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Prepared on behalf of

HACE (UK) Ltd



Proposed Residential Development
Land at Garden House Close, Cross Street and Back Lane,
Monk Bretton, Barnsley

Transport Assessment Addendum

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IHE

Acknowledgements:

Fully classified turning counts were undertaken by Streetwise Services Ltd on the 5th September 2019.

Growth factors have been obtained from TEMPro.

The TRICS database has been used in this report to calculate traffic generations.

Junction capacity assessments have been undertaken using Junctions 9 software.

Disclaimer

The methodology adopted and the sources of information used by Sanderson Associates (Consulting Engineers) Ltd in providing its services are outlined within this Report.

Any information provided by third parties and referred to herein has not been checked or verified by Sanderson Associates (Consulting Engineers) Ltd, unless otherwise expressly stated within this report.

This report was checked and approved on the 20 September and the Report is therefore valid on this date, circumstances, regulations and professional standards do change which could subsequently affect the validity of this Report.

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Report Ref:	11097/003/01		September 2019
Author:	Carly Hoyle		
Checked & Approved:	Karen Smith MIHE	**Date:**	20 September 2019

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APPENDIX B

Junctions 9 Results – Well Lane/High Street

APPENDIX C

Junctions 9 Results – High Street/Cross Street

APPENDIX D

Junctions 9 Results – Cross Street/Burton Road/Norman Close

APPENDIX E

Junctions 9 Results – Fish Dam Lane Roundabout

1 Introduction

1.1 Sanderson Associates (Consulting Engineers) Ltd has been appointed by HACE (UK) Ltd to advise on traffic and transport related issues surrounding a proposed residential development on land at Garden House Close, Cross Street and Back Lane, Monk Bretton, Barnsley. This Transport Assessment Addendum has been prepared to assess the traffic impact of the development following the receipt of traffic count data and should be read in conjunction with Transport Assessment referenced 11097/001/01 and dated 7th August 2019.

2 Traffic Impact Assessment

2.1 Base Traffic Flows

2.1.1 In order to obtain base traffic flows, fully classified traffic counts were undertaken by Streetwise Services Ltd on the 5th September 2019 at a number of junctions on the local highway network. The junctions surveyed are summarised below and these were agreed with the Highways Development Control Team at Barnsley Council:-

1. Well Lane/High Street- priority junction
2. High Street/Cross Street - priority junction
3. Cross Street/Burton Road/Norman Close - staggered crossroads junction
4. Fish Dam Lane - five-arm roundabout junction

2.1.2 The traffic count data has been analysed and the overall network AM peak has been identified as 07:45-08:45. The PM peak has been identified as 15:30-16:30 however this has been used as a school-time sensitivity test and the typical network PM peak of 17:00-18:00 has also been assessed. The 2019 base traffic flows are shown on **Figure 1** at **Appendix A**.

2.2 Traffic Growth

2.2.1 To establish the likely growth in traffic flow the computer program TEMPRO 7 with Data Set 7.2 has been utilised in conjunction with Data Set AF15 of the National Transport Model.

2.2.2 For the purpose of this assessment it is considered that an appropriate year to consider is 2024, five years post planning permission, as the development will be built and occupied over a number of years. The growth factors from 2019 to 2024 are as follows:-

	2019 - 2024
AM	1.0842
PM	1.0816

Table 2.2.2 – TEMPro Growth Factors

2.2.3 The growth factors have been applied to the 2019 surveyed traffic flows and the resulting 2024 base traffic flows are shown on **Figure 2** at **Appendix A**. For robustness, the larger AM growth factor has been applied to the school-time peak hour flows.

2.3 Committed Development

2.3.1 It is considered that there is no approved development of significance in the area that needs to be taken into account in this assessment.

2.4 Proposed Development

2.4.1 The vehicle trips associated with the proposed development have been predicted using the TRICS data detailed in section 6 of the Transport Assessment (ref:11097/001/01).

2.4.2 The table below provides details of the vehicular two-way trip rates along with the corresponding generated trips for a development of circa 80 dwellings. The data has been split between weekday AM, school-time and PM peaks.

	Arrivals	Departures	Arrivals	Departures	Total
AM - 08:00-09:00	0.130	0.374	10	30	40
School-time - 15:30-16:30	0.264	0.168	21	14	35
PM - 17:00-18:00	0.345	0.156	28	12	40

Table 2.4.2 – Vehicular trip generations (80 dwellings)

2.4.3 This equates to approximately one vehicle movement every 1.5 minutes in both the AM and PM peak hours and one vehicle movement every 1.7 minutes in the school-time peak.

2.4.4 It is considered that this level of traffic generation is modest and would have no material adverse impact on the operation of the existing highway network.

2.4.5 It is not anticipated, at this stage, that a vehicular link will be provided between the two proposed access points. Therefore, the number of dwellings that will gain access via Garden House Close has been estimated at 65 with the remaining 15 taking access from Back Lane. The resulting generations predicted at each access point are shown below.

	Arrivals	Departures	Total
AM - 08:00-09:00	8	24	32
School-time - 15:30-16:30	17	11	28
PM - 17:00-18:00	23	10	33

Table 2.4.5a – Vehicular trip generations (65 dwellings)

	Arrivals	Departures	Total
AM - 08:00-09:00	2	6	8
School-time - 15:30-16:30	4	3	7
PM - 17:00-18:00	5	2	7

Table 2.4.5b – Vehicular trip generations (15 dwellings)

2.5 Development Traffic Distribution

2.5.1 When distributing the development traffic, each access point was assessed separately with the above flows then assigned to the network.

2.5.2 For the AM and PM peaks, the Census 2011 dataset 'Location of usual residence and place of work by method of travel to work (MSOA level)' has been utilised. This has been used to predict the direction of travel the new residents will take based on the locations that people living in the MSOA of the site worked during the census.

2.5.3 In order to distribute the school-time peak development traffic ten surrounding primary schools were identified. High/senior schools were not included as it is considered that pupils are less likely to be dropped off/picked up by a parent as school buses are often provided and the children can walk further to school without supervision. The routes between the development and these schools were determined with each school given equal weighting, due to lack of information to indicate otherwise.

2.5.4 The resulting distributions and flows are shown on **Figures 3 to 6** at **Appendix A**. The total development flows are shown on **Figure 7** at **Appendix A**.

2.6 Junction Capacity Modelling

2.6.1 Using the base and development traffic flows identified, detailed capacity assessments have been undertaken of the following junctions on the local highway network in the future year of 2024 using Junctions 9 software.

- Well Lane/High Street - priority junction
- High Street/Cross Street - priority junction
- Cross Street/Burton Road/Norman Close - staggered crossroads junction
- Fish Dam Lane - five-arm roundabout junction

Well Lane/High Street - Priority Junction

2.6.2 The results of this assessment are summarised as follows;

Arm A = High Street W
Arm B = Well Lane
Arm C =High Street E

	AM		School-time		PM	
	RFC	Queue	RFC	Queue	RFC	Queue
2024 Base						
B-AC	0.06	0.1	0.03	0.0	0.04	0.0
C-AB	0.01	0.0	0.02	0.0	0.03	0.0
2024 Base + Dev						
B-AC	0.12	0.1	0.05	0.1	0.07	0.1
C-AB	0.02	0.0	0.03	0.0	0.05	0.1

Table 2.6.2 – Well Lane/High Street Junctions 9 Results

2.6.3 The output results can be found in **Appendix B**.

2.6.4 This shows that, even in the worst case situation of 2024 with development traffic, the junction would operate comfortably within its practical capacity, which is generally accepted as being represented by a ratio of flow to capacity (RFC) of 0.850.

High Street/Cross Street - Priority Junction

2.6.5 The results of this assessment are summarised as follows;

Arm A = Cross Street N
Arm B = High Street
Arm C = Cross Street S

	AM		School-time		PM	
	RFC	**Queue**	**RFC**	**Queue**	**RFC**	**Queue**
2024 Base						
B-AC	0.44	0.8	0.50	1.0	0.44	0.8
C-AB	0.09	0.1	0.09	0.1	0.11	0.1
2024 Base + Dev						
B-AC	0.48	0.9	0.51	1.0	0.46	0.8
C-AB	0.09	0.1	0.10	0.1	0.13	0.2

Table 2.6.5 – High Street/Cross Street Junctions 9 Results

2.6.6 The output results can be found in **Appendix C**.

2.6.7 This shows that, even in the worst case situation of 2024 with development traffic, the junction would operate comfortably within its practical capacity, which is generally accepted as being represented by a ratio of flow to capacity (RFC) of 0.850.

Cross Street/Burton Road/Norman Close - Staggered Crossroads Junction

2.6.8 The results of this assessment are summarised as follows;

Arm A = Burton Road N
Arm B = Norman Close
Arm C = Burton Road S
Arm D = Cross Street

	AM		School-time		PM	
	RFC	Queue	RFC	Queue	RFC	Queue
2024 Base						
B-ACD	0.00	0.0	0.02	0.0	0.00	0.0
A-BCD	0.16	0.5	0.27	1.0	0.26	0.8
D-ACB	0.28	0.4	0.28	0.4	0.32	0.5
C-ABD	0.00	0.0	0.00	0.0	0.00	0.0
2024 Base + Dev						
B-ACD	0.00	0.0	0.02	0.0	0.00	0.0
A-BCD	0.16	0.5	0.27	1.0	0.26	0.8
D-ACB	0.31	0.4	0.29	0.4	0.33	0.5
C-ABD	0.00	0.0	0.00	0.0	0.00	0.0

Table 2.6.8 – Cross Street/Burton Road/Norman Close Junctions 9 Results

2.6.9 The output results can be found in **Appendix D**.

2.6.10 This shows that, even in the worst case situation of 2024 with development traffic, the junction would operate comfortably within its practical capacity, which is generally accepted as being represented by a ratio of flow to capacity (RFC) of 0.850.

Fish Dam Lane - Five-arm Roundabout Junction

2.6.11 The results of this assessment are summarised as follows;

Arm 1 = High Street
Arm 2 = St Helens Way
Arm 3 = Fish Dam Lane
Arm 4 = Burton Road E
Arm 5 = Burton Road S

	AM		School-time		PM	
	RFC	Queue	RFC	Queue	RFC	Queue
2024 Base						
Arm 1	0.24	0.3	0.41	0.7	0.32	0.5
Arm 2	0.17	0.2	0.20	0.2	0.16	0.2
Arm 3	0.40	0.7	0.55	1.2	0.50	1.0
Arm 4	0.33	0.5	0.43	0.7	0.29	0.4
Arm 5	0.42	0.7	0.55	1.2	0.53	1.1
2024 Base + Dev						
Arm 1	0.25	0.3	0.42	0.7	0.32	0.5
Arm 2	0.17	0.2	0.20	0.3	0.16	0.2
Arm 3	0.40	0.7	0.56	1.2	0.51	1.0
Arm 4	0.33	0.5	0.43	0.7	0.29	0.4
Arm 5	0.42	0.7	0.55	1.2	0.54	1.1

Table 2.6.11 – Cross Street/Burton Road/Norman Close Junctions 9 Results

2.6.12 The output results can be found in **Appendix E**.

2.6.13 This shows that, even in the worst case situation of 2024 with development traffic, the junction would operate comfortably within its practical capacity, which is generally accepted as being represented by a ratio of flow to capacity (RFC) of 0.850.

3 Summary

3.1 The predicted residential vehicle trips are 40 two-way vehicle movements in the AM and PM peaks and 35 in the school-time peak. This equates to approximately one vehicle movement every 1.5 minutes in both the AM and PM peak hours and one vehicle movement every 1.7 minutes in the school-time peak.

3.2 Junction capacity assessments have been undertaken at four junctions on the surrounding network, as agreed with the Highways Development Control Team at Barnsley Council. The assessments have been carried out at a future year of 2024 both with and without the addition of development.

3.3 The results show that all of these junctions would operate comfortably within their practical capacity even in the worst case situation of 2024 with development traffic.

3.4 This demonstrates that the cumulative impact of the development is not severe and therefore should be supported, in accordance with NPPF guidance.

APPENDIX A

Figure 1 – 2019 Base Traffic Flows

Figure 2 – 2024 Base Traffic Flows

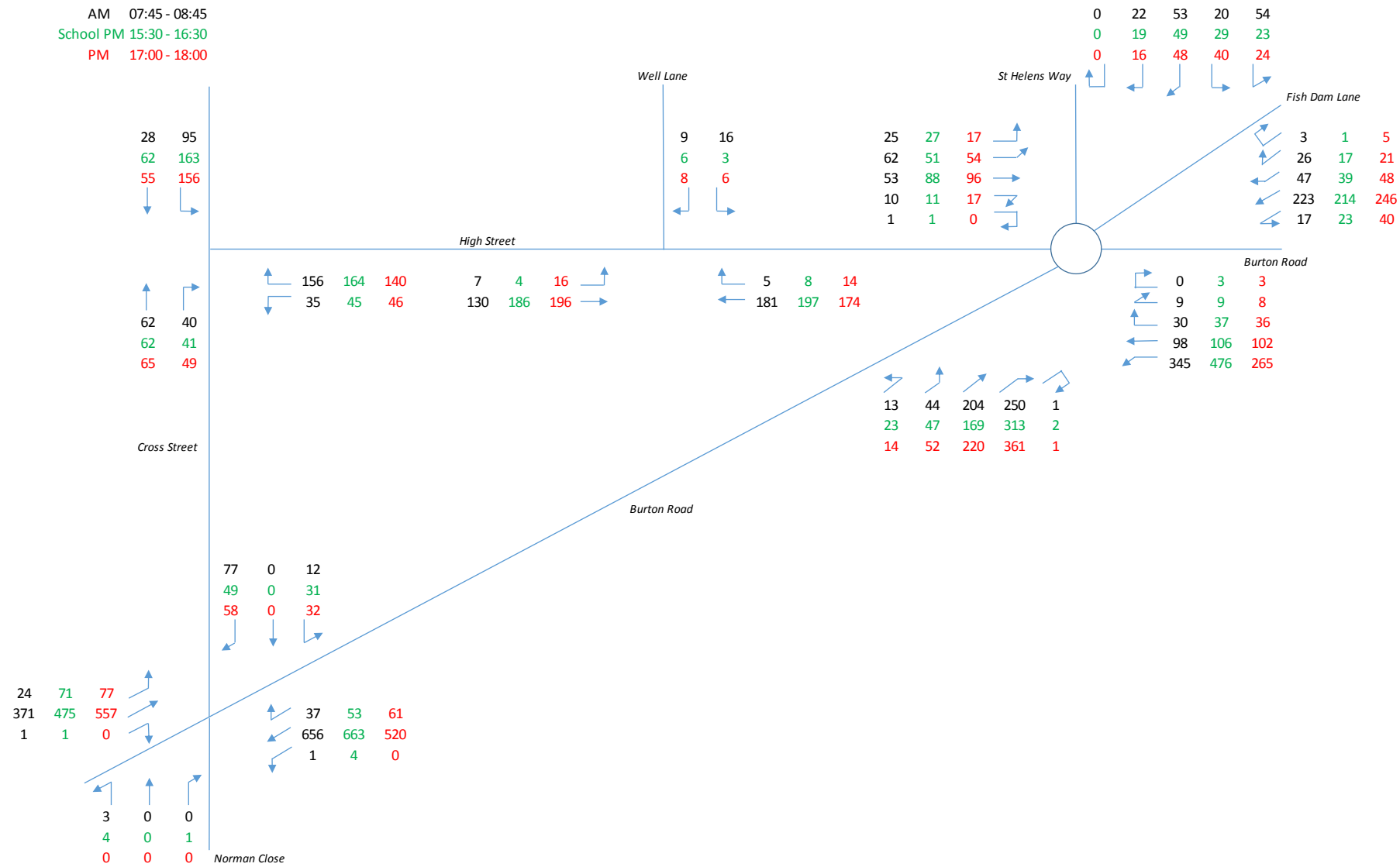
Figure 3 – Garden House Close Development Traffic Distribution

