Great North Road / Tolney Lane, Newark

784-B046779

Junction Capacity Technical Note

Newark & Sherwood District Council

Jan 2024

Document prepared on behalf of Tetra Tech Limited. Registered in England number: 01959704

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1.0 INTRODUCTION

1.1 INTRODUCTION

1.1.1 Tetra Tech has been appointed by Newark and Sherwood District Council (N&SDC) to undertake a traffic capacity assessment at the Great North Road / Tolney Lane junction in Newark.

1.1.2 The assessment is required to ensure that the junction will continue to operate satisfactorily if additional pitches are provided on land off Tolney Lane for the Gypsy and Traveller population.

1.1.3 Based on the findings of a Gypsy and Traveller Accommodation Assessment (GTAA) undertaken by the Council in February 2020 there are currently 317 pitches served via the Great North Road / Tolney Lane junction. The number of occupied pitches tends to fluctuate, although a review of aerial photographs taken in June 2022 shows a similar number to the 317 identified in the 2020 GTAA. This figure has therefore been applied as a baseline for this appraisal.

1.1.4 This technical note summarises the assessment methodology and results.

2.0 EXISTING CONDITIONS

2.1 JUNCTION LAYOUT

2.1.1 The Great North Road / Tolney Lane junction is a priority T-junction on the western side of Great North Road, situated immediately north of the River Trent. The junction has a 'Ghost-Island' right turn on Great North Road and the layout of the junction is as shown in the image below.

Image 1 – Junction Layout

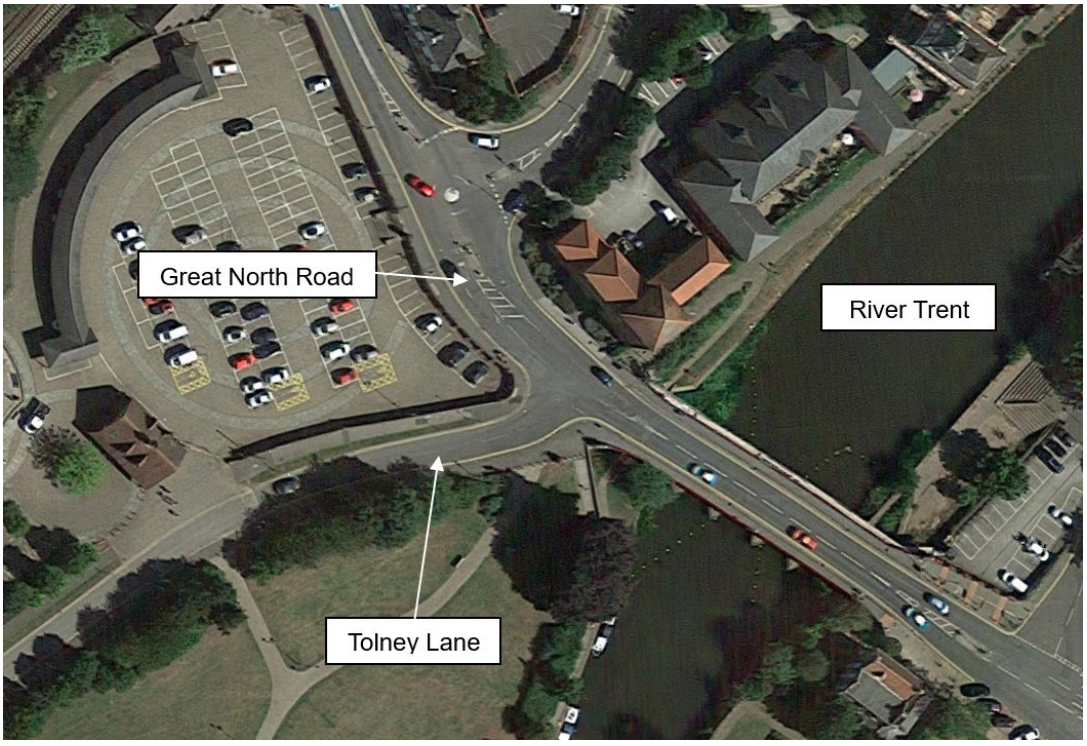


Image source: Google

2.2 EXISTING TRAFFIC FLOWS

2.2.1 A peak period classified turning count was undertaken at the junction on Wednesday 14th July 2021, during school term. The survey was disaggregated to 15-minute intervals and covered the periods 0730 – 0930 hrs and 1630 – 1830 hrs. Analysis of the data shows that the observed peaks at the junction were 08:30 to 09:30 hrs AM and 16:30 to 17:30 hrs PM.

2.2.2 There are several markets throughout the week in Newark-on-Trent and the main one occurs each Wednesday in the market square. The traffic survey was undertaken on a Wednesday, when the main market was trading, to reflect typical traffic conditions.

2.3 COVID-19 ADJUSTMENT

2.3.1 Because the traffic survey was undertaken not long after the Covid-19 pandemic, correction factors have been applied to ensure that the data is representative of pre-pandemic conditions. The correction factors were derived from data collected by the local highway authority, Nottinghamshire County Council (NCC) before and during the Covid-19 lockdown measures. From the data supplied by NCC the following uplift factors have been applied:

- AM Peak = 1.2051
- PM Peak = 1.1533

2.3.2 Details of the traffic flow data and correction factors can be found in **Appendix A**.

3.0 FUTURE TRAFFIC FLOWS

3.1 COMMITTED SCHEMES

3.1.1 Committed schemes are defined as developments or transport schemes which have current planning consent, but which are unimplemented or incomplete, and could in the future have a significant impact on transport conditions or the layout of the local highway network.

3.1.2 There are two committed schemes near the Great North Road / Tolney Lane junction, and these are described as follows.

3.2 TOLNEY LANE FLOOD ALLEVIATION SCHEME

3.2.1 Tolney Lane is at risk of flooding, so to protect existing residences the Council is planning a flood alleviation scheme for the Tolney Lane area which will provide access resilience during flooding events and protect properties. Improvements are proposed to raise the carriageway level of Tolney Lane to increase it's resilience to flood events. A plan showing the proposed scheme is included in **Appendix B**.

3.2.2 There will be no changes to the geometry of the existing Great North Road / Tolney Lane junction or any change to existing traffic flows due to the flood alleviation scheme. No adjustments are therefore necessary to reflect the flood alleviation scheme in this appraisal.

3.3 ASI DEVELOPMENT

3.3.1 The Air & Space Institute, Newark (ASI) development is a new further education college specialising in training for the aerospace industry that was granted planning permission in February 2022 and is currently being constructed. The new college is being promoted by the Lincoln College Group and is located on the former Newark Cattle Market site east of Great North Road, immediately north of Castle House.

3.3.2 As this development already has planning permission the forecast design year traffic flows have been taken from the approved Transport Assessment and added to background traffic flows for the purposes of this appraisal. A plan showing the proposed scheme is included in **Appendix B** together with extracts from the Transport Assessment detailing the forecast ASI traffic flows.

3.3.3 There are no other known committed developments likely to affect the Great North Road / Tolney Lane junction.

3.4 ASSESSMENT YEARS

3.4.1 Assessment years in respect of capacity analysis should be consistent with the size, scale, and completion schedule of the proposed development, and that of any other major developments near the site, as well as any committed improvements to the transport network.

3.4.2 For the purposes of this appraisal the operation of the junction has been assessed at a Base Year (2023) both 'without' and 'with' the additional gypsy and traveller pitches and an assessment has also been undertaken at the end of the current Plan period (2034) which is the assumed timescale for delivery of the additional pitches outlined in the Gypsy and Traveller Accommodation Assessment (GTAA).

3.5 BACKGROUND TRAFFIC GROWTH

3.5.1 Growth in background traffic flows from the survey year (2021) to the Base Year (2023) and Assessment Year (2034) has been taken into account by applying TEMPro adjusted NTEM factors to the base traffic survey data.

3.5.2 Growth factors have been obtained from the TEMPRO 7.2 database and use 'E02005899 - Newark and Sherwood 007' as the 'local' area (the Middle Super Output Area in which the junction is located). The resultant factors are summarised in the table below.

Table 1 – TEMPRO Adjusted NTEM Factors

TEMPRO Adjusted NTEM Factors		
Time Period	AM	PM
2021 - 2023	1.020061	1.019208
2021 - 2034	1.122249	1.118052

4.0 DEVELOPMENT ASSUMPTIONS

4.1 BACKGROUND

4.1.1 As part of the 2022 Local Plan review the Council is seeking to increase the number of gypsy and traveller pitches currently provided off Tolney Lane in Newark.

4.1.2 The Gypsy and Traveller Accommodation Assessment (GTAA) undertaken by the Council in February 2020 identifies a need for a total of 169 additional pitches for the Gypsy and Traveller community to 2034. Of this total 70 pitches are planned for delivery on land off Tolney Lane. This assessment therefore examines the traffic implications at the Great North Road / Tolney Lane junction due to this increase in pitch provision on land off Tolney Lane. A sensitivity test has also been undertaken that assesses an additional 20 pitches giving a total of 90 new pitches delivered on land off Tolney Lane.

4.1.3 The additional pitches assessed in this note include for the formalisation of some current temporary pitches and pitches that are currently 'doubled up' (i.e. where people are living on a shared pitch). The travel habits of these residents are already included in the baseline position.

4.1.4 The proposals also include bringing two areas of land off Tolney Lane not currently occupied by Travellers back into that use, but at lower levels of occupation. Accordingly the assessments of 70 and 90 additional pitches represent upper-end scenarios for the impact of proposals in the Amended Allocations & Development Management DPD.

4.2 TRIP GENERATION

4.2.1 Trip generation has been estimated for the weekday AM / PM peak hours using trip generation rates obtained from the TRICS database. The online version of TRICS was used (Version 7.10.1) and the category 'Mixed / Miscellaneous' was interrogated for comparable sites.

