



# NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 12  
Memorandum on Possible Walking, Cycling and Equestrian  
Improvements

August 2014

# MEMORANDUM

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**Date** 29 May 2014  
**Reference** UA006156  
**From** Janice Hughes  
**To** Tam Parry – CCC, Mike Salter – CCC, Juliet Richardson – CCC, Lois Bowser - SCDC  
**Copies** Philip Harker - Hyder  
David Chapman - Hyder  
Nicola White - Arup  
Paul Kitson - HCA  
**Subject** Northstowe Phase 2 Pedestrian, Equestrian and Cycling Off-site Improvements

## Introduction

Cambridgeshire CC (Tam Parry) provided a note on 7<sup>th</sup> April 2014 setting out suggestions for pedestrian, equestrian and cycle network improvements. This has been followed up with a more detailed plan on the 21<sup>st</sup> May, which is attached. It is noted that these are stated as for 'Northstowe Phase 2 and Beyond' and thus some proposals will be appropriate for Phase 2 and others might be for delivery in Phase 3.

This note examines the suggestions and provides a suggested list of appropriate off-site improvements for Phase 2. The status of the proposals in terms of whether they were previously listed in the 2007 application is also identified.

In determining which improvements might be included for Phase 2, priority has been given to those suggestions which:

- Enable residents trips to be made on foot or cycle to and from Northstowe;
- Enable trips to the town centre from existing communities (Cottenham, Oakington, Longstanton, Willingham, Over, Swavesey, Bar Hill) to be made on foot or cycle; and
- Provide opportunities for leisure walking, cycling and horse riding to be made from Northstowe into the wider communities and countryside.

The cycle routes would be in three categories:

- **Commuter Routes** - on segregated cycleways alongside highways. These should be safe and attractive for use at all times of the day and evening;
- **Leisure Routes** – off-road cycleways through the countryside. In addition to providing pleasant routes for leisure trips, these may provide the most direct connections, suitable for work or school trips, but are not likely to be subject to natural surveillance nor lit. These will often be shared by walkers and equestrians; and
- **Quiet Roads** – routes or sections of routes which use quieter roads and cyclists and potentially equestrians share the carriageway.

It is noted that some links may be of considerable benefit to the local area, but may not specifically provide access to and from Northstowe. In this case they are not included as improvements that might be provided as part of Northstowe Phase 2.

The sections below set out a response on each suggestion and those which might be possible improvements are shown on the accompanying plan. These comments are to assist the on-going discussion and should not be read as a commitment to support them.

### Cycle Network Improvements

	Location	CCC Suggestion	Status	Response
1	Cambridge Road between Oakington and Girton	Widening of pavement to improve safety and amenity for cycling	Included in 2007 application as possible off-site cycle proposal	This would provide a commuter route from the site and Longstanton to connect into Girton. It runs parallel to the CGB route but could be lit and therefore used in the evenings.
2	Westwick to Cottenham	There is no cycle path or footway here – provide new shared use pedestrian/ cycle route	Included in 2007 application as possible off-site cycle proposal	This would provide a beneficial link for Cottenham residents to the CGB and Oakington but Route 3 provides a link from Cottenham to Northstowe (albeit partly off road through the countryside). It would also involve a long length alongside a country road with hedgerows and could be difficult to deliver. It is suggested this would be more appropriate for Phase 3 or to deliver as a scheme to improve connections from the CGB to Cottenham.
3	CGB to Cottenham via Rampton	Resurfacing of the existing bridleway to Rampton and widening of the existing cycle path alongside carriageway between Rampton and Cottenham	Included in 2007 application as possible off-site cycle proposal	This could be supported. It would provide a link for Cottenham residents into the development.
4	CGB to Willingham via existing footpath and Rampton Road	Resurfacing of the existing footway between CGB crossing at Rampton Drift and Rampton Road and new facility alongside Rampton Road	Part of the route included in 2007 application as possible off-site cycle proposal. The route now includes a more direct link rather than going through Rampton	This could be supported. It would provide a direct link for Willingham residents into the development and a leisure route out from Northstowe. It is partly off-road but there is the alternative of cycling alongside the B1050 from Willingham.
5	Access to CGB from Windmill Hill at Over footbridge	Path to traverse the embankment	Part of the route included in 2007 application as possible off-site cycle proposal but it did not appear to join the CGB but pass over the top and go to Longstanton	This would provide a direct link for Over residents onto the CGB and towards the development. However there does not appear to be an easy solution to providing access at this location. Bridleway/ footpath proposal G could be an alternative to provide access to the CGB from Over.
6	Fen Drayton to CGB	Improvements to surface of existing tracks	Not previously included	Some distance from Northstowe and there appear to be existing tracks in place/ quiet lanes with access to the CGB. Suggest this is not included.
7	Longstanton to B1050 along School Lane	Provision of cyclepath alongside carriageway. This may be included in	Included in 2007 application as possible off-site	Phase 2 is providing a direct link from site to Bar Hill as well as an off road link southwards from the

	Location	CCC Suggestion	Status	Response
		cycle route to Bar Hill as part of Phase One.	cycle proposal.	village. Whilst this suggestion is beneficial for Longstanton it relates more closely to Phase 1.
8	Dry Drayton Road between Oakington and A14	Provision of cyclepath alongside carriageway. There is no existing provision between gardening centre and A14 and a narrow path between the 30mph zone and gardening centre.	Not previously included	Phase 2 is providing a direct link from site and Oakington to Bar Hill and connections to the A14 local access road. It is also suggested that Route 1 is included, giving a route from Oakington to Girton. Whilst this suggestion is beneficial for Oakington, it is suggested that it is included for Phase 3.
9	Dry Drayton Road between A14 and Dry Drayton	Widening and resurfacing of existing pavement to improve safety and amenity for cycling	Not previously included	Links between Dry Drayton and the A14 might be expected to form part of the A14 scheme. Whilst this suggestion may be beneficial for Dry Drayton it is not closely related to Northstowe.
10	B1050 Longstanton By pass	Links between Longstanton Village and Rampton Road towards Swavesey	Not previously included	Phase 2 has links onto CGB which provides for routes to Swavesey. These locations are more closely linked to Phase 1. Suggest not included for Phase 2.

#### Pedestrian/ Equestrian Network Improvements

	Location/ CCC Suggestion	Status	Response
A	6.97km new bridleway parallel to A14. separately supported bridge needed over new Northstowe access road, linking into parallel cycleway providing access between Northstowe and Bar Hill. Possibly extinguish SW stretch of Wilsons Drove beyond this new route to deter users from approaching A14 where there is no crossing. Overall, provides a range of circular routes from Northstowe, and corrects network severance due to A14. Route generally follows boundaries to avoid creating a new cross-field route.	Part included in the 2007 application	A bridleway crossing of the new link and link south to the A14 Local Access Road is proposed to be included as part of Phase 2. This parallel route to the A14 should be part of A14 proposals (a footway/ cycleway is already shown in the consultation plans).
B	3.29km new off-road bridleway from Cottenham to Northstowe. Route generally follows field boundaries to avoid creating cross-field route.	Not previously as walking and cycling route	Links for walkers and cyclists proposed in Route 3 above. Potentially consider as a Bridleway and footpath but suggest that the northern section does not divert around field boundaries as this is not direct.
C	1.22km new bridleway link from Rampton to bridleway 05. Route generally follows boundaries to avoid creating cross-field route.	Not previously included	This is already included in Route 3 above.
D	New bridge over guided busway to provide access over using existing byways.	Not previously included	This would be beneficial but would have significant land take and visual issues as it requires a large piece of infrastructure. There is a need to consider other potential improvements to the crossing.
E	1.96km new bridleway links from Northstowe to Willingham, mostly on existing tracks.	Previously included as a cycle/ walking route alongside the	Route 4 is parallel and therefore it is suggested that the two options are

	Location/ CCC Suggestion	Status	Response
		road.	considered as which would provide the best multi user route
<b>F</b>	2.31km new bridleway link avoiding road from Northstowe to Swavesey. Connecting footpath to be raised to bridleway status. Route generally follows boundaries to avoid creating cross-field route.	Previously included in the 2007 application as possible improvement	A bridleway route is available adjacent to the CGB and this would be duplication. It is also a long length across open countryside.
<b>G</b>	1.37km upgrade of footpath to bridleway status to allow off-road access from Northstowe to Over via Guided Bus Way maintenance track. Continuation to Swavesey enables circular walks/rides.	Previously included in the 2007 application as possible improvement	If this can be upgraded as a route for cyclists this could be an alternative to Route 5 to access the CGB route. This may require a CGB crossing at-grade but CGB track is straight in this location.
<b>H</b>	0.96km upgrade of footpath to bridleway status to allow off-road access from Northstowe via Willingham to new countryside access complex on site of Needingworth quarry complex.	Not previously included	This is between Willingham and Over. The improvements linking to the CGB provides for access to and from Northstowe and these communities. Suggest not include.
<b>I</b>	1.39km new bridleway link to Boxworth and RoW network to South West of A14 with new bridge over A14. Route generally follows boundaries to avoid creating cross-field route.	Not previously included	Not related to Northstowe and a bridge is included in the A14 proposals at Swavesey junction. Not include.
<b>J</b>	1.28km bridleway improvement. Improve links south of Girton in new A14 layout. Allows access from Northstowe to extended RoW network.	Not previously included	Should form part of A14 proposals. Not include.
<b>K</b>	1.35km new bridleway. Divert route by Hackers Fruit Farm to road, and thence on to Bar Hill. Route generally follows boundaries to avoid creating cross-field route. Avoids A14 and opens circular route from Northstowe.	Not previously included	More closely related to A14 proposals than Northstowe. Suggest not include.
<b>L</b>	Link Lolworth to Bar Hill by new 0.4km footpath to avoid dead end on A14. Opens circular route from Northstowe	Not previously included	More closely related to A14 proposals than Northstowe. Suggest not include.
<b>M</b>	8.32km minor improvements and interpretation to byway to Aldreth, emphasising history in C11 Norman / Saxon conflict.	Not previously included	This is a long distance connection which might link Northstowe to trails. Could consider proportionate contribution to offer leisure opportunities to residents.
<b>N</b>	New bridge over Ouse at Holywell to replace Chain Ferry lost in early C20 to open up access to RoW network North of Ouse from Northstowe.	Not previously included	Expensive piece of infrastructure not closely related to Northstowe. Not include.
<b>O</b>	New bridge over Ouse at Dog and Duck PH/marina to replace Chain Ferry lost in early C20 to open up access to RoW network North of Ouse from Northstowe.	Not previously included	Expensive piece of infrastructure not closely related to Northstowe. Not include.



# NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 13  
New Southern Access Road Junctions ARCADY Modelling  
Results

August 2014

<b>ARCADY 6</b>		
GUI Version: 6.2 AG Analysis Program: Release 7.0 (FEBRUARY 2010) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO		
For sales and distribution information, program advice and maintenance, contact:		
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770758 Fax: +44 (0)1344 770864 Email: software@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc1 - 2031 DS\New Access Junction - B1050 Hattons Road\_Northstowe\Hyder Design Rev\2031 AM Peak DS1 - B1050 Hattons Rd - Northstowe (bypass and flare).vai  
 At: 16:52:05 on Monday, June 09, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 north
Arm B	Northstowe access
Arm C	Farm Access
Arm D	B1050 south

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

## File Properties

<b>Run Title</b>	Northstowe - B1050 Proposed roundabout
<b>Location</b>	Bar Hill (Northstowe)
<b>Date</b>	12/05/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

**\*\*WARNING\*\*** ARM A Effective flare length is outside normal range.  
 Treat capacities with increasing caution.

## Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	3.65	7.30	3.00	3.65
Entry Width (m)	7.30	7.30	3.00	7.30
Flare Length (m)	50.00	0.00	0.00	18.00
Entry Radius (m)	30.00	30.00	18.00	50.00
Inscribed Circle Diameter (m)	80.00	80.00	80.00	80.00
Entry Angle (degrees)	45.00	30.00	50.00	30.00
Slope	0.498	0.556	0.329	0.498
Intercept (PCU/Min)	32.181	37.466	14.016	30.480

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: AM Peak (0800-0900)

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	1.0	1066.0
Arm B	0.0	0.0	1.0	746.0
Arm C	1.0	1.0	0.0	1.0
Arm D	0.0	850.0	1.0	0.0

### Entry Flow Data for Demand Set: AM Peak (0800-0900)

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	13.34	20.01	13.34
Arm B	15.00	45.00	75.00	9.34	14.01	9.34
Arm C	15.00	45.00	75.00	0.04	0.06	0.04
Arm D	15.00	45.00	75.00	10.64	15.96	10.64

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: AM Peak (0800-0900)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0
	Arm D	0.0	0.0	0.0	0.0



**Queues and Delay:**

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 07:45 to 08:00</b>	A	13.39	26.87	0.498	-	0.0	1.0	14.2	-	0.073
	B	9.37	30.05	0.312	-	0.0	0.5	6.6	-	0.048
	C	0.04	6.56	0.006	-	0.0	0.0	0.1	-	0.153
	D	10.68	30.47	0.350	-	0.0	0.5	7.9	-	0.050
<b>Segment : 2 - 08:00 to 08:15</b>	A	15.99	25.83	0.619	-	1.0	1.6	23.0	-	0.101
	B	11.19	28.59	0.392	-	0.5	0.6	9.4	-	0.057
	C	0.04	5.09	0.009	-	0.0	0.0	0.1	-	0.198
	D	12.75	30.47	0.419	-	0.5	0.7	10.5	-	0.056
<b>Segment : 3 - 08:15 to 08:30</b>	A	19.58	24.40	0.802	-	1.6	3.8	51.7	-	0.195
	B	13.71	26.65	0.514	-	0.6	1.0	15.3	-	0.077
	C	0.06	3.12	0.018	-	0.0	0.0	0.3	-	0.326
	D	15.62	30.46	0.513	-	0.7	1.0	15.3	-	0.067
<b>Segment : 4 - 08:30 to 08:45</b>	A	19.58	24.39	0.803	-	3.8	3.9	58.3	-	0.207
	B	13.71	26.57	0.516	-	1.0	1.1	15.8	-	0.078
	C	0.06	3.07	0.018	-	0.0	0.0	0.3	-	0.331
	D	15.62	30.46	0.513	-	1.0	1.0	15.7	-	0.067
<b>Segment : 5 - 08:45 to 09:00</b>	A	15.99	25.81	0.619	-	3.9	1.7	26.3	-	0.105
	B	11.19	28.48	0.393	-	1.1	0.7	10.0	-	0.058
	C	0.04	5.02	0.009	-	0.0	0.0	0.1	-	0.201
	D	12.75	30.46	0.419	-	1.0	0.7	11.1	-	0.057
<b>Segment : 6 - 09:00 to 09:15</b>	A	13.39	26.85	0.499	-	1.7	1.0	15.5	-	0.075
	B	9.37	29.99	0.313	-	0.7	0.5	7.0	-	0.049
	C	0.04	6.51	0.006	-	0.0	0.0	0.1	-	0.155
	D	10.68	30.47	0.350	-	0.7	0.5	8.3	-	0.051