Figure 4 – Back Lane Development Traffic Distribution

Figure 5 – Garden House Close Development Traffic Flows

Figure 6 – Back Lane Development Traffic Flows

Figure 7 – Total Development Traffic Flows



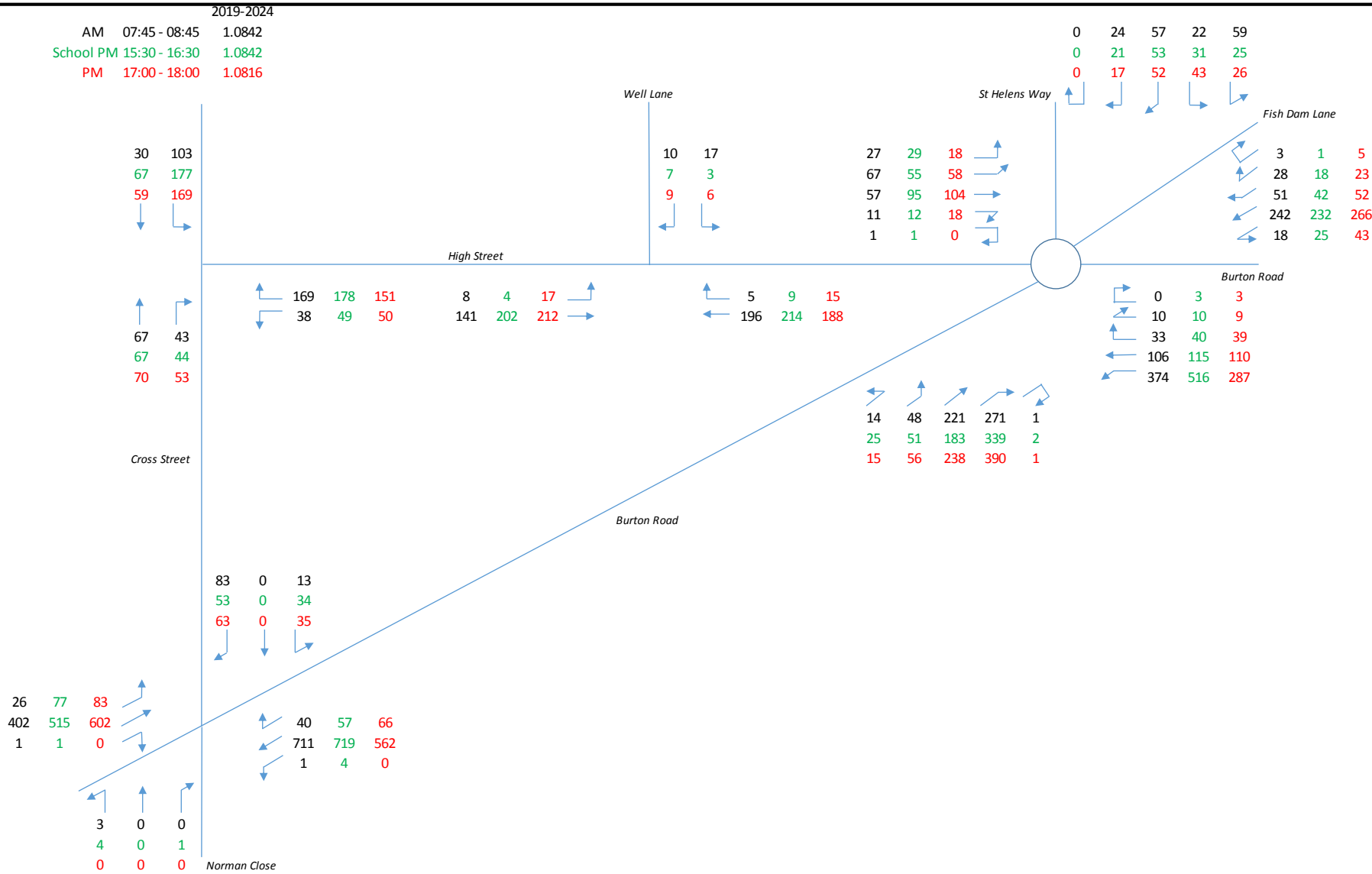
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Proposed Residential Development
Land at Garden House Close, Cross Street and Back Lane, Monk Bretton, Barnsley

2019 Base Traffic Flows

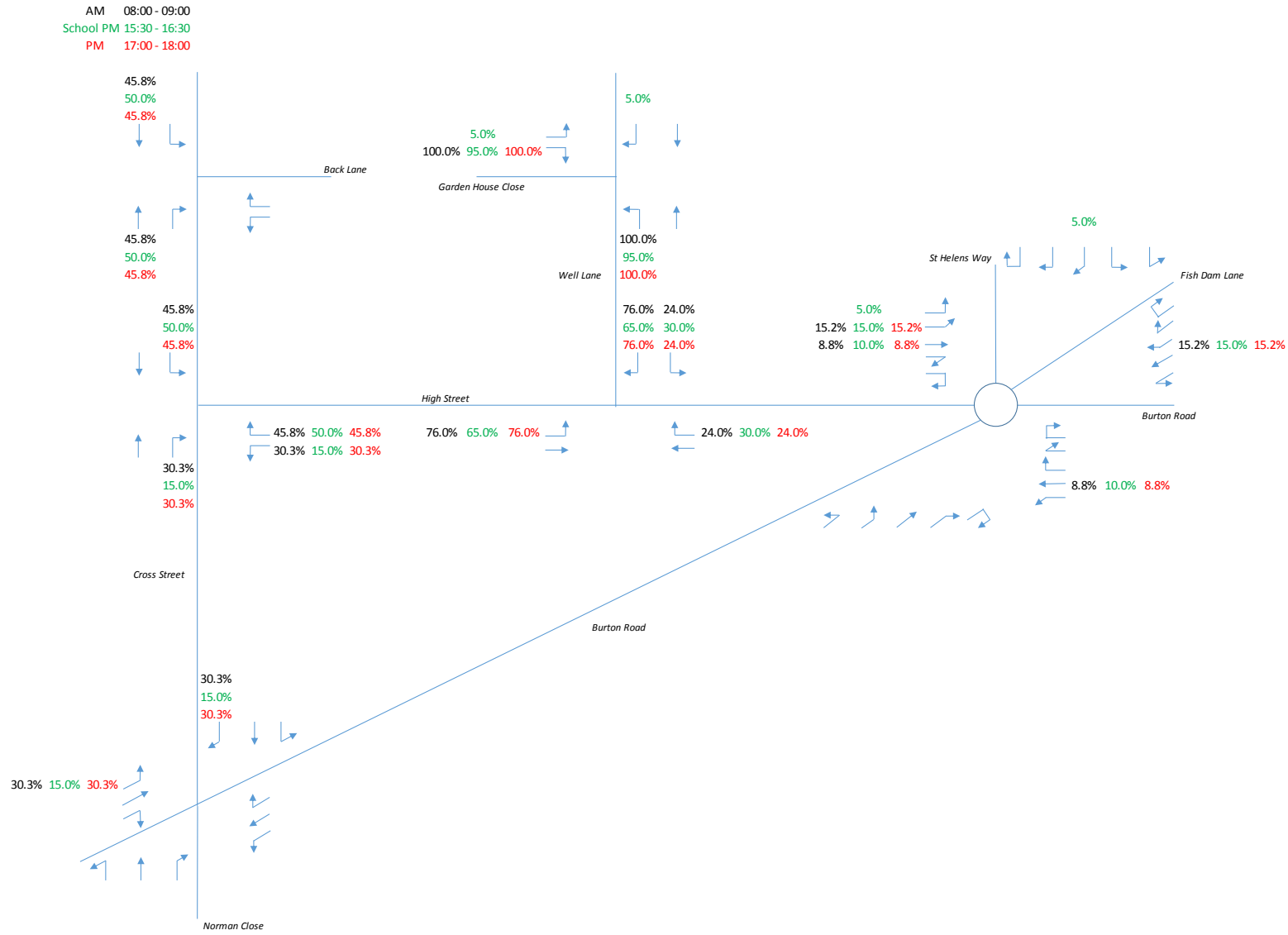
Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: CH
Drawing Size: A3	Checked by: KS
Date: September 2019	Approved by: KS
Drawing Number: Figure 1	Rev.



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	2024 Base Traffic Flows	Drawing Size: A3; Checked by: KS
		Date: September 2019; Approved by: KS
		Drawing Number: Figure 2; Rev.

Rev	Amendment	Drawn	Date	Checked



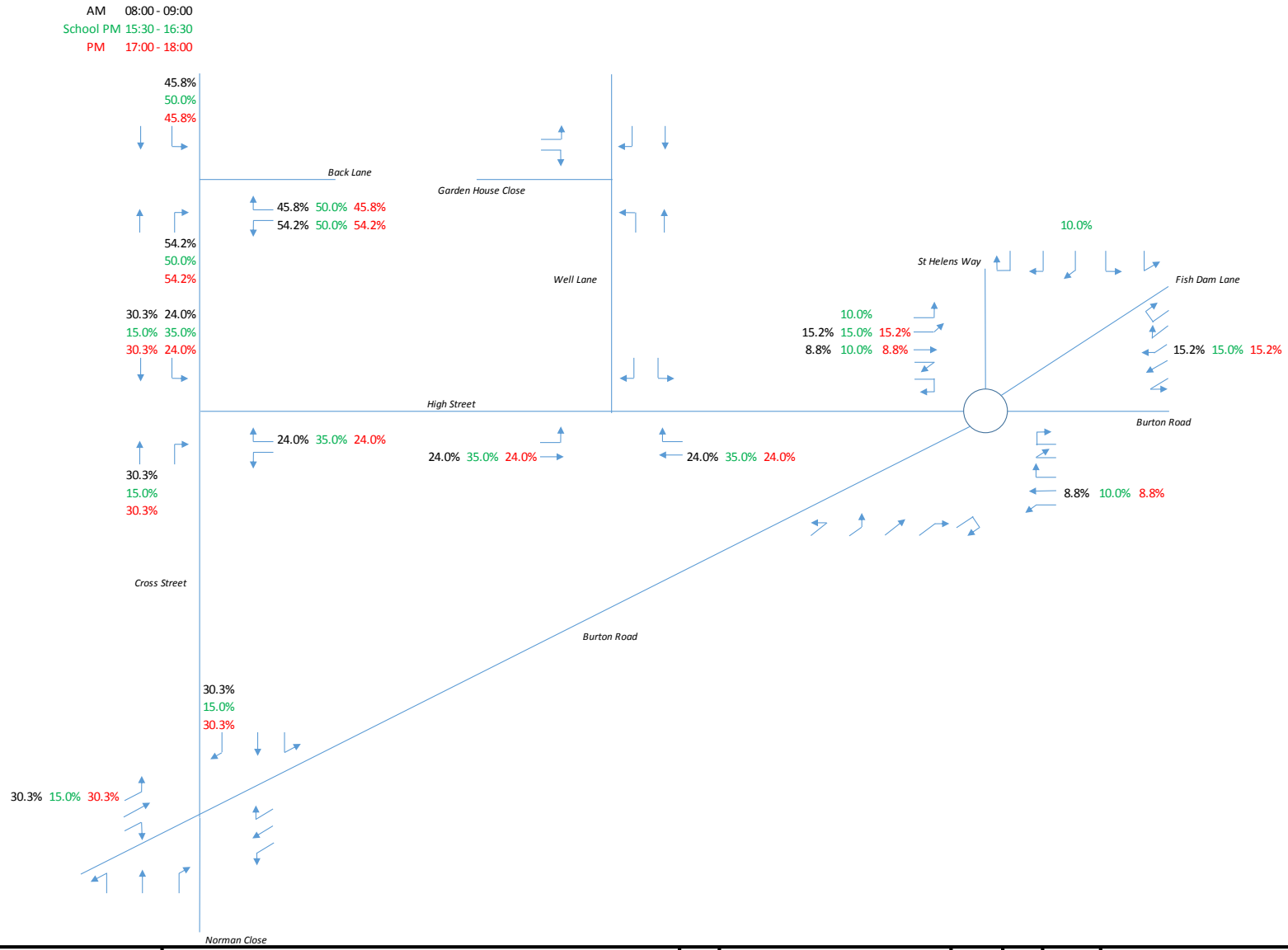
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Proposed Residential Development
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Garden House Close
Development Traffic Distribution

Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: CH
Drawing Size: A3	Checked by: KS
Date: September 2019	Approved by: KS
Drawing Number: Figure 3	Rev.