4.2.2 There are two site surveys contained within TRICS, site reference HC-16-A-01 which is a permanent gypsy site in Hartfordbridge and site reference SC-16-A-01 which is a traveller site in Leatherhead. Both surveys are quite old (1989 and 2010 respectively) however, in the absence of any alternative data these surveys have been applied for the purposes of this appraisal.

4.2.3 Due to the age of the data trip rates are not available directly out of TRICS so the survey data has been manually extracted for each site and converted into combined trip rates (PCU) per pitch. This process is summarised in **Appendix C** and the resultant trip rates are summarised in the table below.

Table 2 – TRICS Trip Rates – PCU per Pitch

Peak	Inbound	Outbound	2-Way
AM (08:00 – 09:00)	0.250	0.375	0.625
PM (17:00 – 18:00)	0.281	0.281	0.563

4.2.4 Applying the trip rates in the table above to the proposed new pitches on land off Tolney Lane gives the trip generation summarised in the table below.

Table 3 – Trip Generation (70 Pitches) – PCU

Peak	Inbound	Outbound	2-Way
AM (08:00 – 09:00)	18	26	44
PM (17:00 – 18:00)	20	20	39

Note: Discrepancies in two-way totals due to decimal rounding.

Table 4 – Trip Generation (90 Pitches) Sensitivity Test – PCU

Peak	Inbound	Outbound	2-Way
AM (08:00 – 09:00)	23	34	56
PM (17:00 – 18:00)	25	25	51

Note: Discrepancies in two-way totals due to decimal rounding.

4.3 TRIP DISTRIBUTION

4.3.1 Development trips have been distributed at the Great North Road / Tolney Lane junction in accordance with observed turning proportions. Details can be found in **Appendix C**.

5.0 TRAFFIC CAPACITY ASSESSMENT

5.1 JUNCTION CAPACITY

5.1.1 The operation of the Great North Road / Tolney lane junction has been assessed using the Junctions 9 computer programme, which is the 'industry standard' traffic modelling computer software package used for assessing the capacity of priority junctions.

5.1.2 A Ratio of Flow to Capacity (RFC) value below 0.85 indicates that a junction operates 'within' capacity. An RFC value between 0.85 and 1.00 indicates that there may be occasions during the period modelled when queues will develop, and delays occur. An RFC value greater than 1.00 indicates that a junction operates 'above' capacity.

5.1.3 Geometry plans and capacity assessment outputs are presented in **Appendix C**. A summary of the capacity assessment results is presented in the tables on the next page.

5.2 CAPACITY ASSESSMENT RESULTS

5.2.1 Full details of the Junctions 9 outputs and junction geometry can be found in **Appendix C** and a summary of the assessment results is presented in the tables on the next page. For the sake of simplicity, the results presented are the 'worst case' RFC values forecast.

Table 5 – Capacity Assessment Results (70 Pitches)

Movement	AM Peak (08:30 – 09:30)		PM Peak (16:30 – 17:30)	
	Max. Q (PCU)	Max. RFC	Max. Q (PCU)	Max. RFC
2023 – Base + Committed				
Tolney Lane (B-AC)	0.7	0.42	0.7	0.40
Great North Road (C-AB)	0.1	0.05	0.0	0.04
2023 - Base + Committed + 70 additional Pitches				
Tolney Lane (B-AC)	1.0	0.52	0.9	0.47
Great North Road (C-AB)	0.1	0.07	0.1	0.05
2034 - Base + Committed				
Tolney Lane (B-AC)	1.0	0.51	0.9	0.49
Great North Road (C-AB)	0.1	0.06	0.1	0.05
2034 - Base + Committed + 70 additional Pitches				
Tolney Lane (B-AC)	1.5	0.62	1.3	0.58
Great North Road (C-AB)	0.1	0.08	0.1	0.06

5.2.2 As can be seen from the table above the existing junction is forecast to operate satisfactorily with the 2034 design flows in all scenarios.

Table 6 – Sensitivity Test Capacity Assessment Results (90 Pitches)

Movement	AM Peak (08:30 – 09:30)		PM Peak (16:30 – 17:30)	
	Max. Q (PCU)	Max. RFC	Max. Q (PCU)	Max. RFC
2023 – Base + Committed				
Tolney Lane (B-AC)	0.7	0.42	0.7	0.40
Great North Road (C-AB)	0.1	0.05	0.0	0.04
2023 - Base + Committed + 90 additional Pitches				
Tolney Lane (B-AC)	1.2	0.55	1.0	0.49
Great North Road (C-AB)	0.1	0.07	0.1	0.06
2034 - Base + Committed				
Tolney Lane (B-AC)	1.0	0.51	0.9	0.49
Great North Road (C-AB)	0.1	0.06	0.1	0.05
2034 - Base + Committed + 90 additional Pitches				
Tolney Lane (B-AC)	1.8	0.65	1.4	0.60
Great North Road (C-AB)	0.1	0.08	0.1	0.06

5.2.3 The sensitivity test adds traffic from a further 20 pitches through the junction (90 new pitches in total) and as can be seen in the table above the existing junction is still forecast to operate satisfactorily with the 2034 design flows in all scenarios.

5.3 MITIGATION

5.3.1 Given the forecast satisfactory operation of the Great North Road / Tolney Lane junction in all scenarios no highway mitigation is considered necessary.

6.0 SUBSEQUENT HIGHWAY AUTHORITY DISCUSSIONS

6.1 BACKGROUND

6.1.1 Further discussions have taken place between N&SDC and NCC since the last version of this note was produced in July 2023. These discussions are summarised below.

6.2 DISCUSSION SUMMARY

6.2.1 N&SDC confirmed that the final proposal comprises the allocation of 76 new permanent pitches on land off Tolney Lane and the removal of 89 existing pitches that are either unauthorised, have temporary consent, or are in non-Traveller use.

6.2.2 The 89 pitches are in-situ now and contribute to existing traffic flows passing through the Great North Road / Tolney Lane junction. The Council's proposal will therefore result in a net reduction of 13 pitches compared to the existing situation.

6.2.3 The 89 pitches to be removed include 62 pitches in non-Traveller use which will be brought back as exclusive Traveller accommodation. So an alternative 'worst case' scenario is to assume that this doesn't happen. This will then result in 76 new permanent pitches allocated on land off Tolney Lane and 27 removed, giving a net increase of 49 pitches compared to the existing situation.

6.2.4 Either outcome will result in a net change in the total number of permanent pitches that is less than the 70-90 new pitch scenarios tested in this Technical Note. So the Council's proposed strategy is ultimately promoting a lower level of permanent pitch provision than has already been assessed in the traffic capacity assessment undertaken at the Great North Road / Tolney Lane junction.

6.2.5 NCC confirmed that this is acceptable as the Council's proposed strategy is within that already assessed and demonstrated to be acceptable in traffic capacity terms.

6.2.6 NCC suggested implementing a 'KEEP CLEAR' carriageway marking on Great North Road adjacent to Tolney Lane to help residents leaving the side road during busy periods. N&SDC agreed that this will be implemented.

7.0 CONCLUSIONS

7.1 CONCLUSIONS

7.1.1 Tetra Tech has been appointed by Newark and Sherwood District Council (N&SDC) to undertake a traffic capacity assessment at the Great North Road / Tolney Lane junction in Newark.

7.1.2 The assessment is required to ensure that the junction will continue to operate satisfactorily if additional pitches are provided on land off Tolney Lane for the Gypsy and Traveller population.

7.1.3 There are currently 317 pitches served via the Great North Road / Tolney Lane junction and the appraisal has considered the traffic effects of increasing this by 70 pitches. A sensitivity test has also been undertaken that assumes an increase of 90 pitches.

7.1.4 The Great North Road / Tolney Lane junction is a priority T-junction on the western side of Great North Road, situated immediately north of the River Trent. The junction has a 'Ghost-Island' right turn on Great North Road.

7.1.5 Traffic capacity assessments have been undertaken for assessment years of 2023 and 2034 (end of the Local plan period) with all known committed development traffic 'with' and 'without' traffic associated with the additional Gypsy and Traveller pitches.

7.1.6 The junction is shown to operate within capacity in all scenarios tested with RFC values well below the usual 0.85 threshold. The maximum queue length forecast is 1.5 PCU in the AM peak on Tolney Lane with traffic due to the addition of 70 pitches. This represents a queue length increase of 0.5 PCU compared to the situation that will exist in 2034 without any additional pitches.

7.1.7 In the sensitivity test the maximum queue length forecast is 1.8 PCU in the AM peak on Tolney Lane with traffic due to the addition of 90 pitches. This represents a queue length increase of 0.8 PCU compared to the situation that will exist in 2034 without any additional pitches.

7.1.8 Further discussions have taken place between N&SDC and NCC since the last version of this note was produced in July 2023. The Council's proposed strategy is now promoting a lower level of permanent pitch provision than has already been assessed in the traffic capacity assessment undertaken at the Great North Road / Tolney Lane junction.

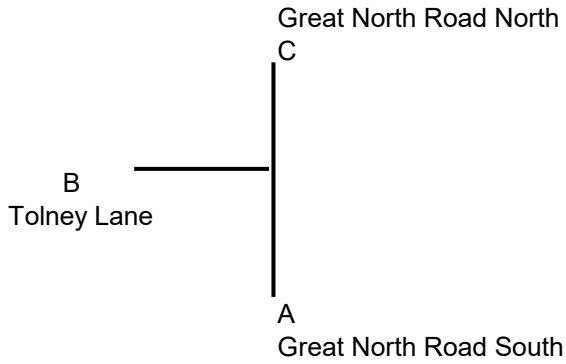
7.1.9 NCC confirmed that this is acceptable as the Council's proposed strategy is within that already assessed and demonstrated to be acceptable in traffic capacity terms.

7.1.10 NCC suggested implementing a 'KEEP CLEAR' carriageway marking on Great North Road adjacent to Tolney Lane to help residents leaving the side road during busy periods. N&SDC agreed that this will be implemented.

