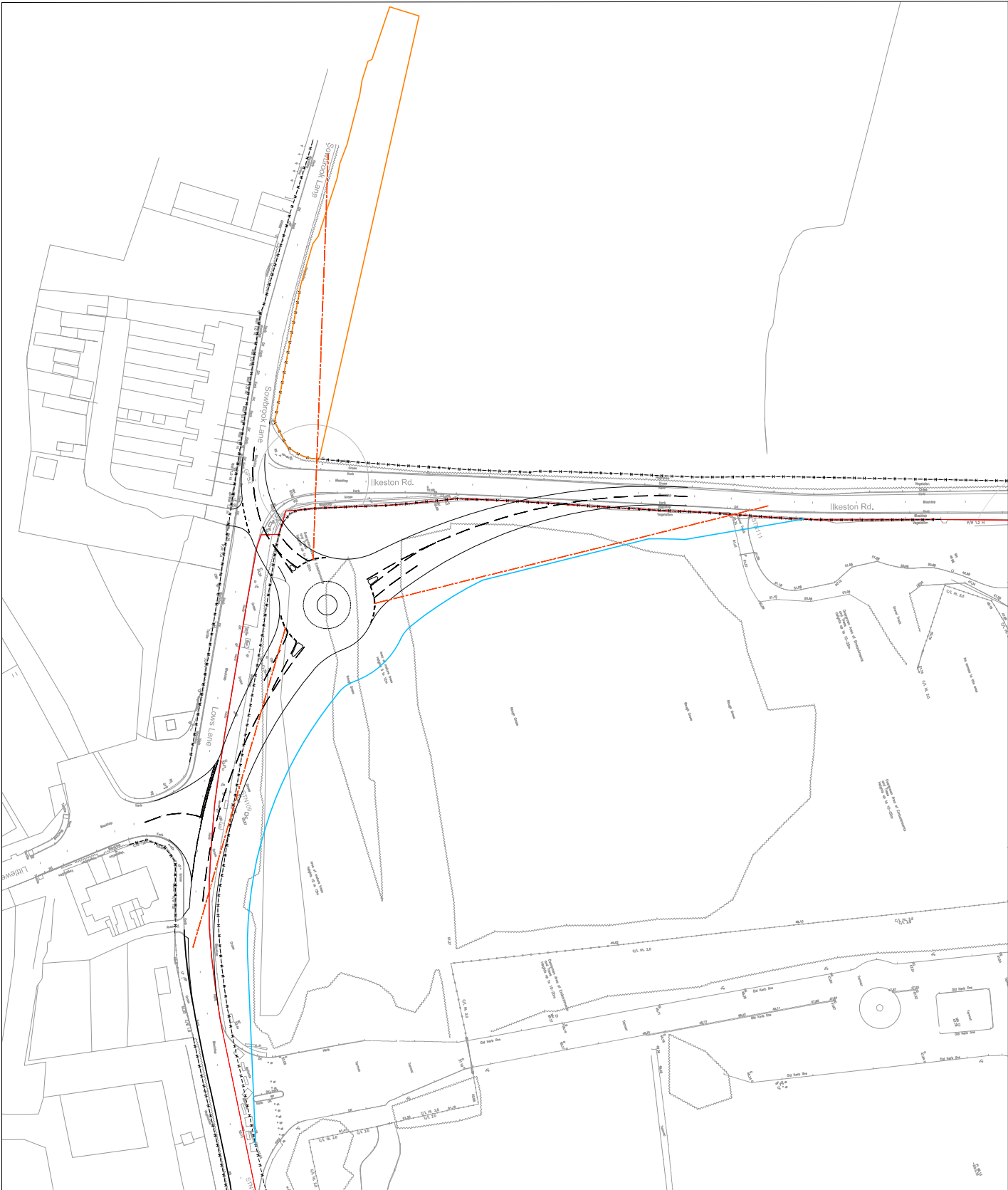
Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	55	14	516	0.106	55	0.2	0.1	7.805	A
B-A	61	15	305	0.200	62	0.4	0.3	14.823	B
C-AB	161	40	799	0.202	163	1.0	0.5	5.722	A
C-A	367	92			367				
A-B	269	67			269				
A-C	523	131			523				

Appendix I

Potential Roundabout: Sowbrook Lane/Ilkeston Road/Lowes Lane
Glanville Drawing: 8200919/6113

and

Potential Roundabout: Sowbrook Lane/Ilkeston Road/Lowes Lane Geometry
MAC Drawing: 450-TA80



NOTES

1. This drawing is to be read in conjunction with all relevant documents and specifications.
2. Dimensions are not to be scaled.

Source: Carta Jones's drawing number J0039697-20-15 to 23.

KEY

- Land to be safeguarded
- Land title DV282001
- Site boundary
- Highway boundary interpreted from Derbyshire County Council records
- 120m stopping sight distance

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Rev.	Description	Date	Chkd
A	Scale Amended	03/11/21	MB



Cornerstone House
62 Foxhall Road, Didcot
Oxon. OX11 7AD
Tel: (01235) 515550 Fax: (01235) 817789
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Client:

Verdant Regeneration

Project:

New Stanton Park,
Stanton By Dale,
Ilkeston, DE7 4RJ

Title:

Safeguarding Plan Illustrating Potential
Roundabout at Lows Unlikeston Rd/Sowbrook Ln

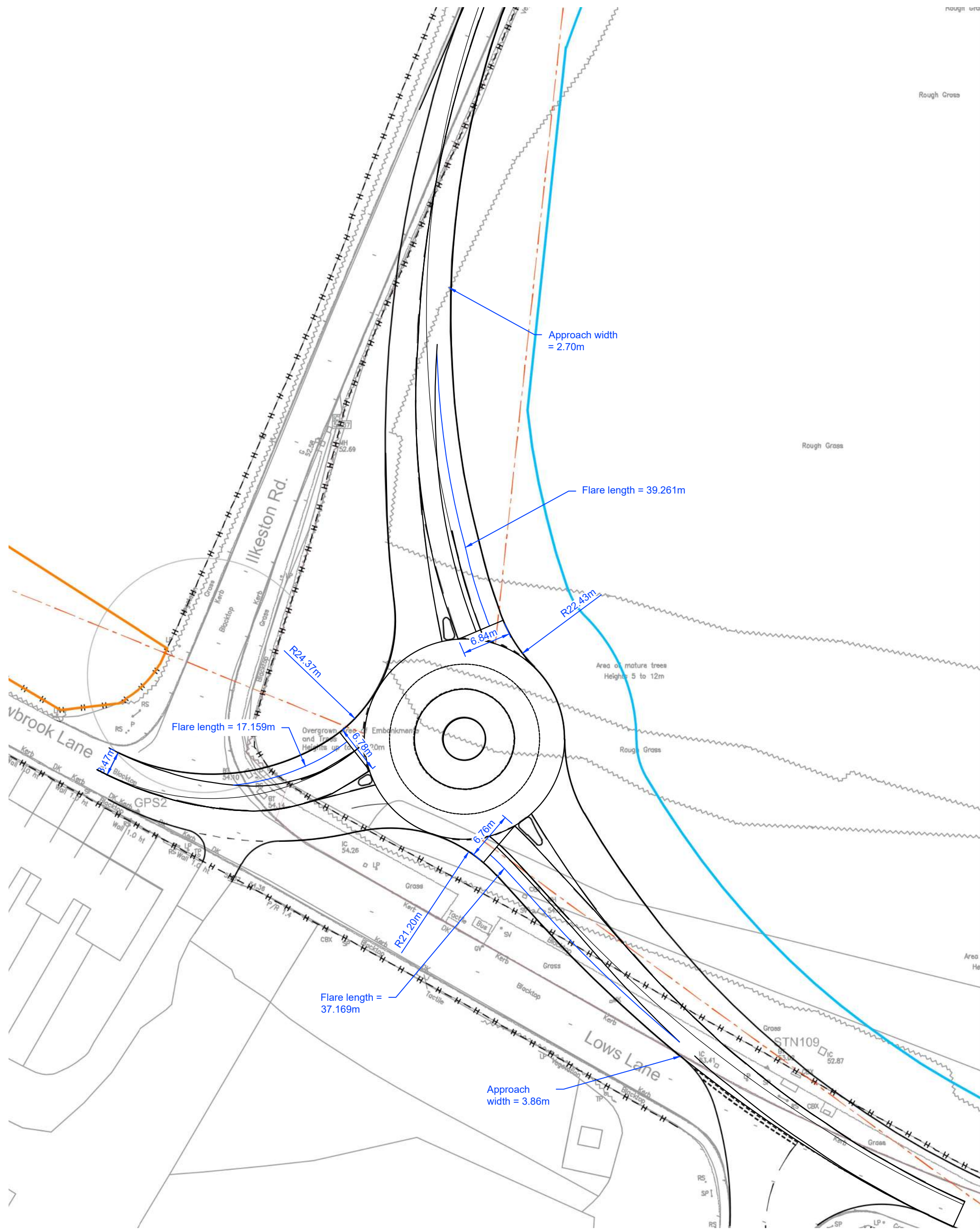
Project Engineer: T. Hart Scale: 1:1250 @ A3

Project Director: T. Foxall Date: August 2021

Status:

Drawing No. 8200919/6113

Rev. A



ARCADY Parameters: Potential roundabout

Junction 1 - Lows Lane / Sowbrook Lane / Ilkeston Road

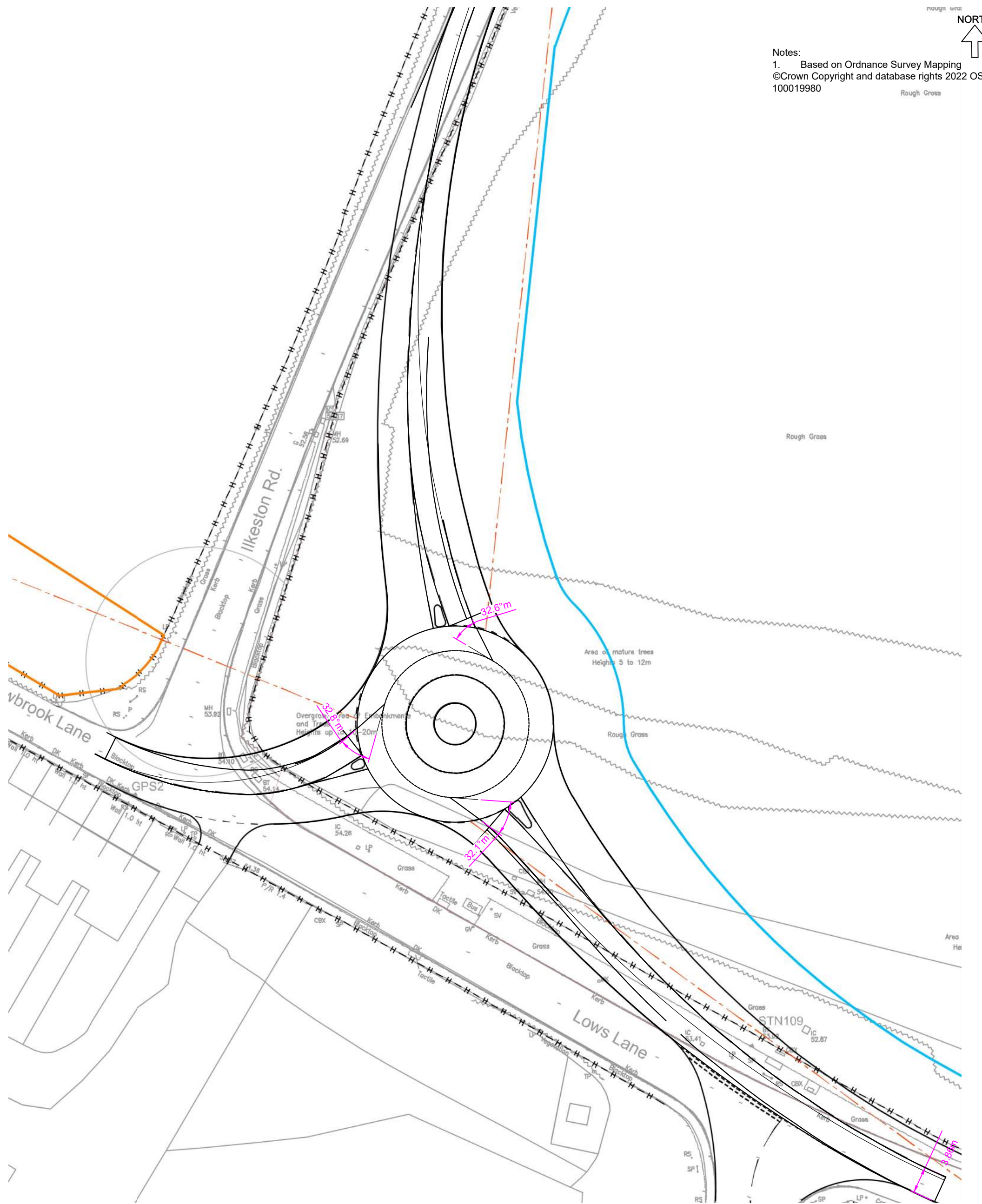
Arm A - Lows Lane
Arm B - Sowbrook Lane
Arm C - Ilkeston Road

Arm A - Lows Lane
V - Approach road half width (m) - 3.86
E - Entry width (m) - 6.76
I' - Effective flare length (m) - 37.169
R - Entry radius (m) - 21.20
D - Inscribed circle diameter (m) - 27.90
Phi - Conflict (entry) angle (deg) - 32.1

Arm B - Sowbrook Lane
V - Approach road half width (m) - 3.47
E - Entry width (m) - 6.78
I' - Effective flare length (m) - 17.159
R - Entry radius (m) - 24.37
D - Inscribed circle diameter (m) - 27.90
Phi - Conflict (entry) angle (deg) - 32.8

Arm C - Ilkeston Road
V - Approach road half width (m) - 2.70
E - Entry width (m) - 6.84
I' - Effective flare length (m) - 39.261
R - Entry radius (m) - 22.43
D - Inscribed circle diameter (m) - 27.90
Phi - Conflict (entry) angle (deg) - 32.6

Arm Road Widths & Flare length
Scale: 1:500



Entry radius and Conflict (entry) angle
Scale: 1:500



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Martin Andrews Consulting Ltd

- Transport Assessments
- Flood Risk Assessments
- Highway Advice
- Access Design
- Drainage Strategies
- Vehicle tracking

Client: Wulff Asset Management Limited

Project: Sowbrook Lane, Ilkeston

Title: Junction 1: Potential Roundabout
Lows Lane / Ilkeston Road / Sowbrook Lane

Date: 01.12.22

Drw: SH

Chk: MJA

Drawing No: 450-TA80

Revision: -

Scale: 1:500

Size: A2

Notes:

1. Based on Ordnance Survey Mapping
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100019980

NORTH

Appendix J

Potential Roundabout: Sowbrook Lane/Ilkeston Road/Lowes Lane Input data and results

Junctions 9						
ARCADY 9 - Roundabout Module						
Version: 9.5.0.6896						
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Filename: Junction 1-Potential roundabout NO B-C movement.j9

Path: C:\Users\Administrator\MAC\Projects 400 - 499 - Documents\450 - Sowbrook Lane, Ilkeston\Design\TA

Report generation date: 02/12/2022 11:45:22

- »2021, AM
- »2021, PM
- »2026 Forecast, AM
- »2026 Forecast, PM
- »2026 Forecast Plus Proposed Dev, AM
- »2026 Forecast Plus Proposed Dev, PM
- »2026 Forecast Plus Adj Dev, AM
- »2026 Forecast Plus Adj Dev, PM
- »2026 Forecast Plus Proposed Dev plus Adj Dev, AM
- »2026 Forecast Plus Proposed Dev plus Adj Dev, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021						
Arm A	0.5	3.35	0.33	0.7	3.78	0.40
Arm B	0.1	3.25	0.13	0.1	3.32	0.09
Arm C	0.0	2.21	0.01	0.1	2.27	0.05
2026 Forecast						
Arm A	0.5	3.48	0.35	0.8	4.01	0.44
Arm B	0.2	3.38	0.14	0.1	3.47	0.10
Arm C	0.0	2.22	0.01	0.1	2.29	0.06
2026 Forecast Plus Proposed Dev						
Arm A	0.6	3.51	0.36	0.8	4.12	0.45
Arm B	0.2	3.50	0.17	0.1	3.56	0.11
Arm C	0.0	2.25	0.01	0.1	2.30	0.06
2026 Forecast Plus Adj Dev						
Arm A	0.5	3.26	0.31	0.9	4.24	0.47
Arm B	0.2	3.36	0.17	0.1	3.45	0.07
Arm C	0.0	2.26	0.01	0.1	2.25	0.06
2026 Forecast Plus Proposed Dev plus Adj Dev						
Arm A	0.5	3.29	0.32	0.9	4.37	0.48
Arm B	0.2	3.47	0.19	0.1	3.54	0.08
Arm C	0.0	2.29	0.01	0.1	2.26	0.06

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	
Location	
Site number	
Date	01/12/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:15	08:45	15	✓	✓
D2	2021	PM	ONE HOUR	16:00	17:30	15	✓	✓
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓
D4	2026 Forecast	PM	ONE HOUR	16:00	17:30	15	✓	✓
D5	2026 Forecast Plus Proposed Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓
D6	2026 Forecast Plus Proposed Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓
D7	2026 Forecast Plus Adj Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓
D8	2026 Forecast Plus Adj Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓
D9	2026 Forecast Plus Proposed Dev plus Adj Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓
D10	2026 Forecast Plus Proposed Dev plus Adj Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	2.78	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A	Lows Lane	
B	Sowbrook Lane	
C	Ilkeston Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A	3.86	6.76	37.2	21.2	27.9	32.1	
B	3.47	6.78	17.2	24.4	27.9	32.8	
C	2.70	6.84	39.3	22.4	27.9	32.6	

Bypass

Arm	Arm has bypass	Bypass utilisation (%)
A	✓	100
B	✓	100
C	✓	100

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.692	1864
B	0.653	1670
C	0.669	1749

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	558	100.000
B		ONE HOUR	✓	149	100.000
C		ONE HOUR	✓	670	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	80	478
	B	149	0	0
	C	660	10	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	3	16
	B	0	0	5
	C	12	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.33	3.35	0.5	A	549	478
B	0.13	3.25	0.1	A	149	149
C	0.01	2.21	0.0	A	749	10

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	494	430	107	72	593	9	1602	0.268	429	134	0.3	0.4	3.070	A
B	134	134	33	0	72	429	1345	0.100	134	9	0.1	0.1	2.973	A
C	674	9	2	593	0	134	1660	0.005	9	429	0.0	0.0	2.180	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	604	526	132	88	727	11	1601	0.329	526	164	0.4	0.5	3.347	A
B	164	164	41	0	88	526	1271	0.129	164	11	0.1	0.1	3.250	A
C	825	11	3	727	0	164	1640	0.007	11	526	0.0	0.0	2.209	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	604	526	132	88	727	11	1601	0.329	526	164	0.5	0.5	3.350	A
B	164	164	41	0	88	526	1271	0.129	164	11	0.1	0.1	3.251	A
C	825	11	3	727	0	164	1640	0.007	11	526	0.0	0.0	2.209	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	494	430	107	72	593	9	1602	0.268	430	134	0.5	0.4	3.075	A
B	134	134	33	0	72	430	1344	0.100	134	9	0.1	0.1	2.977	A
C	674	9	2	593	0	134	1660	0.005	9	430	0.0	0.0	2.180	A