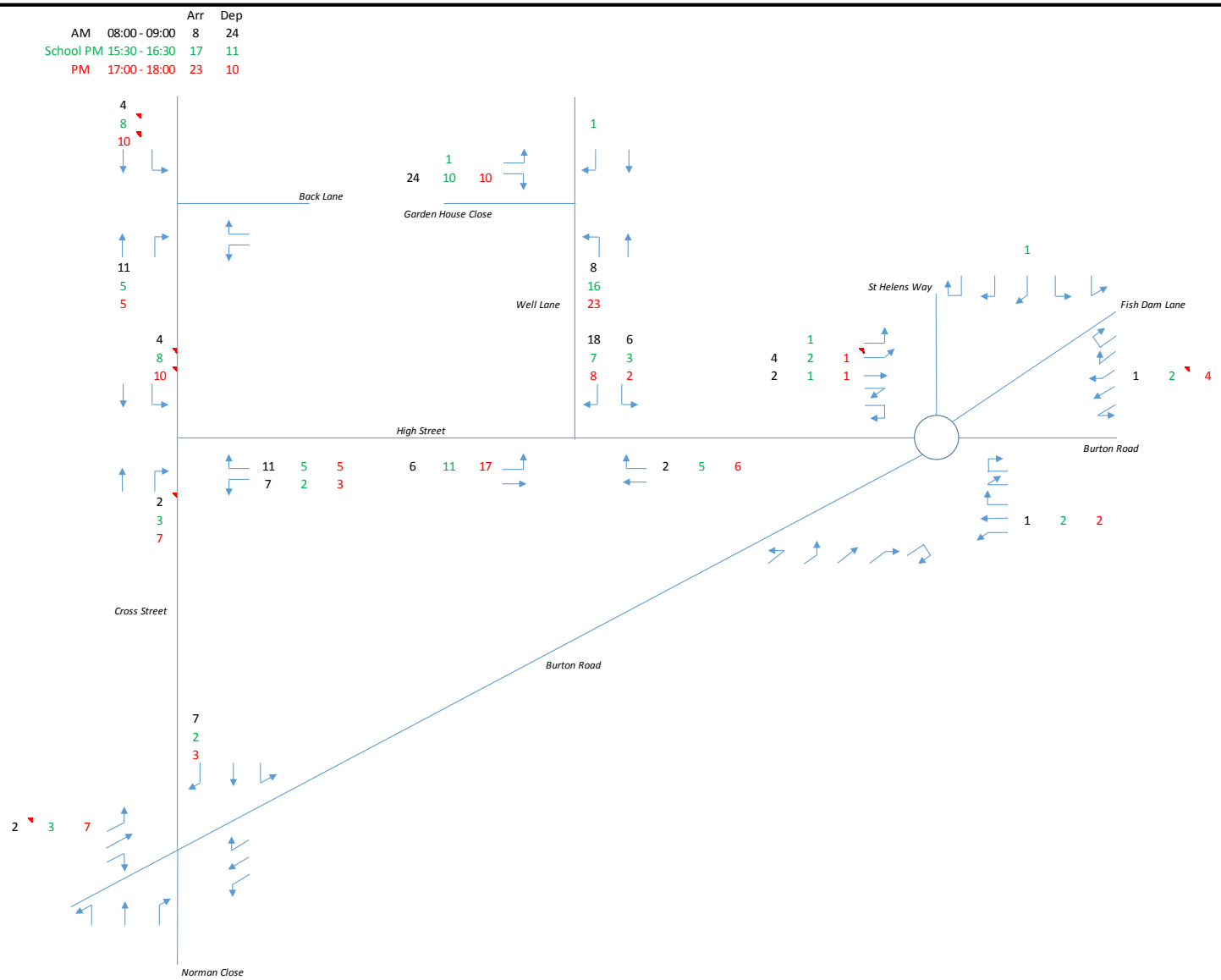
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Land at Garden House Close, Cross Street and Back Lane, Monk Bretton, Barnsley

Back Lane Development Traffic Distribution

Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: CH
Drawing Size: A3	Checked by: KS
Date: September 2019	Approved by: KS
Drawing Number: Figure 4	Rev.



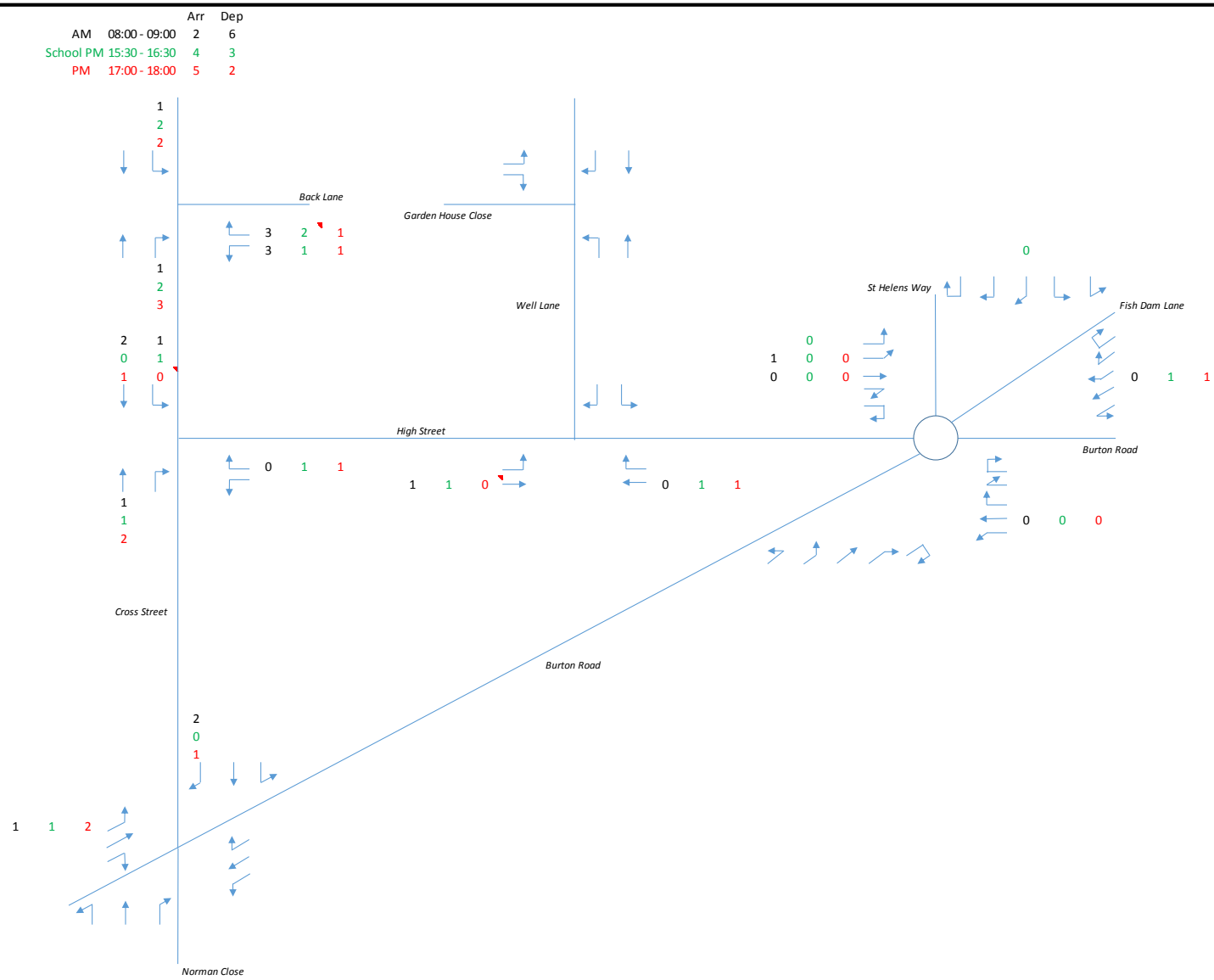
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Proposed Residential Development
Land at Garden House Close, Cross Street and Back Lane, Monk Bretton, Barnsley

Garden House Close Development Traffic Flows

Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: CH
Drawing Size: A3	Checked by: KS
Date: September 2019	Approved by: KS
Drawing Number: Figure 5	Rev.



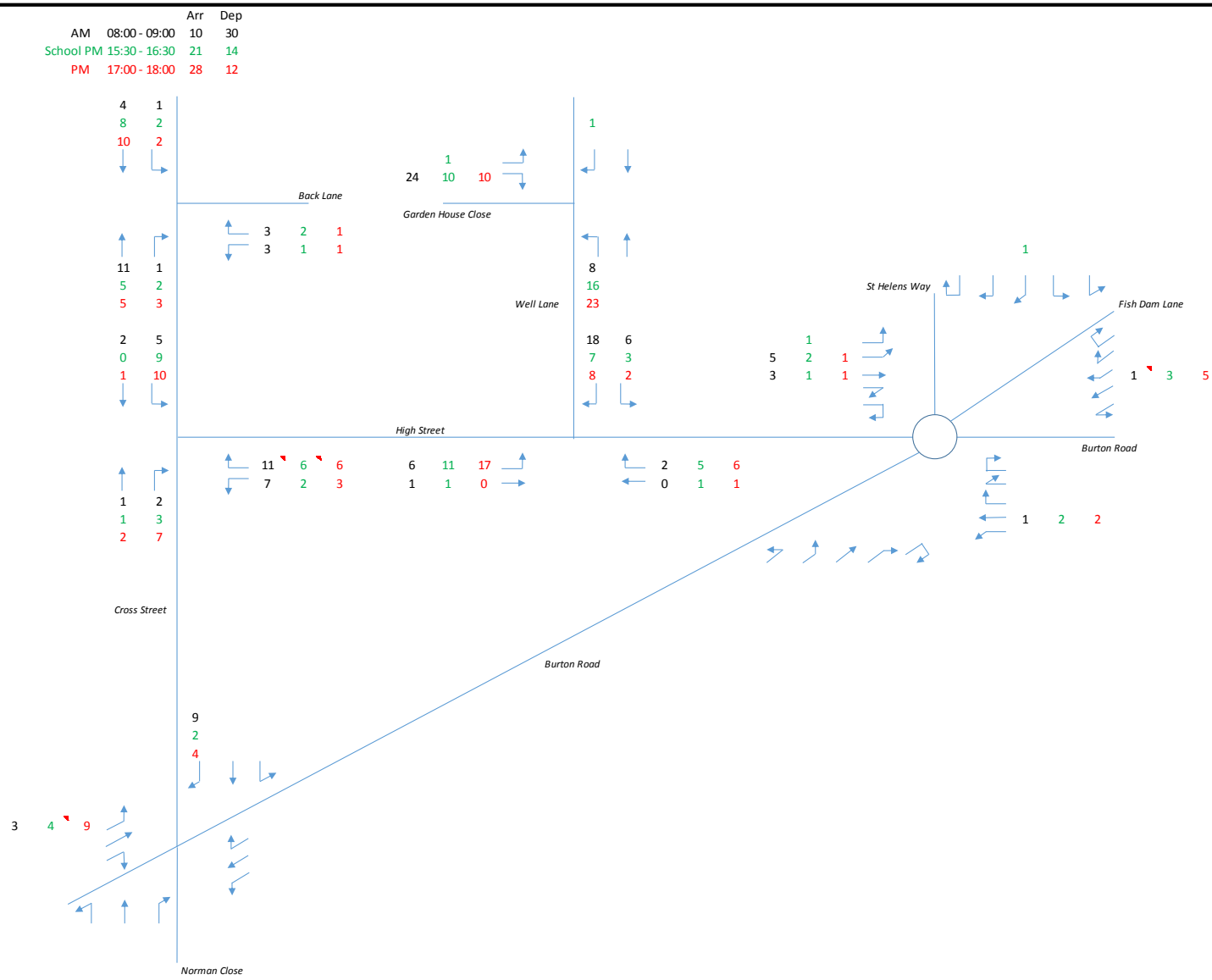
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Proposed Residential Development
Land at Garden House Close, Cross Street and Back Lane, Monk Bretton, Barnsley

Back Lane Development Traffic Flows

Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: CH
Drawing Size: A3	Checked by: KS
Date: September 2019	Approved by: KS
Drawing Number: Figure 6	Rev.



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Proposed Residential Development
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Total Development Traffic Flows

Rev	Amendment	Drawn	Date	Checked

Scale: NTS	Draw by: CH
Drawing Size: A3	Checked by: KS
Date: September 2019	Approved by: KS
Drawing Number: Figure 7	Rev.

APPENDIX B

Junctions 9 Results – Well Lane/High Street

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: Well Lane - High Street.j9
Path: J:\11000\11000\11097_GardenHouseCloseMonk\engineering\Traffic_Programs\Junctions 9\Well Lane - High Street
Report generation date: 20/09/2019 11:59:06

»2024, AM
»2024, School-time
»2024, PM
»2024 + Dev, AM
»2024 + Dev, School-time
»2024 + Dev, PM

Summary of junction performance

	AM				School-time				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	2024											
Stream B-AC	0.1	7.85	0.06	A	0.0	8.62	0.03	A	0.0	8.51	0.04	A
Stream C-AB	0.0	5.87	0.01	A	0.0	5.14	0.02	A	0.0	5.29	0.03	A
	2024 + Dev											
Stream B-AC	0.1	8.92	0.12	A	0.1	8.96	0.05	A	0.1	9.10	0.07	A
Stream C-AB	0.0	5.66	0.02	A	0.0	5.18	0.03	A	0.1	5.36	0.05	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	(untitled)
Location	
Site number	
Date	20/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SANDERSONASSOC\carly.hoyle
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	Relationship type	Relationship
D1	2019	AM	ONE HOUR	07:30	09:00	15			
D2	2019	School-time	ONE HOUR	15:15	16:45	15			
D3	2019	PM	ONE HOUR	16:45	18:15	15			
D4	2024	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D1*1.0842
D5	2024	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D2*1.0842
D6	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D3*1.0816
D7	Dev	AM	ONE HOUR	07:30	09:00	15			
D8	Dev	School-time	ONE HOUR	15:15	16:45	15			
D9	Dev	PM	ONE HOUR	16:45	18:15	15			
D10	2024 + Dev	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D4+D7
D11	2024 + Dev	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D5+D8
D12	2024 + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D9

Analysis Set Details

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

2024, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	High Street W		Major
B	Well Lane		Minor
C	High Street E		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	7.40			130.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.40	24	16

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	464	0.079	0.200	0.126	0.286
1	B-C	596	0.086	0.217	-	-
1	C-B	649	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)	Run automatically	Relationship type	Relationship
D4	2024	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D1*1.0842

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	✓	143	100.000
B		ONE HOUR	✓	27	100.000
C		ONE HOUR	✓	191	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	8	136
	B	10	0	17
	C	187	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	1
	C	5	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-AC	0.06	7.85	0.1	A	25	37
C-AB	0.01	5.87	0.0	A	6	9
C-A					170	255
A-B					7	10
A-C					125	187

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)	LOS
B-AC	20	5	504	0.040	20	0.0	0.0	7.440	A
C-AB	4	1	617	0.007	4	0.0	0.0	5.874	A
C-A	140	35			140				
A-B	6	1			6				
A-C	102	26			102				