APPENDIX A: TRAFFIC DATA

Great North Road / Tolney Lane - Traffic Survey Summary

Date of survey: 14 July 2021



AM Peak: 08:30 - 09:30

AM	A	B	C
A	0	37	458
B	73	0	22
C	582	21	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	65	568
B	60	0	34
C	600	16	0

Note: all flows in PCU

NCC Supplied Covid Monitoring Data for Newark

Percentage Change in Average Weekday Traffic Flows Since March 2020 (Pre-Covid)

Month	AM	PM
Mar-20	100%	100%
Apr-20	No Data	No Data
May-20	39%	46%
Jun-20	54%	60%
Jul-20	63%	71%
Aug-20	62%	76%
Sep-20	81%	83%
Oct-20	74%	79%
Nov-20	81%	71%
Dec-20	70%	67%
Jan-21	58%	57%
Feb-21	57%	60%
Mar-21	72%	67%
Apr-21	77%	84%
May-21	86%	89%
Jun-21	86%	90%
Jul-21	79%	85%
Aug-21	68%	87%
Sep-21	86%	92%

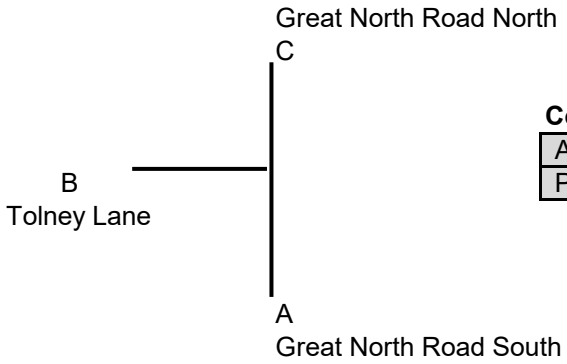
Survey undertaken on 14th July 2021

Covid Factors for July 2021:

AM Peak	1.2051
PM Peak	1.1533

Great North Road / Tolney Lane - Covid Adjusted Flows

Date of survey: 14 July 2021



Covid Factors:

AM Peak	1.2051
PM Peak	1.1533

AM Peak: 08:30 - 09:30

AM	A	B	C
A	0	45	552
B	88	0	27
C	701	25	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	75	655
B	69	0	39
C	692	18	0

Note: all flows in PCU

APPENDIX B: TOLNEY LANE FLOOD ALLEVIATION SCHEME

Tolney Lane Flood Alleviation Scheme

NOTES - GEOMETRY

1. All dimensions in metres unless stated otherwise.
2. Refer to drawing SK101 for general details of the works.
3. Refer to drawing SK301 for Long Sections through the works.
4. Refer to drawings 401 & 402 for Cross Sections though the works.

KEY:

- Site Boundary (Site 2)
- Major Contour (0.1m)
- Minor Contour (0.02m)
- Alignment Chainage
- Cross Section Location

SCALE 1:500

SCALE 1:500

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Client

NEWARK AND SHERWOOD DISTRICT COUNCIL

Project Name

TOLNEY LANE FAS

Sheet Title

PERMANENT HIGHWAY WORKS GEOMETRY

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A0	Suitability
784-B039140	IH	Jun '22	MR	Jun '22	PC	Jun '22	As Shown	S0

Client Project Number	Originator	Volume/System Level/Location	Type/Code	Role	Number	Revision
B039140 - TTE	- 00XX -	ZZ	- DR	- CH	- SK201	P01