<b>ARCADY 6</b>		
GUI Version: 6.2 AG Analysis Program: Release 7.0 (FEBRUARY 2010) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO		
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The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\New Access Junction - B1050 Hattons Road\_Northstowe\Hyder Design Rev\2031 PM Peak DS1 - B1050 Hattons Rd - Northstowe (bypass and flare).vai  
 At: 14:10:33 on Friday, May 30, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 north
Arm B	Northstowe access
Arm C	Farm Access
Arm D	B1050 south

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

## File Properties

<b>Run Title</b>	Northstowe - B1050 Proposed roundabout
<b>Location</b>	Bar Hill (Northstowe)
<b>Date</b>	12/05/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

**\*\*WARNING\*\*** ARM A Effective flare length is outside normal range.  
 Treat capacities with increasing caution.

## Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	3.65	7.30	3.00	3.65
Entry Width (m)	7.30	7.30	3.00	7.30
Flare Length (m)	50.00	0.00	0.00	6.00
Entry Radius (m)	30.00	30.00	18.00	50.00
Inscribed Circle Diameter (m)	80.00	80.00	80.00	80.00
Entry Angle (degrees)	45.00	30.00	50.00	30.00
Slope	0.498	0.556	0.329	0.453
Intercept (PCU/Min)	32.181	37.466	14.016	25.412

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: PM Peak (1700-1800)

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	4.0	1.0	751.0
Arm B	0.0	0.0	1.0	894.0
Arm C	1.0	1.0	0.0	1.0
Arm D	0.0	1058.0	1.0	0.0

### Entry Flow Data for Demand Set: PM Peak (1700-1800)

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	9.45	14.17	9.45
Arm B	15.00	45.00	75.00	11.19	16.78	11.19
Arm C	15.00	45.00	75.00	0.04	0.06	0.04
Arm D	15.00	45.00	75.00	13.24	19.86	13.24

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: PM Peak (1700-1800)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
16:45 to 18:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0
	Arm D	0.0	0.0	0.0	0.0

**Queues and Delay:**



Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 16:45 to 17:00</b>	A	9.49	25.59	0.371	-	0.0	0.6	8.6	-	0.062
	B	11.23	32.23	0.348	-	0.0	0.5	7.8	-	0.047
	C	0.04	7.24	0.005	-	0.0	0.0	0.1	-	0.139
	D	13.29	25.40	0.523	-	0.0	1.1	15.7	-	0.082
<b>Segment : 2 - 17:00 to 17:15</b>	A	11.33	24.29	0.466	-	0.6	0.9	12.7	-	0.077
	B	13.41	31.20	0.430	-	0.5	0.7	11.0	-	0.056
	C	0.04	5.91	0.008	-	0.0	0.0	0.1	-	0.171
	D	15.87	25.40	0.625	-	1.1	1.6	23.6	-	0.104
<b>Segment : 3 - 17:15 to 17:30</b>	A	13.87	22.54	0.615	-	0.9	1.6	22.5	-	0.114
	B	16.42	29.81	0.551	-	0.7	1.2	17.7	-	0.074
	C	0.06	4.10	0.013	-	0.0	0.0	0.2	-	0.247
	D	19.43	25.40	0.765	-	1.6	3.1	43.4	-	0.162
<b>Segment : 4 - 17:30 to 17:45</b>	A	13.87	22.49	0.617	-	1.6	1.6	23.8	-	0.116
	B	16.42	29.78	0.551	-	1.2	1.2	18.3	-	0.075
	C	0.06	4.07	0.014	-	0.0	0.0	0.2	-	0.249
	D	19.43	25.40	0.765	-	3.1	3.2	47.4	-	0.167
<b>Segment : 5 - 17:45 to 18:00</b>	A	11.33	24.22	0.468	-	1.6	0.9	13.7	-	0.078
	B	13.41	31.16	0.430	-	1.2	0.8	11.7	-	0.056
	C	0.04	5.87	0.008	-	0.0	0.0	0.1	-	0.172
	D	15.87	25.40	0.625	-	3.2	1.7	26.7	-	0.107
<b>Segment : 6 - 18:00 to 18:15</b>	A	9.49	25.54	0.371	-	0.9	0.6	9.1	-	0.062
	B	11.23	32.20	0.349	-	0.8	0.5	8.2	-	0.048
	C	0.04	7.21	0.005	-	0.0	0.0	0.1	-	0.139
	D	13.29	25.40	0.523	-	1.7	1.1	17.2	-	0.083



# NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 14  
Do Minimum 2031 Junction Assessments

August 2014

<b>PICADY</b>	
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)	
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For sales and distribution information, program advice and maintenance, contact:	
TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  J1 - 2031 Sc2 DM - Girton Rd_Huntingdon Rd Junction._XXCADYReportImage1.bmp         </div> Tel: +44 (0)1344 770758  Fax: +44 (0)1344 770864 E-mail: <a href="mailto:software@trl.co.uk">software@trl.co.uk</a> Web: <a href="http://www.trlsoftware.co.uk">www.trlsoftware.co.uk</a>
<b>The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution</b>	

## Run Analysis

Parameter	Values
File Run	\\H..\Traffic models\J1 - 2031 Sc2 DM - Girton Rd_Huntingdon Rd Junction.vpi
Date Run	24 July 2014
Time Run	14:08:11
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Huntingdon Road (w)	100
Arm B	Girton Road (n)	100
Arm C	Huntingdon Road (e)	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	J1 - Girton Rd / Huntingdon Rd
Location	Girton (Northstowe)
Date	10 April 2014
Enumerator	dchapman
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.00
Major Road Kerbed Central Reserve Width (m)	3.00
Major Road Right Turning Lane Width (m)	3.00
Minor Road First Lane Width (m)	3.65
Minor Road Visibility To Right (m)	56
Minor Road Visibility To Left (m)	40
Major Road Right Turn Visibility (m)	130
Major Road Right Turn Blocks Traffic	No

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	588.855	0.096	0.243	0.153	0.347
B-C	702.088	0.103	0.260	-	-
C-B	705.776	0.262	0.262	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections

## Demand Data

### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

### ODTAB Turning Counts

**Demand Set:** 2031 DM AM Peak

**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	177.0	747.0
Arm B	426.0	0.0	54.0
Arm C	635.0	7.0	0.0

**Demand Set:** 2031 DM PM Peak

**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	445.0	591.0
Arm B	190.0	0.0	85.0
Arm C	720.0	40.0	0.0

### ODTAB Synthesised Flows

**Demand Set:** 2031 DM AM Peak

**Modelling Period:** 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	11.550	08:30	17.325	09:00	11.550
Arm B	08:00	6.000	08:30	9.000	09:00	6.000
Arm C	08:00	8.025	08:30	12.037	09:00	8.025

### Heavy Vehicles Percentages

**Demand Set:** 2031 DM AM Peak

**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

**Demand Set:** 2031 DM PM Peak

**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-



## Queues & Delays

**Demand Set:** 2031 DM AM Peak  
**Modelling Period:** 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	6.02	6.31	<b>0.955</b>	-	0.00	7.23	-	74.5	1.00
	C-A	7.97	-	-	-	-	-	-	-	-
	C-B	0.09	8.73	0.010	-	0.00	0.01	-	0.1	0.12
	A-B	2.22	-	-	-	-	-	-	-	-
	A-C	9.37	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	7.19	5.58	<b>1.288</b>	-	7.23	32.29	-	299.0	4.19
	C-A	9.51	-	-	-	-	-	-	-	-
	C-B	0.10	8.14	0.013	-	0.01	0.01	-	0.2	0.12
	A-B	2.65	-	-	-	-	-	-	-	-
	A-C	11.19	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	8.81	4.57	<b>1.926</b>	-	32.29	95.87	-	961.3	14.22
	C-A	11.65	-	-	-	-	-	-	-	-
	C-B	0.13	7.33	0.018	-	0.01	0.02	-	0.3	0.14
	A-B	3.25	-	-	-	-	-	-	-	-
	A-C	13.71	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	8.81	4.57	<b>1.926</b>	-	95.87	159.42	-	1914.6	28.20
	C-A	11.65	-	-	-	-	-	-	-	-
	C-B	0.13	7.33	0.018	-	0.02	0.02	-	0.3	0.14
	A-B	3.25	-	-	-	-	-	-	-	-
	A-C	13.71	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	7.19	5.58	<b>1.289</b>	-	159.42	183.58	-	2572.5	29.12
	C-A	9.51	-	-	-	-	-	-	-	-
	C-B	0.10	8.14	0.013	-	0.02	0.01	-	0.2	0.12
	A-B	2.65	-	-	-	-	-	-	-	-
	A-C	11.19	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	6.02	6.31	<b>0.955</b>	-	183.58	179.84	-	2725.7	28.96
	C-A	7.97	-	-	-	-	-	-	-	-
	C-B	0.09	8.73	0.010	-	0.01	0.01	-	0.2	0.12
	A-B	2.22	-	-	-	-	-	-	-	-
	A-C	9.37	-	-	-	-	-	-	-	-

**Demand Set:** 2031 DM PM Peak  
**Modelling Period:** 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	3.45	6.65	0.519	-	0.00	1.03	-	14.1	0.30
	C-A	9.03	-	-	-	-	-	-	-	-
	C-B	0.50	8.36	0.060	-	0.00	0.06	-	0.9	0.13
	A-B	5.58	-	-	-	-	-	-	-	-
	A-C	7.42	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	4.12	5.91	0.698	-	1.03	2.08	-	27.7	0.52
	C-A	10.79	-	-	-	-	-	-	-	-
	C-B	0.60	7.70	0.078	-	0.06	0.08	-	1.2	0.14
	A-B	6.67	-	-	-	-	-	-	-	-
	A-C	8.85	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	5.05	4.85	<b>1.041</b>	-	2.08	10.21	-	101.2	1.80
	C-A	13.21	-	-	-	-	-	-	-	-
	C-B	0.73	6.79	0.108	-	0.08	0.12	-	1.7	0.16
	A-B	8.17	-	-	-	-	-	-	-	-
	A-C	10.85	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	5.05	4.85	<b>1.041</b>	-	10.21	15.41	-	193.4	3.04
	C-A	13.21	-	-	-	-	-	-	-	-
	C-B	0.73	6.79	0.108	-	0.12	0.12	-	1.8	0.17
	A-B	8.17	-	-	-	-	-	-	-	-


	A-C	10.85	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	4.12	5.90	0.698	-	15.41	2.72	-	98.9	1.41
	C-A	10.79	-	-	-	-	-	-	-	-
	C-B	0.60	7.70	0.078	-	0.12	0.09	-	1.3	0.14
	A-B	6.67	-	-	-	-	-	-	-	-
	A-C	8.85	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	3.45	6.65	0.519	-	2.72	1.12	-	18.8	0.33
	C-A	9.03	-	-	-	-	-	-	-	-
	C-B	0.50	8.36	0.060	-	0.09	0.06	-	1.0	0.13
	A-B	5.58	-	-	-	-	-	-	-	-
	A-C	7.42	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

### PICADY 5 Run Successful

PICADY		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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## Run Analysis

Parameter	Values
File Run	\\H.\Traffic models\J2 - 2031 Sc2 DM - New Road_Cambridge Road (synthesised peak).vpi
Date Run	24 July 2014
Time Run	11:57:17
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Cambridge Road (NW)	100
Arm B	New Road (NE)	100
Arm C	Oakington Rd (SE)	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	Junction 2 - Cambridge Road - New Road Priority
Location	Northstowe (Oakington)
Date	07 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.00
Minor Road Visibility To Right (m)	30
Minor Road Visibility To Left (m)	35
Major Road Right Turn Visibility (m)	150
Major Road Right Turn Blocks Traffic	Yes (if over 1 veh)

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	503.677	0.092	0.232	0.146	0.331
B-C	642.823	0.099	0.249	-	-
C-B	660.830	0.256	0.256	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections

## Demand Data

### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

## ODTAB Turning Counts

Demand Set: 2031 DM AM Peak Flows  
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	241.0	241.0
Arm B	181.0	0.0	184.0
Arm C	204.0	243.0	0.0

Demand Set: 2031 DM PM Peak Flows  
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	173.0	215.0
Arm B	246.0	0.0	151.0
Arm C	189.0	201.0	0.0

## ODTAB Synthesised Flows

Demand Set: 2031 DM AM Peak Flows  
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	6.025	08:30	9.038	09:00	6.025
Arm B	08:00	4.563	08:30	6.844	09:00	4.563
Arm C	08:00	5.588	08:30	8.381	09:00	5.588

## Heavy Vehicles Percentages

Demand Set: 2031 DM AM Peak Flows  
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

Demand Set: 2031 DM PM Peak Flows  
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

## Queues &amp; Delays

Demand Set: 2031 DM AM Peak Flows  
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	4.58	7.44	0.615	-	0.00	1.51	-	20.2	0.33
	C-AB	3.05	9.47	0.322	-	0.00	0.51	-	7.5	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.02	-	-	-	-	-	-	-	-
	A-C	3.02	-	-	-	-	-	-	-	-
08:00-08:15	B-AC	5.47	7.02	0.779	-	1.51	3.04	-	39.5	0.57
	C-AB	3.64	9.16	0.397	-	0.51	0.73	-	10.9	0.18
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.61	-	-	-	-	-	-	-	-
	A-C	3.61	-	-	-	-	-	-	-	-
08:15-08:30	B-AC	6.70	6.43	1.042	-	3.04	12.47	-	125.3	1.65
	C-AB	4.46	8.75	0.510	-	0.73	1.22	-	18.2	0.23
	C-A	-	-	-	-	-	-	-	-	-
	A-B	4.42	-	-	-	-	-	-	-	-
	A-C	4.42	-	-	-	-	-	-	-	-
08:30-08:45	B-AC	6.70	6.42	1.044	-	12.47	18.97	-	237.2	2.81
	C-AB	4.46	8.75	0.510	-	1.22	1.24	-	18.9	0.23
	C-A	-	-	-	-	-	-	-	-	-
	A-B	4.42	-	-	-	-	-	-	-	-
	A-C	4.42	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	5.47	7.01	0.780	-	18.97	4.65	-	156.6	1.79
	C-AB	3.64	9.16	0.397	-	1.24	0.76	-	11.6	0.18
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.61	-	-	-	-	-	-	-	-
	A-C	3.61	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	4.58	7.43	0.616	-	4.65	1.70	-	30.0	0.40
	C-AB	3.05	9.47	0.322	-	0.76	0.53	-	7.9	0.16
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.02	-	-	-	-	-	-	-	-
	A-C	3.02	-	-	-	-	-	-	-	-

Demand Set: 2031 DM PM Peak Flows  
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	4.98	7.37	0.676	-	0.00	1.93	-	25.2	0.38
	C-AB	2.52	9.77	0.258	-	0.00	0.36	-	5.4	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.17	-	-	-	-	-	-	-	-
	A-C	2.70	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	5.95	7.00	0.850	-	1.93	4.32	-	53.7	0.74
	C-AB	3.01	9.53	0.316	-	0.36	0.50	-	7.5	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.59	-	-	-	-	-	-	-	-
	A-C	3.22	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	7.29	6.49	1.123	-	4.32	19.15	-	182.6	2.26
	C-AB	3.69	9.19	0.401	-	0.50	0.75	-	11.3	0.18
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.17	-	-	-	-	-	-	-	-
	A-C	3.95	-	-	-	-	-	-	-	-




Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	7.29	6.48	1.123	-	19.15	31.97	-	384.2	4.24
	C-AB	3.69	9.19	0.401	-	0.75	0.76	-	11.6	0.18
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.17	-	-	-	-	-	-	-	-
	A-C	3.95	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	5.95	6.99	0.850	-	31.97	19.46	-	385.7	3.85
	C-AB	3.01	9.53	0.316	-	0.76	0.51	-	7.8	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.59	-	-	-	-	-	-	-	-
	A-C	3.22	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	4.98	7.36	0.677	-	19.46	2.38	-	109.5	1.20
	C-AB	2.52	9.77	0.258	-	0.51	0.38	-	5.6	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.17	-	-	-	-	-	-	-	-
	A-C	2.70	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '##' could not be calculated.