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)	LOS
B-AC	24	6	497	0.049	24	0.0	0.1	7.607	A
C-AB	6	1	632	0.009	6	0.0	0.0	5.755	A
C-A	167	42			167				
A-B	7	2			7				
A-C	122	31			122				

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)	LOS
B-AC	30	7	488	0.061	30	0.1	0.1	7.845	A
C-AB	7	2	654	0.011	7	0.0	0.0	5.584	A
C-A	203	51			203				
A-B	8	2			8				
A-C	150	37			150				

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)	LOS
B-AC	30	7	488	0.061	30	0.1	0.1	7.846	A
C-AB	7	2	654	0.011	7	0.0	0.0	5.568	A
C-A	203	51			203				
A-B	8	2			8				
A-C	150	37			150				

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)	LOS
B-AC	24	6	497	0.049	24	0.1	0.1	7.611	A
C-AB	6	1	632	0.009	6	0.0	0.0	5.723	A
C-A	167	42			167				
A-B	7	2			7				
A-C	122	31			122				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	20	5	504	0.040	20	0.1	0.0	7.444	A
C-AB	4	1	617	0.007	4	0.0	0.0	5.860	A
C-A	140	35			140				
A-B	6	1			6				
A-C	102	26			102				

2024, School-time

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.33	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)	Run automatically	Relationship type	Relationship
D5	2024	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D2*1.0842

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	✓	198	100.000
B		ONE HOUR	✓	10	100.000
C		ONE HOUR	✓	211	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	4	193
	B	7	0	3
	C	202	9	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	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-AC	0.03	8.62	0.0	A	9	13
C-AB	0.02	5.14	0.0	A	11	16
C-A					183	274
A-B					4	6
A-C					177	266

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	7	2	451	0.016	7	0.0	0.0	8.105	A
C-AB	8	2	710	0.012	8	0.0	0.0	5.128	A
C-A	150	38			150				
A-B	3	0.82			3				
A-C	146	36			146				

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	9	2	442	0.020	9	0.0	0.0	8.314	A
C-AB	10	3	723	0.014	10	0.0	0.0	5.048	A
C-A	179	45			179				
A-B	4	0.97			4				
A-C	174	43			174				

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	11	3	428	0.025	11	0.0	0.0	8.620	A
C-AB	14	3	741	0.018	14	0.0	0.0	4.946	A
C-A	219	55			219				
A-B	5	1			5				
A-C	213	53			213				

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)	LOS
B-AC	11	3	428	0.025	11	0.0	0.0	8.620	A
C-AB	14	3	741	0.018	14	0.0	0.0	4.954	A
C-A	219	55			219				
A-B	5	1			5				
A-C	213	53			213				

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)	LOS
B-AC	9	2	442	0.020	9	0.0	0.0	8.316	A
C-AB	10	3	723	0.014	10	0.0	0.0	5.064	A
C-A	179	45			179				
A-B	4	0.97			4				
A-C	174	43			174				

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)	LOS
B-AC	7	2	451	0.016	7	0.0	0.0	8.108	A
C-AB	8	2	710	0.012	8	0.0	0.0	5.137	A
C-A	150	38			150				
A-B	3	0.82			3				
A-C	146	36			146				

2024, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.53	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)	Run automatically	Relationship type	Relationship
D6	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D3*1.0816

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	✓	223	100.000
B		ONE HOUR	✓	15	100.000
C		ONE HOUR	✓	194	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	16	207
	B	9	0	6
	C	179	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	6	3
	B	0	0	0
	C	5	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-AC	0.04	8.51	0.0	A	14	21
C-AB	0.03	5.29	0.0	A	18	27
C-A					160	240
A-B					15	22
A-C					190	284

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)	LOS
B-AC	11	3	463	0.025	11	0.0	0.0	7.971	A
C-AB	14	4	695	0.020	14	0.0	0.0	5.284	A
C-A	132	33			132				
A-B	12	3			12				
A-C	156	39			156				

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)	LOS
B-AC	14	3	453	0.030	14	0.0	0.0	8.191	A
C-AB	18	4	705	0.025	18	0.0	0.0	5.233	A
C-A	157	39			157				
A-B	15	4			15				
A-C	186	46			186				

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)	LOS
B-AC	17	4	440	0.038	17	0.0	0.0	8.512	A
C-AB	23	6	719	0.032	23	0.0	0.0	5.168	A
C-A	191	48			191				
A-B	18	4			18				
A-C	227	57			227				

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)	LOS
B-AC	17	4	440	0.038	17	0.0	0.0	8.512	A
C-AB	23	6	719	0.032	23	0.0	0.0	5.176	A
C-A	191	48			191				
A-B	18	4			18				
A-C	227	57			227				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	14	3	453	0.030	14	0.0	0.0	8.192	A
C-AB	18	4	705	0.025	18	0.0	0.0	5.248	A
C-A	157	39			157				
A-B	15	4			15				
A-C	186	46			186				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	11	3	463	0.025	11	0.0	0.0	7.975	A
C-AB	14	4	695	0.020	14	0.0	0.0	5.291	A
C-A	132	33			132				
A-B	12	3			12				
A-C	156	39			156				

2024 + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.25	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)	Run automatically	Relationship type	Relationship
D10	2024 + Dev	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D4+D7

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	✓	150	100.000
B		ONE HOUR	✓	51	100.000
C		ONE HOUR	✓	193	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	14	137
	B	28	0	23
	C	187	7	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	1
	C	5	14	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-AC	0.12	8.92	0.1	A	47	70
C-AB	0.02	5.66	0.0	A	8	12
C-A					169	254
A-B					12	19
A-C					126	188

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)	LOS
B-AC	38	10	477	0.080	38	0.0	0.1	8.200	A
C-AB	6	2	642	0.010	6	0.0	0.0	5.664	A
C-A	139	35			139				
A-B	10	3			10				
A-C	103	26			103				

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)	LOS
B-AC	46	11	470	0.097	46	0.1	0.1	8.486	A
C-AB	8	2	656	0.012	8	0.0	0.0	5.559	A
C-A	166	41			166				
A-B	12	3			12				
A-C	123	31			123				

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)	LOS
B-AC	56	14	460	0.122	56	0.1	0.1	8.914	A
C-AB	10	3	676	0.015	10	0.0	0.0	5.413	A
C-A	203	51			203				
A-B	15	4			15				
A-C	151	38			151				

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)	LOS
B-AC	56	14	460	0.122	56	0.1	0.1	8.919	A
C-AB	10	3	676	0.015	10	0.0	0.0	5.406	A
C-A	203	51			203				
A-B	15	4			15				
A-C	151	38			151				

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)	LOS
B-AC	46	11	470	0.097	46	0.1	0.1	8.495	A
C-AB	8	2	656	0.012	8	0.0	0.0	5.542	A
C-A	166	41			166				
A-B	12	3			12				
A-C	123	31			123				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	38	10	477	0.080	38	0.1	0.1	8.210	A
C-AB	6	2	642	0.010	6	0.0	0.0	5.656	A
C-A	139	35			139				
A-B	10	3			10				
A-C	103	26			103				

2024 + Dev, School-time

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.59	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	Relationship type	Relationship
D11	2024 + Dev	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D5+D8

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	✓	210	100.000
B		ONE HOUR	✓	20	100.000
C		ONE HOUR	✓	217	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	15	194
	B	14	0	6
	C	203	14	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	0	0	0
	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-AC	0.05	8.96	0.1	A	18	27
C-AB	0.03	5.18	0.0	A	17	26
C-A					182	273
A-B					14	21
A-C					178	268

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	15	4	447	0.033	15	0.0	0.0	8.318	A
C-AB	13	3	709	0.019	13	0.0	0.0	5.175	A
C-A	150	38			150				
A-B	12	3			12				
A-C	146	37			146				

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	18	4	437	0.041	18	0.0	0.0	8.580	A
C-AB	16	4	721	0.023	16	0.0	0.0	5.104	A
C-A	179	45			179				
A-B	14	3			14				
A-C	175	44			175				

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	22	5	423	0.051	22	0.0	0.1	8.962	A
C-AB	22	5	739	0.029	22	0.0	0.0	5.015	A
C-A	217	54			217				
A-B	17	4			17				
A-C	214	53			214				

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)	LOS
B-AC	22	5	423	0.051	22	0.1	0.1	8.964	A
C-AB	22	5	739	0.029	22	0.0	0.0	5.023	A
C-A	217	54			217				
A-B	17	4			17				
A-C	214	53			214				

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)	LOS
B-AC	18	4	437	0.041	18	0.1	0.0	8.582	A
C-AB	17	4	721	0.023	17	0.0	0.0	5.118	A
C-A	179	45			179				
A-B	14	3			14				
A-C	175	44			175				

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)	LOS
B-AC	15	4	447	0.033	15	0.0	0.0	8.326	A
C-AB	13	3	709	0.019	13	0.0	0.0	5.184	A
C-A	150	38			150				
A-B	12	3			12				
A-C	146	37			146				

2024 + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.79	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	Relationship type	Relationship
D12	2024 + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D9

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	✓	240	100.000
B		ONE HOUR	✓	25	100.000
C		ONE HOUR	✓	201	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	33	207
	B	17	0	8
	C	180	21	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	3	3
	B	0	0	0
	C	5	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-AC	0.07	9.10	0.1	A	23	35
C-AB	0.05	5.36	0.1	A	26	38
C-A					159	238
A-B					31	46
A-C					190	284

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)	LOS
B-AC	19	5	448	0.042	19	0.0	0.0	8.379	A
C-AB	20	5	693	0.029	20	0.0	0.0	5.347	A
C-A	132	33			132				
A-B	25	6			25				
A-C	156	39			156				

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)	LOS
B-AC	23	6	438	0.052	23	0.0	0.1	8.668	A
C-AB	25	6	702	0.035	25	0.0	0.0	5.310	A
C-A	156	39			156				
A-B	30	7			30				
A-C	186	46			186				

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)	LOS
B-AC	28	7	423	0.065	28	0.1	0.1	9.095	A
C-AB	32	8	716	0.045	32	0.0	0.1	5.262	A
C-A	189	47			189				
A-B	37	9			37				
A-C	227	57			227				

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)	LOS
B-AC	28	7	423	0.065	28	0.1	0.1	9.097	A
C-AB	32	8	716	0.045	32	0.1	0.1	5.271	A
C-A	189	47			189				
A-B	37	9			37				
A-C	227	57			227				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	23	6	438	0.052	23	0.1	0.1	8.674	A
C-AB	25	6	702	0.035	25	0.1	0.0	5.324	A
C-A	156	39			156				
A-B	30	7			30				
A-C	186	46			186				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	19	5	448	0.042	19	0.1	0.0	8.389	A
C-AB	20	5	693	0.029	20	0.0	0.0	5.356	A
C-A	132	33			132				
A-B	25	6			25				
A-C	156	39			156				

APPENDIX C

Junctions 9 Results – High Street/Cross Street

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: High Street - Cross Street.j9
Path: J:\11000\11000\11097_GardenHouseCloseMonk\engineering\Traffic_Programs\Junctions 9\High Street - Cross Street
Report generation date: 20/09/2019 11:57:30

»2024, AM
»2024, School-time
»2024, PM
»2024 + Dev, AM
»2024 + Dev, School-time
»2024 + Dev, PM

Summary of junction performance

	AM				School-time				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	2024											
Stream B-AC	0.8	13.17	0.44	B	1.0	14.62	0.50	B	0.8	13.12	0.44	B
Stream C-AB	0.1	6.82	0.09	A	0.1	7.30	0.09	A	0.1	7.34	0.11	A
	2024 + Dev											
Stream B-AC	0.9	14.05	0.48	B	1.0	15.24	0.51	C	0.8	13.71	0.46	B
Stream C-AB	0.1	6.84	0.09	A	0.1	7.32	0.10	A	0.2	7.38	0.13	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	(untitled)
Location	
Site number	
Date	20/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SANDERSONASSOC\carly.hoyle
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	Relationship type	Relationship
D1	2019	AM	ONE HOUR	07:30	09:00	15			
D2	2019	School-time	ONE HOUR	15:15	16:45	15			
D3	2019	PM	ONE HOUR	16:45	18:15	15			
D4	2024	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D1*1.0842
D5	2024	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D2*1.0842
D6	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D3*1.0816
D7	Dev	AM	ONE HOUR	07:30	09:00	15			
D8	Dev	School-time	ONE HOUR	15:15	16:45	15			
D9	Dev	PM	ONE HOUR	16:45	18:15	15			
D10	2024 + Dev	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D4+D7
D11	2024 + Dev	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D5+D8
D12	2024 + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D9

Analysis Set Details

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

2024, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.78	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Cross Street N		Major
B	High Street		Minor
C	Cross Street 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	8.50			60.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.50	40	37

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	534	0.087	0.219	0.138	0.313
1	B-C	680	0.093	0.235	-	-
1	C-B	609	0.210	0.210	-	-

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	Relationship type	Relationship
D4	2024	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D1*1.0842

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	✓	132	100.000
B		ONE HOUR	✓	196	100.000
C		ONE HOUR	✓	107	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	102	30
	B	165	0	32
	C	67	39	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	0
	B	3	0	20
	C	0	10	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-AC	0.44	13.17	0.8	B	180	270
C-AB	0.09	6.82	0.1	A	41	61
C-A					57	86
A-B					93	140
A-C					28	42

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)	LOS
B-AC	148	37	502	0.295	146	0.0	0.4	10.083	B
C-AB	33	8	570	0.057	32	0.0	0.1	6.695	A
C-A	48	12			48				
A-B	77	19			77				
A-C	23	6			23				

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)	LOS
B-AC	177	44	497	0.356	176	0.4	0.5	11.213	B
C-AB	40	10	573	0.069	40	0.1	0.1	6.752	A
C-A	56	14			56				
A-B	92	23			92				
A-C	27	7			27				

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)	LOS
B-AC	216	54	490	0.442	215	0.5	0.8	13.082	B
C-AB	50	12	578	0.086	50	0.1	0.1	6.824	A
C-A	68	17			68				
A-B	112	28			112				
A-C	33	8			33				

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)	LOS
B-AC	216	54	490	0.442	216	0.8	0.8	13.168	B
C-AB	50	12	578	0.086	50	0.1	0.1	6.821	A
C-A	68	17			68				
A-B	112	28			112				
A-C	33	8			33				

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)	LOS
B-AC	177	44	497	0.356	178	0.8	0.6	11.314	B
C-AB	40	10	573	0.069	40	0.1	0.1	6.744	A
C-A	56	14			56				
A-B	92	23			92				
A-C	27	7			27				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	148	37	502	0.295	148	0.6	0.4	10.210	B
C-AB	33	8	570	0.057	33	0.1	0.1	6.699	A
C-A	48	12			48				
A-B	77	19			77				
A-C	23	6			23				