TTE_MT_v1

ASI Development

External Storage & Refuse Area

Swale

Electricity Sub Station

Access point for large equipment

POI Locker

Temporary Access TBC

Existing Access

GREAT NORTH ROAD

Grade II Listed Causeway/Culvert

Council Yard

El Sub Sta

Castle House Pumping Station

ESS

Gas Gov

Service Vehicle Route

Existing 25m high Light Column

EUROPEAN LORRIES 18.75m long

CCTV

Cycles

External Seating

Aerospace Sculpture

Motorcycle Parking

Existing Carpark

Coach / minibus drop off Point

101 no. Public and Council Parking

Car Park

El Sub Sta

ACCESS FOR FUTURE DEVELOPMENT

1:500

10m 0 10m 20m 30m 40m 50m

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PROJECT. **IASTI**

DWG TITLE. **Proposed Site Plan**

DWG No. **1009_A**

SCALE. A2@ **1:500**

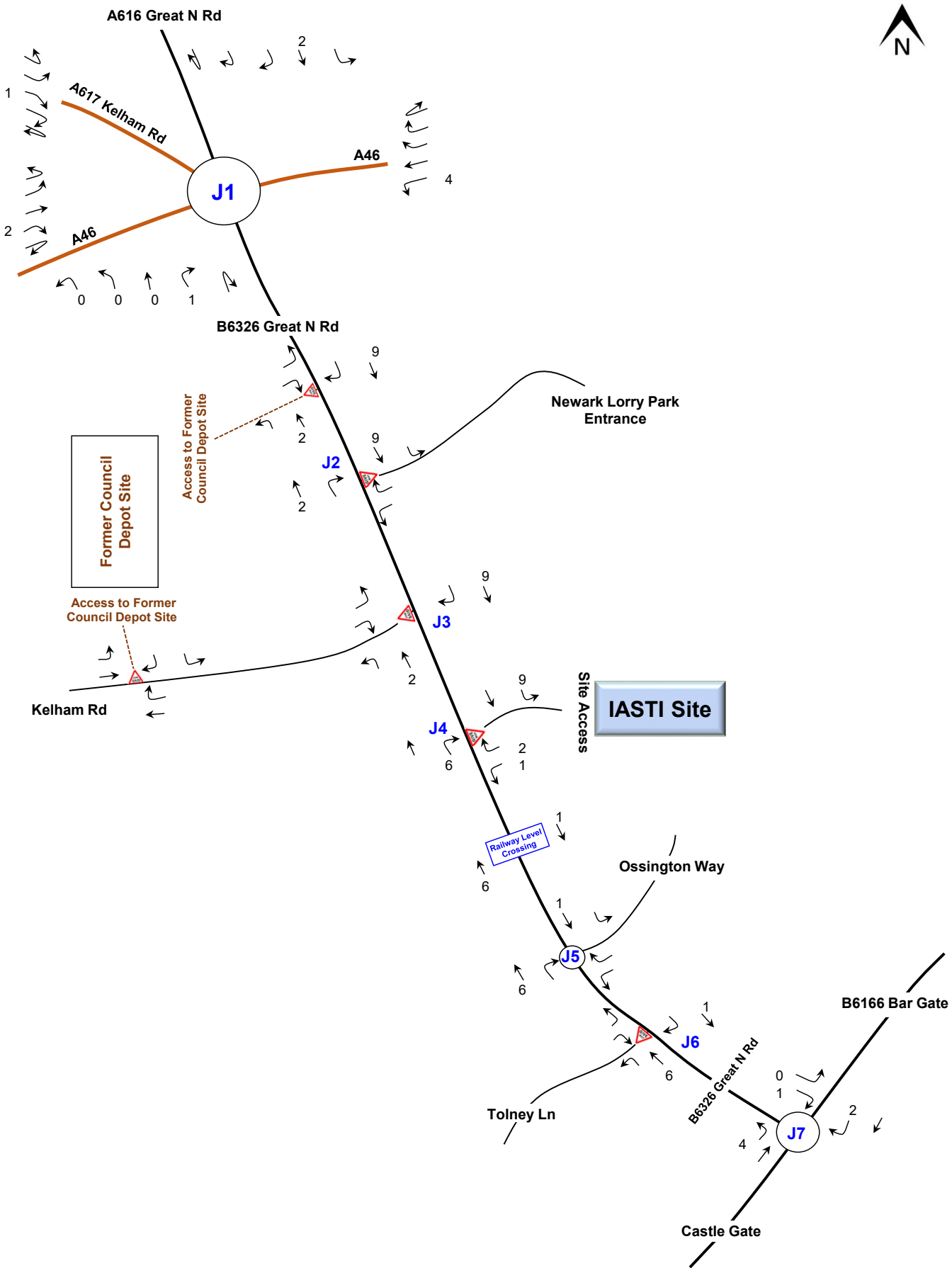

Fig. 10: AM Peak Trip Generation - Proposed IASTI Development - PCU

IASTI, Newark on Trent

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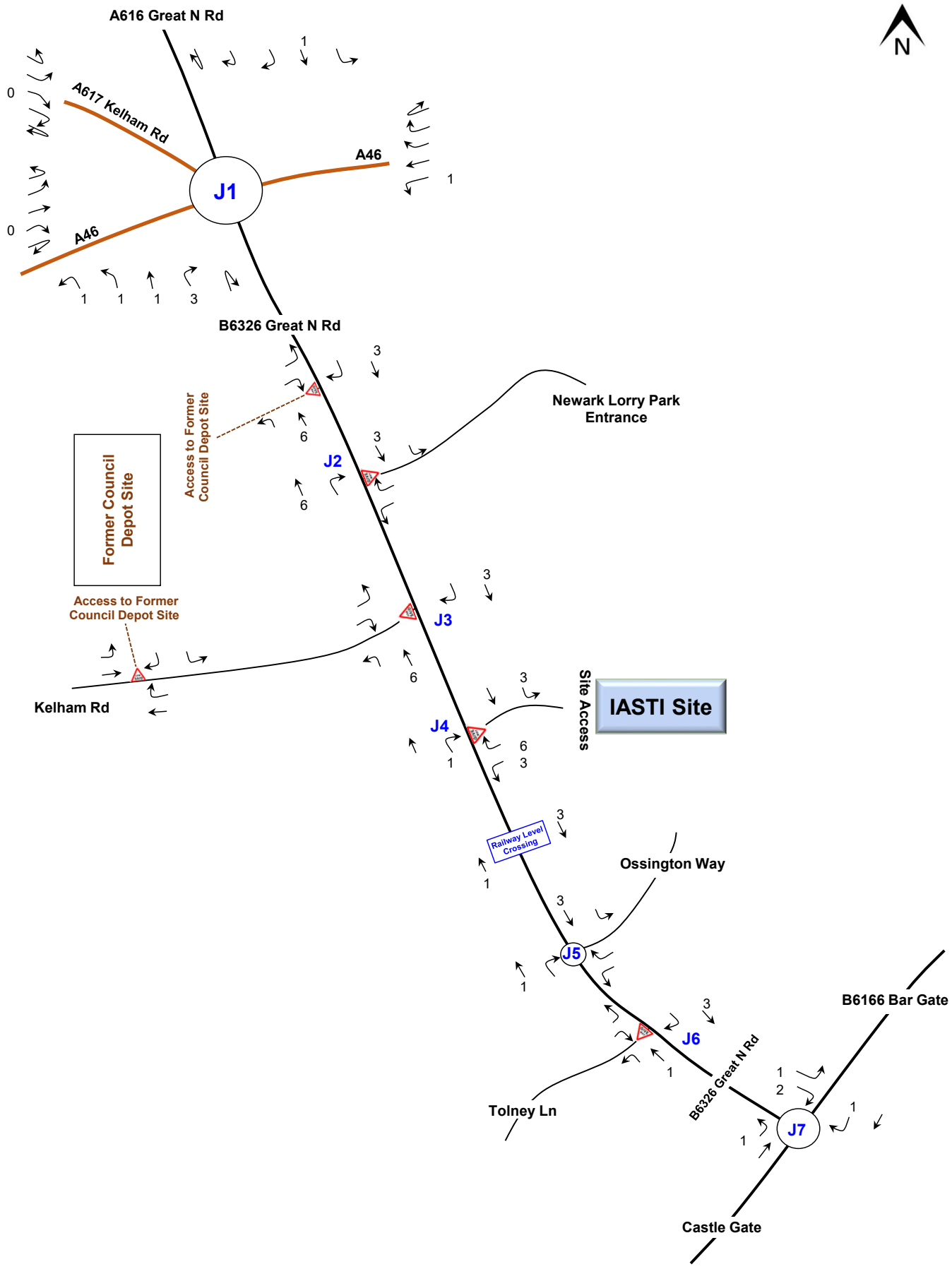

Fig. 11: PM Peak Trip Generation - Proposed IASTI Development - PCU

IASTI, Newark on Trent

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APPENDIX C: CALCULATIONS

TEMPro

TEMPro Growth Factors

2021-2023- AM

Level	Area	Local Growth Figure
E02005899	Newark and Sherwood 007	1.020061272

2021-2023- PM

Level	Area	Local Growth Figure
E02005899	Newark and Sherwood 007	1.01920779

2021-2034- AM

Level	Area	Local Growth Figure
E02005899	Newark and Sherwood 007	1.122249362

2021-2034- PM

Level	Area	Local Growth Figure
E02005899	Newark and Sherwood 007	1.118052123

Trip Generation

Tolney Lane Newark - Estimate of Potential Trip Generation

Traffic survey data extracted from TRICS for a 'Permananet Gypsy Site':

Pitches: 20
Survey Date: Thursday 5th January 1989
Site reference: HC-16-A-01
Survey type: Manual Count

Data Proportions in %

Motor cars	67%	Motor cycles	0%	Public service	0%
Light goods	27%	OGV (1)	6%	OGV (2)	0%

Taxis are included as cars in this survey

Total Vehicles:

Time	Arrivals		Departures		Two-Way	
	Trips	Trip Rate per Pitch	Departures	Trip Rate per Pitch	Two-Way	Trip Rate per Pitch
07:00-08:00	2	0.100	2	0.100	4	0.200
08:00-09:00	3	0.150	4	0.200	7	0.350
09:00-10:00	7	0.350	9	0.450	16	0.800
10:00-11:00	4	0.200	10	0.500	14	0.700
11:00-12:00	10	0.500	10	0.500	20	1.000
12:00-13:00	9	0.450	8	0.400	17	0.850
13:00-14:00	10	0.500	6	0.300	16	0.800
14:00-15:00	12	0.600	9	0.450	21	1.050
15:00-16:00	16	0.800	16	0.800	32	1.600
16:00-17:00	5	0.250	7	0.350	12	0.600
17:00-18:00	6	0.300	8	0.400	14	0.700
18:00-19:00	7	0.350	5	0.250	12	0.600
Daily Totals	91	4.550	94	4.700	185	9.250

OGV:

Time	Arrivals		Departures		Two-Way	
	Trips	Trip Rate per Pitch	Departures	Trip Rate per Pitch	Two-Way	Trip Rate per Pitch
07:00-08:00	0	0.000	0	0.000	0	0.000
08:00-09:00	0	0.000	0	0.000	0	0.000
09:00-10:00	0	0.000	1	0.050	1	0.050
10:00-11:00	0	0.000	1	0.050	1	0.050
11:00-12:00	1	0.050	1	0.050	2	0.100
12:00-13:00	1	0.050	0	0.000	1	0.050
13:00-14:00	1	0.050	0	0.000	1	0.050
14:00-15:00	1	0.050	1	0.050	2	0.100
15:00-16:00	1	0.050	1	0.050	2	0.100
16:00-17:00	0	0.000	0	0.000	0	0.000
17:00-18:00	0	0.000	0	0.000	0	0.000
18:00-19:00	0	0.000	0	0.000	0	0.000
Daily Totals	5	0.250	5	0.250	10	0.500

PCU:

Time	Arrivals		Departures		Two-Way	
	Trips	Trip Rate per Pitch	Departures	Trip Rate per Pitch	Two-Way	Trip Rate per Pitch
07:00-08:00	2	0.100	2	0.100	4	0.200
08:00-09:00	3	0.150	4	0.200	7	0.350
09:00-10:00	7	0.350	10	0.500	17	0.850
10:00-11:00	4	0.200	11	0.550	15	0.750
11:00-12:00	11	0.550	11	0.550	22	1.100
12:00-13:00	10	0.500	8	0.400	18	0.900
13:00-14:00	11	0.550	6	0.300	17	0.850
14:00-15:00	13	0.650	10	0.500	23	1.150
15:00-16:00	17	0.850	17	0.850	34	1.700
16:00-17:00	5	0.250	7	0.350	12	0.600
17:00-18:00	6	0.300	8	0.400	14	0.700
18:00-19:00	7	0.350	5	0.250	12	0.600
Daily Totals	96	4.800	99	4.950	195	9.750

Tolney Lane Newark - Estimate of Potential Trip Generation

Traffic survey data extracted from TRICS for a 'Permananet Gypsy Site':

Pitches: 12 (10 pitches + 2 permanent structures)
Survey Date: Thursday 4th February 2010
Site reference: SC-16-A-01
Survey type: Manual Count

Data Proportions in %

Motor cars	71%	Motor cycles	0%	Public service	0%
Light goods	25%	OGV (1)	4%	OGV (2)	0%

Taxis are included as cars in this survey

Total Vehicles:

Time	Arrivals		Departures		Two-Way	
	Trips	Trip Rate per Pitch	Departures	Trip Rate per Pitch	Two-Way	Trip Rate per Pitch
07:00-08:00	3	0.250	5	0.417	8	0.667
08:00-09:00	5	0.417	8	0.667	13	1.083
09:00-10:00	3	0.250	3	0.250	6	0.500
10:00-11:00	1	0.083	4	0.333	5	0.417
11:00-12:00	7	0.583	6	0.500	13	1.083
12:00-13:00	6	0.500	2	0.167	8	0.667
13:00-14:00	6	0.500	4	0.333	10	0.833
14:00-15:00	2	0.167	5	0.417	7	0.583
15:00-16:00	6	0.500	5	0.417	11	0.917
16:00-17:00	4	0.333	3	0.250	7	0.583
17:00-18:00	3	0.250	1	0.083	4	0.333
18:00-19:00	0	0.000	0	0.000	0	0.000
Daily Totals	46	3.833	46	3.833	92	7.667

OGV:

Time	Arrivals		Departures		Two-Way	
	Trips	Trip Rate per Pitch	Departures	Trip Rate per Pitch	Two-Way	Trip Rate per Pitch
07:00-08:00	0.1	0.010	0.2	0.017	0.3	0.027
08:00-09:00	0.2	0.017	0.3	0.027	0.5	0.043
09:00-10:00	0.1	0.010	0.1	0.010	0.2	0.020
10:00-11:00	0.0	0.003	0.2	0.013	0.2	0.017
11:00-12:00	0.3	0.023	0.2	0.020	0.5	0.043
12:00-13:00	0.2	0.020	0.1	0.007	0.3	0.027
13:00-14:00	0.2	0.020	0.2	0.013	0.4	0.033
14:00-15:00	0.1	0.007	0.2	0.017	0.3	0.023
15:00-16:00	0.2	0.020	0.2	0.017	0.4	0.037
16:00-17:00	0.2	0.013	0.1	0.010	0.3	0.023
17:00-18:00	0.1	0.010	0.0	0.003	0.2	0.013
18:00-19:00	0.0	0.000	0.0	0.000	0.0	0.000
Daily Totals	1.84	0.153	1.84	0.153	3.68	0.307

PCU:

Time	Arrivals		Departures		Two-Way	
	Trips	Trip Rate per Pitch	Departures	Trip Rate per Pitch	Two-Way	Trip Rate per Pitch
07:00-08:00	3	0.250	5	0.417	8	0.667
08:00-09:00	5	0.417	8	0.667	13	1.083
09:00-10:00	3	0.250	3	0.250	6	0.500
10:00-11:00	1	0.083	4	0.333	5	0.417
11:00-12:00	7	0.583	6	0.500	13	1.083
12:00-13:00	6	0.500	2	0.167	8	0.667
13:00-14:00	6	0.500	4	0.333	10	0.833
14:00-15:00	2	0.167	5	0.417	7	0.583
15:00-16:00	6	0.500	5	0.417	11	0.917
16:00-17:00	4	0.333	3	0.250	7	0.583
17:00-18:00	3	0.250	1	0.083	4	0.333
18:00-19:00	0	0.000	0	0.000	0	0.000
Daily Totals	46	3.833	46	3.833	92	7.667