PI CADY 5 Run Successful

<b>ARCADY 6</b>		
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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc2 - 2031 DM\Traffic models\J3 - 2031 Sc2 DM - Hattons Rd - B1050 2031 AM Peak ODTAB.vai  
 At: 15:46:36 on Friday, August 15, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 North
Arm B	Hattons Road
Arm C	B1050 Hattons Road South

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 3 - Hattons Road / B1050 roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	07/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.25	3.00	3.65
Entry Width (m)	3.25	3.00	7.30
Flare Length (m)	0.00	0.00	19.00
Entry Radius (m)	30.00	36.00	46.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00
Entry Angle (degrees)	32.00	23.00	29.00
Slope	0.493	0.495	0.666
Intercept (PCU/Min)	16.566	15.847	30.776

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

## Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	0.0	935.0
Arm B	0.0	0.0	278.0
Arm C	552.0	85.0	0.0

## Entry Flow Data for Demand Set: 2031 DM AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	11.69	17.53	11.69
Arm B	15.00	45.00	75.00	3.47	5.21	3.47
Arm C	15.00	45.00	75.00	7.96	11.94	7.96

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.


## Heavy Vehicle Percentages for Demand Set: 2031 DM AM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

**Queues and Delay:**

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 07:45 to 08:00</b>	A	11.73	16.04	0.731	-	0.0	2.6	34.8	-	0.215
	B	3.49	10.12	0.345	-	0.0	0.5	7.4	-	0.149
	C	7.99	30.78	0.260	-	0.0	0.3	5.1	-	0.044
<b>Segment : 2 - 08:00 to 08:15</b>	A	14.01	15.94	<b>0.879</b>	-	2.6	5.9	75.0	-	0.425
	B	4.17	9.02	0.462	-	0.5	0.8	12.0	-	0.204
	C	9.54	30.78	0.310	-	0.3	0.4	6.6	-	0.047
<b>Segment : 3 - 08:15 to 08:30</b>	A	17.16	15.80	<b>1.086</b>	-	5.9	30.9	287.4	-	1.417
	B	5.10	8.17	0.624	-	0.8	1.6	21.7	-	0.315
	C	11.69	30.78	0.380	-	0.4	0.6	9.0	-	0.052
<b>Segment : 4 - 08:30 to 08:45</b>	A	17.16	15.80	<b>1.086</b>	-	30.9	52.4	625.3	-	2.828
	B	5.10	8.06	0.633	-	1.6	1.7	24.5	-	0.336
	C	11.69	30.78	0.380	-	0.6	0.6	9.2	-	0.052
<b>Segment : 5 - 08:45 to 09:00</b>	A	14.01	15.94	<b>0.879</b>	-	52.4	27.9	602.1	-	2.621
	B	4.17	8.10	0.514	-	1.7	1.1	17.4	-	0.259
	C	9.54	30.78	0.310	-	0.6	0.5	6.9	-	0.047
<b>Segment : 6 - 09:00 to 09:15</b>	A	11.73	16.04	0.731	-	27.9	2.9	129.4	-	0.584
	B	3.49	9.21	0.379	-	1.1	0.6	9.8	-	0.177
	C	7.99	30.78	0.260	-	0.5	0.4	5.4	-	0.044

<b>ARCADY 6</b>		
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## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J3 - 2031 Sc2 DM - Hattons Rd - B1050 2031 PM Peak ODTAB.vai

At: 09:37:46 on Tuesday, June 10, 2014

Mode: Drive On The Left

Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 North
Arm B	Hattons Road
Arm C	B1050 Hattons Road South

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 3 - Hattons Road / B1050 roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	07/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

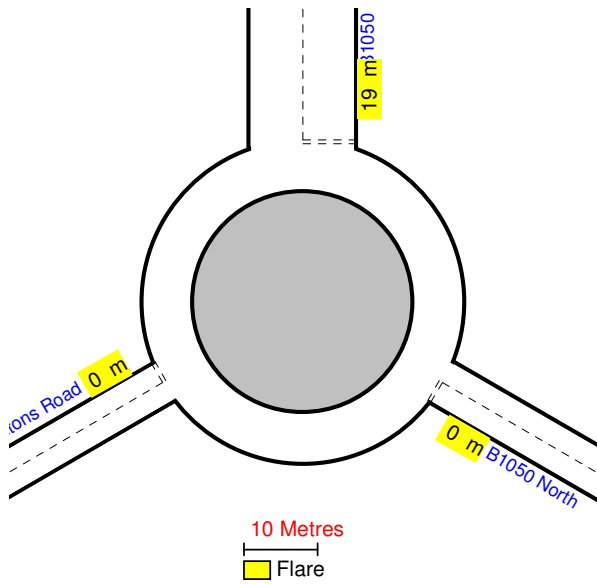
## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.25	3.00	3.65
Entry Width (m)	3.25	3.00	7.30
Flare Length (m)	0.00	0.00	19.00
Entry Radius (m)	30.00	36.00	46.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00
Entry Angle (degrees)	32.00	23.00	29.00
Slope	0.493	0.495	0.666
Intercept (PCU/Min)	16.566	15.847	30.776

**Junction Diagram: (View Extent = 80m)**



Angles Between Arms (Degrees): Arm A(120) Arm B(120) Arm C(120)

**Demand Data**

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **16:45 to 18:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

**Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM PM Peak**

From/To	Arm A	Arm B	Arm C
Arm A	0.0	0.0	687.0
Arm B	0.0	0.0	177.0
Arm C	937.0	252.0	0.0

**Entry Flow Data for Demand Set: 2031 DM PM Peak**

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	8.59	12.88	8.59
Arm B	15.00	45.00	75.00	2.21	3.32	2.21
Arm C	15.00	45.00	75.00	14.86	22.29	14.86

**Turning Proportions**

ODTAB Demand Data type is used, no turning proportions available.

**Heavy Vehicle Percentages for Demand Set: 2031 DM PM Peak**

Vary over entry

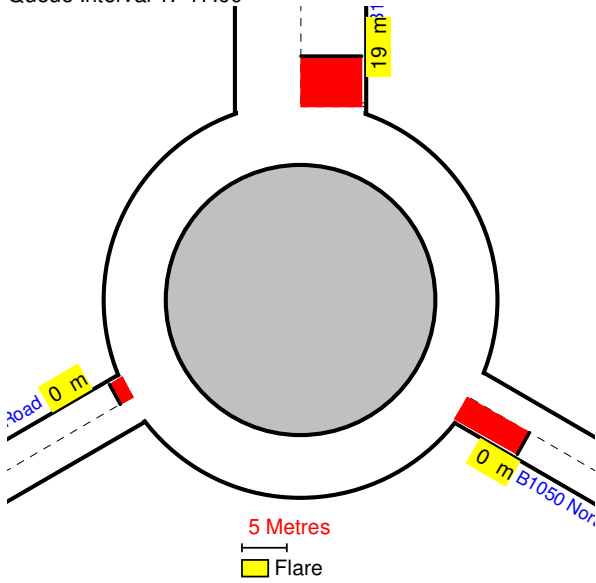
Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

### Queue Diagrams: (View Extent = 80m)

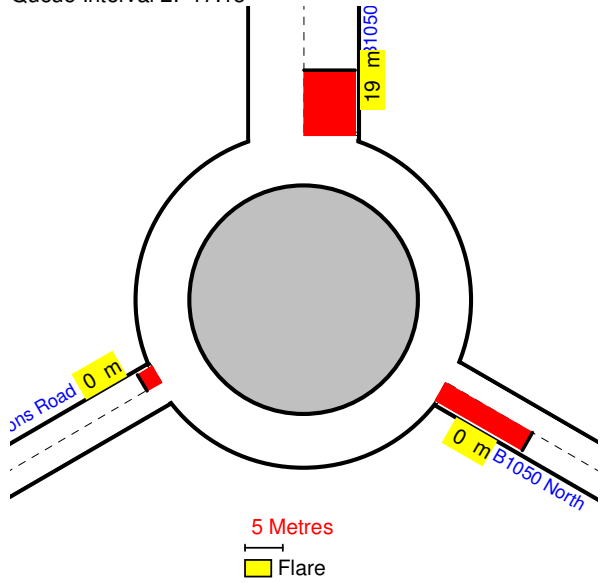
Queue Length	Colour
Mean Queue	Red
5 th % ile	Light Red
90 th % ile	Very Light Red
95 th % ile	Lightest Red

Start Time: 16:45---> End Time: 18:15

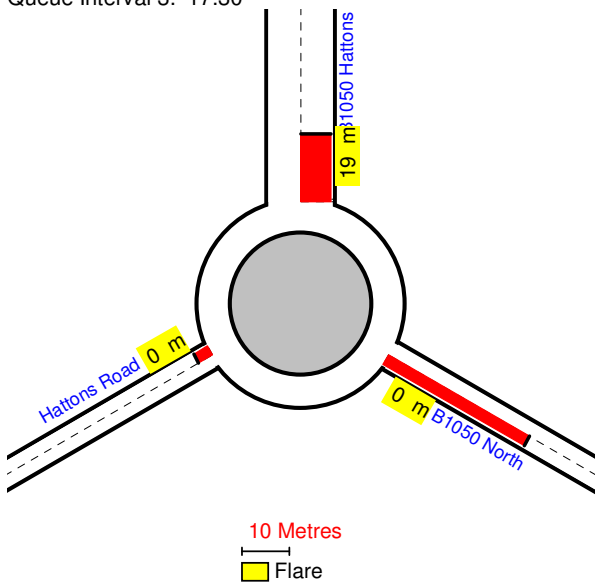
Queue Interval 1: 17:00



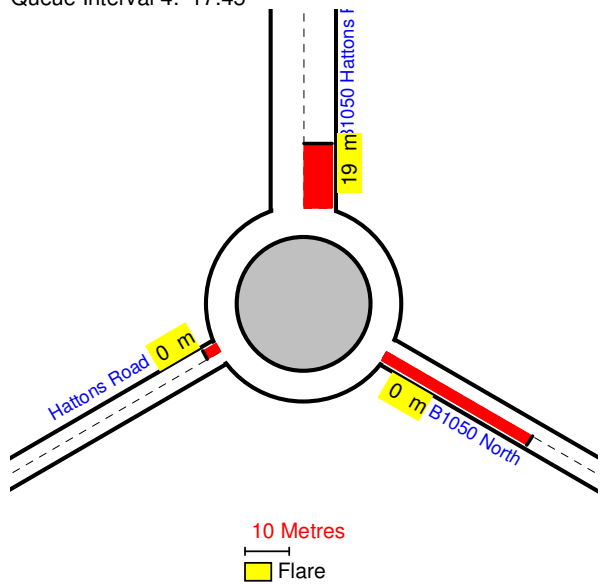
Queue Interval 2: 17:15



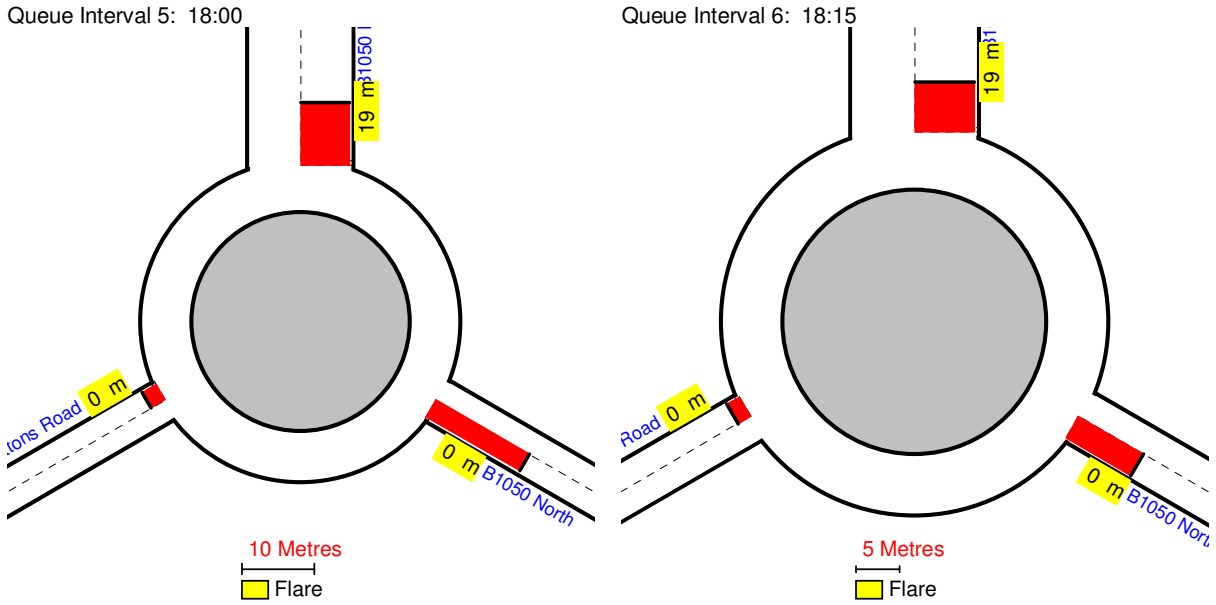
Queue Interval 3: 17:30



Queue Interval 4: 17:45





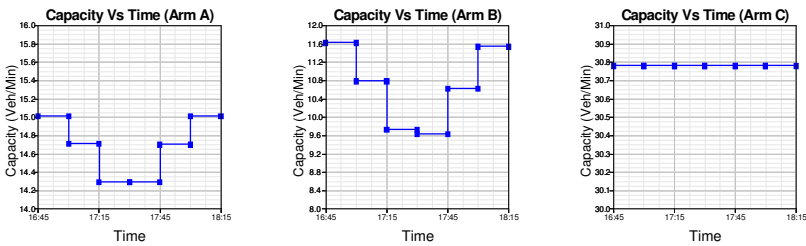


**Demand Data Graphs**

No graph available

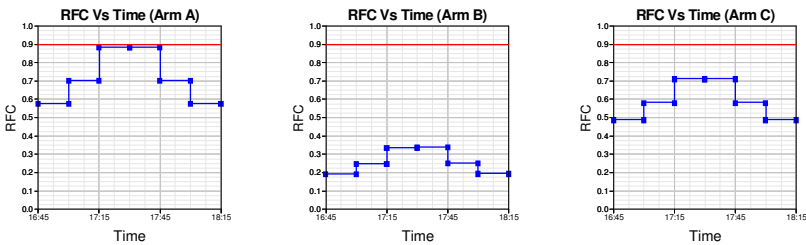
**Capacity (against Time) Graphs, for each 15min Interval (16:45 - 18:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