2024, School-time

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.31	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)	Run automatically	Relationship type	Relationship
D5	2024	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D2*1.0842

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	✓	242	100.000
B		ONE HOUR	✓	219	100.000
C		ONE HOUR	✓	105	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	175	67
	B	177	0	42
	C	65	40	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	0
	B	1	0	15
	C	3	12	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-AC	0.50	14.62	1.0	B	201	302
C-AB	0.09	7.30	0.1	A	41	62
C-A					55	83
A-B					160	240
A-C					62	93

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	165	41	505	0.327	163	0.0	0.5	10.477	B
C-AB	33	8	543	0.060	33	0.0	0.1	7.051	A
C-A	46	12			46				
A-B	131	33			131				
A-C	51	13			51				

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	197	49	497	0.396	196	0.5	0.6	11.934	B
C-AB	40	10	543	0.074	40	0.1	0.1	7.157	A
C-A	54	14			54				
A-B	157	39			157				
A-C	60	15			60				

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	241	60	487	0.495	240	0.6	1.0	14.484	B
C-AB	50	13	544	0.093	50	0.1	0.1	7.301	A
C-A	65	16			65				
A-B	192	48			192				
A-C	74	19			74				

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)	LOS
B-AC	241	60	487	0.495	241	1.0	1.0	14.623	B
C-AB	50	13	544	0.093	50	0.1	0.1	7.299	A
C-A	65	16			65				
A-B	192	48			192				
A-C	74	19			74				

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)	LOS
B-AC	197	49	497	0.396	198	1.0	0.7	12.088	B
C-AB	40	10	543	0.074	40	0.1	0.1	7.148	A
C-A	54	14			54				
A-B	157	39			157				
A-C	60	15			60				

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)	LOS
B-AC	165	41	504	0.327	166	0.7	0.5	10.648	B
C-AB	33	8	543	0.060	33	0.1	0.1	7.053	A
C-A	46	12			46				
A-B	131	33			131				
A-C	51	13			51				

2024, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	5.57	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	Relationship type	Relationship
D6	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D3*1.0816

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	✓	226	100.000
B		ONE HOUR	✓	193	100.000
C		ONE HOUR	✓	118	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	169	57
	B	149	0	43
	C	70	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	1	0	15
	C	0	12	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-AC	0.44	13.12	0.8	B	177	265
C-AB	0.11	7.34	0.1	A	49	74
C-A					59	88
A-B					155	232
A-C					53	79

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)	LOS
B-AC	145	36	503	0.288	143	0.0	0.4	9.956	A
C-AB	39	10	548	0.072	39	0.0	0.1	7.064	A
C-A	49	12			49				
A-B	127	32			127				
A-C	43	11			43				

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)	LOS
B-AC	173	43	496	0.349	173	0.4	0.5	11.106	B
C-AB	48	12	550	0.087	48	0.1	0.1	7.183	A
C-A	58	14			58				
A-B	152	38			152				
A-C	52	13			52				

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)	LOS
B-AC	212	53	486	0.436	211	0.5	0.8	13.035	B
C-AB	61	15	552	0.110	60	0.1	0.1	7.340	A
C-A	69	17			69				
A-B	186	46			186				
A-C	63	16			63				

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)	LOS
B-AC	212	53	486	0.436	212	0.8	0.8	13.119	B
C-AB	61	15	552	0.110	61	0.1	0.1	7.331	A
C-A	69	17			69				
A-B	186	46			186				
A-C	63	16			63				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	173	43	496	0.349	174	0.8	0.5	11.206	B
C-AB	48	12	550	0.087	48	0.1	0.1	7.168	A
C-A	58	14			58				
A-B	152	38			152				
A-C	52	13			52				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	145	36	503	0.288	145	0.5	0.4	10.077	B
C-AB	39	10	548	0.072	39	0.1	0.1	7.070	A
C-A	49	12			49				
A-B	127	32			127				
A-C	43	11			43				

2024 + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	7.32	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)	Run automatically	Relationship type	Relationship
D10	2024 + Dev	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D4+D7

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	✓	139	100.000
B		ONE HOUR	✓	214	100.000
C		ONE HOUR	✓	110	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	107	32
	B	176	0	39
	C	68	41	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	0
	B	2	0	16
	C	0	10	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-AC	0.48	14.05	0.9	B	197	295
C-AB	0.09	6.84	0.1	A	43	64
C-A					58	87
A-B					98	147
A-C					30	45

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)	LOS
B-AC	161	40	505	0.320	160	0.0	0.5	10.374	B
C-AB	34	9	572	0.060	34	0.0	0.1	6.693	A
C-A	48	12			48				
A-B	80	20			80				
A-C	24	6			24				

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)	LOS
B-AC	193	48	500	0.386	192	0.5	0.6	11.688	B
C-AB	42	10	575	0.073	42	0.1	0.1	6.756	A
C-A	57	14			57				
A-B	96	24			96				
A-C	29	7			29				

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)	LOS
B-AC	236	59	492	0.480	235	0.6	0.9	13.932	B
C-AB	52	13	579	0.091	52	0.1	0.1	6.838	A
C-A	68	17			68				
A-B	118	29			118				
A-C	36	9			36				

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)	LOS
B-AC	236	59	492	0.480	236	0.9	0.9	14.049	B
C-AB	52	13	579	0.091	52	0.1	0.1	6.832	A
C-A	68	17			68				
A-B	118	29			118				
A-C	36	9			36				

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)	LOS
B-AC	193	48	499	0.386	194	0.9	0.6	11.823	B
C-AB	42	10	575	0.073	42	0.1	0.1	6.746	A
C-A	57	14			57				
A-B	96	24			96				
A-C	29	7			29				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	161	40	505	0.320	162	0.6	0.5	10.528	B
C-AB	34	9	572	0.060	34	0.1	0.1	6.697	A
C-A	48	12			48				
A-B	80	20			80				
A-C	24	6			24				

2024 + Dev, School-time

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	6.57	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	Relationship type	Relationship
D11	2024 + Dev	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D5+D8

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	✓	251	100.000
B		ONE HOUR	✓	227	100.000
C		ONE HOUR	✓	109	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	184	67
	B	183	0	44
	C	66	43	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	1	0
	B	1	0	15
	C	3	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-AC	0.51	15.24	1.0	C	208	313
C-AB	0.10	7.32	0.1	A	44	66
C-A					56	83
A-B					169	253
A-C					62	93

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	171	43	504	0.339	169	0.0	0.5	10.682	B
C-AB	35	9	546	0.065	35	0.0	0.1	7.043	A
C-A	47	12			47				
A-B	138	35			138				
A-C	51	13			51				

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	204	51	496	0.411	203	0.5	0.7	12.255	B
C-AB	43	11	546	0.079	43	0.1	0.1	7.159	A
C-A	55	14			55				
A-B	165	41			165				
A-C	60	15			60				

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	250	63	486	0.514	249	0.7	1.0	15.071	C
C-AB	54	14	546	0.099	54	0.1	0.1	7.319	A
C-A	66	16			66				
A-B	202	51			202				
A-C	74	19			74				

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)	LOS
B-AC	250	63	486	0.514	250	1.0	1.0	15.237	C
C-AB	54	14	546	0.099	54	0.1	0.1	7.315	A
C-A	66	16			66				
A-B	202	51			202				
A-C	74	19			74				

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)	LOS
B-AC	204	51	496	0.411	205	1.0	0.7	12.429	B
C-AB	43	11	546	0.079	43	0.1	0.1	7.154	A
C-A	55	14			55				
A-B	165	41			165				
A-C	60	15			60				

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)	LOS
B-AC	171	43	504	0.339	172	0.7	0.5	10.865	B
C-AB	35	9	546	0.065	35	0.1	0.1	7.046	A
C-A	47	12			47				
A-B	138	35			138				
A-C	51	13			51				

2024 + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	5.81	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	Relationship type	Relationship
D12	2024 + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D9

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	✓	237	100.000
B		ONE HOUR	✓	202	100.000
C		ONE HOUR	✓	127	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	179	58
	B	155	0	46
	C	72	54	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	4
	B	1	0	14
	C	0	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-AC	0.46	13.71	0.8	B	185	277
C-AB	0.13	7.38	0.2	A	57	85
C-A					59	89
A-B					164	246
A-C					54	80

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)	LOS
B-AC	152	38	503	0.302	150	0.0	0.4	10.165	B
C-AB	45	11	555	0.082	45	0.0	0.1	7.055	A
C-A	50	12			50				
A-B	135	34			135				
A-C	44	11			44				

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)	LOS
B-AC	181	45	495	0.366	181	0.4	0.6	11.433	B
C-AB	55	14	556	0.099	55	0.1	0.1	7.194	A
C-A	58	15			58				
A-B	161	40			161				
A-C	53	13			53				

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)	LOS
B-AC	222	55	484	0.458	221	0.6	0.8	13.610	B
C-AB	70	17	558	0.125	70	0.1	0.2	7.384	A
C-A	70	17			70				
A-B	197	49			197				
A-C	64	16			64				

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)	LOS
B-AC	222	55	484	0.458	222	0.8	0.8	13.711	B
C-AB	70	17	558	0.125	70	0.2	0.2	7.380	A
C-A	70	17			70				
A-B	197	49			197				
A-C	64	16			64				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	181	45	495	0.366	182	0.8	0.6	11.553	B
C-AB	55	14	556	0.099	55	0.2	0.1	7.182	A
C-A	58	15			58				
A-B	161	40			161				
A-C	53	13			53				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-AC	152	38	502	0.302	152	0.6	0.4	10.303	B
C-AB	45	11	555	0.082	45	0.1	0.1	7.062	A
C-A	50	12			50				
A-B	135	34			135				
A-C	44	11			44				

APPENDIX D

Junctions 9 Results – Cross Street/Burton Road/Norman Close

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 []
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Filename: Burton Rd - Cross St - Norman Cl.j9
Path: J:\11000\11000\11097_GardenHouseCloseMonk\engineering\Traffic_Programs\Junctions 9\Burton Rd - Cross St - Norman Cl
Report generation date: 20/09/2019 11:55:57

»2024, AM
»2024, School-time
»2024, PM
»2024 + Dev, AM
»2024 + Dev, School-time
»2024 + Dev, PM

Summary of junction performance

	AM				School-time				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	2024											
Stream B-ACD	0.0	0.00	0.00	A	0.0	14.00	0.02	B	0.0	0.00	0.00	A
Stream A-BCD	0.5	4.34	0.16	A	1.0	4.80	0.27	A	0.8	5.35	0.26	A
Stream D-ABC	0.4	13.38	0.28	B	0.4	14.81	0.28	B	0.5	15.65	0.32	C
Stream C-ABD	0.0	5.08	0.00	A	0.0	4.54	0.00	A	0.0	0.00	0.00	A
	2024 + Dev											
Stream B-ACD	0.0	0.00	0.00	A	0.0	14.01	0.02	B	0.0	0.00	0.00	A
Stream A-BCD	0.5	4.34	0.16	A	1.0	4.81	0.27	A	0.8	5.37	0.26	A
Stream D-ABC	0.4	14.01	0.31	B	0.4	15.04	0.29	C	0.5	16.11	0.33	C
Stream C-ABD	0.0	5.07	0.00	A	0.0	4.53	0.00	A	0.0	0.00	0.00	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	(untitled)
Location	
Site number	
Date	20/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SANDERSONASSOC\carly.hoyle
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	Relationship type	Relationship
D1	2019	AM	ONE HOUR	07:30	09:00	15			
D2	2019	School-time	ONE HOUR	15:15	16:45	15			
D3	2019	PM	ONE HOUR	16:45	18:15	15			
D4	2024	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D1*1.0842
D5	2024	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D2*1.0842
D6	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D3*1.0816
D7	Dev	AM	ONE HOUR	07:30	09:00	15			
D8	Dev	School-time	ONE HOUR	15:15	16:45	15			
D9	Dev	PM	ONE HOUR	16:45	18:15	15			
D10	2024 + Dev	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D4+D7
D11	2024 + Dev	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D5+D8
D12	2024 + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D9

Analysis Set Details

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

2024, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	1.42	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Burton Road N		Major
B	Norman Close		Minor
C	Burton Road S		Major
D	Cross Street		Minor

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)
A	7.40			60.0	✓	0.00
C	7.40			65.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.75	24	14
D	One lane	3.50	200	140

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
1	A-D	609	-	-	-	-	-	-	0.221	0.316	0.221	-	-	-
1	B-A	480	0.082	0.208	0.208	-	-	-	0.131	0.296	-	0.208	0.208	0.104
1	B-C	617	0.089	0.224	-	-	-	-	-	-	-	-	-	-
1	B-D, nearside lane	480	0.082	0.208	0.208	-	-	-	0.131	0.296	0.131	-	-	-
1	B-D, offside lane	480	0.082	0.208	0.208	-	-	-	0.131	0.296	0.131	-	-	-
1	C-B	612	0.223	0.223	0.318	-	-	-	-	-	-	-	-	-
1	D-A	748	-	-	-	-	-	-	0.272	-	0.108	-	-	-
1	D-B, nearside lane	648	0.176	0.176	0.400	-	-	-	0.280	0.280	0.111	-	-	-
1	D-B, offside lane	648	0.176	0.176	0.400	-	-	-	0.280	0.280	0.111	-	-	-
1	D-C	648	-	0.176	0.400	0.140	0.280	0.280	0.280	0.280	0.111	-	-	-

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	Relationship type	Relationship
D4	2024	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D1*1.0842

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	✓	752	100.000
B		ONE HOUR	✓	3	100.000
C		ONE HOUR	✓	429	100.000
D		ONE HOUR	✓	96	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	1	711	40
	B	0	0	3	0
	C	402	1	0	26
	D	13	0	83	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	3	0
	B	0	0	0	0
	C	6	0	0	0
	D	0	0	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-ACD	0.00	0.00	0.0	A	0	0
A-BCD	0.16	4.34	0.5	A	117	176
A-B					0.87	1
A-C					572	858
D-ABC	0.28	13.38	0.4	B	89	133
C-ABD	0.00	5.08	0.0	A	2	3
C-D					24	36
C-A					368	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)	LOS
B-ACD	0	0	345	0.000	0	0.0	0.0	0.000	A
A-BCD	74	18	907	0.082	73	0.0	0.2	4.320	A
A-B	0.75	0.19			0.75				
A-C	492	123			492				
D-ABC	73	18	467	0.155	72	0.0	0.2	9.088	A
C-ABD	1	0.37	711	0.002	1	0.0	0.0	5.069	A
C-D	20	5			20				
C-A	302	76			302				