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	3.12	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	800	100.000
B		ONE HOUR	✓	102	100.000
C		ONE HOUR	✓	674	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	216	584
	B	102	0	0
	C	591	83	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	0	13
	0	0	1
	8	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.40	3.78	0.7	A	775	584
B	0.09	3.32	0.1	A	102	102
C	0.05	2.27	0.1	A	721	83

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	697	525	131	194	531	75	1604	0.327	525	92	0.4	0.5	3.332	A
B	92	92	23	0	194	525	1283	0.071	92	75	0.1	0.1	3.022	A
C	648	75	19	531	0	92	1688	0.044	75	525	0.0	0.0	2.230	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	853	643	161	238	651	91	1594	0.403	642	112	0.5	0.7	3.779	A
B	112	112	28	0	238	642	1196	0.094	112	91	0.1	0.1	3.321	A
C	794	91	23	651	0	112	1674	0.055	91	642	0.0	0.1	2.273	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	853	643	161	238	651	91	1594	0.403	643	112	0.7	0.7	3.785	A
B	112	112	28	0	238	643	1195	0.094	112	91	0.1	0.1	3.323	A
C	794	91	23	651	0	112	1674	0.055	91	643	0.1	0.1	2.273	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	697	525	131	194	531	75	1604	0.327	526	92	0.7	0.5	3.340	A
B	92	92	23	0	194	526	1282	0.072	92	75	0.1	0.1	3.024	A
C	648	75	19	531	0	92	1688	0.044	75	526	0.1	0.0	2.232	A

2026 Forecast, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D3 - 2026 Forecast, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	2.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	601	100.000
B		ONE HOUR	✓	160	100.000
C		ONE HOUR	✓	721	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	86	515
	B	160	0	0
	C	710	11	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	3	16
	0	0	5
	12	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.35	3.48	0.5	A	591	515
B	0.14	3.38	0.2	A	160	160
C	0.01	2.22	0.0	A	806	11

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	532	463	116	77	638	10	1601	0.289	463	144	0.3	0.4	3.162	A
B	144	144	36	0	77	463	1319	0.109	144	10	0.1	0.1	3.061	A
C	725	10	2	638	0	144	1653	0.006	10	463	0.0	0.0	2.190	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	651	567	142	95	782	12	1600	0.354	566	176	0.4	0.5	3.481	A
B	176	176	44	0	95	566	1241	0.142	176	12	0.1	0.2	3.381	A
C	888	12	3	782	0	176	1632	0.007	12	566	0.0	0.0	2.222	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	651	567	142	95	782	12	1600	0.354	567	176	0.5	0.5	3.484	A
B	176	176	44	0	95	567	1240	0.142	176	12	0.2	0.2	3.382	A
C	888	12	3	782	0	176	1632	0.007	12	567	0.0	0.0	2.222	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	532	463	116	77	638	10	1601	0.289	464	144	0.5	0.4	3.167	A
B	144	144	36	0	77	464	1319	0.109	144	10	0.2	0.1	3.064	A
C	725	10	2	638	0	144	1653	0.006	10	464	0.0	0.0	2.192	A

2026 Forecast, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D4 - 2026 Forecast, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	3.25	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2026 Forecast	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	862	100.000
B		ONE HOUR	✓	110	100.000
C		ONE HOUR	✓	726	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	233	629
	B	110	0	0
	C	637	89	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	13	
	0	0	1	
	8	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.44	4.01	0.8	A	835	629
B	0.10	3.47	0.1	A	110	110
C	0.06	2.29	0.1	A	777	89

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	751	565	141	209	573	80	1601	0.353	565	99	0.4	0.5	3.473	A
B	99	99	25	0	209	565	1253	0.079	99	80	0.1	0.1	3.118	A
C	698	80	20	573	0	99	1683	0.048	80	565	0.0	0.0	2.244	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	920	693	173	257	701	98	1590	0.436	692	121	0.5	0.8	4.004	A
B	121	121	30	0	257	692	1159	0.104	121	98	0.1	0.1	3.466	A
C	855	98	24	701	0	121	1669	0.059	98	692	0.0	0.1	2.291	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	920	693	173	257	701	98	1590	0.436	693	121	0.8	0.8	4.012	A
B	121	121	30	0	257	693	1159	0.105	121	98	0.1	0.1	3.468	A
C	855	98	24	701	0	121	1668	0.059	98	693	0.1	0.1	2.291	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	751	565	141	209	573	80	1601	0.353	566	99	0.8	0.5	3.482	A
B	99	99	25	0	209	566	1252	0.079	99	80	0.1	0.1	3.122	A
C	698	80	20	573	0	99	1683	0.048	80	566	0.1	0.1	2.246	A

2026 Forecast Plus Proposed Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D5 - 2026 Forecast Plus Proposed Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	2.90	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2026 Forecast Plus Proposed Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	617	100.000
B		ONE HOUR	✓	187	100.000
C		ONE HOUR	✓	748	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	95	522
	B	187	0	0
	C	737	11	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	3	16
	0	0	5
	12	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.36	3.51	0.6	A	606	522
B	0.17	3.50	0.2	A	187	187
C	0.01	2.25	0.0	A	836	11

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	545	469	117	85	663	10	1601	0.293	469	168	0.3	0.4	3.179	A
B	168	168	42	0	85	469	1315	0.128	168	10	0.1	0.1	3.139	A
C	752	10	2	663	0	168	1637	0.006	10	469	0.0	0.0	2.211	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	668	575	144	105	811	12	1600	0.359	574	206	0.4	0.6	3.508	A
B	206	206	51	0	105	574	1235	0.167	206	12	0.1	0.2	3.497	A
C	921	12	3	811	0	206	1612	0.008	12	574	0.0	0.0	2.249	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	668	575	144	105	811	12	1600	0.359	575	206	0.6	0.6	3.510	A
B	206	206	51	0	105	575	1234	0.167	206	12	0.2	0.2	3.499	A
C	921	12	3	811	0	206	1612	0.008	12	575	0.0	0.0	2.250	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	545	469	117	85	663	10	1601	0.293	470	168	0.6	0.4	3.182	A
B	168	168	42	0	85	470	1314	0.128	168	10	0.2	0.1	3.144	A
C	752	10	2	663	0	168	1637	0.006	10	470	0.0	0.0	2.214	A

2026 Forecast Plus Proposed Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D6 - 2026 Forecast Plus Proposed Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	3.33	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2026 Forecast Plus Proposed Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	912	100.000
B		ONE HOUR	✓	118	100.000
C		ONE HOUR	✓	734	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	261
	B	118	0
	C	645	89

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	0	13
	0	0	1
	8	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.45	4.12	0.8	A	882	651
B	0.11	3.56	0.1	A	118	118
C	0.06	2.30	0.1	A	786	89

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	793	585	146	235	580	80	1601	0.366	585	106	0.4	0.6	3.541	A
B	106	106	27	0	235	585	1238	0.086	106	80	0.1	0.1	3.178	A
C	706	80	20	580	0	106	1679	0.048	80	585	0.0	0.0	2.251	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	971	717	179	287	710	98	1590	0.451	716	130	0.6	0.8	4.115	A
B	130	130	32	0	287	716	1141	0.114	130	98	0.1	0.1	3.557	A
C	865	98	24	710	0	130	1663	0.059	98	716	0.0	0.1	2.300	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	971	717	179	287	710	98	1590	0.451	717	130	0.8	0.8	4.123	A
B	130	130	32	0	287	717	1141	0.114	130	98	0.1	0.1	3.560	A
C	865	98	24	710	0	130	1663	0.059	98	717	0.1	0.1	2.300	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	793	585	146	235	580	80	1601	0.366	586	106	0.8	0.6	3.553	A
B	106	106	27	0	235	586	1237	0.086	106	80	0.1	0.1	3.185	A
C	706	80	20	580	0	106	1678	0.048	80	586	0.1	0.1	2.251	A

2026 Forecast Plus Adj Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D7 - 2026 Forecast Plus Adj Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	2.72	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2026 Forecast Plus Adj Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	461	100.000
B		ONE HOUR	✓	200	100.000
C		ONE HOUR	✓	819	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	9	452
	B	200	0	0
	C	808	11	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	3	16
	0	0	5
	12	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.31	3.26	0.5	A	460	452
B	0.17	3.36	0.2	A	200	200
C	0.01	2.26	0.0	A	916	11

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	414	406	102	8	726	10	1601	0.254	406	180	0.3	0.3	3.012	A
B	180	180	45	0	8	406	1362	0.132	180	10	0.1	0.2	3.043	A
C	823	10	2	726	0	180	1629	0.006	10	406	0.0	0.0	2.222	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	506	498	124	10	890	12	1600	0.311	497	220	0.3	0.4	3.262	A
B	220	220	55	0	10	497	1293	0.170	220	12	0.2	0.2	3.354	A
C	1008	12	3	890	0	220	1602	0.008	12	497	0.0	0.0	2.263	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	506	498	124	10	890	12	1600	0.311	498	220	0.4	0.5	3.265	A
B	220	220	55	0	10	498	1293	0.170	220	12	0.2	0.2	3.355	A
C	1008	12	3	890	0	220	1602	0.008	12	498	0.0	0.0	2.263	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	414	406	102	8	726	10	1601	0.254	407	180	0.5	0.3	3.016	A
B	180	180	45	0	8	407	1362	0.132	180	10	0.2	0.2	3.048	A
C	823	10	2	726	0	180	1629	0.006	10	407	0.0	0.0	2.222	A

2026 Forecast Plus Adj Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D8 - 2026 Forecast Plus Adj Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	3.44	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2026 Forecast Plus Adj Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1002	100.000
B		ONE HOUR	✓	73	100.000
C		ONE HOUR	✓	694	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	329	673
	B	73	0	0
	C	605	89	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	0	13
	0	0	1
	8	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.47	4.24	0.9	A	964	673
B	0.07	3.45	0.1	A	73	73
C	0.06	2.25	0.1	A	742	89

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	867	605	151	296	544	80	1601	0.378	604	66	0.5	0.6	3.611	A
B	66	66	16	0	296	604	1224	0.054	66	80	0.0	0.1	3.107	A
C	667	80	20	544	0	66	1706	0.047	80	604	0.0	0.0	2.214	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1062	741	185	362	666	98	1590	0.466	740	80	0.6	0.9	4.230	A
B	80	80	20	0	362	740	1124	0.072	80	98	0.1	0.1	3.449	A
C	817	98	24	666	0	80	1696	0.058	98	740	0.0	0.1	2.252	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1062	741	185	362	666	98	1590	0.466	741	80	0.9	0.9	4.241	A
B	80	80	20	0	362	741	1123	0.072	80	98	0.1	0.1	3.452	A
C	817	98	24	666	0	80	1696	0.058	98	741	0.1	0.1	2.252	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	867	605	151	296	544	80	1601	0.378	606	66	0.9	0.6	3.622	A
B	66	66	16	0	296	606	1223	0.054	66	80	0.1	0.1	3.111	A
C	667	80	20	544	0	66	1706	0.047	80	606	0.1	0.0	2.214	A

2026 Forecast Plus Proposed Dev plus Adj Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D9 - 2026 Forecast Plus Proposed Dev plus Adj Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	2.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2026 Forecast Plus Proposed Dev plus Adj Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	477	100.000
B		ONE HOUR	✓	227	100.000
C		ONE HOUR	✓	846	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	18	459
	B	227	0	0
	C	835	11	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	3	16
	0	0	5
C	12	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.32	3.29	0.5	A	475	459
B	0.19	3.47	0.2	A	227	227
C	0.01	2.29	0.0	A	946	11

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	427	413	103	16	751	10	1601	0.258	412	204	0.3	0.3	3.028	A
B	204	204	51	0	16	412	1357	0.150	204	10	0.1	0.2	3.120	A
C	851	10	2	751	0	204	1613	0.006	10	412	0.0	0.0	2.245	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	523	505	126	20	919	12	1600	0.316	505	250	0.3	0.5	3.285	A
B	250	250	62	0	20	505	1287	0.194	250	12	0.2	0.2	3.469	A
C	1042	12	3	919	0	250	1583	0.008	12	505	0.0	0.0	2.292	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	523	505	126	20	919	12	1600	0.316	505	250	0.5	0.5	3.288	A
B	250	250	62	0	20	505	1287	0.194	250	12	0.2	0.2	3.470	A
C	1042	12	3	919	0	250	1582	0.008	12	505	0.0	0.0	2.292	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	427	413	103	16	751	10	1601	0.258	413	204	0.5	0.3	3.030	A
B	204	204	51	0	16	413	1357	0.150	204	10	0.2	0.2	3.125	A
C	851	10	2	751	0	204	1613	0.006	10	413	0.0	0.0	2.247	A

2026 Forecast Plus Proposed Dev plus Adj Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm A - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Demand Sets	D10 - 2026 Forecast Plus Proposed Dev plus Adj Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Lows Lane / Sowbrook Lane / Ilkeston Road	Standard Roundabout		A, B, C	3.53	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D10	2026 Forecast Plus Proposed Dev plus Adj Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1052	100.000
B		ONE HOUR	✓	81	100.000
C		ONE HOUR	✓	702	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	357	695
	B	81	0	0
	C	613	89	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	0	13
	0	0	1
	8	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	0.48	4.37	0.9	A	1011	695
B	0.08	3.54	0.1	A	81	81
C	0.06	2.26	0.1	A	751	89

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	909	625	156	321	551	80	1601	0.390	624	73	0.5	0.6	3.684	A
B	73	73	18	0	321	624	1209	0.060	73	80	0.0	0.1	3.167	A
C	675	80	20	551	0	73	1701	0.047	80	624	0.0	0.0	2.220	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1113	765	191	393	675	98	1590	0.481	764	89	0.6	0.9	4.353	A
B	89	89	22	0	393	764	1106	0.081	89	98	0.1	0.1	3.540	A
C	827	98	24	675	0	89	1690	0.058	98	764	0.0	0.1	2.261	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1113	765	191	393	675	98	1590	0.481	765	89	0.9	0.9	4.365	A
B	89	89	22	0	393	765	1105	0.081	89	98	0.1	0.1	3.542	A
C	827	98	24	675	0	89	1690	0.058	98	765	0.1	0.1	2.261	A

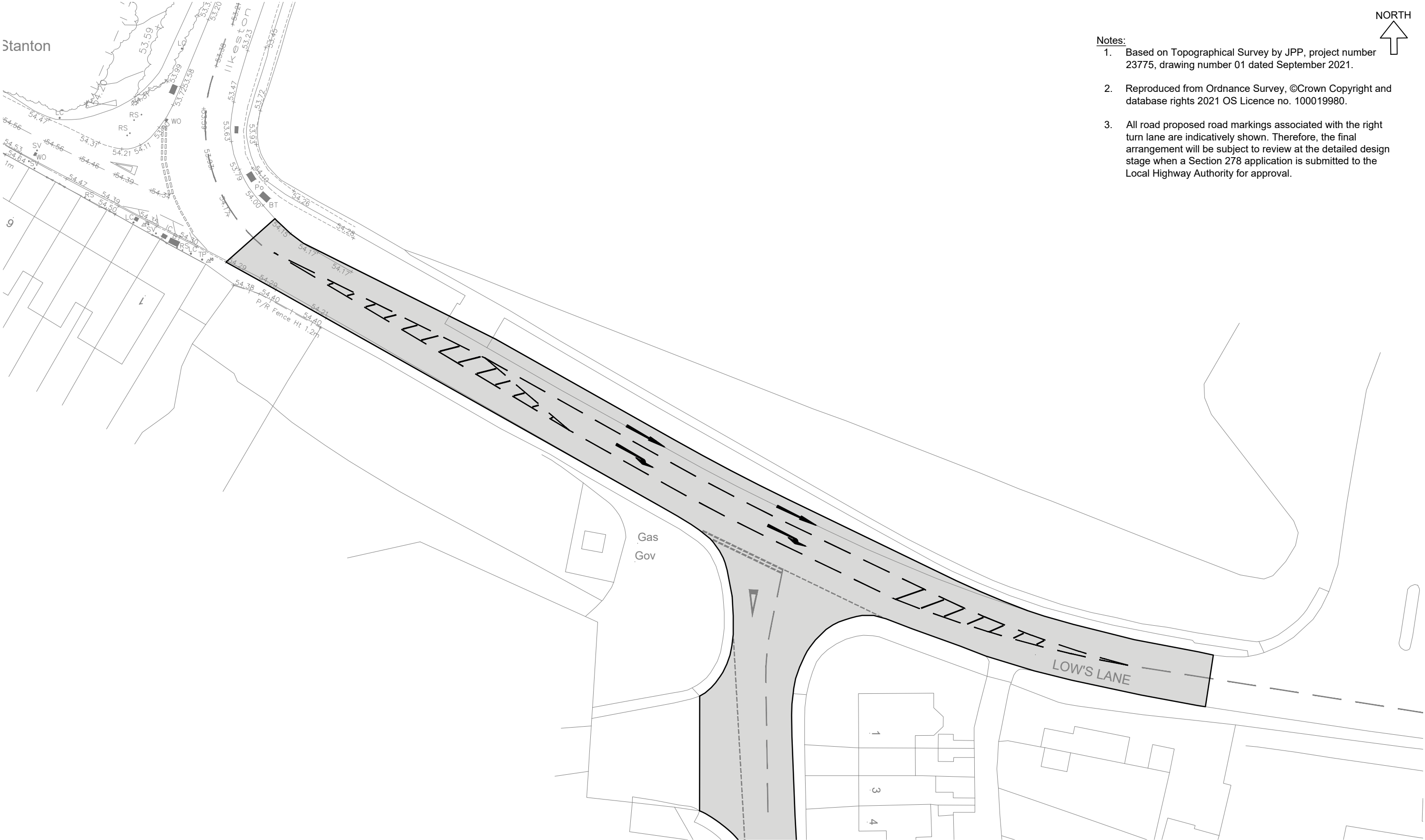
17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction demand (Veh/hr)	Junction Arrivals (Veh)	Bypass demand (Veh/hr)	Bypass exit flow (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	909	625	156	321	551	80	1601	0.390	626	73	0.9	0.6	3.699	A
B	73	73	18	0	321	626	1208	0.060	73	80	0.1	0.1	3.173	A
C	675	80	20	551	0	73	1701	0.047	80	626	0.1	0.0	2.221	A

Appendix K

J2: Proposed Lows Lane/Littlewell Lane Junction improvement
MAC Drawing: 450-TA12-Ghost Island Arrangement

Stanton



- Notes:
1. Based on Topographical Survey by JPP, project number 23775, drawing number 01 dated September 2021.
 2. Reproduced from Ordnance Survey, ©Crown Copyright and database rights 2021 OS Licence no. 100019980.
 3. All road proposed road markings associated with the right turn lane are indicatively shown. Therefore, the final arrangement will be subject to review at the detailed design stage when a Section 278 application is submitted to the Local Highway Authority for approval.