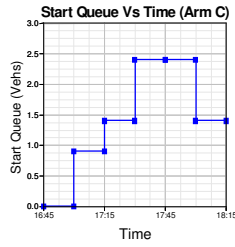
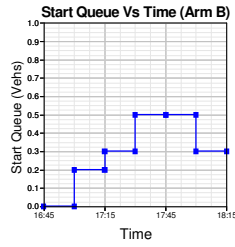
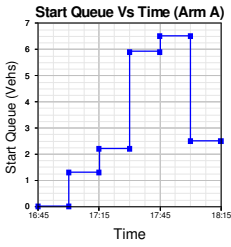
**RFC (against Time) Graphs, for each 15min Interval (16:45 - 18:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



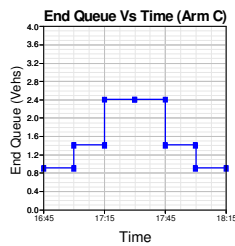
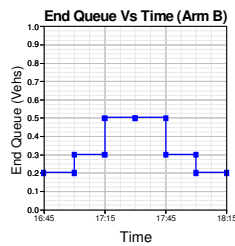
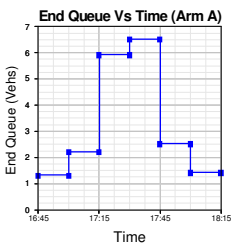
### Start Queue (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



### End Queue (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)

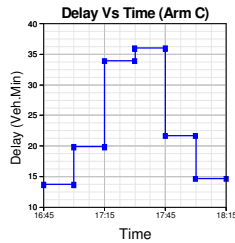
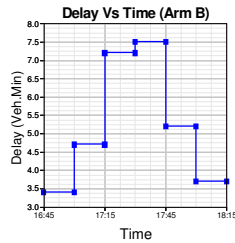
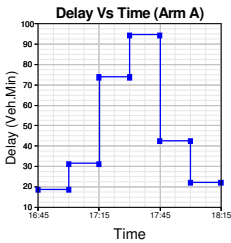


### Geometric Delay Graph

No Data. Please select 'Geometric Delay' in 'Principal Options' and try again.

### Delay (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



## Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 16:45 to 17:00	A	8.62	15.01	0.574	-	0.0	1.3	18.5	-	0.152
	B	2.22	11.62	0.191	-	0.0	0.2	3.4	-	0.106
	C	14.92	30.78	0.485	-	0.0	0.9	13.6	-	0.063
Segment : 2 - 17:00 to 17:15	A	10.29	14.71	0.700	-	1.3	2.2	31.1	-	0.220
	B	2.65	10.78	0.246	-	0.2	0.3	4.7	-	0.123
	C	17.81	30.78	0.579	-	0.9	1.4	19.8	-	0.077
Segment : 3 - 17:15 to 17:30	A	12.61	14.29	0.882	-	2.2	5.9	73.6	-	0.466
	B	3.25	9.73	0.334	-	0.3	0.5	7.2	-	0.154
	C	21.82	30.78	0.709	-	1.4	2.4	33.9	-	0.110
Segment : 4 - 17:30 to 17:45	A	12.61	14.29	0.882	-	5.9	6.5	94.3	-	0.551
	B	3.25	9.63	0.337	-	0.5	0.5	7.5	-	0.157
	C	21.82	30.78	0.709	-	2.4	2.4	35.9	-	0.112
Segment : 5 - 17:45 to 18:00	A	10.29	14.70	0.700	-	6.5	2.5	42.3	-	0.256
	B	2.65	10.62	0.250	-	0.5	0.3	5.2	-	0.126
	C	17.81	30.78	0.579	-	2.4	1.4	21.6	-	0.078
Segment : 6 - 18:00 to 18:15	A	8.62	15.01	0.574	-	2.5	1.4	21.9	-	0.160
	B	2.22	11.54	0.192	-	0.3	0.2	3.7	-	0.107
	C	14.92	30.78	0.485	-	1.4	0.9	14.6	-	0.063

## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	945.6	630.4	281.6	0.30	281.6	0.30
B	243.6	162.4	31.7	0.13	31.7	0.13
C	1636.6	1091.0	139.4	0.09	139.4	0.09
ALL	2825.8	1883.9	452.6	0.16	452.7	0.16

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.


These will only be significantly different if there is a large queue remaining at the end of the time period.

## Accident Data

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

## Accident Results

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

<b>ARCADY 6</b>		
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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc2 - 2031 DM\Traffic models\J4 - 2031 Sc2 DM - Over Road\_Hattons Road 2014 AM Peak ODTAB.vai

At: 15:47:52 on Friday, August 15, 2014

Mode: Drive On The Left

Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Over Road (e)
Arm B	Hattons Road
Arm C	Over Road (nw)

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 4 - Over Road - Hattons Road
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	07/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.65	2.50
Entry Width (m)	3.00	3.65	3.00
Flare Length (m)	0.00	0.00	1.00
Entry Radius (m)	34.00	17.00	34.00
Inscribed Circle Diameter (m)	30.00	40.00	24.00
Entry Angle (degrees)	40.00	40.00	40.00
Slope	0.489	0.501	0.473
Intercept (PCU/Min)	14.929	17.634	13.398

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

## Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	3.0	56.0	16.0
Arm B	10.0	0.0	10.0
Arm C	54.0	9.0	0.0

## Entry Flow Data for Demand Set: 2031 DM AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.94	1.41	0.94
Arm B	15.00	45.00	75.00	0.25	0.38	0.25
Arm C	15.00	45.00	75.00	0.79	1.18	0.79

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.


## Heavy Vehicle Percentages for Demand Set: 2031 DM AM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

**Queues and Delay:**

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 07:45 to 08:00</b>	A	0.94	14.87	0.063	-	0.0	0.1	1.0	-	0.072
	B	0.25	17.51	0.014	-	0.0	0.0	0.2	-	0.058
	C	0.79	13.32	0.059	-	0.0	0.1	0.9	-	0.080
<b>Segment : 2 - 08:00 to 08:15</b>	A	1.12	14.86	0.076	-	0.1	0.1	1.2	-	0.073
	B	0.30	17.49	0.017	-	0.0	0.0	0.3	-	0.058
	C	0.94	13.31	0.071	-	0.1	0.1	1.1	-	0.081
<b>Segment : 3 - 08:15 to 08:30</b>	A	1.38	14.85	0.093	-	0.1	0.1	1.5	-	0.074
	B	0.37	17.46	0.021	-	0.0	0.0	0.3	-	0.058
	C	1.16	13.28	0.087	-	0.1	0.1	1.4	-	0.082
<b>Segment : 4 - 08:30 to 08:45</b>	A	1.38	14.85	0.093	-	0.1	0.1	1.5	-	0.074
	B	0.37	17.46	0.021	-	0.0	0.0	0.3	-	0.058
	C	1.16	13.28	0.087	-	0.1	0.1	1.4	-	0.082
<b>Segment : 5 - 08:45 to 09:00</b>	A	1.12	14.86	0.076	-	0.1	0.1	1.3	-	0.073
	B	0.30	17.49	0.017	-	0.0	0.0	0.3	-	0.058
	C	0.94	13.31	0.071	-	0.1	0.1	1.2	-	0.081
<b>Segment : 6 - 09:00 to 09:15</b>	A	0.94	14.87	0.063	-	0.1	0.1	1.0	-	0.072
	B	0.25	17.51	0.014	-	0.0	0.0	0.2	-	0.058
	C	0.79	13.32	0.059	-	0.1	0.1	1.0	-	0.080

<b>ARCADY 6</b>		
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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc2 - 2031 DM\Traffic models\J4 - 2031 Sc2 DM - Over Road\_Hattons Road 2014 PM Peak ODTAB.vai  
At: 15:48:44 on Friday, August 15, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Over Road (e)
Arm B	Hattons Road
Arm C	Over Road (nw)

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 4 - Over Road - Hattons Road
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	07/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.65	2.50
Entry Width (m)	3.00	3.65	3.00
Flare Length (m)	0.00	0.00	1.00
Entry Radius (m)	34.00	17.00	34.00
Inscribed Circle Diameter (m)	30.00	40.00	24.00
Entry Angle (degrees)	40.00	40.00	40.00
Slope	0.489	0.501	0.473
Intercept (PCU/Min)	14.929	17.634	13.398

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **16:45 to 18:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	1.0	21.0	27.0
Arm B	50.0	1.0	13.0
Arm C	17.0	16.0	0.0

### Entry Flow Data for Demand Set: 2031 DM PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.61	0.92	0.61
Arm B	15.00	45.00	75.00	0.80	1.20	0.80
Arm C	15.00	45.00	75.00	0.41	0.62	0.41

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 DM PM Peak


Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0



**Queues and Delay:**

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 16:45 to 17:00</b>	A	0.61	14.83	0.041	-	0.0	0.0	0.6	-	0.070
	B	0.80	17.46	0.046	-	0.0	0.0	0.7	-	0.060
	C	0.41	13.09	0.032	-	0.0	0.0	0.5	-	0.079
<b>Segment : 2 - 17:00 to 17:15</b>	A	0.73	14.80	0.050	-	0.0	0.1	0.8	-	0.071
	B	0.96	17.42	0.055	-	0.0	0.1	0.9	-	0.061
	C	0.49	13.03	0.038	-	0.0	0.0	0.6	-	0.080
<b>Segment : 3 - 17:15 to 17:30</b>	A	0.90	14.78	0.061	-	0.1	0.1	1.0	-	0.072
	B	1.17	17.38	0.068	-	0.1	0.1	1.1	-	0.062
	C	0.61	12.94	0.047	-	0.0	0.0	0.7	-	0.081
<b>Segment : 4 - 17:30 to 17:45</b>	A	0.90	14.78	0.061	-	0.1	0.1	1.0	-	0.072
	B	1.17	17.38	0.068	-	0.1	0.1	1.1	-	0.062
	C	0.61	12.94	0.047	-	0.0	0.0	0.7	-	0.081
<b>Segment : 5 - 17:45 to 18:00</b>	A	0.73	14.80	0.050	-	0.1	0.1	0.8	-	0.071
	B	0.96	17.42	0.055	-	0.1	0.1	0.9	-	0.061
	C	0.49	13.03	0.038	-	0.0	0.0	0.6	-	0.080
<b>Segment : 6 - 18:00 to 18:15</b>	A	0.61	14.82	0.041	-	0.1	0.0	0.7	-	0.070
	B	0.80	17.46	0.046	-	0.1	0.0	0.7	-	0.060
	C	0.41	13.09	0.032	-	0.0	0.0	0.5	-	0.079

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## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J5 - High St\_Over Rd\_ 2031 Sc2 DM AM Peak.vai  
At: 14:08:31 on Wednesday, June 11, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	High Street (N)
Arm B	High Street (S)
Arm C	Over Road

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 5 - High Street & Over Road mini roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

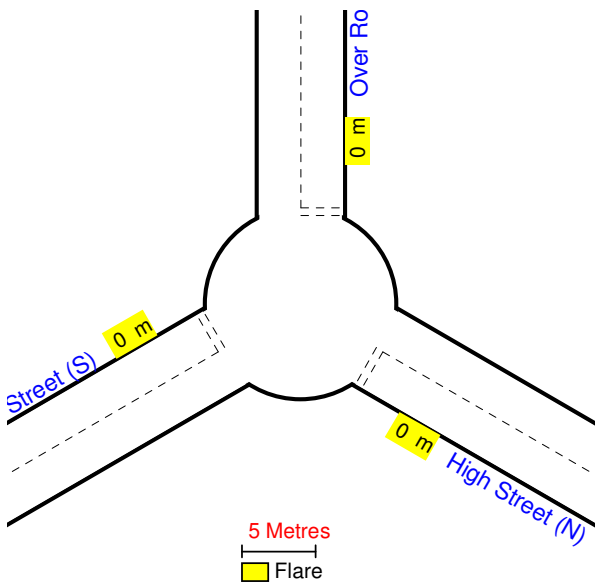
## Mini-Roundabout Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.00	3.00	3.00
Flare Length (m)	0.00	0.00	0.00
Minimum Approach Half-Width (m)	3.00	3.00	3.00
Distance Between Arm and Next Arm (m)	16.00	15.00	14.00
Kerb Line Distance (m)	17.00	13.00	13.00
Gradient (%)	0.00	0.00	0.00
Kerbed Central Island	No	No	No
Slope	0.633	0.521	0.521
Intercept (PCU/Min)	12.999	11.376	10.666

Lighting Conditions: **Normal**

Road Surface Conditions: **Normal**

**Junction Diagram: (View Extent = 40m)**



Angles Between Arms (Degrees): Arm A(120) Arm B(120) Arm C(120)

**Demand Data**

Demand Profiles are Synthesised using **DIRECT** Data  
 Period of interest (for Queue and Delay calculations): **08:00 to 09:00**  
 Length of Time Period: **60 min**  
 Length of Time Segment: **15 min**

**Direct Data for Demand Set: 2031 DM AM Peak**

Time Period	Arm	Demand Data (Veh/Min)
Segment : 1 - 08:00 to 08:15	A	2.23
	B	2.15
	C	0.15
Segment : 2 - 08:15 to 08:30	A	2.23
	B	2.15
	C	0.15
Segment : 3 - 08:30 to 08:45	A	2.23
	B	2.15
	C	0.15
Segment : 4 - 08:45 to 09:00	A	2.23
	B	2.15
	C	0.15

**Turning Proportions for Demand Set: 2031 DM AM Peak**

Turning proportions vary over entry and calculated from turning count data (shaded)

Time Period	From/To	Arm A	Arm B	Arm C
08:00 to 09:00	Arm A	0.000	0.925	0.075
		0.0	124.0	10.0
	Arm B	1.000	0.000	0.000
		129.0	0.0	0.0
	Arm C	1.000	0.000	0.000
		9.0	0.0	0.0