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)	LOS
B-ACD	0	0	312	0.000	0	0.0	0.0	0.000	A
A-BCD	107	27	970	0.110	106	0.2	0.2	4.167	A
A-B	0.87	0.22			0.87				
A-C	569	142			569				
D-ABC	87	22	429	0.202	86	0.2	0.2	10.502	B
C-ABD	2	0.51	736	0.003	2	0.0	0.0	4.893	A
C-D	23	6			23				
C-A	361	90			361				

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)	LOS
B-ACD	0	0	266	0.000	0	0.0	0.0	0.000	A
A-BCD	171	43	1060	0.161	170	0.2	0.5	4.045	A
A-B	1	0.25			1				
A-C	657	164			657				
D-ABC	106	27	376	0.283	106	0.2	0.4	13.314	B
C-ABD	3	0.77	774	0.004	3	0.0	0.0	4.658	A
C-D	29	7			29				
C-A	441	110			441				

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)	LOS
B-ACD	0	0	266	0.000	0	0.0	0.0	0.000	A
A-BCD	171	43	1061	0.162	171	0.5	0.5	4.058	A
A-B	1	0.25			1				
A-C	656	164			656				
D-ABC	106	27	375	0.283	106	0.4	0.4	13.375	B
C-ABD	3	0.77	774	0.004	3	0.0	0.0	4.668	A
C-D	29	7			29				
C-A	441	110			441				

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)	LOS
B-ACD	0	0	312	0.000	0	0.0	0.0	0.000	A
A-BCD	107	27	971	0.110	108	0.5	0.3	4.190	A
A-B	0.87	0.22			0.87				
A-C	568	142			568				
D-ABC	87	22	429	0.202	87	0.4	0.3	10.561	B
C-ABD	2	0.51	736	0.003	2	0.0	0.0	4.916	A
C-D	23	6			23				
C-A	361	90			361				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	0	0	344	0.000	0	0.0	0.0	0.000	A
A-BCD	74	19	907	0.082	75	0.3	0.2	4.335	A
A-B	0.75	0.19			0.75				
A-C	491	123			491				
D-ABC	73	18	467	0.156	73	0.3	0.2	9.139	A
C-ABD	1	0.37	711	0.002	2	0.0	0.0	5.082	A
C-D	20	5			20				
C-A	302	76			302				

2024, School-time

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	1.65	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	Relationship type	Relationship
D5	2024	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D2*1.0842

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	✓	781	100.000
B		ONE HOUR	✓	5	100.000
C		ONE HOUR	✓	593	100.000
D		ONE HOUR	✓	87	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	4	719	57
	B	1	0	4	0
	C	515	1	0	77
	D	34	0	53	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	25	3	6
	B	100	0	0	0
	C	3	0	0	10
	D	0	0	12	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-ACD	0.02	14.00	0.0	B	5	7
A-BCD	0.27	4.80	1.0	A	188	282
A-B					3	5
A-C					525	787
D-ABC	0.28	14.81	0.4	B	80	119
C-ABD	0.00	4.54	0.0	A	3	4
C-D					70	106
C-A					471	706

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	4	1	334	0.012	4	0.0	0.0	10.911	B
A-BCD	115	29	874	0.131	113	0.0	0.3	4.730	A
A-B	3	0.71			3				
A-C	470	118			470				
D-ABC	65	16	438	0.149	65	0.0	0.2	9.628	A
C-ABD	2	0.46	796	0.002	2	0.0	0.0	4.530	A
C-D	58	14			58				
C-A	387	97			387				

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	5	1	305	0.016	5	0.0	0.0	11.986	B
A-BCD	169	42	940	0.180	168	0.3	0.5	4.683	A
A-B	3	0.80			3				
A-C	529	132			529				
D-ABC	78	19	397	0.196	78	0.2	0.2	11.264	B
C-ABD	3	0.67	840	0.003	3	0.0	0.0	4.292	A
C-D	69	17			69				
C-A	461	115			461				

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	6	1	263	0.023	6	0.0	0.0	13.976	B
A-BCD	279	70	1034	0.270	277	0.5	1.0	4.784	A
A-B	3	1			3				
A-C	577	144			577				
D-ABC	95	24	339	0.282	95	0.2	0.4	14.724	B
C-ABD	4	1	906	0.005	4	0.0	0.0	3.987	A
C-D	84	21			84				
C-A	564	141			564				

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)	LOS
B-ACD	6	1	263	0.023	6	0.0	0.0	14.001	B
A-BCD	280	70	1035	0.271	280	1.0	1.0	4.802	A
A-B	3	1			3				
A-C	576	144			576				
D-ABC	95	24	339	0.282	95	0.4	0.4	14.810	B
C-ABD	4	1	905	0.005	4	0.0	0.0	3.994	A
C-D	84	21			84				
C-A	564	141			564				

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)	LOS
B-ACD	5	1	305	0.016	5	0.0	0.0	12.011	B
A-BCD	170	43	941	0.181	172	1.0	0.6	4.699	A
A-B	3	0.80			3				
A-C	528	132			528				
D-ABC	78	19	397	0.197	79	0.4	0.2	11.338	B
C-ABD	3	0.67	840	0.003	3	0.0	0.0	4.310	A
C-D	69	17			69				
C-A	461	115			461				

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)	LOS
B-ACD	4	1	333	0.012	4	0.0	0.0	10.929	B
A-BCD	116	29	875	0.132	117	0.6	0.3	4.754	A
A-B	3	0.71			3				
A-C	469	117			469				
D-ABC	65	16	437	0.149	66	0.2	0.2	9.689	A
C-ABD	2	0.47	796	0.002	2	0.0	0.0	4.542	A
C-D	58	14			58				
C-A	387	97			387				

2024, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	1.81	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	Relationship type	Relationship
D6	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D3*1.0816

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	✓	628	100.000
B		ONE HOUR	✓	0	100.000
C		ONE HOUR	✓	686	100.000
D		ONE HOUR	✓	97	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	0	562	66
	B	0	0	0	0
	C	602	0	0	83
	D	35	0	63	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	1	0	0	8
	D	0	0	12	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-ACD	0.00	0.00	0.0	A	0	0
A-BCD	0.26	5.35	0.8	A	162	243
A-B					0	0
A-C					414	622
D-ABC	0.32	15.65	0.5	C	89	134
C-ABD	0.00	0.00	0.0	A	0	0
C-D					76	115
C-A					553	829

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)	LOS
B-ACD	0	0	347	0.000	0	0.0	0.0	0.000	A
A-BCD	106	26	800	0.132	104	0.0	0.3	5.177	A
A-B	0	0			0				
A-C	368	92			368				
D-ABC	73	18	434	0.169	72	0.0	0.2	9.945	A
C-ABD	0	0	491	0.000	0	0.0	0.0	0.000	A
C-D	63	16			63				
C-A	454	113			454				

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)	LOS
B-ACD	0	0	314	0.000	0	0.0	0.0	0.000	A
A-BCD	149	37	844	0.177	148	0.3	0.5	5.189	A
A-B	0	0			0				
A-C	416	104			416				
D-ABC	88	22	394	0.222	87	0.2	0.3	11.730	B
C-ABD	0	0	469	0.000	0	0.0	0.0	0.000	A
C-D	75	19			75				
C-A	542	135			542				

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)	LOS
B-ACD	0	0	268	0.000	0	0.0	0.0	0.000	A
A-BCD	231	58	907	0.255	230	0.5	0.8	5.330	A
A-B	0	0			0				
A-C	461	115			461				
D-ABC	107	27	337	0.318	106	0.3	0.5	15.544	C
C-ABD	0	0	440	0.000	0	0.0	0.0	0.000	A
C-D	92	23			92				
C-A	663	166			663				

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)	LOS
B-ACD	0	0	268	0.000	0	0.0	0.0	0.000	A
A-BCD	232	58	908	0.255	232	0.8	0.8	5.350	A
A-B	0	0			0				
A-C	460	115			460				
D-ABC	107	27	337	0.318	107	0.5	0.5	15.654	C
C-ABD	0	0	440	0.000	0	0.0	0.0	0.000	A
C-D	92	23			92				
C-A	663	166			663				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	0	0	314	0.000	0	0.0	0.0	0.000	A
A-BCD	150	37	845	0.177	151	0.8	0.5	5.218	A
A-B	0	0			0				
A-C	415	104			415				
D-ABC	88	22	393	0.222	88	0.5	0.3	11.821	B
C-ABD	0	0	469	0.000	0	0.0	0.0	0.000	A
C-D	75	19			75				
C-A	542	135			542				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	0	0	347	0.000	0	0.0	0.0	0.000	A
A-BCD	106	27	801	0.133	107	0.5	0.3	5.208	A
A-B	0	0			0				
A-C	367	92			367				
D-ABC	73	18	433	0.169	74	0.3	0.2	10.020	B
C-ABD	0	0	490	0.000	0	0.0	0.0	0.000	A
C-D	63	16			63				
C-A	454	113			454				

2024 + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	1.54	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	Relationship type	Relationship
D10	2024 + Dev	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D4+D7

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	✓	752	100.000
B		ONE HOUR	✓	3	100.000
C		ONE HOUR	✓	432	100.000
D		ONE HOUR	✓	105	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	1	711	40
	B	0	0	3	0
	C	402	1	0	29
	D	13	0	92	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	3	0
	B	0	0	0	0
	C	6	0	0	0
	D	0	0	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-ACD	0.00	0.00	0.0	A	0	0
A-BCD	0.16	4.34	0.5	A	118	176
A-B					0.87	1
A-C					572	858
D-ABC	0.31	14.01	0.4	B	97	145
C-ABD	0.00	5.07	0.0	A	2	3
C-D					27	40
C-A					368	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)	LOS
B-ACD	0	0	344	0.000	0	0.0	0.0	0.000	A
A-BCD	74	18	906	0.082	73	0.0	0.2	4.322	A
A-B	0.75	0.19			0.75				
A-C	492	123			492				
D-ABC	79	20	465	0.171	79	0.0	0.2	9.290	A
C-ABD	1	0.37	713	0.002	1	0.0	0.0	5.058	A
C-D	22	5			22				
C-A	302	76			302				

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)	LOS
B-ACD	0	0	311	0.000	0	0.0	0.0	0.000	A
A-BCD	107	27	970	0.110	106	0.2	0.2	4.171	A
A-B	0.87	0.22			0.87				
A-C	569	142			569				
D-ABC	95	24	427	0.222	95	0.2	0.3	10.824	B
C-ABD	2	0.51	739	0.003	2	0.0	0.0	4.880	A
C-D	26	7			26				
C-A	361	90			361				

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)	LOS
B-ACD	0	0	266	0.000	0	0.0	0.0	0.000	A
A-BCD	171	43	1060	0.161	170	0.2	0.5	4.049	A
A-B	1	0.25			1				
A-C	656	164			656				
D-ABC	116	29	373	0.311	116	0.3	0.4	13.936	B
C-ABD	3	0.77	777	0.004	3	0.0	0.0	4.643	A
C-D	32	8			32				
C-A	441	110			441				

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)	LOS
B-ACD	0	0	265	0.000	0	0.0	0.0	0.000	A
A-BCD	172	43	1060	0.162	172	0.5	0.5	4.061	A
A-B	1.00	0.25			1.00				
A-C	656	164			656				
D-ABC	116	29	373	0.311	116	0.4	0.4	14.012	B
C-ABD	3	0.77	777	0.004	3	0.0	0.0	4.653	A
C-D	32	8			32				
C-A	441	110			441				

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)	LOS
B-ACD	0	0	311	0.000	0	0.0	0.0	0.000	A
A-BCD	107	27	970	0.111	108	0.5	0.3	4.190	A
A-B	0.87	0.22			0.87				
A-C	568	142			568				
D-ABC	95	24	427	0.222	95	0.4	0.3	10.893	B
C-ABD	2	0.51	738	0.003	2	0.0	0.0	4.904	A
C-D	26	7			26				
C-A	361	90			361				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	0	0	344	0.000	0	0.0	0.0	0.000	A
A-BCD	75	19	907	0.082	75	0.3	0.2	4.339	A
A-B	0.75	0.19			0.75				
A-C	491	123			491				
D-ABC	79	20	465	0.171	80	0.3	0.2	9.350	A
C-ABD	2	0.38	713	0.002	2	0.0	0.0	5.072	A
C-D	22	5			22				
C-A	302	76			302				

2024 + Dev, School-time

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	1.68	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	Relationship type	Relationship
D11	2024 + Dev	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D5+D8

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	✓	781	100.000
B		ONE HOUR	✓	5	100.000
C		ONE HOUR	✓	597	100.000
D		ONE HOUR	✓	89	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	4	719	57
	B	1	0	4	0
	C	515	1	0	81
	D	34	0	55	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	25	3	6
	B	100	0	0	0
	C	3	0	0	9
	D	0	0	12	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-ACD	0.02	14.01	0.0	B	5	7
A-BCD	0.27	4.81	1.0	A	188	283
A-B					3	5
A-C					525	787
D-ABC	0.29	15.04	0.4	C	81	122
C-ABD	0.00	4.53	0.0	A	3	4
C-D					74	111
C-A					471	706

Main Results for each time segment

15:15 - 15:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	4	1	334	0.012	4	0.0	0.0	10.913	B
A-BCD	115	29	874	0.131	114	0.0	0.3	4.733	A
A-B	3	0.71			3				
A-C	470	118			470				
D-ABC	67	17	437	0.153	66	0.0	0.2	9.690	A
C-ABD	2	0.47	799	0.002	2	0.0	0.0	4.517	A
C-D	61	15			61				
C-A	387	97			387				

15:30 - 15:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	5	1	305	0.016	5	0.0	0.0	11.990	B
A-BCD	169	42	939	0.180	168	0.3	0.5	4.685	A
A-B	3	0.80			3				
A-C	529	132			529				
D-ABC	80	20	396	0.202	79	0.2	0.2	11.368	B
C-ABD	3	0.67	843	0.003	3	0.0	0.0	4.278	A
C-D	73	18			73				
C-A	461	115			461				

15:45 - 16:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	6	1	263	0.023	6	0.0	0.0	13.985	B
A-BCD	280	70	1033	0.271	278	0.5	1.0	4.790	A
A-B	3	1			3				
A-C	576	144			576				
D-ABC	98	24	337	0.290	97	0.2	0.4	14.944	B
C-ABD	4	1	909	0.005	4	0.0	0.0	3.973	A
C-D	89	22			89				
C-A	564	141			564				