Tolney Lane Newark - Estimate of Potential Trip Generation

Combined trip rate calculation using both surveys available within TRICS

Total Pitches: 32

Total Vehicles:

Time	Arrivals		Departures		Two-Way	
	Total Trips	Trip Rate per Pitch	Total Trips	Trip Rate per Pitch	Total Two-Way	Trip Rate per Pitch
07:00-08:00	5	0.156	7	0.219	12	0.375
08:00-09:00	8	0.250	12	0.375	20	0.625
09:00-10:00	10	0.313	12	0.375	22	0.688
10:00-11:00	5	0.156	14	0.438	19	0.594
11:00-12:00	17	0.531	16	0.500	33	1.031
12:00-13:00	15	0.469	10	0.313	25	0.781
13:00-14:00	16	0.500	10	0.313	26	0.813
14:00-15:00	14	0.438	14	0.438	28	0.875
15:00-16:00	22	0.688	21	0.656	43	1.344
16:00-17:00	9	0.281	10	0.313	19	0.594
17:00-18:00	9	0.281	9	0.281	18	0.563
18:00-19:00	7	0.219	5	0.156	12	0.375
Daily Totals	137	4.281	140	4.375	277	8.656

OGV:

Time	Arrivals		Departures		Two-Way	
	Total Trips	Trip Rate per Pitch	Total Trips	Trip Rate per Pitch	Total Two-Way	Trip Rate per Pitch
07:00-08:00	0	0.004	0	0.006	0	0.010
08:00-09:00	0	0.006	0	0.010	1	0.016
09:00-10:00	0	0.004	1	0.035	1	0.039
10:00-11:00	0	0.001	1	0.036	1	0.038
11:00-12:00	1	0.040	1	0.039	3	0.079
12:00-13:00	1	0.039	0	0.003	1	0.041
13:00-14:00	1	0.039	0	0.005	1	0.044
14:00-15:00	1	0.034	1	0.038	2	0.071
15:00-16:00	1	0.039	1	0.038	2	0.076
16:00-17:00	0	0.005	0	0.004	0	0.009
17:00-18:00	0	0.004	0	0.001	0	0.005
18:00-19:00	0	0.000	0	0.000	0	0.000
Daily Totals	7	0	7	0	14	0

PCU:

Time	Arrivals		Departures		Two-Way	
	Total Trips	Trip Rate per Pitch	Total Trips	Trip Rate per Pitch	Total Two-Way	Trip Rate per Pitch
07:00-08:00	5	0.156	7	0.219	12	0.375
08:00-09:00	8	0.250	12	0.375	20	0.625
09:00-10:00	10	0.313	13	0.406	23	0.719
10:00-11:00	5	0.156	15	0.469	20	0.625
11:00-12:00	18	0.563	17	0.531	35	1.094
12:00-13:00	16	0.500	10	0.313	26	0.813
13:00-14:00	17	0.531	10	0.313	27	0.844
14:00-15:00	15	0.469	15	0.469	30	0.938
15:00-16:00	23	0.719	22	0.688	45	1.406
16:00-17:00	9	0.281	10	0.313	19	0.594
17:00-18:00	9	0.281	9	0.281	18	0.563
18:00-19:00	7	0.219	5	0.156	12	0.375
Daily Totals	142	4.438	145	4.531	287	8.969

Tolney Lane Newark - Estimate of Potential Trip Generation

Trip Generation Estimate

Number of pitches: 70

PCU:

Time	Average of Both Sites		
	Arrivals	Departures	Two-Way
07:00-08:00	11	15	26
08:00-09:00	18	26	44
09:00-10:00	22	28	50
10:00-11:00	11	33	44
11:00-12:00	39	37	77
12:00-13:00	35	22	57
13:00-14:00	37	22	59
14:00-15:00	33	33	66
15:00-16:00	50	48	98
16:00-17:00	20	22	42
17:00-18:00	20	20	39
18:00-19:00	15	11	26
Daily Totals	311	317	628

Tolney Lane Newark - Estimate of Potential Trip Generation

Trip Generation Estimate (Sensitivity Test)

Number of pitches: 90

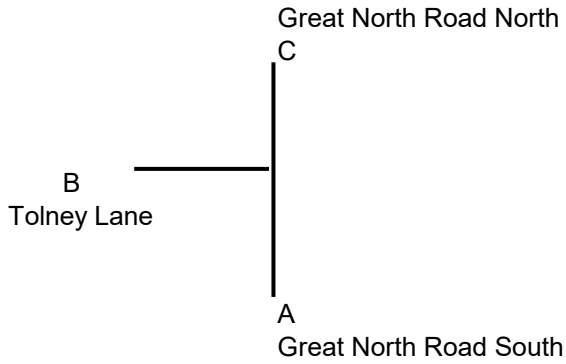
PCU:

Time	Average of Both Sites		
	Arrivals	Departures	Two-Way
07:00-08:00	14	20	34
08:00-09:00	23	34	56
09:00-10:00	28	37	65
10:00-11:00	14	42	56
11:00-12:00	51	48	98
12:00-13:00	45	28	73
13:00-14:00	48	28	76
14:00-15:00	42	42	84
15:00-16:00	65	62	127
16:00-17:00	25	28	53
17:00-18:00	25	25	51
18:00-19:00	20	14	34
Daily Totals	399	408	807

Design Flows

Great North Road / Tolney Lane - Traffic Survey Summary

Date of survey: 14 July 2021



AM Peak: 08:30 - 09:30

AM	A	B	C
A	0	37	458
B	73	0	22
C	582	21	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	65	568
B	60	0	34
C	600	16	0

Note: all flows in PCU

NCC Supplied Covid Monitoring Data for Newark

Percentage Change in Average Weekday Traffic Flows Since March 2020 (Pre-Covid)

Month	AM	PM
Mar-20	100%	100%
Apr-20	No Data	No Data
May-20	39%	46%
Jun-20	54%	60%
Jul-20	63%	71%
Aug-20	62%	76%
Sep-20	81%	83%
Oct-20	74%	79%
Nov-20	81%	71%
Dec-20	70%	67%
Jan-21	58%	57%
Feb-21	57%	60%
Mar-21	72%	67%
Apr-21	77%	84%
May-21	86%	89%
Jun-21	86%	90%
Jul-21	79%	85%
Aug-21	68%	87%
Sep-21	86%	92%

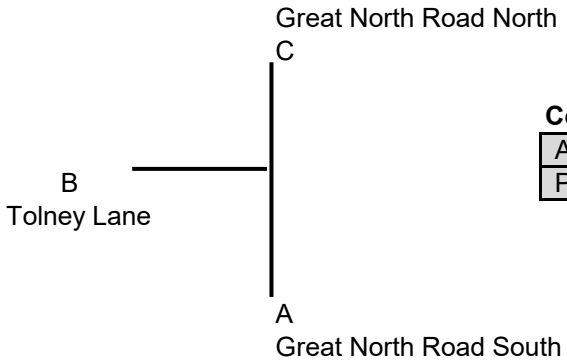
Survey undertaken on 14th July 2021

Covid Factors for July 2021:

AM Peak	1.2051
PM Peak	1.1533

Great North Road / Tolney Lane - Covid Adjusted Flows

Date of survey: 14 July 2021



Covid Factors:

AM Peak	1.2051
PM Peak	1.1533

AM Peak: 08:30 - 09:30

AM	A	B	C
A	0	45	552
B	88	0	27
C	701	25	0

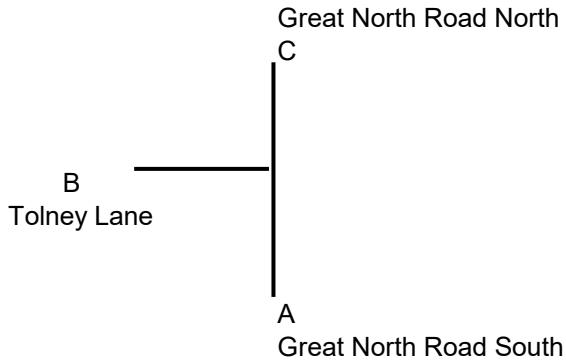
PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	75	655
B	69	0	39
C	692	18	0

Note: all flows in PCU

Great North Road / Tolney Lane - ASI Development - Committed Development Flows

Design flows for the consented ASI development taken from approved Transport Assessment report



AM Peak: 08:30 - 09:30

AM	A	B	C
A	0	0	6
B	0	0	0
C	1	0	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	0	1
B	0	0	0
C	3	0	0

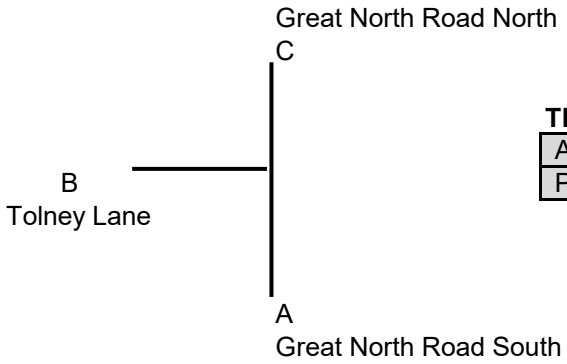
Note: all flows in PCU

Great North Road / Tolney Lane - TEMPro Factors

TEMPRO Adjusted NTEM Factors		
Time Period	AM	PM
2021 - 2023	1.020061	1.019208
2021 - 2034	1.122249	1.118052