**Heavy Vehicle Percentages for Demand Set: 2031 DM AM Peak**

Vary over entry

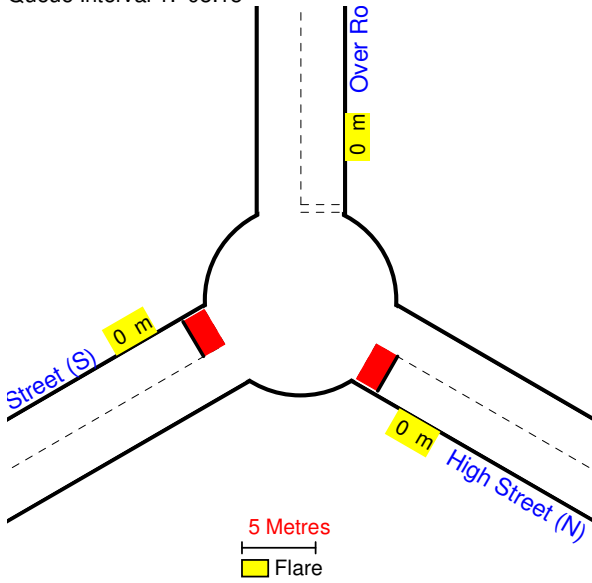
<b>Time Period</b>	<b>From/To</b>	<b>Arm A</b>	<b>Arm B</b>	<b>Arm C</b>
<b>08:00 to 09:00</b>	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

### Queue Diagrams: (View Extent = 40m)

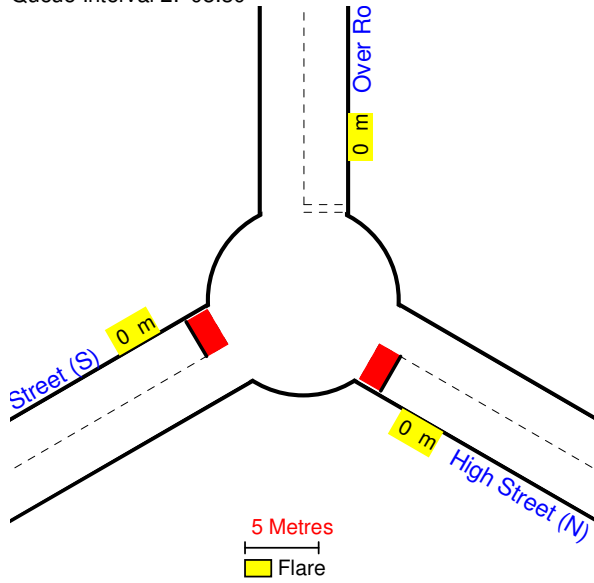
Queue Length	Colour
Mean Queue	
5 th % ile	
90 th % ile	
95 th % ile	

Start Time: 08:00---> End Time: 09:00

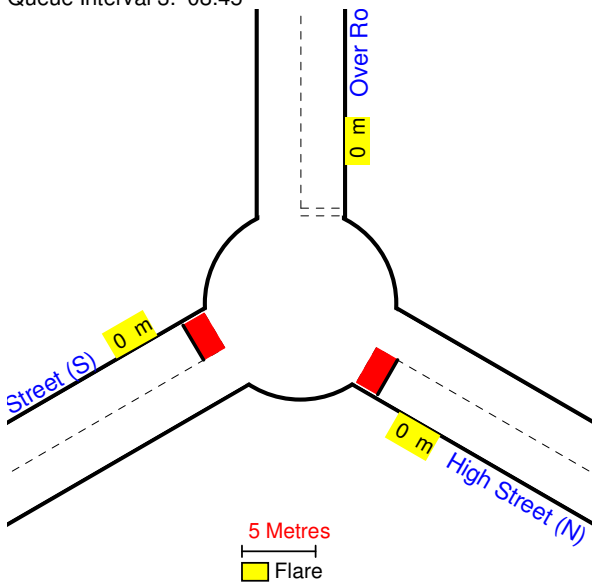
Queue Interval 1: 08:15



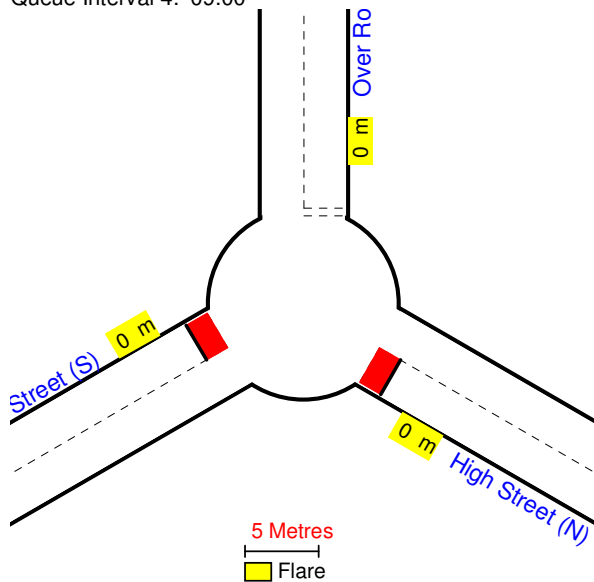
Queue Interval 2: 08:30



Queue Interval 3: 08:45

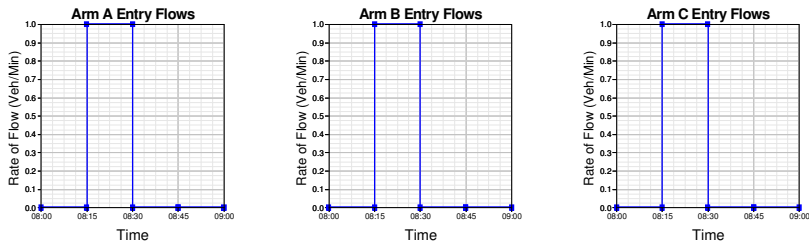


Queue Interval 4: 09:00



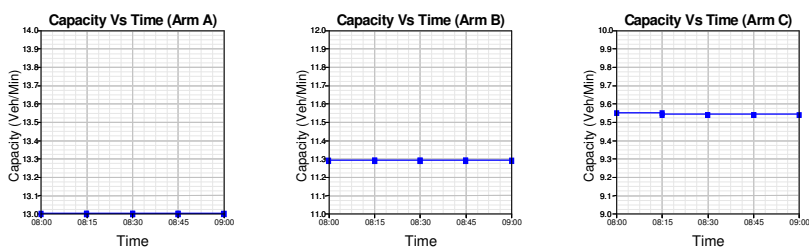
## Demand Data Graphs

### Direct Entry/Exit Flows for Demand Set: 2031 DM AM Peak



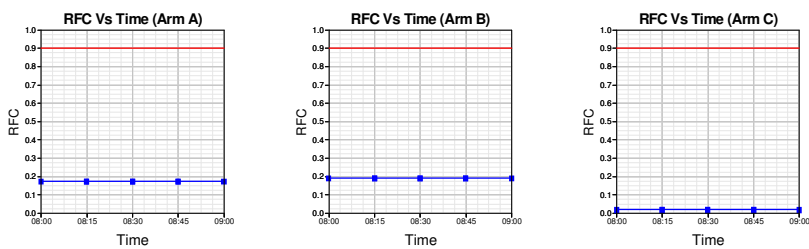
### Capacity (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



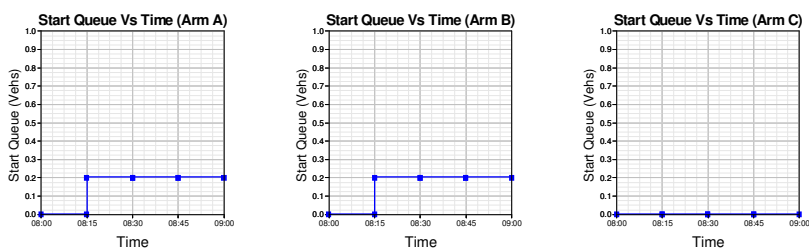
### RFC (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



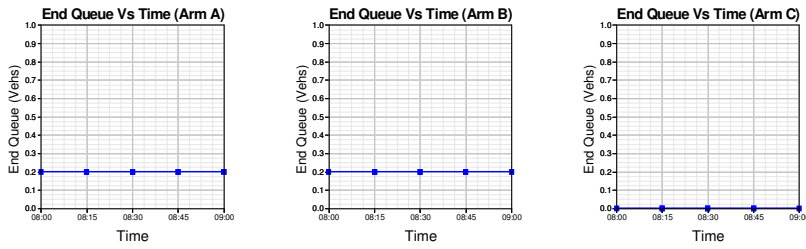
### Start Queue (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



### End Queue (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)

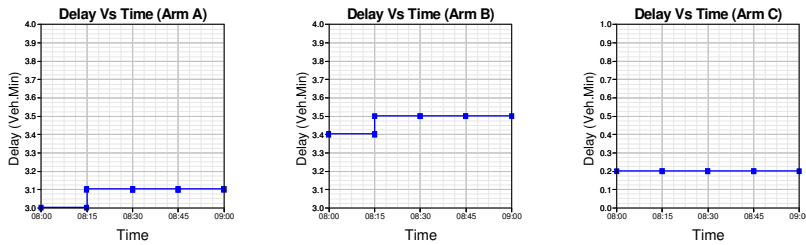


### Geometric Delay Graph

No Data. Please select 'Geometric Delay' in 'Principal Options' and try again.

### Delay (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



### Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 08:00 to 08:15</b>	A	2.23	13.00	0.172	-	0.0	0.2	3.0	-	0.093
	B	2.15	11.29	0.190	-	0.0	0.2	3.4	-	0.109
	C	0.15	9.55	0.016	-	0.0	0.0	0.2	-	0.106
<b>Segment : 2 - 08:15 to 08:30</b>	A	2.23	13.00	0.172	-	0.2	0.2	3.1	-	0.093
	B	2.15	11.29	0.190	-	0.2	0.2	3.5	-	0.109
	C	0.15	9.54	0.016	-	0.0	0.0	0.2	-	0.107
<b>Segment : 3 - 08:30 to 08:45</b>	A	2.23	13.00	0.172	-	0.2	0.2	3.1	-	0.093
	B	2.15	11.29	0.190	-	0.2	0.2	3.5	-	0.109
	C	0.15	9.54	0.016	-	0.0	0.0	0.2	-	0.107
<b>Segment : 4 - 08:45 to 09:00</b>	A	2.23	13.00	0.172	-	0.2	0.2	3.1	-	0.093
	B	2.15	11.29	0.190	-	0.2	0.2	3.5	-	0.109
	C	0.15	9.54	0.016	-	0.0	0.0	0.2	-	0.107



## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
<b>A</b>	133.8	133.8	12.3	0.09	12.3	0.09
<b>B</b>	129.0	129.0	13.9	0.11	13.9	0.11
<b>C</b>	9.0	9.0	0.9	0.11	0.9	0.11
<b>ALL</b>	271.8	271.8	27.2	0.10	27.2	0.10

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.


These will only be significantly different if there is a large queue remaining at the end of the time period.

## Accident Data

No Data, please select either the 'Simple Accident Analysis' or 'Full Accident Analysis' option in 'Principal Options' and try again.

## Accident Results

No Data, please select either the 'Simple Accident Analysis' or 'Full Accident Analysis' option in 'Principal Options' and try again.

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## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J5 - High St\_Over Rd\_ 2031 Sc2 DM PM Peak.vai  
At: 14:13:00 on Wednesday, June 11, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	High Street (N)
Arm B	High Street (S)
Arm C	Over Road

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 5 - High Street & Over Road mini roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

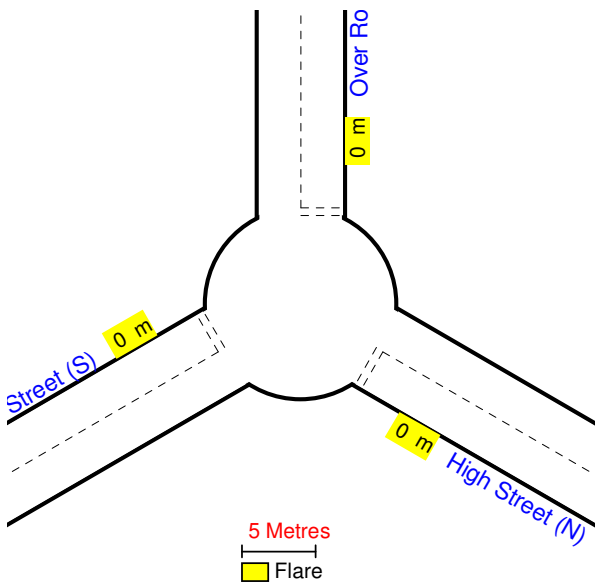
## Mini-Roundabout Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.00	3.00	3.00
Flare Length (m)	0.00	0.00	0.00
Minimum Approach Half-Width (m)	3.00	3.00	3.00
Distance Between Arm and Next Arm (m)	16.00	15.00	14.00
Kerb Line Distance (m)	17.00	13.00	13.00
Gradient (%)	0.00	0.00	0.00
Kerbed Central Island	No	No	No
Slope	0.633	0.521	0.521
Intercept (PCU/Min)	12.999	11.376	10.666

Lighting Conditions: **Normal**

Road Surface Conditions: **Normal**

**Junction Diagram: (View Extent = 40m)**



Angles Between Arms (Degrees): Arm A(120) Arm B(120) Arm C(120)

**Demand Data**

Demand Profiles are Synthesised using **DIRECT** Data  
 Period of interest (for Queue and Delay calculations): **08:00 to 09:00**  
 Length of Time Period: **60 min**  
 Length of Time Segment: **15 min**

**Direct Data for Demand Set: 2031 DM PM Peak**

Time Period	Arm	Demand Data (Veh/Min)
Segment : 1 - 08:00 to 08:15	A	2.58
	B	2.33
	C	0.27
Segment : 2 - 08:15 to 08:30	A	2.58
	B	2.33
	C	0.27
Segment : 3 - 08:30 to 08:45	A	2.58
	B	2.33
	C	0.27
Segment : 4 - 08:45 to 09:00	A	2.58
	B	2.33
	C	0.27

**Turning Proportions for Demand Set: 2031 DM PM Peak**

Turning proportions vary over entry and calculated from turning count data (shaded)

Time Period	From/To	Arm A	Arm B	Arm C
08:00 to 09:00	Arm A	0.000	0.916	0.084
		0.0	142.0	13.0
	Arm B	1.000	0.000	0.000
		140.0	0.0	0.0
	Arm C	1.000	0.000	0.000
		16.0	0.0	0.0

**Heavy Vehicle Percentages for Demand Set: 2031 DM PM Peak**

Vary over entry

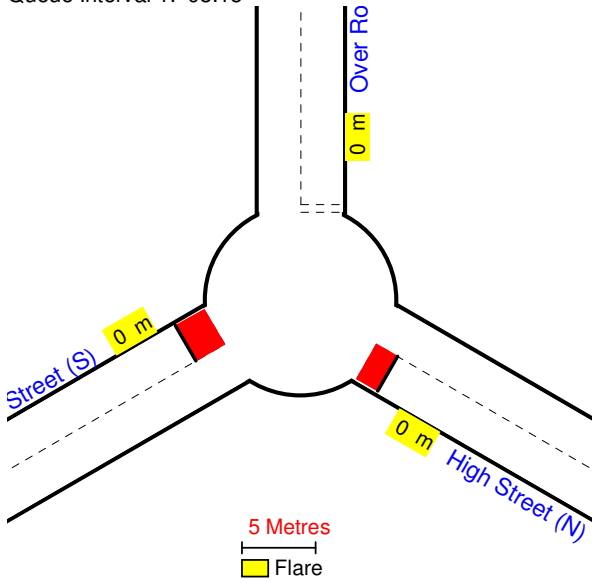
<b>Time Period</b>	<b>From/To</b>	<b>Arm A</b>	<b>Arm B</b>	<b>Arm C</b>
<b>08:00 to 09:00</b>	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