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)	LOS
B-ACD	6	1	263	0.023	6	0.0	0.0	14.010	B
A-BCD	281	70	1034	0.271	281	1.0	1.0	4.808	A
A-B	3	1			3				
A-C	575	144			575				
D-ABC	98	24	337	0.290	98	0.4	0.4	15.036	C
C-ABD	4	1	909	0.005	4	0.0	0.0	3.979	A
C-D	89	22			89				
C-A	564	141			564				

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)	LOS
B-ACD	5	1	305	0.016	5	0.0	0.0	12.018	B
A-BCD	170	43	941	0.181	172	1.0	0.6	4.702	A
A-B	3	0.80			3				
A-C	528	132			528				
D-ABC	80	20	395	0.202	80	0.4	0.3	11.448	B
C-ABD	3	0.67	843	0.003	3	0.0	0.0	4.295	A
C-D	73	18			73				
C-A	461	115			461				

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)	LOS
B-ACD	4	1	333	0.012	4	0.0	0.0	10.934	B
A-BCD	116	29	875	0.133	117	0.6	0.3	4.758	A
A-B	3	0.71			3				
A-C	469	117			469				
D-ABC	67	17	436	0.153	67	0.3	0.2	9.756	A
C-ABD	2	0.47	798	0.002	2	0.0	0.0	4.530	A
C-D	61	15			61				
C-A	387	97			387				

2024 + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	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)	Run automatically	Relationship type	Relationship
D12	2024 + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D9

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	✓	628	100.000
B		ONE HOUR	✓	0	100.000
C		ONE HOUR	✓	695	100.000
D		ONE HOUR	✓	101	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		A	B	C	D
From	A	0	0	562	66
	B	0	0	0	0
	C	602	0	0	92
	D	35	0	67	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A	B	C	D
From	A	0	0	0	0
	B	0	0	0	0
	C	1	0	0	7
	D	0	0	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-ACD	0.00	0.00	0.0	A	0	0
A-BCD	0.26	5.37	0.8	A	163	244
A-B					0	0
A-C					414	621
D-ABC	0.33	16.11	0.5	C	93	139
C-ABD	0.00	0.00	0.0	A	0	0
C-D					85	127
C-A					553	829

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)	LOS
B-ACD	0	0	346	0.000	0	0.0	0.0	0.000	A
A-BCD	106	26	799	0.132	105	0.0	0.3	5.187	A
A-B	0	0			0				
A-C	367	92			367				
D-ABC	76	19	432	0.176	75	0.0	0.2	10.066	B
C-ABD	0	0	492	0.000	0	0.0	0.0	0.000	A
C-D	69	17			69				
C-A	454	113			454				

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)	LOS
B-ACD	0	0	314	0.000	0	0.0	0.0	0.000	A
A-BCD	149	37	842	0.177	149	0.3	0.5	5.202	A
A-B	0	0			0				
A-C	415	104			415				
D-ABC	91	23	392	0.232	91	0.2	0.3	11.931	B
C-ABD	0	0	470	0.000	0	0.0	0.0	0.000	A
C-D	83	21			83				
C-A	542	135			542				

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)	LOS
B-ACD	0	0	267	0.000	0	0.0	0.0	0.000	A
A-BCD	232	58	906	0.256	230	0.5	0.8	5.347	A
A-B	0	0			0				
A-C	460	115			460				
D-ABC	112	28	335	0.333	111	0.3	0.5	15.993	C
C-ABD	0	0	441	0.000	0	0.0	0.0	0.000	A
C-D	102	25			102				
C-A	663	166			663				

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)	LOS
B-ACD	0	0	267	0.000	0	0.0	0.0	0.000	A
A-BCD	232	58	907	0.256	232	0.8	0.8	5.368	A
A-B	0	0			0				
A-C	459	115			459				
D-ABC	112	28	335	0.333	112	0.5	0.5	16.114	C
C-ABD	0	0	441	0.000	0	0.0	0.0	0.000	A
C-D	102	25			102				
C-A	663	166			663				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	0	0	313	0.000	0	0.0	0.0	0.000	A
A-BCD	150	38	843	0.178	151	0.8	0.5	5.230	A
A-B	0	0			0				
A-C	415	104			415				
D-ABC	91	23	392	0.233	92	0.5	0.3	12.036	B
C-ABD	0	0	470	0.000	0	0.0	0.0	0.000	A
C-D	83	21			83				
C-A	542	135			542				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
B-ACD	0	0	346	0.000	0	0.0	0.0	0.000	A
A-BCD	107	27	799	0.133	107	0.5	0.3	5.217	A
A-B	0	0			0				
A-C	366	92			366				
D-ABC	76	19	432	0.177	77	0.3	0.2	10.143	B
C-ABD	0	0	491	0.000	0	0.0	0.0	0.000	A
C-D	69	17			69				
C-A	454	113			454				

APPENDIX E

Junctions 9 Results – Fish Dam Lane Roundabout

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Filename: Fish Dam Roundabout.j9
Path: J:\11000\11000\11097_GardenHouseCloseMonk\engineering\Traffic_Programs\Junctions 9\Fish Dam Roundabout
Report generation date: 20/09/2019 13:42:46

»2024, AM
»2024, School-time
»2024, PM
»2024 + Dev, AM
»2024 + Dev, School-time
»2024 + Dev, PM

Summary of junction performance

	AM				School-time				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	2024											
Arm 1	0.3	6.40	0.24	A	0.7	12.27	0.41	B	0.5	7.86	0.32	A
Arm 2	0.2	4.28	0.17	A	0.2	6.44	0.20	A	0.2	4.58	0.16	A
Arm 3	0.7	6.68	0.40	A	1.2	13.23	0.55	B	1.0	8.58	0.50	A
Arm 4	0.5	3.18	0.33	A	0.7	3.58	0.43	A	0.4	2.93	0.29	A
Arm 5	0.7	4.47	0.42	A	1.2	6.93	0.55	A	1.1	5.39	0.53	A
	2024 + Dev											
Arm 1	0.3	6.49	0.25	A	0.7	12.44	0.42	B	0.5	7.90	0.32	A
Arm 2	0.2	4.30	0.17	A	0.3	6.47	0.20	A	0.2	4.58	0.16	A
Arm 3	0.7	6.71	0.40	A	1.2	13.43	0.56	B	1.0	8.70	0.51	A
Arm 4	0.5	3.19	0.33	A	0.7	3.60	0.43	A	0.4	2.95	0.29	A
Arm 5	0.7	4.48	0.42	A	1.2	6.97	0.55	A	1.1	5.43	0.54	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	(untitled)
Location	
Site number	
Date	20/09/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SANDERSONASSOC\carly.hoyle
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	Relationship type	Relationship
D1	2019	AM	ONE HOUR	07:30	09:00	15			
D2	2019	School-time	ONE HOUR	15:15	16:45	15			
D3	2019	PM	ONE HOUR	16:45	18:15	15			
D4	2024	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D1*1.0842
D5	2024	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D2*1.0842
D6	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D3*1.0816
D7	Dev	AM	ONE HOUR	07:30	09:00	15			
D8	Dev	School-time	ONE HOUR	15:15	16:45	15			
D9	Dev	PM	ONE HOUR	16:45	18:15	15			
D10	2024 + Dev	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D4+D7
D11	2024 + Dev	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D5+D8
D12	2024 + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D9

Analysis Set Details

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

2024, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1,2,3,4,5	4.68	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	High Street	
2	St Helens Way	
3	Fish Dam Lane	
4	Burton Road E	
5	Burton Road S	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.60	5.65	1.5	9.1	55.0	50.0	
2	3.65	7.90	4.7	15.0	55.0	28.0	
3	3.45	7.85	3.6	12.0	55.0	51.0	
4	4.05	7.65	16.4	67.7	55.0	12.5	
5	4.00	6.35	9.7	18.2	55.0	30.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.431	1052
2	0.531	1423
3	0.460	1178
4	0.673	2046
5	0.566	1605

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)	Run automatically	Relationship type	Relationship
D4	2024	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D1*1.0842

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 (%)
1		ONE HOUR	✓	159	100.000
2		ONE HOUR	✓	156	100.000
3		ONE HOUR	✓	321	100.000
4		ONE HOUR	✓	509	100.000
5		ONE HOUR	✓	535	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	1	27	62	57	11
	2	24	0	55	22	55
	3	44	28	3	16	229
	4	104	30	8	0	367
	5	14	45	216	260	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	8	0	0
	2	0	0	6	0	4
	3	17	0	0	12	5
	4	2	7	22	0	2
	5	0	7	3	4	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)
1	0.24	6.40	0.3	A	146	218
2	0.17	4.28	0.2	A	143	215
3	0.40	6.68	0.7	A	294	442
4	0.33	3.18	0.5	A	467	701
5	0.42	4.47	0.7	A	491	737

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)	LOS
1	119	30	443	827	0.144	119	140	0.0	0.2	5.080	A
2	118	29	464	1129	0.104	117	98	0.0	0.1	3.554	A
3	242	60	323	959	0.252	240	258	0.0	0.3	4.996	A
4	383	96	297	1788	0.214	382	266	0.0	0.3	2.560	A
5	403	101	182	1443	0.279	401	497	0.0	0.4	3.451	A

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)	LOS
1	143	36	531	789	0.181	142	168	0.2	0.2	5.568	A
2	141	35	556	1080	0.130	140	117	0.1	0.1	3.829	A
3	288	72	387	931	0.310	288	309	0.3	0.4	5.594	A
4	458	114	356	1747	0.262	458	319	0.3	0.4	2.791	A
5	481	120	218	1423	0.338	481	596	0.4	0.5	3.820	A

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)	LOS
1	175	44	650	737	0.237	174	205	0.2	0.3	6.392	A
2	172	43	681	1014	0.170	172	143	0.1	0.2	4.274	A
3	353	88	474	892	0.396	352	379	0.4	0.6	6.657	A
4	561	140	436	1692	0.331	560	391	0.4	0.5	3.179	A
5	589	147	267	1394	0.423	588	729	0.5	0.7	4.462	A

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)	LOS
1	175	44	651	737	0.237	175	206	0.3	0.3	6.405	A
2	172	43	682	1013	0.170	172	144	0.2	0.2	4.279	A
3	353	88	475	892	0.396	353	379	0.6	0.7	6.679	A
4	561	140	437	1691	0.332	561	391	0.5	0.5	3.183	A
5	589	147	267	1394	0.423	589	730	0.7	0.7	4.472	A

08:30 - 08:45

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)	LOS
1	143	36	532	788	0.181	143	168	0.3	0.2	5.584	A
2	141	35	558	1080	0.130	141	118	0.2	0.2	3.834	A
3	288	72	388	931	0.310	289	310	0.7	0.5	5.619	A
4	458	114	357	1746	0.262	458	320	0.5	0.4	2.798	A
5	481	120	218	1422	0.338	482	597	0.7	0.5	3.831	A

08:45 - 09:00

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)	LOS
1	119	30	446	826	0.145	120	141	0.2	0.2	5.098	A
2	118	29	467	1128	0.104	118	98	0.2	0.1	3.563	A
3	242	60	325	959	0.252	242	260	0.5	0.3	5.025	A
4	383	96	299	1787	0.215	384	268	0.4	0.3	2.566	A
5	403	101	183	1443	0.279	403	500	0.5	0.4	3.467	A

2024, School-time

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1,2,3,4,5	7.29	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)	Run automatically	Relationship type	Relationship
D5	2024	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D2*1.0842

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 (%)
1		ONE HOUR	✓	185	100.000
2		ONE HOUR	✓	127	100.000
3		ONE HOUR	✓	305	100.000
4		ONE HOUR	✓	681	100.000
5		ONE HOUR	✓	581	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	1	29	49	94	11
	2	20	0	25	30	52
	3	36	18	1	25	225
	4	40	9	3	516	113
	5	25	50	174	330	2

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	12	1	9
	2	5	0	0	3	2
	3	18	0	0	0	3
	4	1	5	0	0	2
	5	0	2	5	3	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)
1	0.41	12.27	0.7	B	170	255
2	0.20	6.44	0.2	A	117	175
3	0.55	13.23	1.2	B	280	420
4	0.43	3.58	0.7	A	625	938
5	0.55	6.93	1.2	A	533	799

Main Results for each time segment

15:15 - 15:30

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)	LOS
1	139	35	828	660	0.211	138	91	0.0	0.3	6.883	A
2	96	24	886	919	0.104	95	80	0.0	0.1	4.367	A
3	230	57	792	773	0.297	228	189	0.0	0.4	6.583	A
4	513	128	274	1845	0.278	511	746	0.0	0.4	2.697	A
5	437	109	483	1284	0.340	435	301	0.0	0.5	4.229	A

15:30 - 15:45

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)	LOS
1	166	42	991	591	0.281	166	109	0.3	0.4	8.450	A
2	114	29	1061	826	0.138	114	96	0.1	0.2	5.052	A
3	274	69	948	703	0.390	273	227	0.4	0.6	8.355	A
4	612	153	328	1807	0.339	612	894	0.4	0.5	3.011	A
5	522	131	579	1232	0.424	521	361	0.5	0.7	5.061	A

15:45 - 16:00

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)	LOS
1	204	51	1213	498	0.409	203	133	0.4	0.7	12.137	B
2	140	35	1298	701	0.200	139	117	0.2	0.2	6.412	A
3	336	84	1160	609	0.552	333	277	0.6	1.2	12.978	B
4	750	187	400	1756	0.427	749	1094	0.5	0.7	3.572	A
5	639	160	708	1160	0.551	638	441	0.7	1.2	6.869	A

16:00 - 16:15

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)	LOS
1	204	51	1215	497	0.410	204	133	0.7	0.7	12.274	B
2	140	35	1302	699	0.200	140	118	0.2	0.2	6.439	A
3	336	84	1163	607	0.553	336	278	1.2	1.2	13.234	B
4	750	187	403	1754	0.428	750	1096	0.7	0.7	3.583	A
5	639	160	709	1159	0.552	639	443	1.2	1.2	6.926	A

16:15 - 16:30

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)	LOS
1	166	42	995	590	0.282	168	109	0.7	0.4	8.550	A
2	114	29	1066	824	0.139	115	97	0.2	0.2	5.080	A
3	274	69	952	701	0.391	276	228	1.2	0.7	8.513	A
4	612	153	331	1804	0.339	613	898	0.7	0.5	3.026	A
5	522	131	581	1231	0.424	524	364	1.2	0.7	5.108	A