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Martin Andrews Consulting Ltd

- Transport Assessments
- Flood Risk Assessments
- Highway Advice
- Access Design
- Drainage Strategies
- Vehicle tracking

Client: Wulff Asset Management Limited		Project: Sowbrook Lane Ilkeston	
Title: Junction 2 - Littleway Lane / Lows Lane Proposed Improvements Ghost Island (Right Turn Lane) Arrangement		Date: 06.12.22	
		Drw: SH	
Drawing No: 450-TA12		Chk: AN	
		Scale: 1:500	
Revision: -		Size: A3	

Appendix L

J2: Proposed Lows Lane/Littlewell Lane Input Data and PICADY Report



Junction Turning Flows
Survey Date

Junction 2 - Lows Lane / Littlewell Lane

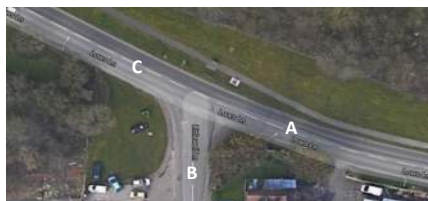
Tuesday 28th September 2021

Link

Arm A - Lows Lane (E)
Arm B - Littlewell Lane
Arm C - Lows Lane (W)

AM Peak 07:30 - 08:30

PM Peak 16:15 - 17:15



AM Peak 2021				
	A	B	C	Total
A		35	338	373
B	29		224	253
C	491	314		805
Total	520	349	562	1431

HGV Proportion AM Peak 2021				
	A	B	C	Average
A		64	19	41
B	90		6	48
C	15	3		9
Average	52	34	12	33

AM Peak Distribution (%)				
	A	B	C	Total
A	0%	0%	24%	24%
B	0%	0%	20%	20%
C	24%	20%	0%	44%
Total	24%	20%	44%	

AM Peak Forecast 2026				
	A	B	C	Total
A	0	37	364	401
B	32	0	241	273
C	528	338	0	867
Total	560	376	605	1541

1.0764

AM Peak Proposed Dev				
	A	B	C	Total
A	0	0	8	8
B	0	0	7	7
C	29	24	0	53
Total	29	24	15	68

AM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	37	372	409
B	32	0	248	280
C	557	363	0	920
Total	589	400	620	1609

AM Peak New Stanton Park (NSP)				
	A	B	C	Total
A			-75	-75
B			-63	-63
C	75	63		138
Total	75	63	-138	0

AM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	37	289	326
B	32	0	178	210
C	603	401	0	1005
Total	635	439	467	1541

AM Peak 2026 plus Proposed Dev + NSP				
	A	B	C	Total
A	0	37	297	334
B	32	0	185	217
C	632	426	0	1058
Total	664	463	482	1609

PM Peak 2021				
	A	B	C	Total
A		17	475	492
B	42		321	364
C	423	274		697
Total	465	291	796	1553

HGV Proportion PM Peak 2021				
	A	B	C	Average
A		36	14	25
B	16		1	8
C	10	2		6
Average	13	19	8	13

PM Peak Distribution (%)				
	A	B	C	Total
A	0%	0%	24%	24%
B	0%	0%	20%	20%
C	24%	20%	0%	44%
Total	24%	20%	44%	

PM Peak Forecast 2026				
	A	B	C	Total
A	0	19	512	531
B	46	0	346	392
C	456	295	0	751
Total	501	314	858	1674

1.078

PM Peak Proposed Dev				
	A	B	C	Total
A	0	0	23	23
B	0	0	19	19
C	8	7	0	15
Total	8	7	43	58

PM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	19	535	554
B	46	0	366	411
C	464	303	0	767
Total	510	321	901	1732

PM Peak New Stanton Park (NSP)				
	A	B	C	Total
A			76	76
B			64	64
C	-38	-31		-69
Total	-38	-31	140	71

PM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	19	588	607
B	46	0	410	456
C	418	264	0	682
Total	463	283	998	1745

PM Peak 2026 Plus Proposed Dev+ NSP				
	A	B	C	Total
A	0	19	611	630
B	46	0	430	475
C	426	272	0	698
Total	472	290	1041	1803

31

26



Junction Turning Flows
Survey Date

Junction 2 - Lows Lane / Littlewell Lane

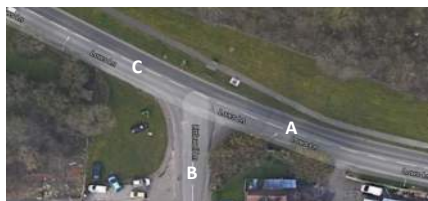
Tuesday 28th September 2021

Link

Arm A - Lows Lane (E)
Arm B - Littlewell Lane
Arm C - Lows Lane (W)

AM Peak 07:30 - 08:30

PM Peak 16:15 - 17:15



AM Peak 2021				
	A	B	C	Total
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B	29		224	253
C	491	314		805
Total	520	349	562	1431

HGV Proportion AM Peak 2021				
	A	B	C	Average
A		64	19	41
B	90		6	48
C	15	3		9
Average	52	34	12	33

AM Peak Distribution (%)				
	A	B	C	Total
A	0%	0%	24%	24%
B	0%	0%	20%	20%
C	24%	20%	0%	44%
Total	24%	20%	44%	

AM Peak Forecast 2026				
	A	B	C	Total
A	0	37	364	401
B	32	0	241	273
C	528	338	0	867
Total	560	376	605	1541

1.0764

AM Peak Proposed Dev				
	A	B	C	Total
A	0	0	8	8
B	0	0	7	7
C	29	24	0	53
Total	29	24	15	68

AM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	37	372	409
B	32	0	248	280
C	557	363	0	920
Total	589	400	620	1609

AM Peak New Stanton Park (NSP)				
	A	B	C	Total
A			-75	-75
B			-63	-63
C	75	63		138
Total	75	63	-138	0

AM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	37	289	326
B	32	0	178	210
C	603	401	0	1005
Total	635	439	467	1541

AM Peak 2026 plus Proposed Dev + NSP				
	A	B	C	Total
A	0	37	297	334
B	32	0	185	217
C	632	426	0	1058
Total	664	463	482	1609

PM Peak 2021				
	A	B	C	Total
A		17	475	492
B	42		321	364
C	423	274		697
Total	465	291	796	1553

HGV Proportion PM Peak 2021				
	A	B	C	Average
A		36	14	25
B	16		1	8
C	10	2		6
Average	13	19	8	13

PM Peak Distribution (%)				
	A	B	C	Total
A	0%	0%	24%	24%
B	0%	0%	20%	20%
C	24%	20%	0%	44%
Total	24%	20%	44%	

PM Peak Forecast 2026				
	A	B	C	Total
A	0	19	512	531
B	46	0	346	392
C	456	295	0	751
Total	501	314	858	1674

1.078

PM Peak Proposed Dev				
	A	B	C	Total
A	0	0	23	23
B	0	0	19	19
C	8	7	0	15
Total	8	7	43	58

PM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	19	535	554
B	46	0	366	411
C	464	303	0	767
Total	510	321	901	1732

PM Peak New Stanton Park (NSP)				
	A	B	C	Total
A			76	76
B			64	64
C	-38	-31		-69
Total	-38	-31	140	71

PM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	19	588	607
B	46	0	410	456
C	418	264	0	682
Total	463	283	998	1745

PM Peak 2026 Plus Proposed Dev+ NSP				
	A	B	C	Total
A	0	19	611	630
B	46	0	430	475
C	426	272	0	698
Total	472	290	1041	1803

31

26

Junctions 9						
PICADY 9 - Priority Intersection Module						
Version: 9.5.0.6896 © Copyright TRL Limited, 2018						
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk						
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: 450-J2-Ghost Island.j9

Path: C:\Users\Administrator\MAC\Projects 400 - 499 - Documents\450 - Sowbrook Lane, Ilkeston\Design\TA\Junction 9-PICADY (196 Dev)

Report generation date: 17/02/2023 16:06:06

- »2021, AM
- »2021, PM
- »2026 Forecast, AM
- »2026 Forecast, PM
- »2026 Forecast Plus Proposed Dev, AM
- »2026 Forecast Plus Proposed Dev, PM
- »2026 Forecast Plus NSP, AM
- »2026 Forecast Plus NSP, PM
- »2026 Forecast Plus Proposed Development + NSP, AM
- »2026 Forecast Plus Proposed Development + NSP, PM

Summary of junction performance

	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
2021						
Stream B-C	0.6	9.56	0.40	1.8	18.77	0.65
Stream B-A	0.2	18.34	0.14	0.5	32.86	0.30
Stream C-AB	1.1	10.92	0.51	1.0	11.36	0.49
2026 Forecast						
Stream B-C	1.1	14.68	0.52	2.8	26.88	0.74
Stream B-A	1.1	59.94	0.37	0.7	47.94	0.40
Stream C-AB	1.6	14.24	0.60	1.2	13.17	0.55
2026 Forecast Plus Proposed Dev						
Stream B-C	0.9	11.39	0.45	2.6	24.54	0.73
Stream B-A	0.4	42.42	0.18	0.5	39.74	0.33
Stream C-AB	1.6	13.77	0.60	1.2	12.60	0.54
2026 Forecast Plus NSP						
Stream B-C	0.5	8.88	0.31	4.7	39.85	0.84
Stream B-A	0.4	40.64	0.17	0.8	59.55	0.42
Stream C-AB	1.9	14.53	0.64	0.9	11.56	0.48
2026 Forecast Plus Proposed Development + NSP						
Stream B-C	0.5	9.12	0.33	7.0	57.06	0.90
Stream B-A	0.4	44.18	0.19	1.4	110.95	0.60
Stream C-AB	2.3	16.13	0.69	1.0	12.14	0.50

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	
Location	
Site number	
Date	23/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
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	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:15	08:45	15	✓	✓
D2	2021	PM	ONE HOUR	16:00	17:30	15	✓	✓
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓
D4	2026 Forecast	PM	ONE HOUR	16:00	17:30	15	✓	✓
D5	2026 Forecast Plus Proposed Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓
D6	2026 Forecast Plus Proposed Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.28	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Lows Lane (E)		Major
B	Littlewell Lane		Minor
C	untitled		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	9.00		✓	3.00	250.0	✓	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

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	6.71	5.13	4.54	4.09	✓	2.00	68	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	B-A	458	0.073	0.183	0.115	0.262
1	B-C	744	0.099	0.251	-	-
1	C-B	781	0.263	0.263	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	373	100.000
B		ONE HOUR	✓	253	100.000
C		ONE HOUR	✓	805	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	35	338
	B	29	0	224
	C	491	314	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.40	9.56	0.6	A	224	224
B-A	0.14	18.34	0.2	C	29	29
C-AB	0.51	10.92	1.1	B	316	316
C-A					489	489
A-B					35	35
A-C					338	338

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	201	50	648	0.311	201	0.3	0.4	8.040	A
B-A	26	7	273	0.097	26	0.1	0.1	14.606	B
C-AB	283	71	694	0.408	282	0.5	0.7	8.728	A
C-A	441	110			441				
A-B	31	8			31				
A-C	304	76			304				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	247	62	623	0.396	246	0.4	0.6	9.512	A
B-A	32	8	229	0.141	32	0.1	0.2	18.264	C
C-AB	349	87	678	0.514	347	0.7	1.0	10.827	B
C-A	538	134			538				
A-B	38	9			38				
A-C	372	93			372				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	247	62	623	0.396	247	0.6	0.6	9.556	A
B-A	32	8	229	0.142	32	0.2	0.2	18.341	C
C-AB	349	87	678	0.514	349	1.0	1.1	10.917	B
C-A	538	134			538				
A-B	38	9			38				
A-C	372	93			372				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	201	50	648	0.311	202	0.6	0.5	8.089	A
B-A	26	7	272	0.097	27	0.2	0.1	14.680	B
C-AB	283	71	694	0.408	284	1.1	0.7	8.821	A
C-A	441	110			441				
A-B	31	8			31				
A-C	304	76			304				

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		6.42	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	567	100.000
B		ONE HOUR	✓	370	100.000
C		ONE HOUR	✓	740	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	24	544
	B	49	0	321
	C	466	274	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	36	15
	B	16	0	0
	C	10	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.65	18.77	1.8	C	321	321
B-A	0.30	32.86	0.5	D	49	49
C-AB	0.49	11.36	1.0	B	275	275
C-A					465	465
A-B					24	24
A-C					544	544

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	289	72	589	0.490	287	0.6	0.9	11.894	B
B-A	44	11	244	0.181	44	0.2	0.2	20.789	C
C-AB	247	62	648	0.381	246	0.4	0.6	8.949	A
C-A	419	105			419				
A-B	21	5			21				
A-C	489	122			489				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	354	88	546	0.648	350	0.9	1.7	18.131	C
B-A	54	13	182	0.297	53	0.2	0.5	32.123	D
C-AB	303	76	620	0.489	302	0.6	0.9	11.272	B
C-A	511	128			511				
A-B	26	6			26				
A-C	599	150			599				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	354	88	545	0.649	353	1.7	1.8	18.772	C
B-A	54	13	180	0.299	54	0.5	0.5	32.860	D
C-AB	303	76	620	0.489	303	0.9	1.0	11.363	B
C-A	511	128			511				
A-B	26	6			26				
A-C	599	150			599				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	289	72	588	0.491	292	1.8	1.0	12.298	B
B-A	44	11	242	0.182	45	0.5	0.3	21.163	C
C-AB	247	62	648	0.381	248	1.0	0.6	9.039	A
C-A	419	105			419				
A-B	21	5			21				
A-C	489	122			489				

2026 Forecast, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2026 Forecast, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		7.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	494	100.000
B		ONE HOUR	✓	315	100.000
C		ONE HOUR	✓	955	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	61	433
	B	61	0	254
	C	605	349	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	64	19
	B	90	0	6
	C	15	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.52	14.68	1.1	B	254	254
B-A	0.37	59.94	1.1	F	61	61
C-AB	0.60	14.24	1.6	B	357	357
C-A					598	598
A-B					61	61
A-C					433	433

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	229	57	592	0.387	228	0.5	0.7	10.436	B
B-A	55	14	238	0.230	54	0.4	0.5	36.995	E
C-AB	316	79	668	0.473	315	0.6	0.9	10.508	B
C-A	542	136			542				
A-B	55	14			55				
A-C	389	97			389				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	280	70	542	0.517	278	0.7	1.1	14.327	B
B-A	67	17	181	0.369	65	0.5	1.0	57.910	F
C-AB	398	99	659	0.604	395	0.9	1.6	13.988	B
C-A	653	163			653				
A-B	67	17			67				
A-C	477	119			477				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	280	70	539	0.520	280	1.1	1.1	14.676	B
B-A	67	17	180	0.371	67	1.0	1.1	59.944	F
C-AB	398	99	660	0.603	398	1.6	1.6	14.241	B
C-A	653	163			653				
A-B	67	17			67				
A-C	477	119			477				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	229	57	588	0.389	231	1.1	0.7	10.672	B
B-A	55	14	237	0.230	56	1.1	0.6	38.225	E
C-AB	316	79	669	0.472	318	1.6	1.0	10.729	B
C-A	542	136			542				
A-B	55	14			55				
A-C	389	97			389				

2026 Forecast, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2026 Forecast, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		8.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2026 Forecast	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	612	100.000
B		ONE HOUR	✓	404	100.000
C		ONE HOUR	✓	802	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	26	586
	B	53	0	350
	C	503	300	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	36	15
	B	16	0	1
	C	10	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.74	26.88	2.8	D	350	350
B-A	0.40	47.94	0.7	E	53	53
C-AB	0.55	13.17	1.2	B	302	302
C-A					500	500
A-B					26	26
A-C					586	586

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	315	79	574	0.549	313	0.8	1.2	13.884	B
B-A	48	12	221	0.216	47	0.2	0.3	23.889	C
C-AB	270	67	638	0.423	269	0.5	0.7	9.900	A
C-A	451	113			451				
A-B	23	6			23				
A-C	527	132			527				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	386	96	522	0.739	380	1.2	2.6	24.787	C
B-A	59	15	148	0.396	57	0.3	0.7	45.050	E
C-AB	335	84	612	0.547	333	0.7	1.2	13.006	B
C-A	549	137			549				
A-B	29	7			29				
A-C	645	161			645				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	386	96	520	0.743	385	2.6	2.8	26.879	D
B-A	59	15	145	0.404	58	0.7	0.7	47.944	E
C-AB	335	84	613	0.546	335	1.2	1.2	13.171	B
C-A	549	137			549				
A-B	29	7			29				
A-C	645	161			645				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	315	79	572	0.551	321	2.8	1.3	14.840	B
B-A	48	12	219	0.219	49	0.7	0.3	24.808	C
C-AB	270	67	638	0.423	272	1.2	0.8	10.047	B
C-A	451	113			451				
A-B	23	6			23				
A-C	527	132			527				

2026 Forecast Plus Proposed Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2026 Forecast Plus Proposed Dev, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		5.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2026 Forecast Plus Proposed Dev	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	409	100.000
B		ONE HOUR	✓	280	100.000
C		ONE HOUR	✓	920	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	37	372
	B	32	0	248
	C	557	363	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	64	19
	B	90	0	6
	C	15	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.45	11.39	0.9	B	248	248
B-A	0.18	42.42	0.4	E	32	32
C-AB	0.60	13.77	1.6	B	370	370
C-A					550	550
A-B					37	37
A-C					372	372

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	223	56	637	0.350	222	0.4	0.6	9.152	A
B-A	29	7	247	0.116	28	0.2	0.2	31.203	D
C-AB	328	82	688	0.477	327	0.7	0.9	10.283	B
C-A	499	125			499				
A-B	33	8			33				
A-C	334	84			334				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	273	68	608	0.449	272	0.6	0.8	11.287	B
B-A	35	9	197	0.179	35	0.2	0.4	41.968	E
C-AB	412	103	682	0.604	409	0.9	1.6	13.532	B
C-A	601	150			601				
A-B	41	10			41				
A-C	410	102			410				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	273	68	607	0.450	273	0.8	0.9	11.388	B
B-A	35	9	196	0.180	35	0.4	0.4	42.419	E
C-AB	412	103	683	0.603	412	1.6	1.6	13.766	B
C-A	601	150			601				
A-B	41	10			41				
A-C	410	102			410				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	223	56	636	0.350	224	0.9	0.6	9.251	A
B-A	29	7	246	0.117	29	0.4	0.3	31.578	D
C-AB	328	82	689	0.476	330	1.6	1.0	10.488	B
C-A	499	125			499				
A-B	33	8			33				
A-C	334	84			334				

2026 Forecast Plus Proposed Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2026 Forecast Plus Proposed Dev, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		8.46	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2026 Forecast Plus Proposed Dev	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	554	100.000
B		ONE HOUR	✓	412	100.000
C		ONE HOUR	✓	767	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	19	535
	B	46	0	366
	C	464	303	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	36	15
	B	16	0	1
	C	10	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.73	24.54	2.6	C	366	366
B-A	0.33	39.74	0.5	E	46	46
C-AB	0.54	12.60	1.2	B	305	305
C-A					462	462
A-B					19	19
A-C					535	535

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	329	82	595	0.553	327	0.8	1.2	13.554	B
B-A	41	10	230	0.180	41	0.2	0.2	22.001	C
C-AB	273	68	651	0.419	272	0.5	0.7	9.624	A
C-A	417	104			417				
A-B	17	4			17				
A-C	481	120			481				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	403	101	551	0.731	398	1.2	2.5	22.992	C
B-A	51	13	158	0.321	50	0.2	0.5	38.062	E
C-AB	337	84	628	0.538	336	0.7	1.2	12.456	B
C-A	507	127			507				
A-B	21	5			21				
A-C	589	147			589				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	403	101	550	0.733	402	2.5	2.6	24.544	C
B-A	51	13	155	0.327	51	0.5	0.5	39.745	E
C-AB	337	84	628	0.537	337	1.2	1.2	12.596	B
C-A	507	127			507				
A-B	21	5			21				
A-C	589	147			589				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	329	82	593	0.555	334	2.6	1.3	14.362	B
B-A	41	10	227	0.182	42	0.5	0.3	22.618	C
C-AB	273	68	652	0.419	275	1.2	0.7	9.755	A
C-A	417	104			417				
A-B	17	4			17				
A-C	481	120			481				