### Queue Diagrams: (View Extent = 40m)

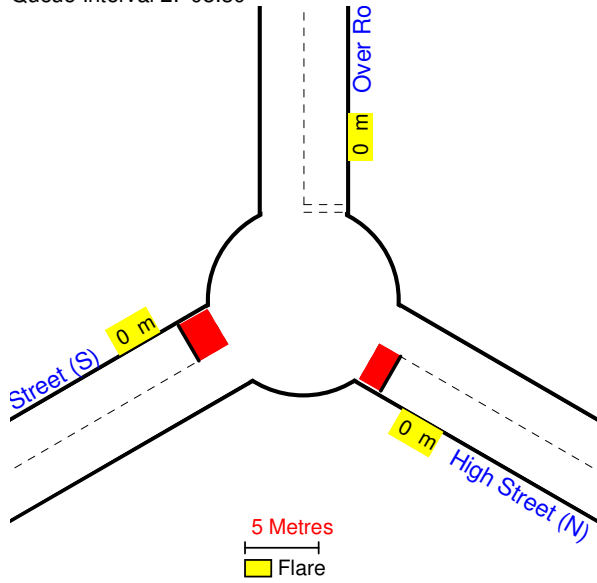
Queue Length	Colour
Mean Queue	Red
5 th % ile	Light Red
90 th % ile	Very Light Red
95 th % ile	Lightest Red

Start Time: 08:00---> End Time: 09:00

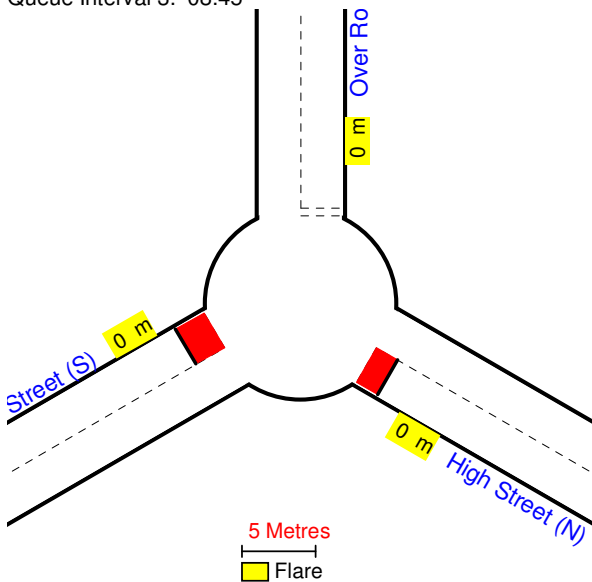
Queue Interval 1: 08:15



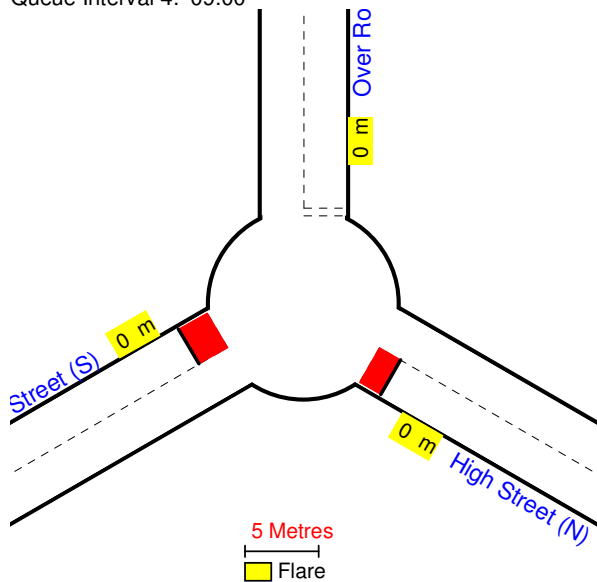
Queue Interval 2: 08:30



Queue Interval 3: 08:45

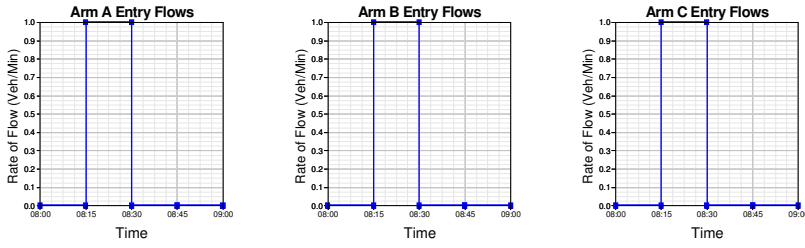


Queue Interval 4: 09:00



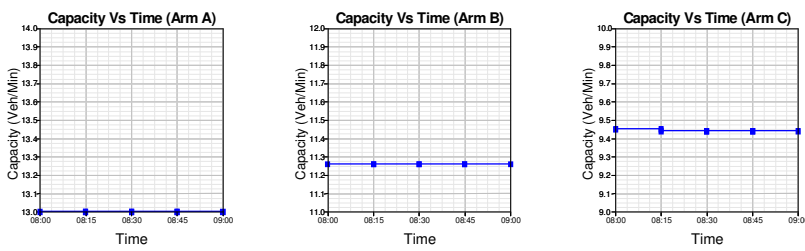
## Demand Data Graphs

### Direct Entry/Exit Flows for Demand Set: 2031 DM PM Peak



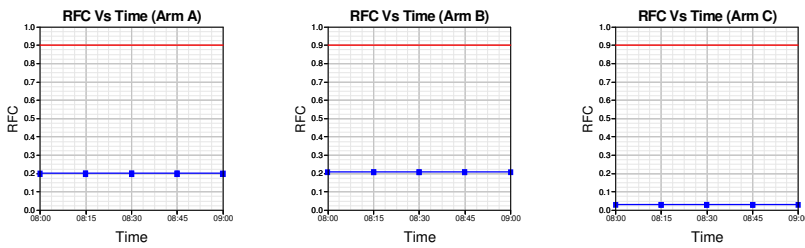
### Capacity (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



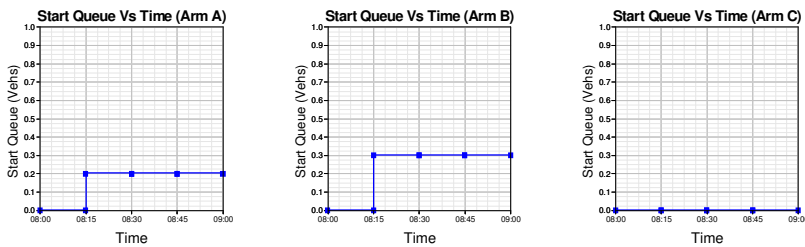
### RFC (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



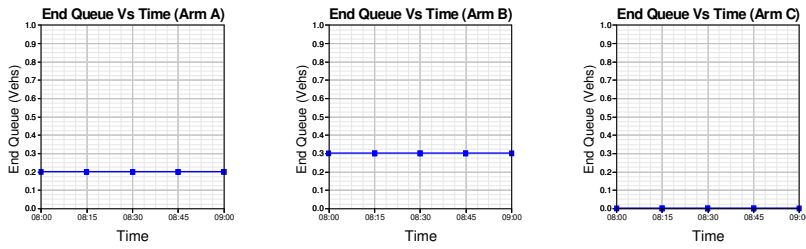
### Start Queue (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



## End Queue (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)

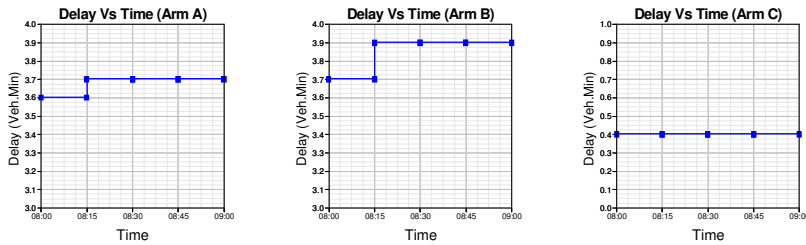


## Geometric Delay Graph

No Data. Please select 'Geometric Delay' in 'Principal Options' and try again.

## Delay (against Time) Graphs, for each 15min Interval (08:00 - 09:00)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



## Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 08:00 to 08:15	A	2.58	13.00	0.198	-	0.0	0.2	3.6	-	0.096
	B	2.33	11.26	0.207	-	0.0	0.3	3.7	-	0.112
	C	0.27	9.45	0.029	-	0.0	0.0	0.4	-	0.109
Segment : 2 - 08:15 to 08:30	A	2.58	13.00	0.198	-	0.2	0.2	3.7	-	0.096
	B	2.33	11.26	0.207	-	0.3	0.3	3.9	-	0.112
	C	0.27	9.44	0.029	-	0.0	0.0	0.4	-	0.109
Segment : 3 - 08:30 to 08:45	A	2.58	13.00	0.198	-	0.2	0.2	3.7	-	0.096
	B	2.33	11.26	0.207	-	0.3	0.3	3.9	-	0.112
	C	0.27	9.44	0.029	-	0.0	0.0	0.4	-	0.109
Segment : 4 - 08:45 to 09:00	A	2.58	13.00	0.198	-	0.2	0.2	3.7	-	0.096
	B	2.33	11.26	0.207	-	0.3	0.3	3.9	-	0.112
	C	0.27	9.44	0.029	-	0.0	0.0	0.4	-	0.109



## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
<b>A</b>	154.8	154.8	14.7	0.09	14.7	0.09
<b>B</b>	139.8	139.8	15.4	0.11	15.4	0.11
<b>C</b>	16.2	16.2	1.7	0.11	1.7	0.11
<b>ALL</b>	310.8	310.8	31.9	0.10	31.9	0.10

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.


These will only be significantly different if there is a large queue remaining at the end of the time period.

## Accident Data

No Data, please select either the 'Simple Accident Analysis' or 'Full Accident Analysis' option in 'Principal Options' and try again.

## Accident Results

No Data, please select either the 'Simple Accident Analysis' or 'Full Accident Analysis' option in 'Principal Options' and try again.

<b>ARCADY 6</b>		
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TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK		Tel: +44 (0)1344 770758 Fax: +44 (0)1344 770864 Email: software@trl.co.uk Web: www.trlsoftware.co.uk
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J6 - Station Rd\_B1050 - 2031 Sc2 DM AM Peak.vai  
 At: 11:40:05 on Tuesday, June 10, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Farm Access
Arm B	Station Road (e)
Arm C	Station Road (s)
Arm D	B1050 (w)

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

## File Properties

<b>Run Title</b>	Junction 6 - Station Road / B1050 roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

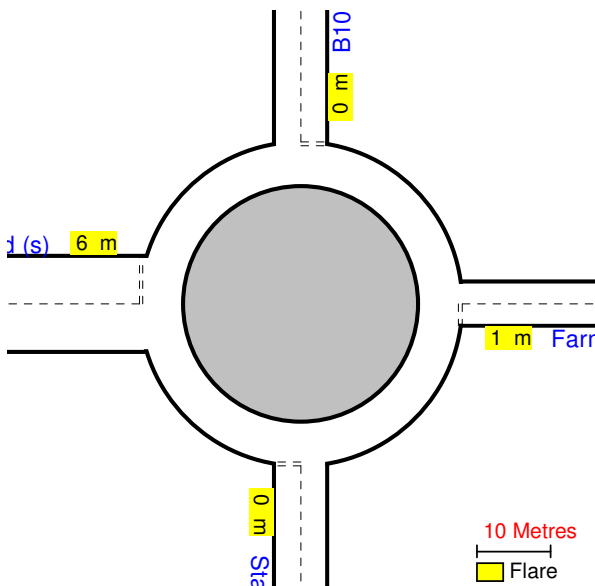
## Errors and Warnings

[No errors or warnings]

## Geometric Data

<b>Data Item</b>	<b>Arm A</b>	<b>Arm B</b>	<b>Arm C</b>	<b>Arm D</b>
Approach Road Half-Width (m)	2.50	3.65	3.00	3.65
Entry Width (m)	3.00	3.65	6.50	3.65
Flare Length (m)	1.00	0.00	6.00	0.00
Entry Radius (m)	10.00	45.00	25.00	45.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00	45.00
Entry Angle (degrees)	30.00	30.00	44.00	30.00
Slope	0.433	0.526	0.524	0.526
Intercept (PCU/Min)	12.931	18.933	20.489	18.933

**Junction Diagram: (View Extent = 80m)**



Angles Between Arms (Degrees): Arm A(90) Arm B(90) Arm C(90) Arm D(90)

**Demand Data**

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **07:45 to 09:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

**Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM AM Peak**

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	0.0	0.0
Arm B	0.0	0.0	77.0	921.0
Arm C	0.0	102.0	0.0	38.0
Arm D	0.0	646.0	34.0	0.0

**Entry Flow Data for Demand Set: 2031 DM AM Peak**

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.00	0.00	0.00
Arm B	15.00	45.00	75.00	12.48	18.71	12.48
Arm C	15.00	45.00	75.00	1.75	2.63	1.75
Arm D	15.00	45.00	75.00	8.50	12.75	8.50

**Turning Proportions**

ODTAB Demand Data type is used, no turning proportions available.