Level	Area
E02005899	Newark and Sherwood 007

Great North Road / Tolney Lane - 2023 Base + Committed



TEMPro Factors 2021 - 2023:

AM Peak	1.0201
PM Peak	1.0192

AM Peak: 08:30 - 09:30

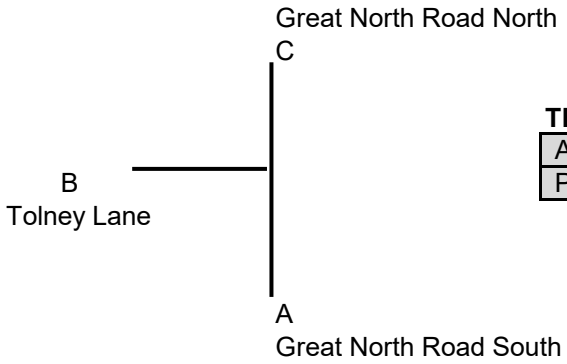
AM	A	B	C
A	0	45	569
B	90	0	27
C	716	26	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	76	669
B	71	0	40
C	708	19	0

Note: all flows in PCU

Great North Road / Tolney Lane - 2034 Base + Committed



TEMPro Factors 2021 - 2034:

AM Peak	1.1222
PM Peak	1.1181

AM Peak: 08:30 - 09:30

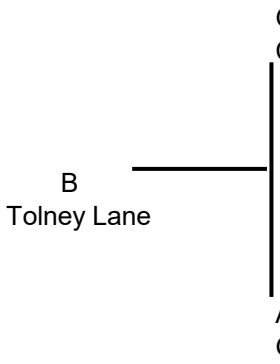
AM	A	B	C
A	0	50	625
B	99	0	30
C	788	28	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	84	733
B	77	0	44
C	777	21	0

Note: all flows in PCU

Great North Road / Tolney Lane - Observed Turning Proportions



Trips to/from Tolney Lane:

	Inbound	Outbound
AM Peak	58	95
PM Peak	81	94

AM Peak: 08:30 - 09:30

PM Peak: 16:30 - 17:30

2021 Base Survey:

AM	A	B	C
A	0	37	458
B	73	0	22
C	582	21	0

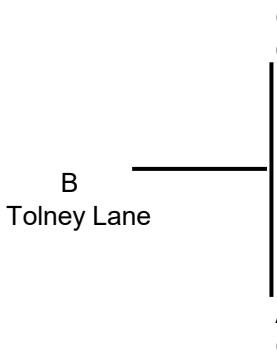
PM	A	B	C
A	0	65	568
B	60	0	34
C	600	16	0

Trip Distribution:

AM	A	B	C
A	0%	64%	0%
B	77%	0%	23%
C	0%	36%	0%

PM	A	B	C
A	0%	80%	0%
B	64%	0%	36%
C	0%	20%	0%

Great North Road / Tolney Lane - Trip Assignment



Trips to/from Tolney Lane:

	Inbound	Outbound
AM Peak	18	26
PM Peak	20	20

AM Peak: 08:30 - 09:30

PM Peak: 16:30 - 17:30

Turning Proportions:

AM	A	B	C
A	0%	64%	0%
B	77%	0%	23%
C	0%	36%	0%

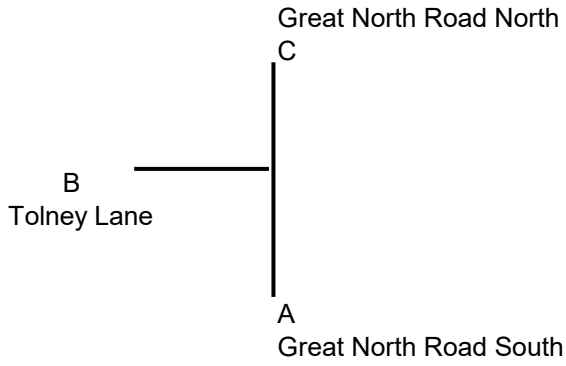
PM	A	B	C
A	0%	80%	0%
B	64%	0%	36%
C	0%	20%	0%

Trip Assignment:

AM	A	B	C
A	0	11	0
B	20	0	6
C	0	7	0

PM	A	B	C
A	0	16	0
B	13	0	7
C	0	4	0

Great North Road / Tolney Lane - 2023 Base + Committed + Additional Pitches



AM Peak: 08:30 - 09:30

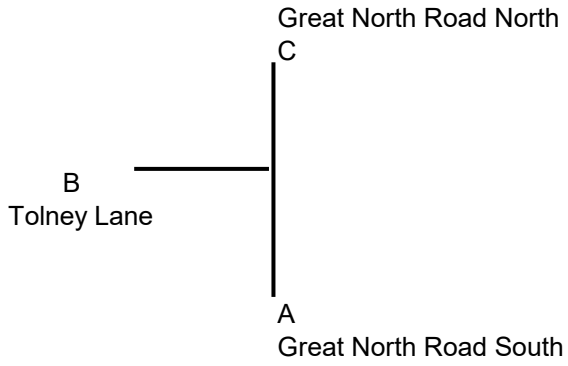
AM	A	B	C
A	0	57	569
B	110	0	33
C	716	32	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	92	669
B	83	0	47
C	708	23	0

Note: all flows in PCU

Great North Road / Tolney Lane - 2034 Base + Committed + Additional Pitches



AM Peak: 08:30 - 09:30

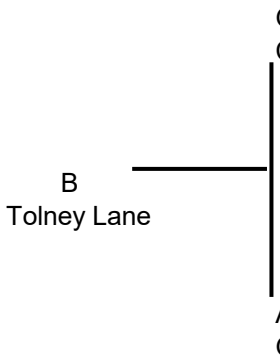
AM	A	B	C
A	0	62	625
B	119	0	36
C	788	35	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	100	733
B	90	0	51
C	777	25	0

Note: all flows in PCU

Great North Road / Tolney Lane - Trip Assignment - Sensitivity Test



Trips to/from Tolney Lane:

	Inbound	Outbound
AM Peak	23	34
PM Peak	25	25

AM Peak: 08:30 - 09:30

PM Peak: 16:30 - 17:30

Turning Proportions:

AM	A	B	C
A	0%	64%	0%
B	77%	0%	23%
C	0%	36%	0%

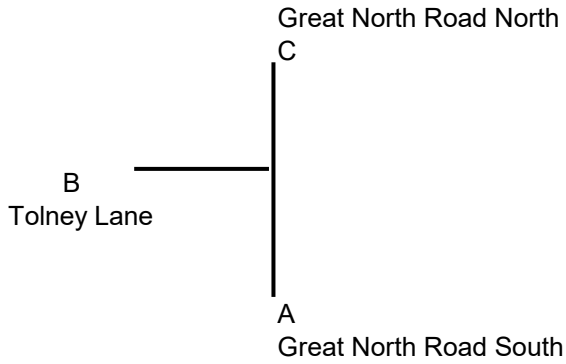
PM	A	B	C
A	0%	80%	0%
B	64%	0%	36%
C	0%	20%	0%

Trip Assignment:

AM	A	B	C
A	0	15	0
B	26	0	8
C	0	8	0

PM	A	B	C
A	0	20	0
B	16	0	9
C	0	5	0

Great North Road / Tolney Lane - 2023 Base + Committed + Additional Pitches (Sensitivity Test)



AM Peak: 08:30 - 09:30

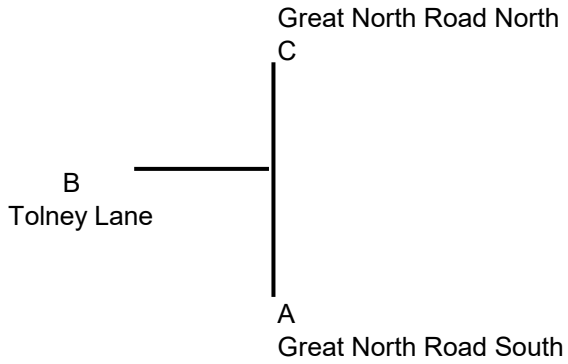
AM	A	B	C
A	0	60	569
B	116	0	35
C	716	34	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	96	669
B	86	0	49
C	708	24	0

Note: all flows in PCU

Great North Road / Tolney Lane - 2034 Base + Committed + Additional Pitches (Sensitivity Test)



AM Peak: 08:30 - 09:30

AM	A	B	C
A	0	65	625
B	125	0	38
C	788	37	0

PM Peak: 16:30 - 17:30

PM	A	B	C
A	0	104	733
B	93	0	53
C	777	26	0

Note: all flows in PCU

Capacity Assessment

Not to Scale

Great North Road

Tolney Lane

3.26m
3.75m
3.75m
3.09m
2.80m
29m
2.24m
1.69m
10.3m
5.0m
3.6m
3.5m
3.3m
32m
3.75m
3.75m
148m

Great North Road

PICADY Geometry Calculations

Minor Arm (Tolney Lane):

Lane Width

Setback	Width	Corrected
0m	10.3	5.0
5m	5.0	5.0
10m	3.6	3.6
15m	3.5	3.5
20m	3.3	3.3
Average		4.1

Visibility Left	29m
Visibility Right	32m
Number of lanes	1

Major Arm (Great North Road):

Carriageway Width:

	Lane 1	Lane 2	Total
North	3.75	3.75	7.5
South	3.75	3.75	7.5
Total			15.0
Total / 2			7.5

Right Turn Width:

Offset	Width
0m	1.69
5m	2.24
10m	2.80
15m	3.09
20m	3.26
Average	2.62

Visibility along A for C-B 148m

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

Filename: GreatNorthRoad_TolneyLane.j9
Path: Z:\Projects\784-B046779 GNR Tolney Lane Newark\60 Project Output\61 Work in Progress\61.4 Calculations\Junctions9
Report generation date: 26/06/2023 12:53:42