2026 Forecast Plus NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2026 Forecast Plus NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		5.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	326	100.000
B		ONE HOUR	✓	210	100.000
C		ONE HOUR	✓	1004	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	37	289
	B	32	0	178
	C	603	401	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	64	19
	B	90	0	6
	C	15	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.31	8.88	0.5	A	178	178
B-A	0.17	40.64	0.4	E	32	32
C-AB	0.64	14.53	1.9	B	413	413
C-A					591	591
A-B					37	37
A-C					289	289

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	160	40	650	0.246	160	0.3	0.3	7.743	A
B-A	29	7	252	0.114	28	0.2	0.2	30.519	D
C-AB	363	91	710	0.512	362	0.7	1.1	10.670	B
C-A	539	135			539				
A-B	33	8			33				
A-C	260	65			260				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	196	49	625	0.314	195	0.3	0.5	8.836	A
B-A	35	9	204	0.173	35	0.2	0.4	40.227	E
C-AB	463	116	719	0.644	460	1.1	1.9	14.211	B
C-A	642	161			642				
A-B	41	10			41				
A-C	318	80			318				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	196	49	624	0.314	196	0.5	0.5	8.876	A
B-A	35	9	203	0.173	35	0.4	0.4	40.639	E
C-AB	463	116	720	0.643	463	1.9	1.9	14.532	B
C-A	642	161			642				
A-B	41	10			41				
A-C	318	80			318				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	160	40	649	0.246	161	0.5	0.3	7.786	A
B-A	29	7	251	0.115	29	0.4	0.3	30.876	D
C-AB	363	91	711	0.511	367	1.9	1.1	10.946	B
C-A	539	135			539				
A-B	33	8			33				
A-C	260	65			260				

2026 Forecast Plus NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2026 Forecast Plus NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		12.69	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	607	100.000
B		ONE HOUR	✓	456	100.000
C		ONE HOUR	✓	682	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	19	588
	B	46	0	410
	C	418	264	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	36	15
	B	16	0	1
	C	10	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.84	39.85	4.7	E	410	410
B-A	0.42	59.55	0.8	F	46	46
C-AB	0.48	11.56	0.9	B	265	265
C-A					417	417
A-B					19	19
A-C					588	588

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	369	92	585	0.630	366	1.0	1.6	16.461	C
B-A	41	10	220	0.188	41	0.2	0.3	23.169	C
C-AB	237	59	638	0.372	237	0.4	0.6	9.101	A
C-A	376	94			376				
A-B	17	4			17				
A-C	529	132			529				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	451	113	539	0.837	441	1.6	4.2	33.943	D
B-A	51	13	128	0.396	49	0.3	0.7	51.691	F
C-AB	292	73	608	0.480	291	0.6	0.9	11.473	B
C-A	459	115			459				
A-B	21	5			21				
A-C	647	162			647				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	451	113	537	0.840	450	4.2	4.7	39.851	E
B-A	51	13	120	0.424	50	0.7	0.8	59.549	F
C-AB	292	73	608	0.480	292	0.9	0.9	11.564	B
C-A	459	115			459				
A-B	21	5			21				
A-C	647	162			647				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	369	92	583	0.633	380	4.7	1.8	18.895	C
B-A	41	10	214	0.193	43	0.8	0.3	24.644	C
C-AB	237	59	638	0.372	239	0.9	0.6	9.188	A
C-A	376	94			376				
A-B	17	4			17				
A-C	529	132			529				

2026 Forecast Plus Proposed Development + NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D9 - 2026 Forecast Plus Proposed Development + NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		6.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	334	100.000
B		ONE HOUR	✓	217	100.000
C		ONE HOUR	✓	1058	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
From	A	0	37	297
	B	32	0	185
	C	632	426	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	64	19
	90	0	6
	15	3	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.33	9.12	0.5	A	185	185
B-A	0.19	44.18	0.4	E	32	32
C-AB	0.69	16.13	2.3	C	447	447
C-A					611	611
A-B					37	37
A-C					297	297

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	166	42	648	0.257	166	0.3	0.4	7.875	A
B-A	29	7	241	0.119	28	0.2	0.2	32.061	D
C-AB	388	97	711	0.546	386	0.8	1.2	11.407	B
C-A	563	141			563				
A-B	33	8			33				
A-C	267	67			267				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	204	51	621	0.328	203	0.4	0.5	9.076	A
B-A	35	9	191	0.185	35	0.2	0.4	43.585	E
C-AB	506	126	736	0.687	502	1.2	2.3	15.626	C
C-A	659	165			659				
A-B	41	10			41				
A-C	327	82			327				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	204	51	620	0.328	204	0.5	0.5	9.123	A
B-A	35	9	190	0.186	35	0.4	0.4	44.177	E
C-AB	506	126	738	0.685	506	2.3	2.3	16.131	C
C-A	659	165			659				
A-B	41	10			41				
A-C	327	82			327				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	166	42	647	0.257	167	0.5	0.4	7.925	A
B-A	29	7	240	0.120	29	0.4	0.3	32.533	D
C-AB	388	97	714	0.544	392	2.3	1.3	11.820	B
C-A	563	141			563				
A-B	33	8			33				
A-C	267	67			267				

2026 Forecast Plus Proposed Development + NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D10 - 2026 Forecast Plus Proposed Development + NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		18.27	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	630	100.000
B		ONE HOUR	✓	476	100.000
C		ONE HOUR	✓	698	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	19	611
	B	46	0	430
	C	426	272	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	36	15
	16	0	1
	10	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.90	57.06	7.0	F	430	430
B-A	0.60	110.95	1.4	F	46	46
C-AB	0.50	12.14	1.0	B	273	273
C-A					425	425
A-B					19	19
A-C					611	611

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	387	97	574	0.674	383	1.1	2.0	18.823	C
B-A	41	10	204	0.203	41	0.2	0.3	25.421	D
C-AB	245	61	633	0.387	244	0.5	0.6	9.392	A
C-A	383	96			383				
A-B	17	4			17				
A-C	549	137			549				

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	473	118	526	0.900	457	2.0	6.1	44.987	E
B-A	51	13	97	0.525	47	0.3	1.1	80.583	F
C-AB	301	75	603	0.500	300	0.6	1.0	12.030	B
C-A	467	117			467				
A-B	21	5			21				
A-C	673	168			673				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	473	118	527	0.898	470	6.1	7.0	57.059	F
B-A	51	13	85	0.596	49	1.1	1.4	110.952	F
C-AB	301	75	603	0.500	301	1.0	1.0	12.142	B
C-A	467	117			467				
A-B	21	5			21				
A-C	673	168			673				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	387	97	575	0.672	406	7.0	2.2	23.573	C
B-A	41	10	194	0.213	46	1.4	0.3	28.704	D
C-AB	245	61	633	0.387	246	1.0	0.7	9.495	A
C-A	383	96			383				
A-B	17	4			17				
A-C	549	137			549				

Appendix M

J3: Quarry Hill Road/Merlin Way Input Data and PICADY Report



Junction Turning Flows
Survey Date

Junction 3 - Quarry Hill Rd / Merlin Way

Tuesday 28th September 2021

Link

Arm A - Quarry Hill Road (N)

Arm B - Merlin Way

Arm C - Quarry Hill Road (S)

AM Peak 07:30 - 08:30

PM Peak 16:15 - 17:15



AM Peak 2021				
	A	B	C	Total
A		211	512	723
B	85		178	264
C	279	244		523
Total				1510

HGV Proportion AM Peak 2021				
	A	B	C	Average
A		22	4	13
B	48		42	45
C	8	20		14
Average	28	21	23	24

AM Peak Distribution				
	A	B	C	Total
A	0%	0%	43%	43%
B	0%	0%	0%	0%
C	43%	0%	0%	43%
Total	43%	0%	43%	

AM Peak Forecast 2026				
	A	B	C	Total
A	0	227	552	779
B	92	0	192	284
C	300	263	0	563
Total	392	490	743	1625

1.0764

AM Peak Proposed Dev				
	A	B	C	Total
A	0	0	15	15
B	0	0	0	0
C	52	0	0	52
Total	52	0	15	67

AM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	227	566	793
B	92	0	192	284
C	352	263	0	615
Total	444	490	758	1692

AM New Stanton Park (NSP)				
	A	B	C	Total
A			98	98
B				0
C	-63			-63
Total	-63	0	98	35

AM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	227	650	877
B	92	0	192	284
C	237	263	0	500
Total	329	490	841	1660

AM Peak 2026 plus Proposed Dev + NSP				
	A	B	C	Total
A	0	227	664	891
B	92	0	192	284
C	289	263	0	552
Total	381	490	856	1727

PM Peak 2021				
	A	B	C	Total
A		77	339	416
B	137		326	462
C	388	292		680
Total				1558

HGV Proportion PM Peak 2021				
	A	B	C	Average
A		31	1	16
B	15		1	8
C	2	28		15
Average	8	29	1	13

PM Peak Distribution				
	A	B	C	Total
A	0%	0%	43%	43%
B	0%	0%	0%	0%
C	43%	0%	0%	43%
Total	43%	0%	43%	

PM Peak Forecast 2026				
	A	B	C	Total
A	0	83	365	448
B	148	0	351	498
C	418	315	0	733
Total	566	397	716	1679

1.078

PM Peak Proposed Dev				
	A	B	C	Total
A	0	0	42	42
B	0	0	0	0
C	15	0	0	15
Total	15	0	42	57

PM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	83	407	490
B	148	0	351	498
C	433	315	0	748
Total	581	397	758	1736

PM New Stanton Park (NSP)				
	A	B	C	Total
A			-32	-32
B				0
C	44			44
Total	44	0	-32	12

PM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	83	333	416
B	148	0	351	498
C	462	315	0	777
Total	610	397	684	1691

PM Peak 2026 Plus Proposed Dev + NSP				
	A	B	C	Total
A	0	83	375	458
B	148	0	351	498
C	477	315	0	792
Total	625	397	726	1748

Junctions 9		
PICADY 9 - Priority Intersection Module		
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Filename: 450-J3.j9

Path: C:\Users\Administrator\MAC\Projects 400 - 499 - Documents\450 - Sowbrook Lane, Ilkeston\Design\TA\Junction 9-PICADY (196 Dev)

Report generation date: 17/02/2023 16:16:59

- »2021 Base Year, AM
- »2021 Base Year, PM
- »2026 Forecast, AM
- »2026 Forecast, PM
- »2026 Forecast Plus Development, AM
- »2026 Forecast Plus Development, PM
- »2026 Forecast Plus NSP, AM
- »2026 Forecast Plus NSP, PM
- »2026 Forecast Plus Proposed Development + NSP, AM
- »2026 Forecast Plus Proposed Development + NSP, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base Year						
Stream B-C	2.1	40.76	0.70	3.9	41.40	0.82
Stream B-A	2.2	90.38	0.72	3.4	89.57	0.82
Stream C-B	1.2	16.51	0.55	1.3	15.05	0.57
2026 Forecast						
Stream B-C	10.1	171.40	1.02	20.5	180.48	1.08
Stream B-A	6.1	225.63	0.97	10.1	227.54	1.04
Stream C-B	1.6	20.11	0.62	1.7	17.64	0.63
2026 Forecast Plus Development						
Stream B-C	13.5	223.25	1.08	27.8	243.60	1.13
Stream B-A	7.6	277.06	1.04	12.9	288.78	1.10
Stream C-B	1.6	20.62	0.62	1.8	18.75	0.64
2026 Forecast Plus NSP						
Stream B-C	15.6	255.79	1.11	19.3	170.48	1.07
Stream B-A	8.5	308.78	1.07	9.7	217.94	1.03
Stream C-B	1.9	24.31	0.66	1.6	16.87	0.62
2026 Forecast Plus Proposed Development + NSP						
Stream B-C	19.9	328.39	1.18	26.4	230.91	1.12
Stream B-A	10.4	379.95	1.14	12.3	276.33	1.09
Stream C-B	2.0	25.05	0.67	1.7	17.89	0.63

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	
Location	
Site number	
Date	26/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021 Base Year	AM	ONE HOUR	07:15	08:45	15	✓	✓
D2	2021 Base Year	PM	ONE HOUR	16:00	17:30	15	✓	✓
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓
D4	2026 Forecast	PM	ONE HOUR	16:00	17:30	15	✓	✓
D5	2026 Forecast Plus Development	AM	ONE HOUR	07:15	08:45	15	✓	✓
D6	2026 Forecast Plus Development	PM	ONE HOUR	16:00	17:30	15	✓	✓
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Analysis Set Details

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

2021 Base Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021 Base Year, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		15.05	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Quarry Hill Road (N)		Major
B	Merlin Way		Minor
C	Quarry Hill South (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.38		✓	4.22	250.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	8.71	5.78	4.79	4.36	✓	3.00	104	117

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
J3	B-A	574	0.103	0.260	0.164	0.371
J3	B-C	785	0.118	0.299	-	-
J3	C-B	877	0.334	0.334	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021 Base Year	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	723	100.000
B		ONE HOUR	✓	264	100.000
C		ONE HOUR	✓	523	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	211	512
	B	85	0	178
	C	279	244	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	22	4
	B	48	0	42
	C	8	20	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.70	40.76	2.1	E	178	178
B-A	0.72	90.38	2.2	F	85	85
C-A					279	279
C-B	0.55	16.51	1.2	C	244	244
A-B					211	211
A-C					512	512

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	160	40	382	0.420	159	0.5	0.7	16.102	C
B-A	77	19	187	0.411	76	0.4	0.7	32.054	D
C-A	251	63			251				
C-B	220	55	531	0.414	219	0.5	0.7	11.501	B
A-B	190	47			190				
A-C	461	115			461				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	196	49	295	0.665	192	0.7	1.8	33.574	D
B-A	94	24	133	0.706	89	0.7	1.9	74.964	F
C-A	307	77			307				
C-B	269	67	487	0.553	267	0.7	1.2	16.246	C
A-B	232	58			232				
A-C	564	141			564				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	196	49	281	0.697	195	1.8	2.1	40.757	E
B-A	94	24	131	0.720	93	1.9	2.2	90.379	F
C-A	307	77			307				
C-B	269	67	487	0.553	269	1.2	1.2	16.508	C
A-B	232	58			232				
A-C	564	141			564				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	160	40	374	0.429	165	2.1	0.8	17.696	C
B-A	77	19	186	0.414	82	2.2	0.7	36.547	E
C-A	251	63			251				
C-B	220	55	531	0.414	222	1.2	0.7	11.713	B
A-B	190	47			190				
A-C	461	115			461				

2021 Base Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021 Base Year, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		19.66	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2021 Base Year	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	416	100.000
B		ONE HOUR	✓	462	100.000
C		ONE HOUR	✓	680	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	77	339
	B	137	0	326
	C	388	292	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	31	1
	B	15	0	1
	C	2	28	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.82	41.40	3.9	E	326	326
B-A	0.82	89.57	3.4	F	137	137
C-A					388	388
C-B	0.57	15.05	1.3	C	292	292
A-B					77	77
A-C					339	339

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	293	73	586	0.499	291	0.6	1.0	12.157	B
B-A	123	31	258	0.478	122	0.5	0.9	26.168	D
C-A	349	87			349				
C-B	262	66	584	0.450	261	0.6	0.8	11.139	B
A-B	69	17			69				
A-C	305	76			305				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	358	90	463	0.774	350	1.0	3.0	30.061	D
B-A	151	38	189	0.796	143	0.9	2.8	68.551	F
C-A	427	107			427				
C-B	321	80	560	0.574	319	0.8	1.3	14.817	B
A-B	85	21			85				
A-C	373	93			373				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	358	90	437	0.820	355	3.0	3.9	41.403	E
B-A	151	38	185	0.816	148	2.8	3.4	89.569	F
C-A	427	107			427				
C-B	321	80	560	0.574	321	1.3	1.3	15.047	C
A-B	85	21			85				
A-C	373	93			373				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	293	73	572	0.512	304	3.9	1.1	13.952	B
B-A	123	31	255	0.482	133	3.4	1.0	31.375	D
C-A	349	87			349				
C-B	262	66	584	0.450	264	1.3	0.8	11.343	B
A-B	69	17			69				
A-C	305	76			305				

2026 Forecast, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2026 Forecast, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		44.02	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	779	100.000
B		ONE HOUR	✓	284	100.000
C		ONE HOUR	✓	563	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	227	552
	B	92	0	192
	C	300	263	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	22	4
	B	48	0	42
	C	8	20	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.02	171.40	10.1	F	192	192
B-A	0.97	225.63	6.1	F	92	92
C-A					300	300
C-B	0.62	20.11	1.6	C	263	263
A-B					227	227
A-C					552	552

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	173	43	360	0.480	171	0.5	0.9	18.962	C
B-A	83	21	170	0.487	81	0.5	0.9	39.910	E
C-A	270	67			270				
C-B	236	59	516	0.458	235	0.6	0.8	12.788	B
A-B	204	51			204				
A-C	496	124			496				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	211	53	215	0.981	189	0.9	6.4	99.381	F
B-A	101	25	105	0.965	88	0.9	4.3	151.126	F
C-A	330	83			330				
C-B	290	72	468	0.619	287	0.8	1.5	19.551	C
A-B	250	62			250				
A-C	608	152			608				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	211	53	208	1.015	197	6.4	10.1	171.397	F
B-A	101	25	104	0.974	94	4.3	6.1	225.631	F
C-A	330	83			330				
C-B	290	72	468	0.619	289	1.5	1.6	20.110	C
A-B	250	62			250				
A-C	608	152			608				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	173	43	323	0.534	208	10.1	1.2	39.680	E
B-A	83	21	159	0.520	102	6.1	1.2	76.683	F
C-A	270	67			270				
C-B	236	59	516	0.458	239	1.6	0.9	13.152	B
A-B	204	51			204				
A-C	496	124			496				

2026 Forecast, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2026 Forecast, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		60.12	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2026 Forecast	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	448	100.000
B		ONE HOUR	✓	499	100.000
C		ONE HOUR	✓	733	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	83	365
	B	148	0	351
	C	418	315	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	31	1
	B	15	0	1
	C	2	28	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.08	180.48	20.5	F	351	351
B-A	1.04	227.54	10.1	F	148	148
C-A					418	418
C-B	0.63	17.64	1.7	C	315	315
A-B					83	83
A-C					365	365

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	316	79	556	0.568	313	0.7	1.3	14.712	B
B-A	133	33	236	0.564	131	0.6	1.2	33.472	D
C-A	376	94			376				
C-B	283	71	576	0.492	282	0.7	0.9	12.214	B
A-B	75	19			75				
A-C	328	82			328				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	386	97	369	1.046	344	1.3	11.8	91.288	F
B-A	163	41	158	1.030	141	1.2	6.7	137.795	F
C-A	460	115			460				
C-B	347	87	550	0.630	344	0.9	1.6	17.223	C
A-B	91	23			91				
A-C	402	100			402				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	386	97	359	1.077	352	11.8	20.5	180.476	F
B-A	163	41	157	1.038	149	6.7	10.1	227.539	F
C-A	460	115			460				
C-B	347	87	550	0.630	347	1.6	1.7	17.637	C
A-B	91	23			91				
A-C	402	100			402				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	316	79	483	0.653	389	20.5	2.1	59.860	F
B-A	133	33	212	0.626	166	10.1	2.0	98.055	F
C-A	376	94			376				
C-B	283	71	576	0.492	286	1.7	1.0	12.540	B
A-B	75	19			75				
A-C	328	82			328				