**Heavy Vehicle Percentages for Demand Set: 2031 DM AM Peak**

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0

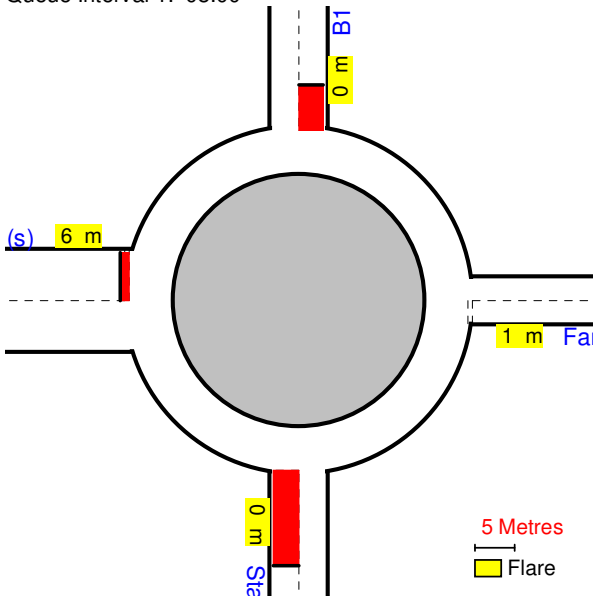
<b>Time Period</b>	<b>From/To</b>	<b>Arm A</b>	<b>Arm B</b>	<b>Arm C</b>	<b>Arm D</b>
	Arm D	0.0	0.0	0.0	0.0

**Queue Diagrams: (View Extent = 80m)**

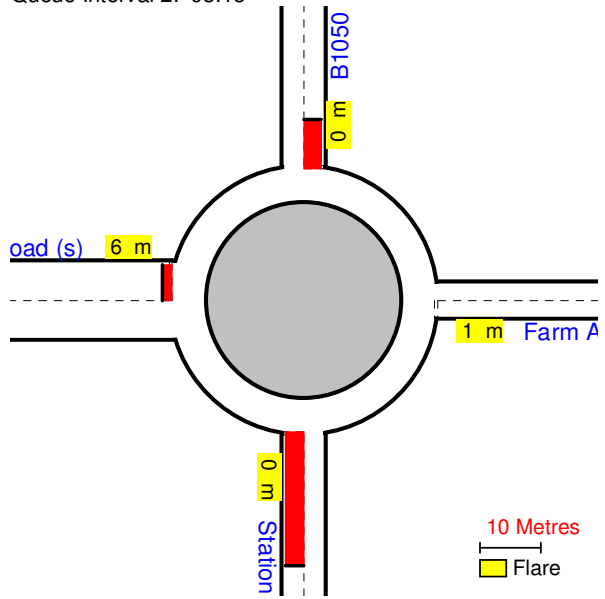
Queue Length	Colour
Mean Queue	
5 th % ile	
90 th % ile	
95 th % ile	

Start Time: 07:45---> End Time: 09:15

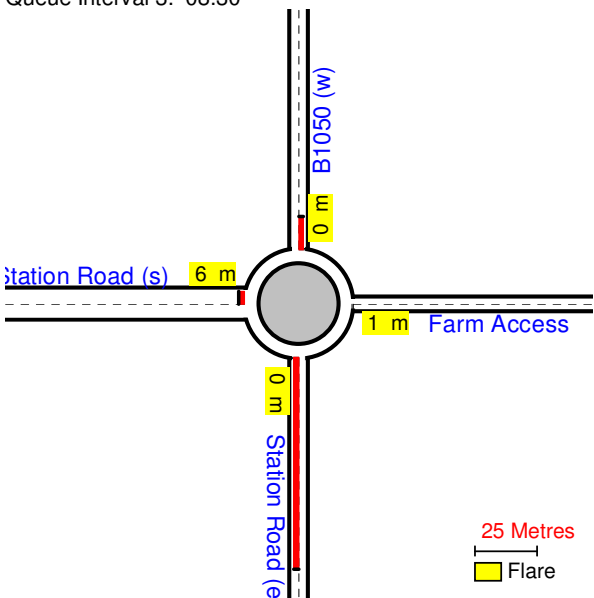
Queue Interval 1: 08:00



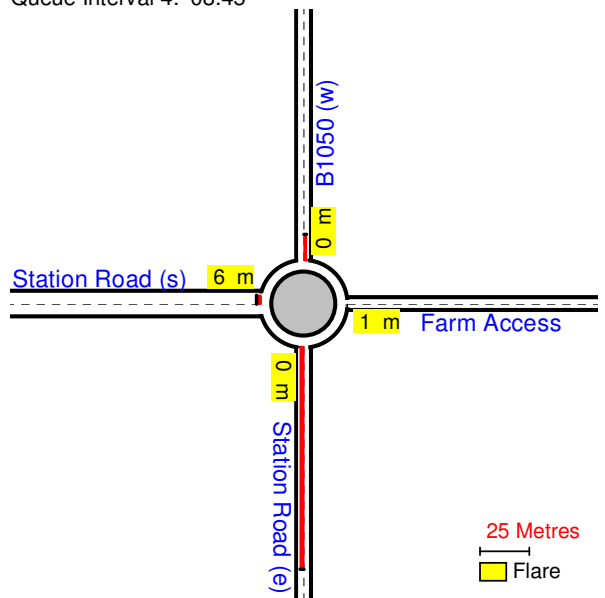
Queue Interval 2: 08:15



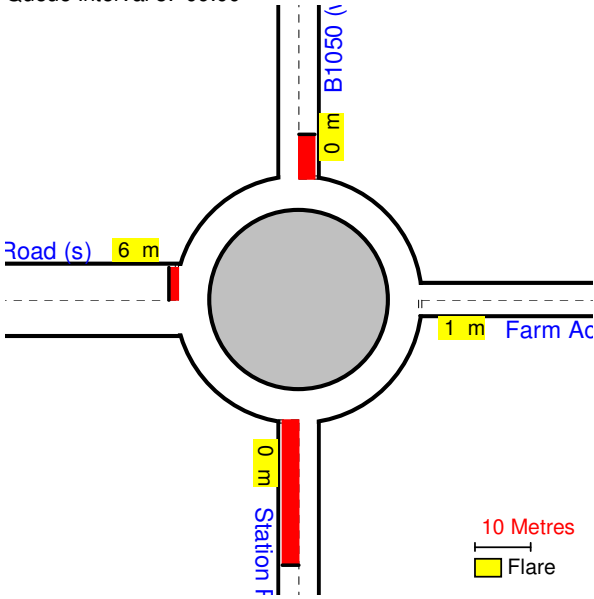
Queue Interval 3: 08:30



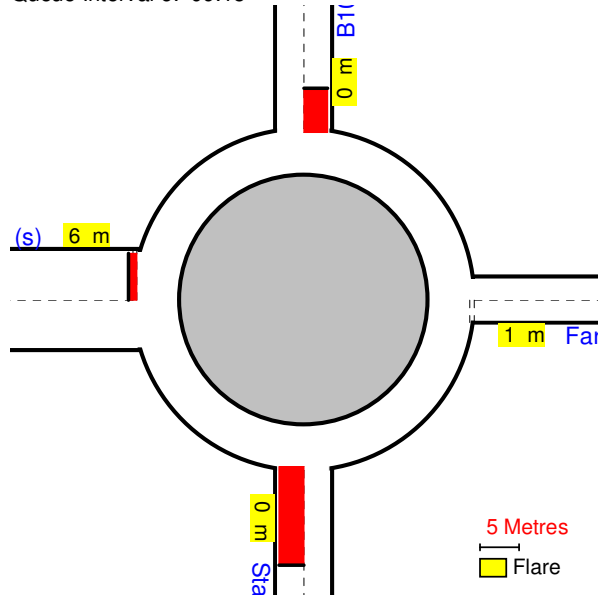
Queue Interval 4: 08:45



Queue Interval 5: 09:00



Queue Interval 6: 09:15

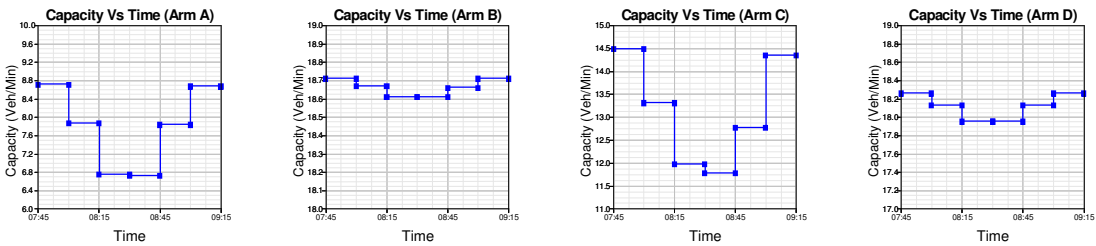


**Demand Data Graphs**

No graph available

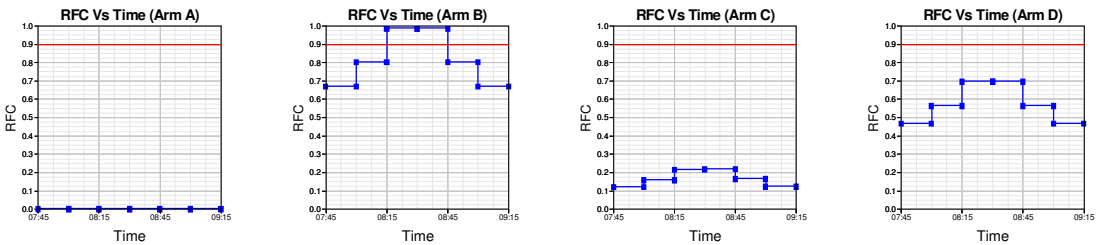
**Capacity (against Time) Graphs, for each 15min Interval (07:45 - 09:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



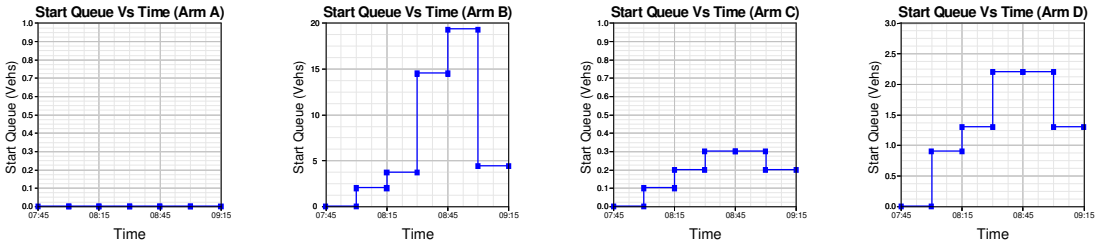
**RFC (against Time) Graphs, for each 15min Interval (07:45 - 09:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



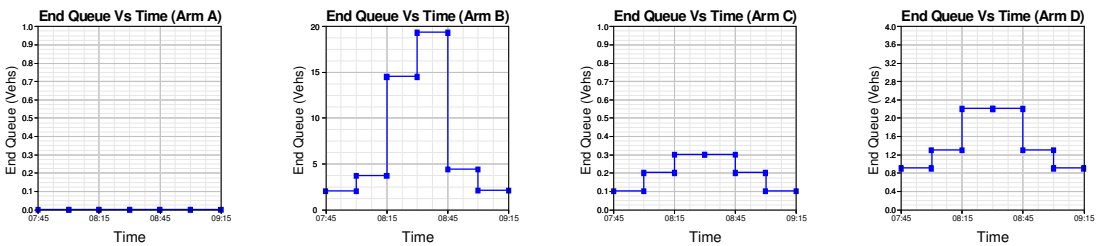
### Start Queue (against Time) Graphs, for each 15min Interval (07:45 - 09:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



### End Queue (against Time) Graphs, for each 15min Interval (07:45 - 09:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)

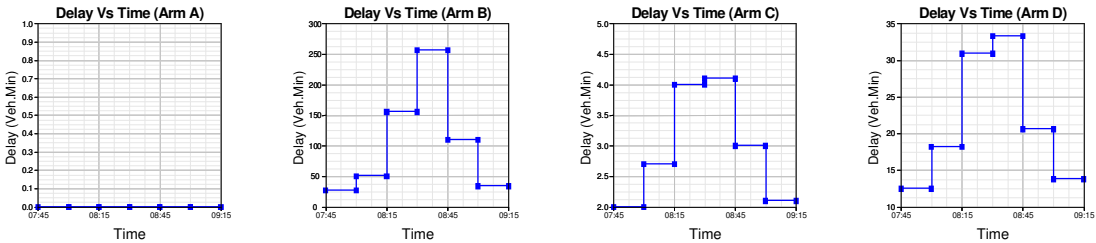


### Geometric Delay Graph

No Data. Please select 'Geometric Delay' in 'Principal Options' and try again.

### Delay (against Time) Graphs, for each 15min Interval (07:45 - 09:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)





## Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 07:45 to 08:00	A	0.00	8.71	0.000	-	0.0	0.0	0.0	-	0.000
	B	12.52	18.71	0.669	-	0.0	2.0	27.2	-	0.155
	C	1.76	14.49	0.121	-	0.0	0.1	2.0	-	0.078
	D	8.53	18.26	0.467	-	0.0	0.9	12.5	-	0.102
Segment : 2 - 08:00 to 08:15	A	0.00	7.87	0.000	-	0.0	0.0	0.0	-	0.000
	B	14.95	18.67	0.801	-	2.0	3.7	50.5	-	0.253
	C	2.10	13.31	0.158	-	0.1	0.2	2.7	-	0.089
	D	10.19	18.13	0.562	-	0.9	1.3	18.2	-	0.125
Segment : 3 - 08:15 to 08:30	A	0.00	6.75	0.000	-	0.0	0.0	0.0	-	0.000
	B	18.31	18.61	0.984	-	3.7	14.5	155.7	-	0.705
	C	2.57	11.97	0.215	-	0.2	0.3	4.0	-	0.106
	D	12.48	17.95	0.695	-	1.3	2.2	30.9	-	0.179
Segment : 4 - 08:30 to 08:45	A	0.00	6.72	0.000	-	0.0	0.0	0.0	-	0.000
	B	18.31	18.61	0.984	-	14.5	19.3	256.5	-	1.084
	C	2.57	11.78	0.218	-	0.3	0.3	4.1	-	0.109
	D	12.48	17.95	0.695	-	2.2	2.2	33.3	-	0.182
Segment : 5 - 08:45 to 09:00	A	0.00	7.83	0.000	-	0.0	0.0	0.0	-	0.000
	B	14.95	18.66	0.801	-	19.3	4.4	109.7	-	0.463
	C	2.10	12.77	0.164	-	0.3	0.2	3.0	-	0.094
	D	10.19	18.13	0.562	-	2.2	1.3	20.6	-	0.128
Segment : 6 - 09:00 to 09:15	A	0.00	8.67	0.000	-	0.0	0.0	0.0	-	0.000
	B	12.52	18.71	0.669	-	4.4	2.1	33.8	-	0.170
	C	1.76	14.35	0.122	-	0.2	0.1	2.1	-	0.079
	D	8.53	18.26	0.467	-	1.3	0.9	13.8	-	0.103

## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	0.0	0.0	0.0	0.00	0.0	0.00
B	1373.7	915.8	633.4	0.46	633.5	0.46
C	192.7	128.5	18.0	0.09	18.0	0.09
D	936.0	624.0	129.1	0.14	129.2	0.14
ALL	2502.3	1668.2	780.6	0.31	780.7	0.31

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.


These will only be significantly different if there is a large queue remaining at the end of the time period.