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2023 Base + Committed									
Stream B-AC	D1	0.7	19.95	0.42	C	D2	0.7	19.71	0.40	C
Stream C-AB		0.1	7.31	0.05	A		0.0	7.76	0.04	A
	2023 Base + Committed + Devel									
Stream B-AC	D3	1.0	24.25	0.52	C	D4	0.9	22.67	0.47	C
Stream C-AB		0.1	7.46	0.07	A		0.1	7.91	0.05	A
	2034 Base + Committed									
Stream B-AC	D5	1.0	25.94	0.51	D	D6	0.9	25.59	0.49	D
Stream C-AB		0.1	7.60	0.06	A		0.1	8.14	0.05	A
	2034 Base + Committed + Devel									
Stream B-AC	D7	1.5	33.77	0.62	D	D8	1.3	31.25	0.58	D
Stream C-AB		0.1	7.78	0.08	A		0.1	8.31	0.06	A
	2023 Base + Committed + Devel (Sens Test)									
Stream B-AC	D9	1.2	25.93	0.55	D	D10	1.0	23.56	0.49	C
Stream C-AB		0.1	7.50	0.07	A		0.1	7.94	0.06	A
	2034 Base + Committed + Devel (Sens Test)									
Stream B-AC	D11	1.8	37.07	0.65	E	D12	1.4	32.96	0.60	D
Stream C-AB		0.1	7.83	0.08	A		0.1	8.35	0.06	A

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	10/06/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	TT\alistair.gregory
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

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023 Base + Committed	AM	ONE HOUR	08:15	09:45	15
D2	2023 Base + Committed	PM	ONE HOUR	16:15	17:45	15
D3	2023 Base + Committed + Devel	AM	ONE HOUR	08:15	09:45	15
D4	2023 Base + Committed + Devel	PM	ONE HOUR	16:15	17:45	15
D5	2034 Base + Committed	AM	ONE HOUR	08:15	09:45	15
D6	2034 Base + Committed	PM	ONE HOUR	16:15	17:45	15
D7	2034 Base + Committed + Devel	AM	ONE HOUR	08:15	09:45	15
D8	2034 Base + Committed + Devel	PM	ONE HOUR	16:15	17:45	15
D9	2023 Base + Committed + Devel (Sens Test)	AM	ONE HOUR	08:15	09:45	15
D10	2023 Base + Committed + Devel (Sens Test)	PM	ONE HOUR	16:15	17:45	15
D11	2034 Base + Committed + Devel (Sens Test)	AM	ONE HOUR	08:15	09:45	15
D12	2034 Base + Committed + Devel (Sens Test)	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		1.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Great North Road South		Major
B	Tolney Lane		Minor
C	Great North Road North		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	7.50		✓	2.62	148.0	✓	3.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	4.08	29	32

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	557	0.095	0.240	0.151	0.342
B-C	714	0.102	0.258	-	-
C-B	690	0.250	0.250	-	-

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)
D1	2023 Base + Committed	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	614	100.000
B		✓	117	100.000
C		✓	742	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	45	569
	B	90	0	27
	C	716	26	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
B-AC	0.42	19.95	0.7	C
C-AB	0.05	7.31	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	88	400	0.220	87	0.3	11.479	B
C-AB	20	574	0.034	19	0.0	6.485	A
C-A	539			539			
A-B	34			34			
A-C	428			428			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	105	362	0.291	105	0.4	13.962	B
C-AB	23	552	0.042	23	0.0	6.809	A
C-A	644			644			
A-B	40			40			
A-C	512			512			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	129	309	0.417	128	0.7	19.716	C
C-AB	29	521	0.055	29	0.1	7.309	A
C-A	788			788			
A-B	50			50			
A-C	626			626			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	129	309	0.417	129	0.7	19.952	C
C-AB	29	521	0.055	29	0.1	7.309	A
C-A	788			788			
A-B	50			50			
A-C	626			626			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	105	362	0.291	106	0.4	14.148	B
C-AB	23	552	0.042	23	0.0	6.811	A
C-A	644			644			
A-B	40			40			
A-C	512			512			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	88	399	0.221	89	0.3	11.602	B
C-AB	20	574	0.034	20	0.0	6.491	A
C-A	539			539			
A-B	34			34			
A-C	428			428			

2023 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		1.47	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2023 Base + Committed	PM	ONE HOUR	16:15	17:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	745	100.000
B		✓	111	100.000
C		✓	727	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	76	669
	B	71	0	40
	C	708	19	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
B-AC	0.40	19.71	0.7	C
C-AB	0.04	7.76	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	84	404	0.207	83	0.3	11.159	B
C-AB	14	550	0.026	14	0.0	6.720	A
C-A	533			533			
A-B	57			57			
A-C	504			504			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	100	363	0.275	99	0.4	13.622	B
C-AB	17	523	0.033	17	0.0	7.121	A
C-A	636			636			
A-B	68			68			
A-C	601			601			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	122	305	0.401	121	0.6	19.485	C
C-AB	21	485	0.043	21	0.0	7.756	A
C-A	780			780			
A-B	84			84			
A-C	737			737			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	122	305	0.401	122	0.7	19.706	C
C-AB	21	485	0.043	21	0.0	7.757	A
C-A	780			780			
A-B	84			84			
A-C	737			737			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	100	363	0.275	101	0.4	13.786	B
C-AB	17	523	0.033	17	0.0	7.125	A
C-A	636			636			
A-B	68			68			
A-C	601			601			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	84	404	0.207	84	0.3	11.265	B
C-AB	14	550	0.026	14	0.0	6.723	A
C-A	533			533			
A-B	57			57			
A-C	504			504			

2023 Base + Committed + Devel, AM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		2.44	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)
D3	2023 Base + Committed + Devel	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	626	100.000
B		✓	143	100.000
C		✓	748	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	57	569
	B	110	0	33
	C	716	32	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
B-AC	0.52	24.25	1.0	C
C-AB	0.07	7.46	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	108	397	0.271	106	0.4	12.312	B
C-AB	24	572	0.042	24	0.0	6.565	A
C-A	539			539			
A-B	43			43			
A-C	428			428			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	129	359	0.358	128	0.5	15.518	C
C-AB	29	549	0.052	29	0.1	6.914	A
C-A	644			644			
A-B	51			51			
A-C	512			512			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	157	306	0.515	156	1.0	23.713	C
C-AB	35	518	0.068	35	0.1	7.458	A
C-A	788			788			
A-B	63			63			
A-C	626			626			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	157	305	0.515	157	1.0	24.254	C
C-AB	35	518	0.068	35	0.1	7.458	A
C-A	788			788			
A-B	63			63			
A-C	626			626			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	129	359	0.358	130	0.6	15.868	C
C-AB	29	549	0.052	29	0.1	6.919	A
C-A	644			644			
A-B	51			51			
A-C	512			512			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	108	397	0.271	108	0.4	12.503	B
C-AB	24	572	0.042	24	0.0	6.571	A
C-A	539			539			
A-B	43			43			
A-C	428			428			

2023 Base + Committed + Devel, PM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney 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)
D4	2023 Base + Committed + Devel	PM	ONE HOUR	16:15	17:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	761	100.000
B		✓	130	100.000
C		✓	731	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	92	669
	B	83	0	47
	C	708	23	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
B-AC	0.47	22.67	0.9	C
C-AB	0.05	7.91	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	98	402	0.243	97	0.3	11.732	B
C-AB	17	547	0.032	17	0.0	6.796	A
C-A	533			533			
A-B	69			69			
A-C	504			504			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	117	361	0.324	116	0.5	14.684	B
C-AB	21	519	0.040	21	0.0	7.224	A
C-A	636			636			
A-B	83			83			
A-C	601			601			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	143	302	0.474	142	0.9	22.263	C
C-AB	25	481	0.053	25	0.1	7.905	A
C-A	780			780			
A-B	101			101			
A-C	737			737			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	143	302	0.475	143	0.9	22.672	C
C-AB	25	481	0.053	25	0.1	7.906	A
C-A	780			780			
A-B	101			101			
A-C	737			737			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	117	361	0.324	118	0.5	14.951	B
C-AB	21	519	0.040	21	0.0	7.225	A
C-A	636			636			
A-B	83			83			
A-C	601			601			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	98	402	0.243	99	0.3	11.880	B
C-AB	17	547	0.032	17	0.0	6.803	A
C-A	533			533			
A-B	69			69			
A-C	504			504			

2034 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		2.20	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2034 Base + Committed	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	675	100.000
B		✓	129	100.000
C		✓	816	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	50	625
	B	99	0	30
	C	788	28	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
B-AC	0.51	25.94	1.0	D
C-AB	0.06	7.60	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	97	381	0.255	96	0.3	12.573	B
C-AB	21	563	0.037	21	0.0	6.640	A
C-A	593			593			
A-B	38			38			
A-C	471			471			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	116	339	0.342	115	0.5	16.030	C
C-AB	25	538	0.047	25	0.0	7.015	A
C-A	708			708			
A-B	45			45			
A-C	562			562			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	142	280	0.506	140	1.0	25.327	D
C-AB	31	504	0.061	31	0.1	7.601	A
C-A	868			868			
A-B	55			55			
A-C	688			688			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	142	280	0.506	142	1.0	25.940	D
C-AB	31	504	0.061	31	0.1	7.601	A
C-A	868			868			
A-B	55			55			
A-C	688			688			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	116	339	0.342	118	0.5	16.400	C
C-AB	25	538	0.047	25	0.0	7.019	A
C-A	708			708			
A-B	45			45			
A-C	562			562			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	97	381	0.255	98	0.3	12.759	B
C-AB	21	563	0.037	21	0.0	6.644	A
C-A	593			593			
A-B	38			38			
A-C	471			471			