2026 Forecast Plus Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2026 Forecast Plus Development, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		53.22	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2026 Forecast Plus Development	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	793	100.000
B		ONE HOUR	✓	284	100.000
C		ONE HOUR	✓	615	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	227	566
	B	92	0	192
	C	352	263	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	22	4
	B	48	0	42
	C	8	20	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.08	223.25	13.5	F	192	192
B-A	1.04	277.06	7.6	F	92	92
C-A					352	352
C-B	0.62	20.62	1.6	C	263	263
A-B					227	227
A-C					566	566

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	173	43	352	0.490	171	0.5	0.9	19.708	C
B-A	83	21	162	0.512	81	0.5	1.0	43.596	E
C-A	316	79			316				
C-B	236	59	512	0.462	235	0.6	0.8	12.951	B
A-B	204	51			204				
A-C	509	127			509				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	211	53	202	1.046	183	0.9	8.1	121.447	F
B-A	101	25	99	1.025	85	1.0	5.0	176.178	F
C-A	388	97			388				
C-B	290	72	464	0.625	287	0.8	1.6	20.014	C
A-B	250	62			250				
A-C	623	156			623				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	211	53	196	1.077	190	8.1	13.5	223.245	F
B-A	101	25	98	1.036	91	5.0	7.6	277.064	F
C-A	388	97			388				
C-B	290	72	464	0.625	289	1.6	1.6	20.620	C
A-B	250	62			250				
A-C	623	156			623				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	173	43	297	0.581	221	13.5	1.5	67.608	F
B-A	83	21	145	0.571	107	7.6	1.6	115.918	F
C-A	316	79			316				
C-B	236	59	512	0.462	239	1.6	0.9	13.340	B
A-B	204	51			204				
A-C	509	127			509				

2026 Forecast Plus Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2026 Forecast Plus Development, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		75.95	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2026 Forecast Plus Development	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	490	100.000
B		ONE HOUR	✓	499	100.000
C		ONE HOUR	✓	748	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	83	407
	B	148	0	351
	C	433	315	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	31	1
	B	15	0	1
	C	2	28	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.13	243.60	27.8	F	351	351
B-A	1.10	288.78	12.9	F	148	148
C-A					433	433
C-B	0.64	18.75	1.8	C	315	315
A-B					83	83
A-C					407	407

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	316	79	538	0.586	313	0.8	1.4	15.833	C
B-A	133	33	225	0.592	130	0.7	1.3	37.126	E
C-A	389	97			389				
C-B	283	71	566	0.501	282	0.7	1.0	12.634	B
A-B	75	19			75				
A-C	366	91			366				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	386	97	347	1.114	330	1.4	15.6	116.208	F
B-A	163	41	149	1.094	136	1.3	8.1	164.587	F
C-A	477	119			477				
C-B	347	87	538	0.644	344	1.0	1.7	18.243	C
A-B	91	23			91				
A-C	448	112			448				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	386	97	341	1.133	338	15.6	27.8	243.604	F
B-A	163	41	149	1.097	144	8.1	12.9	288.779	F
C-A	477	119			477				
C-B	347	87	538	0.644	347	1.7	1.8	18.750	C
A-B	91	23			91				
A-C	448	112			448				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	316	79	424	0.745	408	27.8	4.6	153.675	F
B-A	133	33	183	0.726	169	12.9	4.0	192.240	F
C-A	389	97			389				
C-B	283	71	566	0.501	286	1.8	1.0	13.013	B
A-B	75	19			75				
A-C	366	91			366				

2026 Forecast Plus NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2026 Forecast Plus NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		61.64	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	877	100.000
B		ONE HOUR	✓	284	100.000
C		ONE HOUR	✓	500	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	227	650
	B	92	0	192
	C	237	263	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	22	4
	B	48	0	42
	C	8	20	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.11	255.79	15.6	F	192	192
B-A	1.07	308.78	8.5	F	92	92
C-A					237	237
C-B	0.66	24.31	1.9	C	263	263
A-B					227	227
A-C					650	650

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	173	43	337	0.512	171	0.6	1.0	21.448	C
B-A	83	21	159	0.520	81	0.5	1.0	44.886	E
C-A	213	53			213				
C-B	236	59	490	0.482	235	0.6	0.9	14.042	B
A-B	204	51			204				
A-C	584	146			584				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	211	53	196	1.080	179	1.0	9.1	134.793	F
B-A	101	25	96	1.059	83	1.0	5.5	190.588	F
C-A	261	65			261				
C-B	290	72	437	0.663	286	0.9	1.8	23.304	C
A-B	250	62			250				
A-C	716	179			716				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	211	53	190	1.111	185	9.1	15.6	255.790	F
B-A	101	25	95	1.070	89	5.5	8.5	308.784	F
C-A	261	65			261				
C-B	290	72	437	0.663	289	1.8	1.9	24.306	C
A-B	250	62			250				
A-C	716	179			716				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	173	43	272	0.634	227	15.6	2.1	108.629	F
B-A	83	21	135	0.612	109	8.5	2.0	154.992	F
C-A	213	53			213				
C-B	236	59	490	0.482	240	1.9	1.0	14.600	B
A-B	204	51			204				
A-C	584	146			584				

2026 Forecast Plus NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2026 Forecast Plus NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		56.73	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	416	100.000
B		ONE HOUR	✓	499	100.000
C		ONE HOUR	✓	777	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	83	333
	B	148	0	351
	C	462	315	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	31	1
	B	15	0	1
	C	2	28	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.07	170.48	19.3	F	351	351
B-A	1.03	217.94	9.7	F	148	148
C-A					462	462
C-B	0.62	16.87	1.6	C	315	315
A-B					83	83
A-C					333	333

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	316	79	564	0.560	314	0.7	1.2	14.264	B
B-A	133	33	237	0.561	131	0.6	1.2	33.096	D
C-A	415	104			415				
C-B	283	71	583	0.486	282	0.6	0.9	11.912	B
A-B	75	19			75				
A-C	299	75			299				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	386	97	373	1.035	346	1.2	11.2	87.396	F
B-A	163	41	160	1.019	142	1.2	6.5	133.632	F
C-A	509	127			509				
C-B	347	87	560	0.620	344	0.9	1.6	16.516	C
A-B	91	23			91				
A-C	367	92			367				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	386	97	362	1.067	354	11.2	19.3	170.483	F
B-A	163	41	159	1.027	150	6.5	9.7	217.943	F
C-A	509	127			509				
C-B	347	87	560	0.620	347	1.6	1.6	16.874	C
A-B	91	23			91				
A-C	367	92			367				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	316	79	496	0.636	385	19.3	1.9	49.466	E
B-A	133	33	217	0.613	164	9.7	1.8	87.740	F
C-A	415	104			415				
C-B	283	71	583	0.486	286	1.6	1.0	12.204	B
A-B	75	19			75				
A-C	299	75			299				

2026 Forecast Plus Proposed Development + NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D9 - 2026 Forecast Plus Proposed Development + NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		74.25	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	891	100.000
B		ONE HOUR	✓	284	100.000
C		ONE HOUR	✓	552	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	227	664
	B	92	0	192
	C	289	263	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	22	4
	B	48	0	42
	C	8	20	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.18	328.39	19.9	F	192	192
B-A	1.14	379.95	10.4	F	92	92
C-A					289	289
C-B	0.67	25.05	2.0	D	263	263
AB					227	227
AC					664	664

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	173	43	329	0.525	171	0.6	1.1	22.508	C
B-A	83	21	151	0.548	80	0.5	1.1	49.533	E
C-A	260	65			260				
C-B	236	59	487	0.486	235	0.6	0.9	14.241	B
AB	204	51			204				
AC	597	149			597				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	211	53	182	1.158	170	1.1	11.3	165.817	F
B-A	101	25	89	1.133	80	1.1	6.4	224.655	F
C-A	318	80			318				
C-B	290	72	432	0.670	286	0.9	1.9	23.940	C
AB	250	62			250				
AC	731	183			731				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	211	53	180	1.175	177	11.3	19.9	328.386	F
B-A	101	25	89	1.138	86	6.4	10.4	379.951	F
C-A	318	80			318				
C-B	290	72	432	0.670	289	1.9	2.0	25.048	D
AB	250	62			250				
AC	731	183			731				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	173	43	243	0.711	231	19.9	5.3	208.730	F
B-A	83	21	120	0.692	109	10.4	3.7	250.326	F
C-A	260	65			260				
C-B	236	59	487	0.486	240	2.0	1.0	14.838	B
A-B	204	51			204				
A-C	597	149			597				

2026 Forecast Plus Proposed Development + NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D10 - 2026 Forecast Plus Proposed Development + NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
J3	Quarry Hill Road / Merlin Way	T-Junction	Two-way		71.77	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:00	17:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	458	100.000
B		ONE HOUR	✓	499	100.000
C		ONE HOUR	✓	792	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	83
	B	148	0
	C	477	315

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	31	1
	B	15	0	1
	C	2	28	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	1.12	230.91	26.4	F	351	351
B-A	1.09	276.33	12.3	F	148	148
C-A					477	477
C-B	0.63	17.89	1.7	C	315	315
AB					83	83
AC					375	375

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	316	79	546	0.578	313	0.7	1.3	15.318	C
B-A	133	33	226	0.589	130	0.7	1.3	36.653	E
C-A	429	107			429				
C-B	283	71	573	0.494	282	0.7	1.0	12.311	B
AB	75	19			75				
AC	337	84			337				

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	386	97	351	1.102	332	1.3	14.9	111.420	F
B-A	163	41	151	1.082	137	1.3	7.8	159.631	F
C-A	525	131			525				
C-B	347	87	547	0.634	344	1.0	1.6	17.456	C
AB	91	23			91				
AC	413	103			413				

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	386	97	345	1.122	340	14.9	26.4	230.906	F
B-A	163	41	150	1.085	145	7.8	12.3	276.333	F
C-A	525	131			525				
C-B	347	87	547	0.634	347	1.6	1.7	17.891	C
AB	91	23			91				
AC	413	103			413				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	316	79	436	0.724	407	26.4	3.5	130.066	F
B-A	133	33	189	0.704	169	12.3	3.3	170.922	F
C-A	429	107			429				
C-B	283	71	573	0.494	286	1.7	1.0	12.649	B
A-B	75	19			75				
A-C	337	84			337				

Appendix N

J4: Quarry Hill Road/Elka Road Input Data and PICADY Report



Junction Turning Flows
Survey Date

Junction 4 - Quarry Hill Road / Elka Road

Tuesday 28th September 2021

Link

Arm A - Quarry Hill Road (S)

Arm B - Elka Road

Arm C - Quarry Hill Road (N)

AM Peak 07:15 - 08:15

PM Peak 16:45 - 17:45



AM Peak 2021				
	A	B	C	Total
A		14	320	334
B	64		52	116
C	719	24		743
Total				1193

HGV Proportion AM Peak 2021				
	A	B	C	Average
A		0	22	11
B	0		0	0
C	9	0		4
Average	4	0	11	

AM Peak Distribution				
	A	B	C	Total
A	0%	0%	43%	43%
B	0%	0%	0%	0%
C	43%	0%	0%	43%
Total	43%	0%		

AM Peak Forecast 2026				
	A	B	C	Total
A	0	15	344	359
B	69	0	56	125
C	774	26	0	800
Total	844	41	400	1284

1.0764

AM Peak Proposed Dev				
	A	B	C	Total
A	0	0	52	52
B	0	0	0	0
C	15	0	0	15
Total	15	0	52	67

AM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	15	396	411
B	69	0	56	125
C	789	26	0	815
Total	858	41	452	1351

AM New Stanton Park (NSP)				
	A	B	C	Total
A	0	0	-63	-63
B	0	0	0	0
C	98	0	0	98
Total	98	0	-63	35

AM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	15	281	296
B	69	0	56	125
C	872	26	0	898
Total	942	41	337	1319

AM Peak 2026 plus Proposed Dev + NSP				
	A	B	C	Total
A	0	15	333	348
B	69	0	56	125
C	887	26	0	913
Total	956	41	389	1386

PM Peak 2021				
	A	B	C	Total
A		45	499	544
B	31		42	73
C	365	59		424
Total				1042

HGV Proportion PM Peak 2021				
	A	B	C	Average
A		0	2	1
B	0		1	1
C	6	0		3
Average	3	0	2	

PM Peak Distribution				
	A	B	C	Total
A	0%	0%	43%	43%
B	0%	0%	0%	0%
C	43%	0%	0%	43%
Total	43%	0%		

PM Peak Forecast 2026				
	A	B	C	Total
A	0	49	538	587
B	33	0	45	79
C	394	64	0	457
Total	427	113	583	1123

1.078

PM Peak Proposed Dev				
	A	B	C	Total
A	0	0	15	15
B	0	0	0	0
C	42	0	0	42
Total	42	0	15	57

PM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	49	553	602
B	33	0	45	79
C	435	64	0	499
Total	469	113	598	1180

PM New Stanton Park (NSP)				
	A	B	C	Total
A	0	0	44	44
B	0	0	0	0
C	-32	0	0	-32
Total	-32	0	44	12

PM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	49	582	631
B	33	0	45	79
C	362	64	0	425
Total	395	113	627	1135

PM Peak 2026 Plus Proposed Dev + NSP				
	A	B	C	Total
A	0	49	597	646
B	33	0	45	79
C	403	64	0	467
Total	437	113	642	1192

Junctions 9						
PICADY 9 - Priority Intersection Module						
Version: 9.5.0.6896 © Copyright TRL Limited, 2018						
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk						
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Filename: 450-J4.j9

Path: C:\Users\Administrator\MAC\Projects 400 - 499 - Documents\450 - Sowbrook Lane, Ilkeston\Design\TA\Junction 9-PICADY (196 Dev)

Report generation date: 17/02/2023 16:17:58

- »2021, AM
- »2021, PM
- »2026 Forecast, AM
- »2026 Forecast, PM
- »2026 Forecast Plus Proposed Development, AM
- »2026 Forecast Plus Proposed Development, PM
- »2026 Forecast Plus NSP, AM
- »2026 Forecast Plus NSP, PM
- »2026 Forecast Plus Proposed Development + NSP, AM
- »2026 Forecast Plus Proposed Development + NSP, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021						
Stream B-C	0.1	7.13	0.10	0.1	7.81	0.09
Stream B-A	0.3	16.28	0.24	0.1	12.00	0.10
Stream C-AB	0.0	6.34	0.04	0.1	7.45	0.12
2026 Forecast						
Stream B-C	0.1	7.47	0.11	0.1	8.11	0.10
Stream B-A	0.4	18.36	0.28	0.1	12.99	0.12
Stream C-AB	0.1	6.48	0.05	0.2	7.76	0.13
2026 Forecast Plus Proposed Development						
Stream B-C	0.1	7.87	0.12	0.1	8.20	0.10
Stream B-A	0.4	20.56	0.30	0.1	13.63	0.12
Stream C-AB	0.1	6.71	0.05	0.2	7.84	0.13
2026 Forecast Plus NSP						
Stream B-C	0.1	7.13	0.11	0.1	8.35	0.10
Stream B-A	0.4	18.11	0.28	0.1	13.33	0.12
Stream C-AB	0.0	6.21	0.05	0.2	8.00	0.14
2026 Forecast Plus Proposed Development + NSP						
Stream B-C	0.1	7.49	0.11	0.1	8.45	0.10
Stream B-A	0.4	20.23	0.30	0.1	14.00	0.12
Stream C-AB	0.1	6.43	0.05	0.2	8.08	0.14

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	
Location	
Site number	
Date	29/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:00	08:30	15	✓	✓
D2	2021	PM	ONE HOUR	16:30	18:00	15	✓	✓
D3	2026 Forecast	AM	ONE HOUR	07:00	08:30	15	✓	✓
D4	2026 Forecast	PM	ONE HOUR	16:30	18:00	15	✓	✓
D5	2026 Forecast Plus Proposed Development	AM	ONE HOUR	07:00	08:30	15	✓	✓
D6	2026 Forecast Plus Proposed Development	PM	ONE HOUR	16:30	18:00	15	✓	✓
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:00	08:30	15	✓	✓
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:30	18:00	15	✓	✓
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:00	08:30	15	✓	✓
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:30	18:00	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Quarry Hill Road (S)		Major
B	Elka Road		Minor
C	Quarry Hill Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	5.81			250.0	✓	6.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	9.43	3.41	3.34	3.30	3.28	✓	1.00	90	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
4	B-A	554	0.102	0.257	0.162	0.367
4	B-C	731	0.113	0.286	-	-
4	C-B	719	0.281	0.281	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	334	100.000
B		ONE HOUR	✓	116	100.000
C		ONE HOUR	✓	743	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	14	320
	B	64	0	52
	C	719	24	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	22
	B	0	0	0
	C	9	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.10	7.13	0.1	A	52	52
B-A	0.24	16.28	0.3	C	64	64
C-AB	0.04	6.34	0.0	A	24	24
C-A					719	719
A-B					14	14
A-C					320	320

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	47	12	600	0.078	47	0.1	0.1	6.506	A
B-A	58	14	340	0.170	58	0.1	0.2	12.727	B
C-AB	22	5	617	0.035	22	0.0	0.0	6.047	A
C-A	647	162			647				
A-B	13	3			13				
A-C	287	72			287				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	57	14	562	0.102	57	0.1	0.1	7.124	A
B-A	71	18	292	0.243	70	0.2	0.3	16.213	C
C-AB	26	7	594	0.045	26	0.0	0.0	6.343	A
C-A	792	198			792				
A-B	15	4			15				
A-C	352	88			352				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	57	14	562	0.102	57	0.1	0.1	7.132	A
B-A	71	18	292	0.243	71	0.3	0.3	16.276	C
C-AB	26	7	594	0.045	26	0.0	0.0	6.343	A
C-A	792	198			792				
A-B	15	4			15				
A-C	352	88			352				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	47	12	600	0.078	47	0.1	0.1	6.516	A
B-A	58	14	340	0.170	58	0.3	0.2	12.788	B
C-AB	22	5	617	0.035	22	0.0	0.0	6.050	A
C-A	647	162			647				
A-B	13	3			13				
A-C	287	72			287				

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.07	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	544	100.000
B		ONE HOUR	✓	73	100.000
C		ONE HOUR	✓	424	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	45
	B	31	0
	C	365	59

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	2	
	0	0	1	
	6	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.09	7.81	0.1	A	42	42
B-A	0.10	12.00	0.1	B	31	31
C-AB	0.12	7.45	0.1	A	59	59
C-A					365	365
A-B					45	45
A-C					499	499

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	38	9	539	0.070	38	0.1	0.1	7.181	A
B-A	28	7	382	0.073	28	0.1	0.1	10.168	B
C-AB	53	13	579	0.092	53	0.1	0.1	6.841	A
C-A	328	82			328				
A-B	41	10			41				
A-C	449	112			449				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	46	12	507	0.091	46	0.1	0.1	7.804	A
B-A	34	9	334	0.102	34	0.1	0.1	11.992	B
C-AB	65	16	548	0.119	65	0.1	0.1	7.451	A
C-A	402	101			402				
A-B	50	12			50				
A-C	549	137			549				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	46	12	507	0.091	46	0.1	0.1	7.808	A
B-A	34	9	334	0.102	34	0.1	0.1	12.003	B
C-AB	65	16	548	0.119	65	0.1	0.1	7.454	A
C-A	402	101			402				
A-B	50	12			50				
A-C	549	137			549				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	38	9	539	0.070	38	0.1	0.1	7.188	A
B-A	28	7	382	0.073	28	0.1	0.1	10.184	B
C-AB	53	13	579	0.092	53	0.1	0.1	6.847	A
C-A	328	82			328				
A-B	41	10			41				
A-C	449	112			449				