16:30 - 16:45

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)	LOS
1	139	35	832	658	0.212	140	91	0.4	0.3	6.949	A
2	96	24	892	916	0.104	96	81	0.2	0.1	4.390	A
3	230	57	797	771	0.298	230	191	0.7	0.4	6.669	A
4	513	128	276	1843	0.278	513	751	0.5	0.4	2.710	A
5	437	109	486	1283	0.341	438	304	0.7	0.5	4.266	A

2024, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1,2,3,4,5	5.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically	Relationship type	Relationship
D6	2024	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D3*1.0816

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 (%)
1		ONE HOUR	✓	194	100.000
2		ONE HOUR	✓	138	100.000
3		ONE HOUR	✓	380	100.000
4		ONE HOUR	✓	447	100.000
5		ONE HOUR	✓	695	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	18	54	103	18
	2	17	0	26	43	52
	3	45	23	5	40	266
	4	109	39	9	3	287
	5	15	56	235	388	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	7	1	0
	2	0	0	0	0	0
	3	15	0	0	8	0
	4	1	0	0	0	0
	5	0	0	1	1	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)
1	0.32	7.86	0.5	A	178	267
2	0.16	4.58	0.2	A	127	191
3	0.50	8.58	1.0	A	348	523
4	0.29	2.93	0.4	A	410	615
5	0.53	5.39	1.1	A	638	957

Main Results for each time segment

16:45 - 17:00

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)	LOS
1	146	37	569	784	0.186	145	140	0.0	0.2	5.624	A
2	104	26	612	1094	0.095	104	102	0.0	0.1	3.634	A
3	286	71	469	937	0.305	284	247	0.0	0.4	5.500	A
4	336	84	321	1822	0.185	335	433	0.0	0.2	2.420	A
5	523	131	188	1484	0.353	521	468	0.0	0.5	3.733	A

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)	LOS
1	174	44	682	737	0.237	174	168	0.2	0.3	6.396	A
2	124	31	733	1028	0.121	124	122	0.1	0.1	3.981	A
3	341	85	562	895	0.381	341	295	0.4	0.6	6.486	A
4	402	100	384	1779	0.226	401	519	0.2	0.3	2.613	A
5	625	156	225	1462	0.427	624	560	0.5	0.7	4.293	A

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)	LOS
1	214	53	834	672	0.318	213	206	0.3	0.5	7.830	A
2	152	38	897	940	0.162	152	150	0.1	0.2	4.568	A
3	418	105	688	838	0.499	417	362	0.6	1.0	8.512	A
4	492	123	470	1720	0.286	491	635	0.3	0.4	2.930	A
5	766	191	276	1433	0.534	764	686	0.7	1.1	5.367	A

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)	LOS
1	214	53	836	671	0.318	214	206	0.5	0.5	7.862	A
2	152	38	899	939	0.162	152	150	0.2	0.2	4.575	A
3	418	105	689	838	0.499	418	362	1.0	1.0	8.579	A
4	492	123	471	1719	0.286	492	636	0.4	0.4	2.932	A
5	766	191	276	1433	0.534	765	687	1.1	1.1	5.395	A

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)	LOS
1	174	44	684	736	0.237	175	168	0.5	0.3	6.429	A
2	124	31	736	1027	0.121	125	123	0.2	0.1	3.991	A
3	341	85	564	894	0.382	343	297	1.0	0.6	6.547	A
4	402	100	386	1777	0.226	402	521	0.4	0.3	2.618	A
5	625	156	226	1462	0.428	627	562	1.1	0.8	4.319	A

18:00 - 18:15

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)	LOS
1	146	37	572	783	0.187	146	141	0.3	0.2	5.657	A
2	104	26	616	1092	0.095	104	103	0.1	0.1	3.646	A
3	286	71	472	936	0.306	287	248	0.6	0.4	5.554	A
4	336	84	323	1820	0.185	337	436	0.3	0.2	2.428	A
5	523	131	189	1483	0.353	524	471	0.8	0.5	3.759	A

2024 + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1,2,3,4,5	4.71	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	Relationship type	Relationship
D10	2024 + Dev	AM	ONE HOUR	07:30	09:00	15	✓	Simple	D4+D7

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 (%)
1		ONE HOUR	✓	167	100.000
2		ONE HOUR	✓	156	100.000
3		ONE HOUR	✓	322	100.000
4		ONE HOUR	✓	510	100.000
5		ONE HOUR	✓	535	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	1	27	67	60	11
	2	24	0	55	22	55
	3	45	28	3	16	229
	4	105	30	8	0	367
	5	14	45	216	260	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	7	0	0
	2	0	0	6	0	4
	3	17	0	0	12	5
	4	2	7	22	0	2
	5	0	7	3	4	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)
1	0.25	6.49	0.3	A	153	229
2	0.17	4.30	0.2	A	143	215
3	0.40	6.71	0.7	A	295	443
4	0.33	3.19	0.5	A	468	702
5	0.42	4.48	0.7	A	491	737

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)	LOS
1	125	31	443	828	0.152	125	142	0.0	0.2	5.112	A
2	118	29	470	1126	0.104	117	98	0.0	0.1	3.565	A
3	242	61	325	959	0.253	241	262	0.0	0.3	5.007	A
4	384	96	298	1788	0.215	383	269	0.0	0.3	2.563	A
5	403	101	183	1442	0.279	401	497	0.0	0.4	3.454	A

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)	LOS
1	150	37	531	790	0.190	150	170	0.2	0.2	5.620	A
2	141	35	563	1077	0.131	140	117	0.1	0.1	3.845	A
3	289	72	390	930	0.311	289	314	0.3	0.4	5.611	A
4	459	115	357	1747	0.263	458	322	0.3	0.4	2.794	A
5	481	120	220	1422	0.339	481	596	0.4	0.5	3.824	A

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)	LOS
1	184	46	650	738	0.249	183	208	0.2	0.3	6.481	A
2	172	43	690	1009	0.171	172	143	0.1	0.2	4.298	A
3	354	89	477	891	0.398	354	384	0.4	0.7	6.686	A
4	562	140	437	1691	0.332	561	394	0.4	0.5	3.183	A
5	589	147	269	1393	0.423	588	729	0.5	0.7	4.469	A

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)	LOS
1	184	46	651	738	0.249	184	208	0.3	0.3	6.494	A
2	172	43	691	1009	0.171	172	144	0.2	0.2	4.302	A
3	354	89	478	891	0.398	354	385	0.7	0.7	6.709	A
4	562	140	438	1691	0.332	562	394	0.5	0.5	3.188	A
5	589	147	269	1393	0.423	589	730	0.7	0.7	4.479	A

08:30 - 08:45

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)	LOS
1	150	37	532	789	0.190	150	170	0.3	0.2	5.635	A
2	141	35	565	1076	0.131	141	118	0.2	0.2	3.850	A
3	289	72	391	930	0.311	290	315	0.7	0.5	5.636	A
4	459	115	358	1746	0.263	459	323	0.5	0.4	2.801	A
5	481	120	220	1421	0.339	482	597	0.7	0.5	3.835	A

08:45 - 09:00

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)	LOS
1	125	31	446	827	0.152	126	142	0.2	0.2	5.133	A
2	118	29	473	1125	0.105	118	98	0.2	0.1	3.574	A
3	242	61	327	958	0.253	243	264	0.5	0.3	5.038	A
4	384	96	300	1786	0.215	385	270	0.4	0.3	2.568	A
5	403	101	184	1442	0.279	403	500	0.5	0.4	3.470	A

2024 + Dev, School-time

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1,2,3,4,5	7.37	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	Relationship type	Relationship
D11	2024 + Dev	School-time	ONE HOUR	15:15	16:45	15	✓	Simple	D5+D8

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 (%)
1		ONE HOUR	✓	189	100.000
2		ONE HOUR	✓	128	100.000
3		ONE HOUR	✓	308	100.000
4		ONE HOUR	✓	683	100.000
5		ONE HOUR	✓	581	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	1	30	51	95	11
	2	21	0	25	30	52
	3	39	18	1	25	225
	4	42	9	3	516	113
	5	25	50	174	330	2

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	11	1	9
	2	5	0	0	3	2
	3	17	0	0	0	3
	4	1	5	0	0	2
	5	0	2	5	3	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)
1	0.42	12.44	0.7	B	174	260
2	0.20	6.47	0.3	A	117	176
3	0.56	13.43	1.2	B	283	424
4	0.43	3.60	0.7	A	627	940
5	0.55	6.97	1.2	A	533	799

Main Results for each time segment

15:15 - 15:30

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)	LOS
1	142	36	828	661	0.215	141	95	0.0	0.3	6.915	A
2	96	24	888	918	0.105	96	81	0.0	0.1	4.376	A
3	232	58	794	773	0.300	230	191	0.0	0.4	6.614	A
4	514	129	277	1843	0.279	513	747	0.0	0.4	2.704	A
5	437	109	488	1282	0.341	435	301	0.0	0.5	4.241	A

15:30 - 15:45

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)	LOS
1	170	43	991	592	0.287	170	114	0.3	0.4	8.511	A
2	115	29	1064	825	0.139	115	97	0.1	0.2	5.068	A
3	277	69	950	703	0.394	276	229	0.4	0.6	8.417	A
4	614	154	332	1804	0.340	614	895	0.4	0.5	3.021	A
5	522	131	584	1229	0.425	521	361	0.5	0.7	5.082	A

15:45 - 16:00

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)	LOS
1	208	52	1213	499	0.418	207	140	0.4	0.7	12.298	B
2	141	35	1302	699	0.202	141	118	0.2	0.3	6.442	A
3	339	85	1163	608	0.558	337	279	0.6	1.2	13.160	B
4	752	188	405	1753	0.429	751	1095	0.5	0.7	3.590	A
5	639	160	715	1156	0.553	638	441	0.7	1.2	6.914	A

16:00 - 16:15

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)	LOS
1	208	52	1215	497	0.419	208	140	0.7	0.7	12.443	B
2	141	35	1305	697	0.202	141	119	0.3	0.3	6.470	A
3	339	85	1165	607	0.559	339	280	1.2	1.2	13.433	B
4	752	188	407	1751	0.429	752	1097	0.7	0.7	3.602	A
5	639	160	716	1156	0.553	639	443	1.2	1.2	6.975	A

16:15 - 16:30

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)	LOS
1	170	43	995	590	0.288	171	115	0.7	0.4	8.615	A
2	115	29	1069	822	0.140	115	97	0.3	0.2	5.094	A
3	277	69	954	701	0.395	279	230	1.2	0.7	8.582	A
4	614	154	335	1802	0.341	615	899	0.7	0.5	3.034	A
5	522	131	586	1228	0.425	524	364	1.2	0.7	5.130	A

16:30 - 16:45

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)	LOS
1	142	36	832	659	0.216	143	96	0.4	0.3	6.982	A
2	96	24	894	915	0.105	97	81	0.2	0.1	4.398	A
3	232	58	798	771	0.301	233	192	0.7	0.4	6.705	A
4	514	129	279	1841	0.279	515	752	0.5	0.4	2.715	A
5	437	109	490	1281	0.341	438	304	0.7	0.5	4.277	A

2024 + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Demand Set Relationship	D10 - 2024 + Dev, AM	Demand Set relationships are chained. This may slow down the file.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1,2,3,4,5	5.72	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)	Run automatically	Relationship type	Relationship
D12	2024 + Dev	PM	ONE HOUR	16:45	18:15	15	✓	Simple	D6+D9

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 (%)
1		ONE HOUR	✓	196	100.000
2		ONE HOUR	✓	138	100.000
3		ONE HOUR	✓	385	100.000
4		ONE HOUR	✓	449	100.000
5		ONE HOUR	✓	695	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	18	55	104	18
	2	17	0	26	43	52
	3	50	23	5	40	266
	4	111	39	9	3	287
	5	15	56	235	388	1

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	7	1	0
	2	0	0	0	0	0
	3	13	0	0	8	0
	4	1	0	0	0	0
	5	0	0	1	1	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)
1	0.32	7.90	0.5	A	180	270
2	0.16	4.58	0.2	A	127	191
3	0.51	8.70	1.0	A	353	530
4	0.29	2.95	0.4	A	412	618
5	0.54	5.43	1.1	A	638	957

Main Results for each time segment

16:45 - 17:00

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)	LOS
1	148	37	569	784	0.188	147	145	0.0	0.2	5.635	A
2	104	26	614	1093	0.095	104	102	0.0	0.1	3.637	A
3	290	72	470	937	0.309	288	247	0.0	0.4	5.533	A
4	338	84	324	1820	0.186	337	434	0.0	0.2	2.427	A
5	523	131	193	1481	0.354	521	468	0.0	0.5	3.745	A

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)	LOS
1	176	44	682	737	0.239	176	174	0.2	0.3	6.412	A
2	124	31	735	1028	0.121	124	122	0.1	0.1	3.986	A
3	346	86	563	895	0.386	345	296	0.4	0.6	6.540	A
4	403	101	389	1776	0.227	403	519	0.2	0.3	2.622	A
5	625	156	231	1459	0.429	624	560	0.5	0.7	4.311	A

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)	LOS
1	216	54	834	672	0.321	215	213	0.3	0.5	7.863	A
2	152	38	899	939	0.162	152	150	0.1	0.2	4.574	A
3	424	106	689	838	0.505	422	363	0.6	1.0	8.624	A
4	494	124	475	1716	0.288	494	636	0.3	0.4	2.944	A
5	766	191	283	1429	0.536	764	686	0.7	1.1	5.402	A

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)	LOS
1	216	54	836	672	0.321	216	214	0.5	0.5	7.897	A
2	152	38	901	938	0.163	152	150	0.2	0.2	4.582	A
3	424	106	690	837	0.506	424	363	1.0	1.0	8.699	A
4	494	124	477	1715	0.288	494	637	0.4	0.4	2.946	A
5	766	191	284	1428	0.536	765	687	1.1	1.1	5.430	A

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)	LOS
1	176	44	684	736	0.239	177	175	0.5	0.3	6.448	A
2	124	31	738	1026	0.121	125	123	0.2	0.1	3.996	A
3	346	86	565	894	0.387	347	297	1.0	0.6	6.603	A
4	403	101	391	1774	0.227	404	522	0.4	0.3	2.629	A
5	625	156	232	1458	0.429	627	562	1.1	0.8	4.338	A

18:00 - 18:15

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)	LOS
1	148	37	572	783	0.188	148	146	0.3	0.2	5.669	A
2	104	26	617	1091	0.096	104	103	0.1	0.1	3.649	A
3	290	72	473	936	0.310	290	249	0.6	0.5	5.587	A
4	338	84	327	1818	0.186	338	436	0.3	0.2	2.432	A
5	523	131	194	1480	0.354	524	471	0.8	0.6	3.771	A