2034 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney 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)
D6	2034 Base + Committed	PM	ONE HOUR	16:15	17:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	817	100.000
B		✓	121	100.000
C		✓	798	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	84	733
	B	77	0	44
	C	777	21	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
B-AC	0.49	25.59	0.9	D
C-AB	0.05	8.14	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	91	384	0.237	90	0.3	12.173	B
C-AB	16	536	0.029	16	0.0	6.914	A
C-A	585			585			
A-B	63			63			
A-C	552			552			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	109	339	0.321	108	0.5	15.558	C
C-AB	19	506	0.037	19	0.0	7.383	A
C-A	699			699			
A-B	76			76			
A-C	659			659			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	133	274	0.487	131	0.9	25.017	D
C-AB	23	465	0.050	23	0.1	8.141	A
C-A	855			855			
A-B	92			92			
A-C	807			807			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	133	274	0.487	133	0.9	25.586	D
C-AB	23	465	0.050	23	0.1	8.143	A
C-A	855			855			
A-B	92			92			
A-C	807			807			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	109	339	0.321	111	0.5	15.883	C
C-AB	19	506	0.037	19	0.0	7.388	A
C-A	699			699			
A-B	76			76			
A-C	659			659			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	91	384	0.237	92	0.3	12.332	B
C-AB	16	536	0.029	16	0.0	6.921	A
C-A	585			585			
A-B	63			63			
A-C	552			552			

2034 Base + Committed + Devel, AM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		3.31	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)
D7	2034 Base + Committed + Devel	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	687	100.000
B		✓	155	100.000
C		✓	823	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	62	625
	B	119	0	36
	C	788	35	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
B-AC	0.62	33.77	1.5	D
C-AB	0.08	7.78	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	117	378	0.309	115	0.4	13.591	B
C-AB	26	561	0.047	26	0.0	6.734	A
C-A	593			593			
A-B	47			47			
A-C	471			471			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	139	336	0.415	138	0.7	18.126	C
C-AB	31	536	0.059	31	0.1	7.139	A
C-A	708			708			
A-B	56			56			
A-C	562			562			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	171	276	0.617	167	1.5	32.155	D
C-AB	39	501	0.077	38	0.1	7.778	A
C-A	868			868			
A-B	68			68			
A-C	688			688			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	171	276	0.618	170	1.5	33.774	D
C-AB	39	501	0.077	39	0.1	7.780	A
C-A	868			868			
A-B	68			68			
A-C	688			688			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	139	336	0.415	143	0.7	18.916	C
C-AB	31	536	0.059	32	0.1	7.144	A
C-A	708			708			
A-B	56			56			
A-C	562			562			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	117	378	0.309	118	0.5	13.889	B
C-AB	26	561	0.047	26	0.0	6.740	A
C-A	593			593			
A-B	47			47			
A-C	471			471			

2034 Base + Committed + Devel, PM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		2.60	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)
D8	2034 Base + Committed + Devel	PM	ONE HOUR	16:15	17:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	833	100.000
B		✓	141	100.000
C		✓	802	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	100	733
	B	90	0	51
	C	777	25	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
B-AC	0.58	31.25	1.3	D
C-AB	0.06	8.31	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	106	382	0.278	105	0.4	12.915	B
C-AB	19	533	0.035	19	0.0	6.995	A
C-A	585			585			
A-B	75			75			
A-C	552			552			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	127	336	0.377	126	0.6	17.075	C
C-AB	22	503	0.045	22	0.0	7.493	A
C-A	699			699			
A-B	90			90			
A-C	659			659			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	155	270	0.575	153	1.3	30.031	D
C-AB	28	461	0.060	27	0.1	8.305	A
C-A	855			855			
A-B	110			110			
A-C	807			807			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	155	270	0.575	155	1.3	31.246	D
C-AB	28	461	0.060	28	0.1	8.307	A
C-A	855			855			
A-B	110			110			
A-C	807			807			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	127	336	0.377	129	0.6	17.663	C
C-AB	22	503	0.045	23	0.0	7.498	A
C-A	699			699			
A-B	90			90			
A-C	659			659			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	106	382	0.278	107	0.4	13.143	B
C-AB	19	533	0.035	19	0.0	7.002	A
C-A	585			585			
A-B	75			75			
A-C	552			552			

2023 Base + Committed + Devel (Sens Test), AM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		2.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2023 Base + Committed + Devel (Sens Test)	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	629	100.000
B		✓	151	100.000
C		✓	750	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	60	569
	B	116	0	35
	C	716	34	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
B-AC	0.55	25.93	1.2	D
C-AB	0.07	7.50	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	114	397	0.287	112	0.4	12.584	B
C-AB	26	572	0.045	25	0.0	6.590	A
C-A	539			539			
A-B	45			45			
A-C	428			428			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	136	358	0.379	135	0.6	16.051	C
C-AB	31	549	0.056	31	0.1	6.947	A
C-A	644			644			
A-B	54			54			
A-C	512			512			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	166	305	0.546	164	1.1	25.231	D
C-AB	37	517	0.072	37	0.1	7.504	A
C-A	788			788			
A-B	66			66			
A-C	626			626			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	166	305	0.546	166	1.2	25.934	D
C-AB	37	517	0.072	37	0.1	7.504	A
C-A	788			788			
A-B	66			66			
A-C	626			626			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	136	358	0.379	138	0.6	16.484	C
C-AB	31	549	0.056	31	0.1	6.949	A
C-A	644			644			
A-B	54			54			
A-C	512			512			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	114	397	0.287	115	0.4	12.805	B
C-AB	26	572	0.045	26	0.0	6.594	A
C-A	539			539			
A-B	45			45			
A-C	428			428			

2023 Base + Committed + Devel (Sens Test), PM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		2.07	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)
D10	2023 Base + Committed + Devel (Sens Test)	PM	ONE HOUR	16:15	17:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	765	100.000
B		✓	135	100.000
C		✓	732	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	96	669
	B	86	0	49
	C	708	24	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
B-AC	0.49	23.56	1.0	C
C-AB	0.06	7.94	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	102	402	0.253	100	0.3	11.883	B
C-AB	18	546	0.033	18	0.0	6.816	A
C-A	533			533			
A-B	72			72			
A-C	504			504			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	121	360	0.337	121	0.5	14.979	B
C-AB	22	518	0.042	22	0.0	7.250	A
C-A	636			636			
A-B	86			86			
A-C	601			601			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	149	301	0.494	147	0.9	23.086	C
C-AB	26	480	0.055	26	0.1	7.943	A
C-A	780			780			
A-B	106			106			
A-C	737			737			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	149	301	0.494	149	1.0	23.562	C
C-AB	26	480	0.055	26	0.1	7.945	A
C-A	780			780			
A-B	106			106			
A-C	737			737			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	121	360	0.337	123	0.5	15.282	C
C-AB	22	518	0.042	22	0.0	7.251	A
C-A	636			636			
A-B	86			86			
A-C	601			601			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	102	402	0.253	102	0.3	12.046	B
C-AB	18	546	0.033	18	0.0	6.819	A
C-A	533			533			
A-B	72			72			
A-C	504			504			

2034 Base + Committed + Devel (Sens Test), AM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		3.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2034 Base + Committed + Devel (Sens Test)	AM	ONE HOUR	08:15	09:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	690	100.000
B		✓	163	100.000
C		✓	825	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	65	625
	B	125	0	38
	C	788	37	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
B-AC	0.65	37.07	1.8	E
C-AB	0.08	7.83	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	123	378	0.325	121	0.5	13.925	B
C-AB	28	560	0.050	28	0.1	6.761	A
C-A	593			593			
A-B	49			49			
A-C	471			471			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	147	335	0.437	145	0.8	18.852	C
C-AB	33	535	0.062	33	0.1	7.173	A
C-A	708			708			
A-B	58			58			
A-C	562			562			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	179	275	0.652	176	1.7	34.851	D
C-AB	41	500	0.081	41	0.1	7.826	A
C-A	868			868			
A-B	72			72			
A-C	688			688			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	179	275	0.652	179	1.8	37.071	E
C-AB	41	500	0.081	41	0.1	7.830	A
C-A	868			868			
A-B	72			72			
A-C	688			688			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	147	335	0.437	150	0.8	19.862	C
C-AB	33	535	0.062	33	0.1	7.176	A
C-A	708			708			
A-B	58			58			
A-C	562			562			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	123	377	0.325	124	0.5	14.267	B
C-AB	28	560	0.050	28	0.1	6.766	A
C-A	593			593			
A-B	49			49			
A-C	471			471			

2034 Base + Committed + Devel (Sens Test), PM

Data Errors and Warnings

Severity	Area	Item	Description
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	Great North Road - Tolney Lane	T-Junction	Two-way		2.82	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2034 Base + Committed + Devel (Sens Test)	PM	ONE HOUR	16:15	17:45	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	837	100.000
B		✓	146	100.000
C		✓	803	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	104	733
	B	93	0	53
	C	777	26	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
B-AC	0.60	32.96	1.4	D
C-AB	0.06	8.35	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	110	382	0.288	108	0.4	13.100	B
C-AB	20	532	0.037	19	0.0	7.015	A
C-A	585			585			
A-B	78			78			
A-C	552			552			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	131	335	0.391	130	0.6	17.467	C
C-AB	23	502	0.047	23	0.0	7.522	A
C-A	699			699			
A-B	93			93			
A-C	659			659			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	161	269	0.597	158	1.4	31.490	D
C-AB	29	460	0.062	29	0.1	8.347	A
C-A	855			855			
A-B	115			115			
A-C	807			807			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	161	269	0.597	161	1.4	32.958	D
C-AB	29	460	0.062	29	0.1	8.349	A
C-A	855			855			
A-B	115			115			
A-C	807			807			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	131	335	0.391	134	0.7	18.149	C
C-AB	23	502	0.047	23	0.0	7.524	A
C-A	699			699			
A-B	93			93			
A-C	659			659			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	110	382	0.288	111	0.4	13.350	B
C-AB	20	532	0.037	20	0.0	7.022	A
C-A	585			585			
A-B	78			78			
A-C	552			552			