2026 Forecast, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D3 - 2026 Forecast, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.30	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2026 Forecast	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	359	100.000
B		ONE HOUR	✓	125	100.000
C		ONE HOUR	✓	800	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	15	344
	B	69	0	56
	C	774	26	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	22	
	0	0	0	
	9	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.11	7.47	0.1	A	56	56
B-A	0.28	18.36	0.4	C	69	69
C-AB	0.05	6.48	0.1	A	26	26
C-A					774	774
AB					15	15
AC					344	344

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	13	588	0.086	50	0.1	0.1	6.693	A
B-A	62	16	324	0.192	62	0.2	0.2	13.719	B
C-AB	23	6	609	0.038	23	0.0	0.0	6.146	A
C-A	696	174			696				
AB	13	3			13				
AC	309	77			309				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	15	544	0.113	62	0.1	0.1	7.455	A
B-A	76	19	272	0.279	75	0.2	0.4	18.262	C
C-AB	29	7	584	0.049	29	0.0	0.1	6.477	A
C-A	852	213			852				
AB	17	4			17				
AC	379	95			379				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	15	544	0.113	62	0.1	0.1	7.466	A
B-A	76	19	272	0.279	76	0.4	0.4	18.365	C
C-AB	29	7	584	0.049	29	0.1	0.1	6.477	A
C-A	852	213			852				
AB	17	4			17				
AC	379	95			379				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	13	588	0.086	50	0.1	0.1	6.703	A
B-A	62	16	324	0.192	63	0.4	0.2	13.810	B
C-AB	23	6	609	0.038	23	0.1	0.0	6.147	A
C-A	696	174			696				
A-B	13	3			13				
A-C	309	77			309				

2026 Forecast, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D4 - 2026 Forecast, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.12	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2026 Forecast	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	587	100.000
B		ONE HOUR	✓	78	100.000
C		ONE HOUR	✓	458	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	49	538
	B	33	0	45
	C	394	64	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	2	
	0	0	1	
	6	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.10	8.11	0.1	A	45	45
B-A	0.12	12.99	0.1	B	33	33
C-AB	0.13	7.76	0.2	A	64	64
C-A					394	394
AB					49	49
AC					538	538

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	528	0.077	40	0.1	0.1	7.379	A
B-A	30	7	365	0.081	30	0.1	0.1	10.730	B
C-AB	58	14	568	0.101	57	0.1	0.1	7.047	A
C-A	354	89			354				
AB	44	11			44				
AC	484	121			484				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	494	0.100	49	0.1	0.1	8.101	A
B-A	36	9	314	0.116	36	0.1	0.1	12.971	B
C-AB	70	18	534	0.132	70	0.1	0.2	7.754	A
C-A	434	108			434				
AB	54	13			54				
AC	592	148			592				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	494	0.100	50	0.1	0.1	8.105	A
B-A	36	9	313	0.116	36	0.1	0.1	12.990	B
C-AB	70	18	534	0.132	70	0.2	0.2	7.758	A
C-A	434	108			434				
AB	54	13			54				
AC	592	148			592				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	528	0.077	41	0.1	0.1	7.384	A
B-A	30	7	365	0.081	30	0.1	0.1	10.748	B
C-AB	58	14	568	0.101	58	0.2	0.1	7.054	A
C-A	354	89			354				
A-B	44	11			44				
A-C	484	121			484				

2026 Forecast Plus Proposed Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D5 - 2026 Forecast Plus Proposed Development, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.35	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2026 Forecast Plus Proposed Development	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	411	100.000
B		ONE HOUR	✓	125	100.000
C		ONE HOUR	✓	815	100.000

Origin-Destination Data

Demand (Veh/hr)

	To		
	A	B	C
From	A	0	15
	B	69	0
	C	789	26

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	22	
	0	0	0	
	9	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.12	7.87	0.1	A	56	56
B-A	0.30	20.56	0.4	C	69	69
C-AB	0.05	6.71	0.1	A	26	26
C-A					789	789
A-B					15	15
A-C					396	396

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	13	570	0.088	50	0.1	0.1	6.920	A
B-A	62	16	307	0.202	62	0.2	0.2	14.669	B
C-AB	23	6	593	0.039	23	0.0	0.0	6.319	A
C-A	709	177			709				
A-B	13	3			13				
A-C	356	89			356				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	15	520	0.119	62	0.1	0.1	7.850	A
B-A	76	19	251	0.303	75	0.2	0.4	20.408	C
C-AB	29	7	565	0.051	29	0.0	0.1	6.714	A
C-A	869	217			869				
A-B	17	4			17				
A-C	436	109			436				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	15	519	0.119	62	0.1	0.1	7.868	A
B-A	76	19	251	0.303	76	0.4	0.4	20.563	C
C-AB	29	7	565	0.051	29	0.1	0.1	6.714	A
C-A	869	217			869				
A-B	17	4			17				
A-C	436	109			436				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	13	570	0.088	50	0.1	0.1	6.934	A
B-A	62	16	307	0.202	63	0.4	0.3	14.787	B
C-AB	23	6	593	0.039	23	0.1	0.0	6.322	A
C-A	709	177			709				
A-B	13	3			13				
A-C	356	89			356				

2026 Forecast Plus Proposed Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D6 - 2026 Forecast Plus Proposed Development, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.09	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2026 Forecast Plus Proposed Development	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	602	100.000
B		ONE HOUR	✓	78	100.000
C		ONE HOUR	✓	499	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	49	553
	B	33	0	45
From	C	435	64	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	2	
	0	0	1	
	6	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.10	8.20	0.1	A	45	45
B-A	0.12	13.63	0.1	B	33	33
C-AB	0.13	7.84	0.2	A	64	64
C-A					435	435
A-B					49	49
A-C					553	553

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	524	0.077	40	0.1	0.1	7.439	A
B-A	30	7	354	0.084	30	0.1	0.1	11.077	B
C-AB	58	14	564	0.102	57	0.1	0.1	7.098	A
C-A	391	98			391				
A-B	44	11			44				
A-C	497	124			497				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	489	0.101	49	0.1	0.1	8.193	A
B-A	36	9	301	0.121	36	0.1	0.1	13.603	B
C-AB	70	18	530	0.133	70	0.1	0.2	7.833	A
C-A	479	120			479				
A-B	54	13			54				
A-C	609	152			609				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	489	0.101	50	0.1	0.1	8.198	A
B-A	36	9	301	0.121	36	0.1	0.1	13.625	B
C-AB	70	18	530	0.133	70	0.2	0.2	7.838	A
C-A	479	120			479				
A-B	54	13			54				
A-C	609	152			609				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	524	0.077	41	0.1	0.1	7.447	A
B-A	30	7	354	0.084	30	0.1	0.1	11.101	B
C-AB	58	14	564	0.102	58	0.2	0.1	7.108	A
C-A	391	98			391				
A-B	44	11			44				
A-C	497	124			497				

2026 Forecast Plus NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D7 - 2026 Forecast Plus NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.24	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	296	100.000
B		ONE HOUR	✓	125	100.000
C		ONE HOUR	✓	898	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	15	281
	B	69	0	56
	C	872	26	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	22	
	0	0	0	
	9	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.11	7.13	0.1	A	56	56
B-A	0.28	18.11	0.4	C	69	69
C-AB	0.05	6.21	0.0	A	26	26
C-A					872	872
AB					15	15
AC					281	281

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	13	607	0.083	50	0.1	0.1	6.465	A
B-A	62	16	326	0.190	62	0.2	0.2	13.600	B
C-AB	23	6	628	0.037	23	0.0	0.0	5.949	A
C-A	784	196			784				
AB	13	3			13				
AC	253	63			253				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	15	567	0.109	62	0.1	0.1	7.118	A
B-A	76	19	275	0.277	75	0.2	0.4	18.007	C
C-AB	29	7	608	0.047	29	0.0	0.0	6.211	A
C-A	960	240			960				
AB	17	4			17				
AC	309	77			309				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	15	567	0.109	62	0.1	0.1	7.129	A
B-A	76	19	275	0.277	76	0.4	0.4	18.109	C
C-AB	29	7	608	0.047	29	0.0	0.0	6.211	A
C-A	960	240			960				
AB	17	4			17				
AC	309	77			309				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	13	607	0.083	50	0.1	0.1	6.474	A
B-A	62	16	326	0.190	63	0.4	0.2	13.688	B
C-AB	23	6	628	0.037	23	0.0	0.0	5.952	A
C-A	784	196			784				
A-B	13	3			13				
A-C	253	63			253				

2026 Forecast Plus NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D8 - 2026 Forecast Plus NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.14	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	631	100.000
B		ONE HOUR	✓	78	100.000
C		ONE HOUR	✓	426	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	49	582
	B	33	0	45
	C	362	64	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	2	
	0	0	1	
C	6	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.10	8.35	0.1	A	45	45
B-A	0.12	13.33	0.1	B	33	33
C-AB	0.14	8.00	0.2	A	64	64
C-A					362	362
A-B					49	49
A-C					582	582

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	518	0.078	40	0.1	0.1	7.542	A
B-A	30	7	359	0.083	30	0.1	0.1	10.919	B
C-AB	58	14	557	0.103	57	0.1	0.1	7.204	A
C-A	325	81			325				
A-B	44	11			44				
A-C	523	131			523				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	481	0.103	49	0.1	0.1	8.344	A
B-A	36	9	306	0.119	36	0.1	0.1	13.313	B
C-AB	70	18	521	0.135	70	0.1	0.2	7.992	A
C-A	399	100			399				
A-B	54	13			54				
A-C	641	160			641				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	481	0.103	50	0.1	0.1	8.349	A
B-A	36	9	306	0.119	36	0.1	0.1	13.332	B
C-AB	70	18	521	0.135	70	0.2	0.2	7.997	A
C-A	399	100			399				
A-B	54	13			54				
A-C	641	160			641				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	518	0.078	41	0.1	0.1	7.551	A
B-A	30	7	359	0.083	30	0.1	0.1	10.940	B
C-AB	58	14	557	0.103	58	0.2	0.1	7.211	A
C-A	325	81			325				
A-B	44	11			44				
A-C	523	131			523				

2026 Forecast Plus Proposed Development + NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D9 - 2026 Forecast Plus Proposed Development + NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.29	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	348	100.000
B		ONE HOUR	✓	125	100.000
C		ONE HOUR	✓	913	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	15	333
	B	69	0	56
	C	887	26	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		A	B	C
	A	0	0	22
	B	0	0	0
	C	9	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.11	7.49	0.1	A	56	56
B-A	0.30	20.23	0.4	C	69	69
C-AB	0.05	6.43	0.1	A	26	26
C-A					887	887
A-B					15	15
A-C					333	333

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	13	589	0.085	50	0.1	0.1	6.677	A
B-A	62	16	309	0.201	62	0.2	0.2	14.533	B
C-AB	23	6	612	0.038	23	0.0	0.0	6.111	A
C-A	797	199			797				
A-B	13	3			13				
A-C	299	75			299				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	15	543	0.114	62	0.1	0.1	7.480	A
B-A	76	19	254	0.299	75	0.2	0.4	20.088	C
C-AB	29	7	589	0.049	29	0.0	0.1	6.429	A
C-A	977	244			977				
A-B	17	4			17				
A-C	367	92			367				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	62	15	542	0.114	62	0.1	0.1	7.495	A
B-A	76	19	254	0.299	76	0.4	0.4	20.233	C
C-AB	29	7	589	0.049	29	0.1	0.1	6.429	A
C-A	977	244			977				
A-B	17	4			17				
A-C	367	92			367				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	13	589	0.086	50	0.1	0.1	6.690	A
B-A	62	16	309	0.201	63	0.4	0.3	14.650	B
C-AB	23	6	612	0.038	23	0.1	0.0	6.114	A
C-A	797	199			797				
A-B	13	3			13				
A-C	299	75			299				

2026 Forecast Plus Proposed Development + NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.
Warning	Demand Sets	D10 - 2026 Forecast Plus Proposed Development + NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
4	Quarry Hill Road / Elka Road	T-Junction	Two-way		1.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	646	100.000
B		ONE HOUR	✓	78	100.000
C		ONE HOUR	✓	467	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	49	597
	B	33	0	45
	C	403	64	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	2	
	0	0	1	
	6	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.10	8.45	0.1	A	45	45
B-A	0.12	14.00	0.1	B	33	33
C-AB	0.14	8.08	0.2	A	64	64
C-A					403	403
A-B					49	49
A-C					597	597

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	514	0.079	40	0.1	0.1	7.604	A
B-A	30	7	349	0.085	30	0.1	0.1	11.278	B
C-AB	58	14	553	0.104	57	0.1	0.1	7.260	A
C-A	362	91			362				
A-B	44	11			44				
A-C	537	134			537				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	476	0.104	49	0.1	0.1	8.443	A
B-A	36	9	293	0.124	36	0.1	0.1	13.980	B
C-AB	70	18	516	0.137	70	0.1	0.2	8.076	A
C-A	444	111			444				
A-B	54	13			54				
A-C	657	164			657				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	476	0.104	50	0.1	0.1	8.448	A
B-A	36	9	293	0.124	36	0.1	0.1	14.003	B
C-AB	70	18	516	0.137	70	0.2	0.2	8.081	A
C-A	444	111			444				
A-B	54	13			54				
A-C	657	164			657				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	40	10	514	0.079	41	0.1	0.1	7.613	A
B-A	30	7	349	0.085	30	0.1	0.1	11.304	B
C-AB	58	14	553	0.104	58	0.2	0.1	7.267	A
C-A	362	91			362				
A-B	44	11			44				
A-C	537	134			537				

Appendix O

J5: Quarry Hill Road/Longfield Lane Input Data and PICADY Report



Junction Turning Flows
Survey Date

Junction 5 - Quarry Hill Rd / Longfield Lane

Tuesday 28th September 2021

Link

Arm A - Quarry Hill Road (N)

Arm B - Longfield Lane

Arm C - Quarry hill Road (S)

AM Peak 07:15 - 08:15

PM Peak 16:45 - 17:45



AM Peak 2021				
	A	B	C	Total
A		54	690	744
B	65		55	121
C	351	21		373
Total				1237

HGV Proportion AM Peak 2021				
	A	B	C	Average
A		4	9	6
B	3		0	2
C	19	11		15
Average	11	7	5	8

AM Peak Distribution				
	A	B	C	Total
A	0%	0%	43%	43%
B	0%	0%	0%	0%
C	43%	0%	0%	43%
Total	43%	0%	43%	

AM Peak Forecast 2026				
	A	B	C	Total
A	0	58	743	801
B	70	0	59	130
C	378	23	0	401
Total	449	81	802	1332

1.0764

AM Peak Proposed Dev				
	A	B	C	Total
A	0	0	15	15
B	0	0	0	0
C	52	0	0	52
Total	52	0	15	67

AM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	58	757	816
B	70	0	59	130
C	430	23	0	453
Total	501	81	817	1399

AM New Stanton Park (NSP)				
	A	B	C	Total
A			98	98
B				0
C	-63			-63
Total	-63	0	98	35

AM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	58	841	899
B	70	0	59	130
C	315	23	0	338
Total	386	81	900	1367

AM Peak 2026 plus Proposed Dev + NSP				
	A	B	C	Total
A	0	58	855	914
B	70	0	59	130
C	367	23	0	390
Total	438	81	915	1434

PM Peak 2021				
	A	B	C	Total
A		86	396	483
B	44		28	72
C	491	51		542
Total				1097

HGV Proportion PM Peak 2021				
	A	B	C	Average
A		0	6	3
B	0		1	1
C	2	0		1
Average	1	0	3	2

PM Peak Distribution				
	A	B	C	Total
A	0%	0%	43%	43%
B	0%	0%	0%	0%
C	43%	0%	0%	43%
Total	43%	0%	43%	

PM Peak Forecast 2026				
	A	B	C	Total
A	0	93	427	520
B	47	0	30	77
C	529	55	0	584
Total	577	148	457	1182

1.078

PM Peak Proposed Dev				
	A	B	C	Total
A	0	0	42	42
B	0	0	0	0
C	15	0	0	15
Total	15	0	42	57

PM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	93	469	562
B	47	0	30	77
C	545	55	0	600
Total	592	148	499	1239

PM New Stanton Park (NSP)				
	A	B	C	Total
A			-32	-32
B				0
C	44			44
Total	44	0	-32	12

PM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	93	395	488
B	47	0	30	77
C	573	55	0	628
Total	621	148	425	1194

PM Peak 2026 Plus Proposed Dev + NSP				
	A	B	C	Total
A	0	93	437	530
B	47	0	30	77
C	589	55	0	644
Total	636	148	467	1251

Junctions 9						
PICADY 9 - Priority Intersection Module						
Version: 9.5.0.6896						
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Filename: 450-J5.j9

Path: C:\Users\Administrator\MAC\Projects 400 - 499 - Documents\450 - Sowbrook Lane, Ilkeston\Design\TA\Junction 9-PICADY (196 Dev)

Report generation date: 17/02/2023 16:11:59

- »2021, AM
- »2021, PM
- »2026 Forecast, AM
- »2026 Forecast, PM
- »2026 Forecast Plus Development, AM
- »2026 Forecast Plus Development, PM
- »2026 Forecast Plus NSP, AM
- »2026 Forecast Plus NSP, PM
- »2026 Forecast Plus Proposed Development + NSP, AM
- »2026 Forecast Plus Proposed Development + NSP, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021						
Stream B-C	0.2	9.50	0.14	0.1	7.30	0.06
Stream B-A	0.4	19.61	0.28	0.2	13.00	0.15
Stream C-AB	0.1	5.80	0.08	0.4	4.78	0.16
2026 Forecast						
Stream B-C	0.2	10.32	0.16	0.1	7.52	0.06
Stream B-A	0.5	22.78	0.33	0.2	14.03	0.17
Stream C-AB	0.2	5.79	0.09	0.5	4.76	0.18
2026 Forecast Plus Development						
Stream B-C	0.2	10.59	0.16	0.1	7.73	0.07
Stream B-A	0.5	24.88	0.35	0.2	14.84	0.18
Stream C-AB	0.2	5.54	0.10	0.5	4.77	0.18
2026 Forecast Plus NSP						
Stream B-C	0.2	11.35	0.17	0.1	7.39	0.06
Stream B-A	0.5	25.15	0.35	0.2	13.95	0.17
Stream C-AB	0.2	6.35	0.09	0.5	4.60	0.18
2026 Forecast Plus Proposed Development + NSP						
Stream B-C	0.2	11.71	0.17	0.1	7.59	0.07
Stream B-A	0.6	27.73	0.37	0.2	14.75	0.17
Stream C-AB	0.2	6.03	0.10	0.6	4.61	0.19

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	
Location	
Site number	
Date	26/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:00	08:30	15	✓	✓
D2	2021	PM	ONE HOUR	16:30	18:00	15	✓	✓
D3	2026 Forecast	AM	ONE HOUR	07:00	08:30	15	✓	✓
D4	2026 Forecast	PM	ONE HOUR	16:30	18:00	15	✓	✓
D5	2026 Forecast Plus Development	AM	ONE HOUR	07:00	08:30	15	✓	✓
D6	2026 Forecast Plus Development	PM	ONE HOUR	16:30	18:00	15	✓	✓
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:00	08:30	15	✓	✓
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:30	18:00	15	✓	✓
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:00	08:30	15	✓	✓
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:30	18:00	15	✓	✓

Analysis Set Details

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

2021, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D1 - 2021, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.57	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Quarry Hill Road (N)		Major
B	Longfield Lane		Minor
C	Quarry Hill Road (S)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.59			138.5	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	8.37	3.74	3.33	3.19	3.15	✓	1.00	23	42

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
5	B-A	536	0.091	0.230	0.144	0.328
5	B-C	700	0.100	0.253	-	-
5	C-B	654	0.236	0.236	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	744	100.000
B		ONE HOUR	✓	121	100.000
C		ONE HOUR	✓	373	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	54	690
	B	65	0	55
	C	351	21	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	4	9
	B	3	0	0
	C	19	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.14	9.50	0.2	A	55	55
B-A	0.28	19.61	0.4	C	65	65
C-AB	0.08	5.80	0.1	A	46	46
C-A					327	327
A-B					54	54
A-C					690	690

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	495	0.100	50	0.1	0.1	8.081	A
B-A	59	15	305	0.193	59	0.2	0.2	14.618	B
C-AB	37	9	660	0.056	37	0.1	0.1	5.761	A
C-A	298	75			298				
A-B	49	12			49				
A-C	620	155			620				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	61	15	440	0.138	61	0.1	0.2	9.471	A
B-A	72	18	256	0.282	71	0.2	0.4	19.489	C
C-AB	54	14	685	0.079	54	0.1	0.1	5.693	A
C-A	356	89			356				
A-B	59	15			59				
A-C	760	190			760				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	61	15	440	0.138	61	0.2	0.2	9.503	A
B-A	72	18	256	0.282	72	0.4	0.4	19.607	C
C-AB	54	14	685	0.079	54	0.1	0.1	5.711	A
C-A	356	89			356				
A-B	59	15			59				
A-C	760	190			760				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	50	12	494	0.101	50	0.2	0.1	8.117	A
B-A	59	15	305	0.193	59	0.4	0.2	14.719	B
C-AB	37	9	660	0.056	37	0.1	0.1	5.803	A
C-A	298	75			298				
A-B	49	12			49				
A-C	620	155			620				

2021, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D2 - 2021, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.19	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2021	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	483	100.000
B		ONE HOUR	✓	72	100.000
C		ONE HOUR	✓	542	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	86	396
	B	44	0	28
	C	491	51	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	6
	B	0	0	1
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.06	7.30	0.1	A	28	28
B-A	0.15	13.00	0.2	B	44	44
C-AB	0.16	4.78	0.4	A	118	118
C-A					424	424
A-B					86	86
A-C					396	396

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	6	552	0.046	25	0.0	0.0	6.835	A
B-A	39	10	365	0.108	39	0.1	0.1	11.059	B
C-AB	96	24	852	0.112	95	0.2	0.2	4.760	A
C-A	392	98			392				
A-B	78	19			78				
A-C	356	89			356				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	8	524	0.059	31	0.0	0.1	7.300	A
B-A	48	12	325	0.148	48	0.1	0.2	12.979	B
C-AB	141	35	903	0.156	140	0.2	0.4	4.718	A
C-A	456	114			456				
A-B	95	24			95				
A-C	436	109			436				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	31	8	524	0.059	31	0.1	0.1	7.302	A
B-A	48	12	325	0.148	48	0.2	0.2	13.003	B
C-AB	141	35	904	0.156	141	0.4	0.4	4.731	A
C-A	456	114			456				
A-B	95	24			95				
A-C	436	109			436				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	25	6	552	0.046	25	0.1	0.0	6.841	A
B-A	39	10	364	0.108	40	0.2	0.1	11.086	B
C-AB	96	24	852	0.113	97	0.4	0.3	4.780	A
C-A	391	98			391				
A-B	78	19			78				
A-C	356	89			356				

2026 Forecast, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D3 - 2026 Forecast, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2026 Forecast	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	801	100.000
B		ONE HOUR	✓	129	100.000
C		ONE HOUR	✓	401	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	58	743
	B	70	0	59
	C	378	23	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	9
	B	3	0	0
	C	19	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.16	10.32	0.2	B	59	59
B-A	0.33	22.78	0.5	C	70	70
C-AB	0.09	5.79	0.2	A	53	53
C-A					348	348
A-B					58	58
A-C					743	743

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	53	13	477	0.111	53	0.1	0.1	8.479	A
B-A	63	16	288	0.219	63	0.2	0.3	15.951	C
C-AB	42	11	668	0.063	42	0.1	0.1	5.737	A
C-A	318	80			318				
A-B	52	13			52				
A-C	668	167			668				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	65	16	415	0.157	65	0.1	0.2	10.269	B
B-A	77	19	235	0.328	76	0.3	0.5	22.566	C
C-AB	63	16	696	0.091	63	0.1	0.2	5.673	A
C-A	378	95			378				
A-B	64	16			64				
A-C	818	205			818				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	65	16	414	0.157	65	0.2	0.2	10.322	B
B-A	77	19	235	0.328	77	0.5	0.5	22.781	C
C-AB	63	16	696	0.091	63	0.2	0.2	5.697	A
C-A	378	95			378				
A-B	64	16			64				
A-C	818	205			818				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	53	13	476	0.112	53	0.2	0.1	8.531	A
B-A	63	16	288	0.219	64	0.5	0.3	16.109	C
C-AB	42	11	668	0.063	43	0.2	0.1	5.785	A
C-A	318	80			318				
A-B	52	13			52				
A-C	668	167			668				

2026 Forecast, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D4 - 2026 Forecast, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2026 Forecast	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	520	100.000
B		ONE HOUR	✓	77	100.000
C		ONE HOUR	✓	584	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	93	427
	B	47	0	30
	C	529	55	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	1
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.06	7.52	0.1	A	30	30
B-A	0.17	14.03	0.2	B	47	47
C-AB	0.18	4.76	0.5	A	137	137
C-A					447	447
A-B					93	93
A-C					427	427

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	542	0.050	27	0.0	0.1	6.983	A
B-A	42	11	351	0.120	42	0.1	0.1	11.648	B
C-AB	110	27	869	0.126	109	0.2	0.3	4.739	A
C-A	415	104			415				
A-B	84	21			84				
A-C	384	96			384				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	512	0.065	33	0.1	0.1	7.520	A
B-A	52	13	308	0.168	51	0.1	0.2	13.994	B
C-AB	164	41	926	0.177	164	0.3	0.5	4.727	A
C-A	479	120			479				
A-B	102	26			102				
A-C	470	118			470				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	511	0.065	33	0.1	0.1	7.523	A
B-A	52	13	308	0.168	52	0.2	0.2	14.029	B
C-AB	165	41	926	0.178	165	0.5	0.5	4.739	A
C-A	478	120			478				
A-B	102	26			102				
A-C	470	118			470				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	542	0.050	27	0.1	0.1	6.990	A
B-A	42	11	351	0.120	42	0.2	0.1	11.686	B
C-AB	110	28	870	0.127	111	0.5	0.3	4.764	A
C-A	415	104			415				
A-B	84	21			84				
A-C	384	96			384				

2026 Forecast Plus Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D5 - 2026 Forecast Plus Development, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2026 Forecast Plus Development	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	815	100.000
B		ONE HOUR	✓	129	100.000
C		ONE HOUR	✓	453	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	58	757
	B	70	0	59
	C	430	23	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	4	9
	B	3	0	0
	C	19	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.16	10.59	0.2	B	59	59
B-A	0.35	24.88	0.5	C	70	70
C-AB	0.10	5.54	0.2	A	59	59
C-A					394	394
A-B					58	58
A-C					757	757

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	53	13	472	0.112	53	0.1	0.1	8.579	A
B-A	63	16	277	0.227	63	0.2	0.3	16.756	C
C-AB	46	12	700	0.066	46	0.1	0.1	5.497	A
C-A	361	90			361				
A-B	52	13			52				
A-C	681	170			681				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	65	16	406	0.160	65	0.1	0.2	10.528	B
B-A	77	19	222	0.348	76	0.3	0.5	24.594	C
C-AB	71	18	736	0.097	71	0.1	0.2	5.399	A
C-A	427	107			427				
A-B	64	16			64				
A-C	833	208			833				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	65	16	405	0.160	65	0.2	0.2	10.592	B
B-A	77	19	222	0.348	77	0.5	0.5	24.884	C
C-AB	72	18	736	0.097	71	0.2	0.2	5.420	A
C-A	427	107			427				
A-B	64	16			64				
A-C	833	208			833				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	53	13	470	0.113	53	0.2	0.1	8.639	A
B-A	63	16	277	0.227	64	0.5	0.3	16.951	C
C-AB	47	12	700	0.067	47	0.2	0.1	5.542	A
C-A	361	90			361				
A-B	52	13			52				
A-C	681	170			681				

2026 Forecast Plus Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D6 - 2026 Forecast Plus Development, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2026 Forecast Plus Development	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	562	100.000
B		ONE HOUR	✓	77	100.000
C		ONE HOUR	✓	600	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	93	469
	B	47	0	30
	C	545	55	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	6
	B	0	0	1
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.07	7.73	0.1	A	30	30
B-A	0.18	14.84	0.2	B	47	47
C-AB	0.18	4.77	0.5	A	143	143
C-A					457	457
A-B					93	93
A-C					469	469

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	532	0.051	27	0.0	0.1	7.120	A
B-A	42	11	340	0.124	42	0.1	0.1	12.091	B
C-AB	113	28	872	0.130	113	0.2	0.3	4.742	A
C-A	426	106			426				
A-B	84	21			84				
A-C	422	105			422				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	499	0.066	33	0.1	0.1	7.722	A
B-A	52	13	295	0.176	51	0.1	0.2	14.796	B
C-AB	172	43	931	0.184	171	0.3	0.5	4.742	A
C-A	489	122			489				
A-B	102	26			102				
A-C	516	129			516				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	499	0.066	33	0.1	0.1	7.727	A
B-A	52	13	294	0.176	52	0.2	0.2	14.837	B
C-AB	172	43	931	0.185	172	0.5	0.5	4.755	A
C-A	489	122			489				
A-B	102	26			102				
A-C	516	129			516				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	532	0.051	27	0.1	0.1	7.128	A
B-A	42	11	339	0.124	43	0.2	0.1	12.135	B
C-AB	114	28	873	0.130	115	0.5	0.3	4.766	A
C-A	426	106			426				
A-B	84	21			84				
A-C	422	105			422				

2026 Forecast Plus NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D7 - 2026 Forecast Plus NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	899	100.000
B		ONE HOUR	✓	129	100.000
C		ONE HOUR	✓	338	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	58	841
	B	70	0	59
	C	315	23	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	4	9
	B	3	0	0
	C	19	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.17	11.35	0.2	B	59	59
B-A	0.35	25.15	0.5	D	70	70
C-AB	0.09	6.35	0.2	A	48	48
C-A					290	290
A-B					58	58
A-C					841	841

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	53	13	453	0.117	53	0.1	0.1	8.998	A
B-A	63	16	276	0.228	63	0.2	0.3	16.841	C
C-AB	39	10	611	0.063	39	0.1	0.1	6.279	A
C-A	265	66			265				
A-B	52	13			52				
A-C	756	189			756				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	65	16	384	0.169	65	0.1	0.2	11.280	B
B-A	77	19	220	0.350	76	0.3	0.5	24.846	C
C-AB	57	14	625	0.091	57	0.1	0.2	6.320	A
C-A	315	79			315				
A-B	64	16			64				
A-C	926	231			926				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	65	16	382	0.170	65	0.2	0.2	11.354	B
B-A	77	19	220	0.350	77	0.5	0.5	25.148	D
C-AB	57	14	625	0.092	57	0.2	0.2	6.347	A
C-A	315	79			315				
A-B	64	16			64				
A-C	926	231			926				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	53	13	451	0.118	53	0.2	0.1	9.063	A
B-A	63	16	276	0.228	64	0.5	0.3	17.047	C
C-AB	39	10	611	0.064	39	0.2	0.1	6.331	A
C-A	265	66			265				
A-B	52	13			52				
A-C	756	189			756				

2026 Forecast Plus NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D8 - 2026 Forecast Plus NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	488	100.000
B		ONE HOUR	✓	77	100.000
C		ONE HOUR	✓	628	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	93	395
	B	47	0	30
	C	573	55	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	6
	B	0	0	1
	C	2	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.06	7.39	0.1	A	30	30
B-A	0.17	13.95	0.2	B	47	47
C-AB	0.18	4.60	0.5	A	146	146
C-A					482	482
A-B					93	93
A-C					395	395

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	550	0.049	27	0.0	0.1	6.888	A
B-A	42	11	352	0.120	42	0.1	0.1	11.604	B
C-AB	116	29	902	0.129	115	0.2	0.3	4.580	A
C-A	449	112			449				
A-B	84	21			84				
A-C	355	89			355				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	520	0.063	33	0.1	0.1	7.387	A
B-A	52	13	310	0.167	51	0.1	0.2	13.916	B
C-AB	176	44	966	0.182	175	0.3	0.5	4.556	A
C-A	516	129			516				
A-B	102	26			102				
A-C	435	109			435				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	520	0.064	33	0.1	0.1	7.389	A
B-A	52	13	310	0.167	52	0.2	0.2	13.953	B
C-AB	176	44	967	0.182	176	0.5	0.5	4.569	A
C-A	515	129			515				
A-B	102	26			102				
A-C	435	109			435				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	549	0.049	27	0.1	0.1	6.895	A
B-A	42	11	352	0.120	42	0.2	0.1	11.641	B
C-AB	116	29	902	0.129	117	0.5	0.3	4.603	A
C-A	448	112			448				
A-B	84	21			84				
A-C	355	89			355				

2026 Forecast Plus Proposed Development + NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D9 - 2026 Forecast Plus Proposed Development + NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.93	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:00	08:30	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	913	100.000
B		ONE HOUR	✓	129	100.000
C		ONE HOUR	✓	390	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	58	855
	B	70	0	59
	C	367	23	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
	0	4	9
	3	0	0
C	19	11	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.17	11.71	0.2	B	59	59
B-A	0.37	27.73	0.6	D	70	70
C-AB	0.10	6.03	0.2	A	54	54
C-A					336	336
A-B					58	58
A-C					855	855

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	53	13	448	0.118	53	0.1	0.1	9.113	A
B-A	63	16	265	0.237	63	0.2	0.3	17.742	C
C-AB	43	11	643	0.066	43	0.1	0.1	5.983	A
C-A	308	77			308				
A-B	52	13			52				
A-C	769	192			769				

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	65	16	374	0.174	65	0.1	0.2	11.617	B
B-A	77	19	207	0.373	76	0.3	0.6	27.317	D
C-AB	65	16	666	0.097	64	0.1	0.2	5.971	A
C-A	365	91			365				
A-B	64	16			64				
A-C	941	235			941				

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	65	16	372	0.174	65	0.2	0.2	11.710	B
B-A	77	19	207	0.373	77	0.6	0.6	27.733	D
C-AB	65	16	666	0.097	65	0.2	0.2	5.995	A
C-A	365	91			365				
A-B	64	16			64				
A-C	941	235			941				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	53	13	445	0.119	53	0.2	0.1	9.189	A
B-A	63	16	265	0.237	64	0.6	0.3	17.997	C
C-AB	43	11	643	0.067	43	0.2	0.1	6.034	A
C-A	308	77			308				
A-B	52	13			52				
A-C	769	192			769				

2026 Forecast Plus Proposed Development + NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Demand Sets	D10 - 2026 Forecast Plus Proposed Development + NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
5	Quarry Hill Road / Longfield Lane	T-Junction	Two-way		1.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:30	18:00	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	530	100.000
B		ONE HOUR	✓	77	100.000
C		ONE HOUR	✓	644	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	93	437
	B	47	0	30
	C	589	55	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	0	0	6	
	0	0	1	
	2	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.07	7.59	0.1	A	30	30
B-A	0.17	14.75	0.2	B	47	47
C-AB	0.19	4.61	0.6	A	152	152
C-A					492	492
A-B					93	93
A-C					437	437

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	540	0.050	27	0.0	0.1	7.021	A
B-A	42	11	341	0.124	42	0.1	0.1	12.044	B
C-AB	120	30	905	0.132	119	0.2	0.3	4.583	A
C-A	459	115			459				
A-B	84	21			84				
A-C	393	98			393				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	508	0.065	33	0.1	0.1	7.582	A
B-A	52	13	296	0.175	51	0.1	0.2	14.710	B
C-AB	184	46	971	0.189	183	0.3	0.5	4.572	A
C-A	525	131			525				
A-B	102	26			102				
A-C	481	120			481				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	33	8	508	0.065	33	0.1	0.1	7.585	A
B-A	52	13	296	0.175	52	0.2	0.2	14.752	B
C-AB	184	46	972	0.189	184	0.5	0.6	4.585	A
C-A	525	131			525				
A-B	102	26			102				
A-C	481	120			481				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	27	7	539	0.050	27	0.1	0.1	7.029	A
B-A	42	11	341	0.124	43	0.2	0.1	12.091	B
C-AB	120	30	906	0.133	121	0.6	0.3	4.607	A
C-A	459	115			459				
A-B	84	21			84				
A-C	393	98			393				

Appendix P

J6: Quarry Hill Road/Little Hallam Hill Input Data and ARCADY Report



Junction Turning Flows

Junction 6 - Little Hallam Hill / Quarry Hill Road

Survey Date

Tuesday 28th September 2021

Link

Arm A - Little Hallam Hill (E)

Arm B - Quarry Hill Road

Arm C - Little Hallam Hill (W)

AM Peak 07:30 - 08:30

PM Peak 16:45 - 17:45



AM Peak 2021				
	A	B	C	Total
A		546	586	1131
B	357		79	436
C	481	131		612
Total				2179

HGV Proportion AM Peak 2021				
	A	B	C	Average
A		9	2	5
B	15		8	12
C	5	16		11
Average	10	13	5	9

AM Peak Distribution				
	A	B	C	Total
A	0%	43%	0%	43%
B	43%	0%	0%	43%
C	0%	0%	0%	0%
Total	43%	43%	0%	

AM Peak Forecast 2026				
	A	B	C	Total
A	0	587	630	1218
B	384	0	85	469
C	517	141	0	659
Total	901	729	715	2345

1.0764

AM Peak Proposed Dev				
	A	B	C	Total
A	0	15	0	15
B	52	0	0	52
C	0	0	0	0
Total	52	15	0	67

AM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	602	630	1232
B	436	0	85	521
C	517	141	0	659
Total	954	743	715	2412

AM New Stanton Park (NSP)				
	A	B	C	Total
A	0	98		98
B	-63	0	0	-63
C		0	0	0
Total	-63	98	0	35

AM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	685	630	1316
B	321	0	85	406
C	517	141	0	659
Total	838	827	715	2380

AM Peak 2026 plus Proposed Dev + NSP				
	A	B	C	Total
A	0	700	630	1330
B	373	0	85	458
C	517	141	0	659
Total	891	841	715	2447

PM Peak 2021				
	A	B	C	Total
A		387	585	972
B	459		81	540
C	517	102		619
Total				2131

HGV Proportion PM Peak 2021				
	A	B	C	Average
A		4	1	2
B	2		1	2
C	2	6		4
Average	2	5	1	3

PM Peak Distribution				
	A	B	C	Total
A	0%	43%	0%	43%
B	43%	0%	0%	43%
C	0%	0%	0%	0%
Total	43%	43%	0%	

PM Peak Forecast 2026				
	A	B	C	Total
A	0	417	631	1047
B	494	0	88	582
C	558	110	0	667
Total	1052	527	718	2297

1.078

PM Peak Proposed Dev				
	A	B	C	Total
A	0	42	0	42
B	15	0	0	15
C	0	0	0	0
Total	15	42	0	57

67

PM Peak 2026 Plus Proposed Dev				
	A	B	C	Total
A	0	458	631	1089
B	509	0	88	597
C	558	110	0	667
Total	1067	568	718	2354

PM New Stanton Park (NSP)				
	A	B	C	Total
A	0	-32		-32
B	44	0	0	44
C		0	0	0
Total	44	-32	0	12

PM Peak 2026 Plus NSP				
	A	B	C	Total
A	0	385	631	1015
B	538	0	88	626
C	558	110	0	667
Total	1096	495	718	2309

PM Peak 2026 Plus Proposed Dev + NSP				
	A	B	C	Total
A	0	426	631	1057
B	553	0	88	641
C	558	110	0	667
Total	1111	536	718	2366

Junctions 9		
ARCADY 9 - Roundabout Module		
Version: 9.5.0.6896 © Copyright TRL Limited, 2018		
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Filename: 450-J6.j9

Path: C:\Users\Administrator\MAC\Projects 400 - 499 - Documents\450 - Sowbrook Lane, Ilkeston\Design\TA\Junction 9-PICADY (196 Dev)

Report generation date: 17/02/2023 16:07:19

- »2021 Base Year, AM
- »2021 Base Year, PM
- »2026 Forecast, AM
- »2026 Forecast, PM
- »2026 Forecast Plus Development, AM
- »2026 Forecast Plus Development, PM
- »2026 Forecast Plus NSP, AM
- »2026 Forecast Plus NSP, PM
- »2026 Forecast Plus Proposed Development + NSP, AM
- »2026 Forecast Plus Proposed Development + NSP, PM

Summary of junction performance

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2021 Base Year						
Arm A	134.6	478.64	1.23	22.2	75.63	1.00
Arm B	3.7	29.55	0.80	13.8	86.37	0.98
Arm C	36.0	180.83	1.09	38.1	189.09	1.10
2026 Forecast						
Arm A	213.6	731.20	1.32	52.8	152.07	1.08
Arm B	5.5	40.93	0.86	31.2	167.26	1.07
Arm C	68.8	356.18	1.20	67.8	387.52	1.19
2026 Forecast Plus Development						
Arm A	225.1	765.08	1.33	74.2	219.44	1.12
Arm B	11.5	76.73	0.96	32.9	171.83	1.08
Arm C	85.6	500.34	1.27	72.3	423.17	1.21
2026 Forecast Plus NSP						
Arm A	225.1	765.08	1.33	74.2	219.44	1.12
Arm B	11.5	76.73	0.96	32.9	171.83	1.08
Arm C	85.6	500.34	1.27	72.3	423.17	1.21
2026 Forecast Plus Proposed Development + NSP						
Arm A	225.1	765.08	1.33	74.2	219.44	1.12
Arm B	11.5	76.73	0.96	32.9	171.83	1.08
Arm C	85.6	500.34	1.27	72.3	423.17	1.21

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	
Location	
Site number	
Date	25/11/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MAC-13096B\Administrator
Description	

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021 Base Year	AM	ONE HOUR	07:15	08:45	15	✓	✓
D2	2021 Base Year	PM	ONE HOUR	16:45	18:15	15	✓	✓
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓
D4	2026 Forecast	PM	ONE HOUR	16:45	18:15	15	✓	✓
D5	2026 Forecast Plus Development	AM	ONE HOUR	07:15	08:45	15	✓	✓
D6	2026 Forecast Plus Development	PM	ONE HOUR	16:45	18:15	15	✓	✓
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:45	18:15	15	✓	✓
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓
D10	2026 Forecast Plus Proposed Development + NSP	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

2021 Base Year, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D1 - 2021 Base Year, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	299.87	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
A	Little Hallam Hill (E)	
B	Quarry Hill Road	
C	Little Hallam Hill (W)	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.28	3.28	4.95	13.9	10.31	8.11	0.0	
B	3.55	3.55	5.23	2.4	8.94	7.09	0.0	
C	2.49	2.49	4.01	4.3	11.09	10.74	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.647	1165
B	0.631	1019
C	0.601	939

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D1	2021 Base Year	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1131	100.000
B		ONE HOUR	✓	436	100.000
C		ONE HOUR	✓	612	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	546	586
	B	357	0	79
	C	481	131	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	9	2
	B	15	0	8
	C	5	16	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.23	478.64	134.6	F	1131	1131
B	0.80	29.55	3.7	D	436	436
C	1.09	180.83	36.0	F	612	612

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1017	254	116	1024	0.993	973	744	4.1	15.2	47.783	E
B	392	98	503	610	0.642	389	585	1.0	1.7	16.053	C
C	550	138	318	668	0.824	541	574	1.8	4.0	26.707	D

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1245	311	130	1015	1.227	1011	862	15.2	73.7	169.124	F
B	480	120	523	599	0.801	473	618	1.7	3.5	26.991	D
C	674	168	387	624	1.080	605	609	4.0	21.3	93.068	F

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1245	311	132	1013	1.229	1013	875	73.7	131.9	373.337	F
B	480	120	524	599	0.802	479	620	3.5	3.7	29.548	D
C	674	168	392	620	1.086	615	611	21.3	36.0	180.826	F

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1017	254	138	1009	1.008	1006	833	131.9	134.6	478.636	F
B	392	98	521	600	0.652	399	624	3.7	2.0	18.430	C
C	550	138	327	663	0.830	645	593	36.0	12.3	141.450	F

2021 Base Year, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D2 - 2021 Base Year, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	111.41	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D2	2021 Base Year	PM	ONE HOUR	16:45	18:15	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	972	100.000
B		ONE HOUR	✓	540	100.000
C		ONE HOUR	✓	619	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	387	585
	B	459	0	81
	C	517	102	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	1
	B	2	0	1
	C	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.00	75.63	22.2	F	972	972
B	0.98	86.37	13.8	F	540	540
C	1.10	189.09	38.1	F	619	619

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	874	218	90	1081	0.808	866	865	2.0	3.9	16.201	C
B	485	121	521	673	0.722	481	435	1.2	2.4	18.299	C
C	557	139	408	672	0.829	547	594	1.8	4.1	27.089	D

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1070	267	101	1074	0.997	1022	990	3.9	16.0	46.926	E
B	594	149	615	614	0.967	565	507	2.4	9.8	54.129	F
C	682	170	480	629	1.084	610	700	4.1	22.0	94.782	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1070	267	102	1073	0.997	1045	1007	16.0	22.2	75.633	F
B	594	149	629	606	0.981	578	517	9.8	13.8	86.372	F
C	682	170	491	622	1.096	617	716	22.0	38.1	189.094	F

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	874	218	104	1071	0.815	942	975	22.2	5.0	36.483	E
B	485	121	568	644	0.754	527	479	13.8	3.4	38.111	E
C	557	139	448	648	0.859	631	647	38.1	19.4	168.160	F

2026 Forecast, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D3 - 2026 Forecast, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	479.66	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D3	2026 Forecast	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1217	100.000
B		ONE HOUR	✓	469	100.000
C		ONE HOUR	✓	658	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	587	630
	B	384	0	85
	C	517	141	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	9	2
	B	15	0	8
	C	5	16	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.32	731.20	213.6	F	1217	1217
B	0.86	40.93	5.5	E	469	469
C	1.20	356.18	68.8	F	658	658

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1094	274	123	1019	1.073	999	794	6.3	30.0	78.850	F
B	422	105	517	603	0.700	418	605	1.2	2.2	19.079	C
C	592	148	342	653	0.906	575	593	2.4	6.6	39.438	E

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1340	335	128	1016	1.319	1015	885	30.0	111.4	259.850	F
B	516	129	525	598	0.864	505	618	2.2	5.0	35.048	E
C	724	181	414	607	1.194	600	617	6.6	37.8	150.574	F

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1340	335	129	1015	1.320	1015	893	111.4	192.6	546.239	F
B	516	129	526	598	0.864	514	618	5.0	5.5	40.928	E
C	724	181	421	602	1.204	601	619	37.8	68.8	326.721	F

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1094	274	136	1010	1.083	1010	854	192.6	213.6	731.196	F
B	422	105	523	599	0.703	433	623	5.5	2.5	23.014	C
C	592	148	355	644	0.918	635	601	68.8	57.9	356.184	F

2026 Forecast, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D4 - 2026 Forecast, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	224.54	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D4	2026 Forecast	PM	ONE HOUR	16:45	18:15	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1048	100.000
B		ONE HOUR	✓	582	100.000
C		ONE HOUR	✓	668	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	417	631
	B	494	0	88
	C	558	110	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	1
	B	2	0	1
	C	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.08	152.07	52.8	F	1048	1048
B	1.07	167.26	31.2	F	582	582
C	1.19	387.52	67.8	F	668	668

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	942	236	96	1077	0.875	929	923	2.5	5.9	22.472	C
B	523	131	559	649	0.806	515	465	1.6	3.6	25.370	D
C	601	150	437	654	0.918	582	637	2.4	7.1	41.515	E

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1154	288	101	1073	1.075	1052	1006	5.9	31.3	76.552	F
B	641	160	634	603	1.063	581	520	3.6	18.6	86.955	F
C	735	184	493	621	1.185	614	721	7.1	37.6	148.248	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1154	288	101	1073	1.075	1068	1015	31.3	52.8	152.069	F
B	641	160	643	597	1.073	591	526	18.6	31.2	167.257	F
C	735	184	501	616	1.194	615	732	37.6	67.8	320.937	F

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	942	236	100	1074	0.878	1054	1005	52.8	24.9	136.378	F
B	523	131	634	602	0.869	584	520	31.2	16.1	150.388	F
C	601	150	495	619	0.970	610	723	67.8	65.4	387.518	F

2026 Forecast Plus Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D5 - 2026 Forecast Plus Development, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	535.47	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D5	2026 Forecast Plus Development	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1232	100.000
B		ONE HOUR	✓	521	100.000
C		ONE HOUR	✓	658	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	602	630
	B	436	0	85
	C	517	141	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	9	2
	B	15	0	8
	C	5	16	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.33	765.08	225.1	F	1232	1232
B	0.96	76.73	11.5	F	521	521
C	1.27	500.34	85.6	F	658	658

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1108	277	122	1020	1.086	1003	833	6.8	33.0	84.842	F
B	468	117	513	604	0.775	462	612	1.6	3.1	24.308	C
C	592	148	387	624	0.948	568	588	2.7	8.7	49.946	E

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1356	339	123	1019	1.331	1018	910	33.0	117.5	274.771	F
B	574	143	521	600	0.956	550	620	3.1	9.1	54.522	F
C	724	181	460	577	1.256	573	610	8.7	46.6	190.889	F

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1356	339	122	1020	1.330	1020	919	117.5	201.7	570.874	F
B	574	143	521	599	0.957	564	620	9.1	11.5	76.732	F
C	724	181	472	569	1.273	568	613	46.6	85.6	423.096	F

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1108	277	129	1014	1.092	1014	892	201.7	225.1	765.082	F
B	468	117	519	601	0.779	499	625	11.5	4.0	41.227	E
C	592	148	417	604	0.979	604	600	85.6	82.4	500.343	F

2026 Forecast Plus Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D6 - 2026 Forecast Plus Development, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	265.31	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D6	2026 Forecast Plus Development	PM	ONE HOUR	16:45	18:15	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1089	100.000
B		ONE HOUR	✓	597	100.000
C		ONE HOUR	✓	668	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	458	631
	B	509	0	88
	C	558	110	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	1
	B	2	0	1
	C	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.12	219.44	74.2	F	1089	1089
B	1.08	171.83	32.9	F	597	597
C	1.21	423.17	72.3	F	668	668

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	979	245	95	1076	0.910	960	934	2.9	7.6	27.392	D
B	537	134	556	651	0.825	527	499	1.7	4.0	27.253	D
C	601	150	450	647	0.929	580	634	2.5	7.6	44.102	E

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1199	300	100	1073	1.117	1061	1013	7.6	42.2	97.025	F
B	657	164	614	615	1.069	594	546	4.0	19.8	89.945	F
C	735	184	507	613	1.201	606	702	7.6	39.9	158.184	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1199	300	100	1073	1.117	1071	1022	42.2	74.2	204.942	F
B	657	164	620	611	1.076	605	550	19.8	32.9	171.829	F
C	735	184	516	607	1.212	606	710	39.9	72.3	345.040	F

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	979	245	99	1074	0.912	1060	1011	74.2	54.1	219.445	F
B	537	134	614	615	0.872	597	545	32.9	17.8	157.512	F
C	601	150	509	611	0.983	601	702	72.3	72.1	423.165	F

2026 Forecast Plus NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D7 - 2026 Forecast Plus NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	535.47	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D7	2026 Forecast Plus NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1232	100.000
B		ONE HOUR	✓	521	100.000
C		ONE HOUR	✓	658	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	602	630
	B	436	0	85
	C	517	141	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	9	2
	B	15	0	8
	C	5	16	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.33	765.08	225.1	F	1232	1232
B	0.96	76.73	11.5	F	521	521
C	1.27	500.34	85.6	F	658	658

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1108	277	122	1020	1.086	1003	833	6.8	33.0	84.842	F
B	468	117	513	604	0.775	462	612	1.6	3.1	24.308	C
C	592	148	387	624	0.948	568	588	2.7	8.7	49.946	E

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1356	339	123	1019	1.331	1018	910	33.0	117.5	274.771	F
B	574	143	521	600	0.956	550	620	3.1	9.1	54.522	F
C	724	181	460	577	1.256	573	610	8.7	46.6	190.889	F

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1356	339	122	1020	1.330	1020	919	117.5	201.7	570.874	F
B	574	143	521	599	0.957	564	620	9.1	11.5	76.732	F
C	724	181	472	569	1.273	568	613	46.6	85.6	423.096	F

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1108	277	129	1014	1.092	1014	892	201.7	225.1	765.082	F
B	468	117	519	601	0.779	499	625	11.5	4.0	41.227	E
C	592	148	417	604	0.979	604	600	85.6	82.4	500.343	F

2026 Forecast Plus NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D8 - 2026 Forecast Plus NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	265.31	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D8	2026 Forecast Plus NSP	PM	ONE HOUR	16:45	18:15	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1089	100.000
B		ONE HOUR	✓	597	100.000
C		ONE HOUR	✓	668	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	458	631
	B	509	0	88
	C	558	110	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	1
	B	2	0	1
	C	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.12	219.44	74.2	F	1089	1089
B	1.08	171.83	32.9	F	597	597
C	1.21	423.17	72.3	F	668	668

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	979	245	95	1076	0.910	960	934	2.9	7.6	27.392	D
B	537	134	556	651	0.825	527	499	1.7	4.0	27.253	D
C	601	150	450	647	0.929	580	634	2.5	7.6	44.102	E

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1199	300	100	1073	1.117	1061	1013	7.6	42.2	97.025	F
B	657	164	614	615	1.069	594	546	4.0	19.8	89.945	F
C	735	184	507	613	1.201	606	702	7.6	39.9	158.184	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1199	300	100	1073	1.117	1071	1022	42.2	74.2	204.942	F
B	657	164	620	611	1.076	605	550	19.8	32.9	171.829	F
C	735	184	516	607	1.212	606	710	39.9	72.3	345.040	F

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	979	245	99	1074	0.912	1060	1011	74.2	54.1	219.445	F
B	537	134	614	615	0.872	597	545	32.9	17.8	157.512	F
C	601	150	509	611	0.983	601	702	72.3	72.1	423.165	F

2026 Forecast Plus Proposed Development + NSP, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D9 - 2026 Forecast Plus Proposed Development + NSP, AM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	535.47	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D9	2026 Forecast Plus Proposed Development + NSP	AM	ONE HOUR	07:15	08:45	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1232	100.000
B		ONE HOUR	✓	521	100.000
C		ONE HOUR	✓	658	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	602	630
	B	436	0	85
	C	517	141	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
	A	B	C	
	A	0	9	2
	B	15	0	8
	C	5	16	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.33	765.08	225.1	F	1232	1232
B	0.96	76.73	11.5	F	521	521
C	1.27	500.34	85.6	F	658	658

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1108	277	122	1020	1.086	1003	833	6.8	33.0	84.842	F
B	468	117	513	604	0.775	462	612	1.6	3.1	24.308	C
C	592	148	387	624	0.948	568	588	2.7	8.7	49.946	E

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1356	339	123	1019	1.331	1018	910	33.0	117.5	274.771	F
B	574	143	521	600	0.956	550	620	3.1	9.1	54.522	F
C	724	181	460	577	1.256	573	610	8.7	46.6	190.889	F

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1356	339	122	1020	1.330	1020	919	117.5	201.7	570.874	F
B	574	143	521	599	0.957	564	620	9.1	11.5	76.732	F
C	724	181	472	569	1.273	568	613	46.6	85.6	423.096	F

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1108	277	129	1014	1.092	1014	892	201.7	225.1	765.082	F
B	468	117	519	601	0.779	499	625	11.5	4.0	41.227	E
C	592	148	417	604	0.979	604	600	85.6	82.4	500.343	F

2026 Forecast Plus Proposed Development + NSP, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Sets	D10 - 2026 Forecast Plus Proposed Development + NSP, PM	Time results are shown for central hour only. (Model is run for a 90 minute period.)

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
6	Quarry Hill Road / Little Hallam Hill	Mini-roundabout		A, B, C	265.31	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Results for central hour only	Run automatically
D10	2026 Forecast Plus Proposed Development + NSP	PM	ONE HOUR	16:45	18:15	15	✓	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	1089	100.000
B		ONE HOUR	✓	597	100.000
C		ONE HOUR	✓	668	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	458	631
	B	509	0	88
	C	558	110	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	4	1
	B	2	0	1
From	C	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A	1.12	219.44	74.2	F	1089	1089
B	1.08	171.83	32.9	F	597	597
C	1.21	423.17	72.3	F	668	668

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	979	245	95	1076	0.910	960	934	2.9	7.6	27.392	D
B	537	134	556	651	0.825	527	499	1.7	4.0	27.253	D
C	601	150	450	647	0.929	580	634	2.5	7.6	44.102	E

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1199	300	100	1073	1.117	1061	1013	7.6	42.2	97.025	F
B	657	164	614	615	1.069	594	546	4.0	19.8	89.945	F
C	735	184	507	613	1.201	606	702	7.6	39.9	158.184	F

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	1199	300	100	1073	1.117	1071	1022	42.2	74.2	204.942	F
B	657	164	620	611	1.076	605	550	19.8	32.9	171.829	F
C	735	184	516	607	1.212	606	710	39.9	72.3	345.040	F

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	979	245	99	1074	0.912	1060	1011	74.2	54.1	219.445	F
B	537	134	614	615	0.872	597	545	32.9	17.8	157.512	F
C	601	150	509	611	0.983	601	702	72.3	72.1	423.165	F