## **Accident Data**

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

## **Accident Results**

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

<b>ARCADY 6</b>		
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## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J6 - Station Rd\_B1050 - 2031 Sc2 DM PM Peak.vai  
At: 11:43:23 on Tuesday, June 10, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Farm Access
Arm B	Station Road (e)
Arm C	Station Road (s)
Arm D	B1050 (w)

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

## File Properties

<b>Run Title</b>	Junction 6 - Station Road / B1050 roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

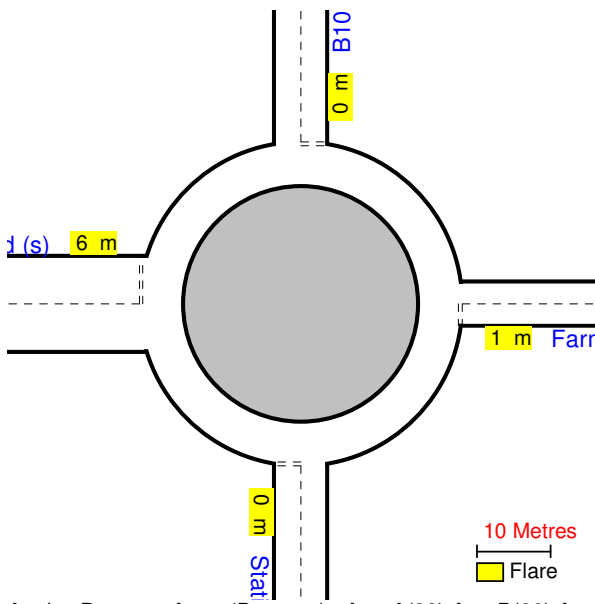
## Errors and Warnings

[No errors or warnings]

## Geometric Data

<b>Data Item</b>	<b>Arm A</b>	<b>Arm B</b>	<b>Arm C</b>	<b>Arm D</b>
Approach Road Half-Width (m)	2.50	3.65	3.00	3.65
Entry Width (m)	3.00	3.65	6.50	3.65
Flare Length (m)	1.00	0.00	6.00	0.00
Entry Radius (m)	10.00	45.00	25.00	45.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00	45.00
Entry Angle (degrees)	30.00	30.00	44.00	30.00
Slope	0.433	0.526	0.524	0.526
Intercept (PCU/Min)	12.931	18.933	20.489	18.933

**Junction Diagram: (View Extent = 80m)**



Angles Between Arms (Degrees): Arm A(90) Arm B(90) Arm C(90) Arm D(90)

**Demand Data**

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **16:45 to 18:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

**Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM PM Peak**

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	0.0	0.0
Arm B	0.0	0.0	100.0	746.0
Arm C	0.0	89.0	0.0	51.0
Arm D	0.0	968.0	46.0	0.0

**Entry Flow Data for Demand Set: 2031 DM PM Peak**

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.00	0.00	0.00
Arm B	15.00	45.00	75.00	10.57	15.86	10.57
Arm C	15.00	45.00	75.00	1.75	2.63	1.75
Arm D	15.00	45.00	75.00	12.68	19.01	12.68

**Turning Proportions**

ODTAB Demand Data type is used, no turning proportions available.

**Heavy Vehicle Percentages for Demand Set: 2031 DM PM Peak**

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
16:45 to 18:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0

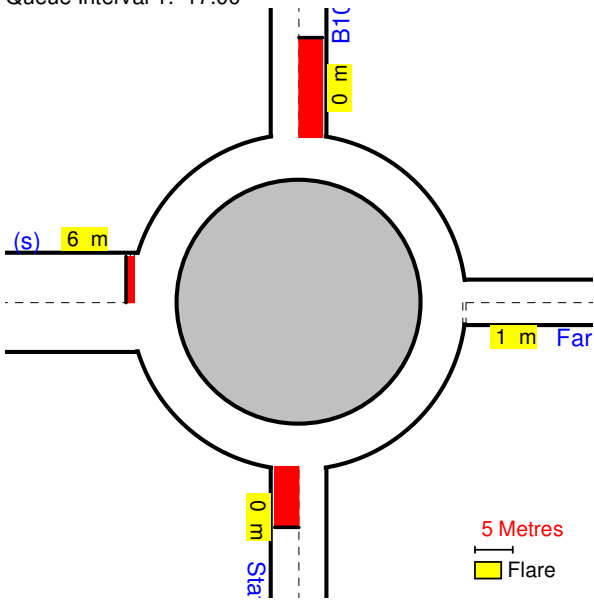
Time Period	From/To	Arm A	Arm B	Arm C	Arm D
	Arm D	0.0	0.0	0.0	0.0

**Queue Diagrams: (View Extent = 80m)**

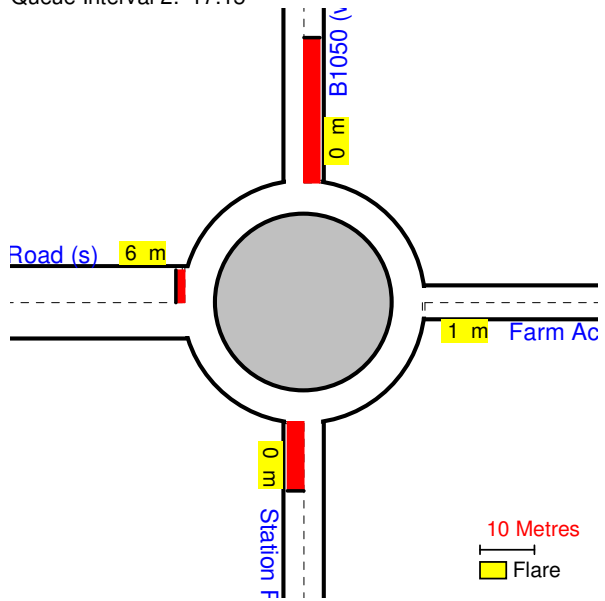
Queue Length	Colour
Mean Queue	Red
5 th % ile	Light Red
90 th % ile	Very Light Red
95 th % ile	Lightest Red

Start Time: 16:45---> End Time: 18:15

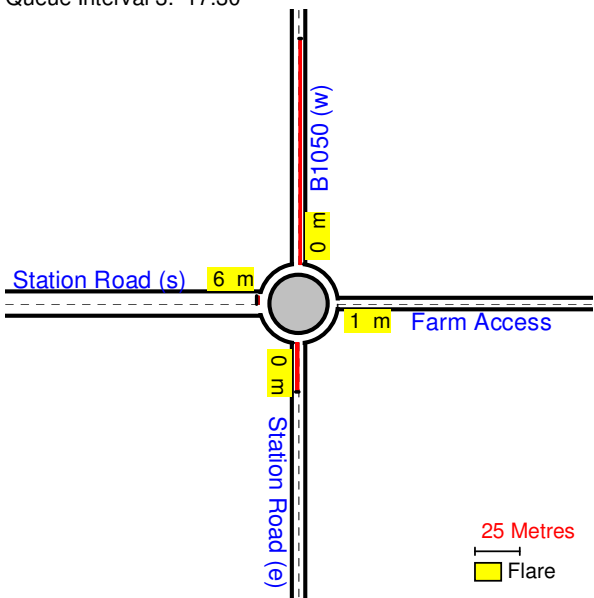
Queue Interval 1: 17:00



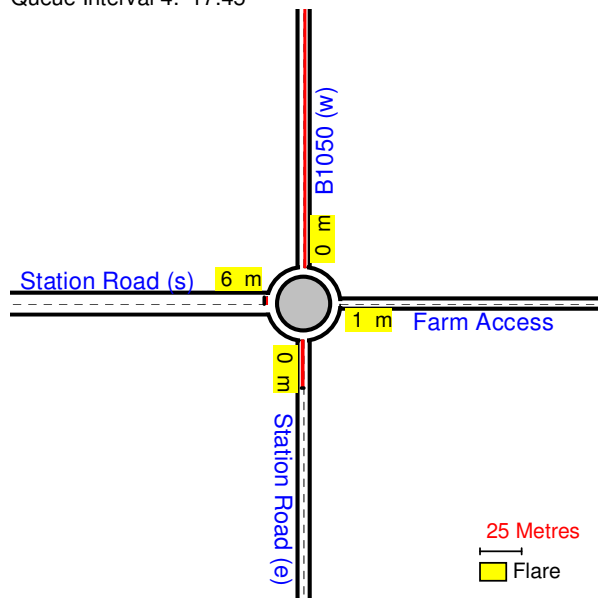
Queue Interval 2: 17:15



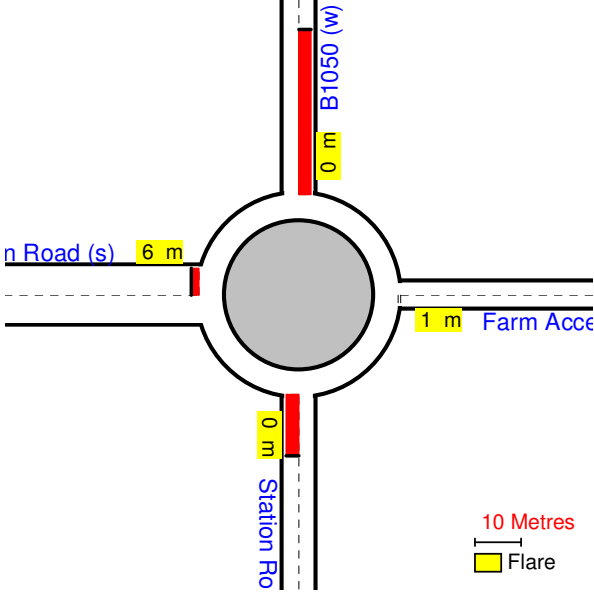
Queue Interval 3: 17:30



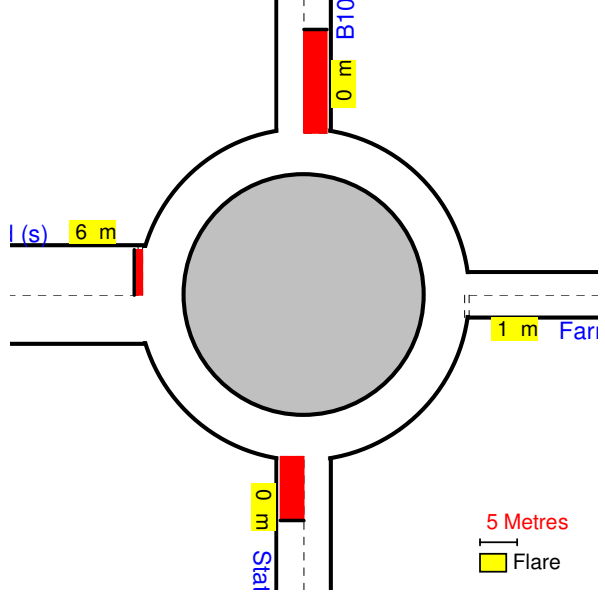
Queue Interval 4: 17:45



Queue Interval 5: 18:00



Queue Interval 6: 18:15

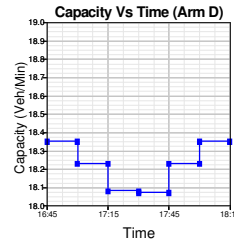
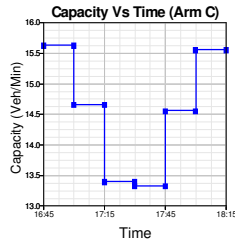
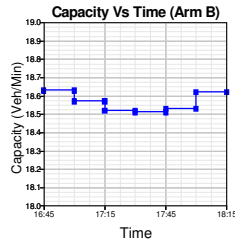
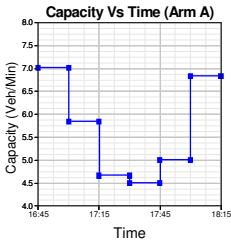


**Demand Data Graphs**

No graph available

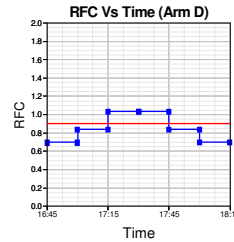
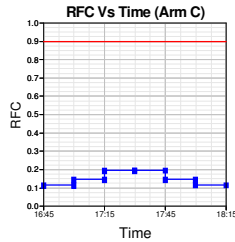
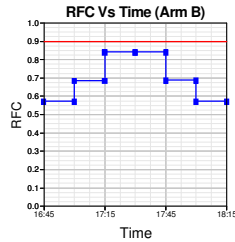
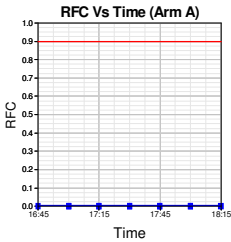
**Capacity (against Time) Graphs, for each 15min Interval (16:45 - 18:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



**RFC (against Time) Graphs, for each 15min Interval (16:45 - 18:15)**

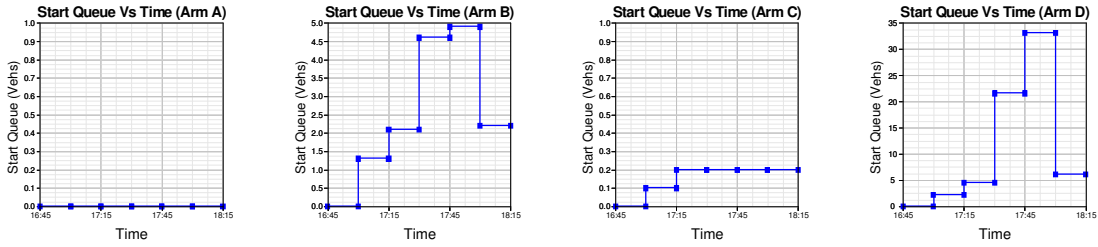
(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)





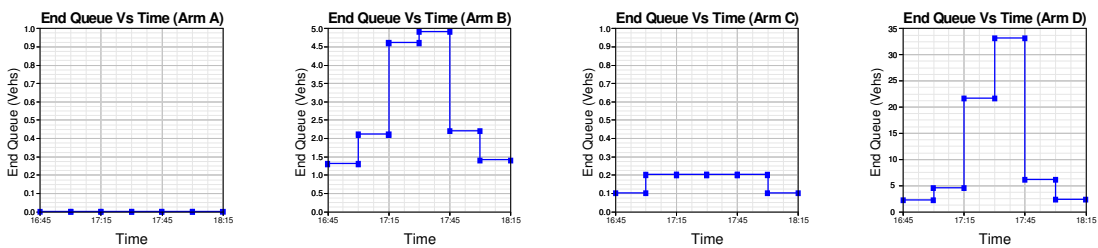
### Start Queue (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



### End Queue (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)

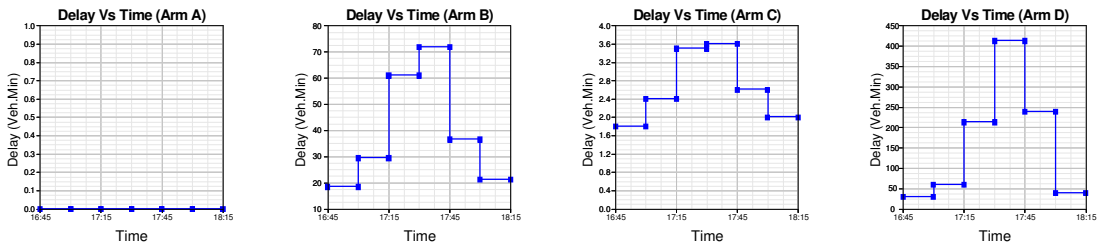


### Geometric Delay Graph

No Data. Please select 'Geometric Delay' in 'Principal Options' and try again.

### Delay (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



## Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 16:45 to 17:00	A	0.00	7.01	0.000	-	0.0	0.0	0.0	-	0.000
	B	10.62	18.63	0.570	-	0.0	1.3	18.4	-	0.122
	C	1.76	15.62	0.112	-	0.0	0.1	1.8	-	0.072
	D	12.72	18.35	0.693	-	0.0	2.2	30.0	-	0.169
Segment : 2 - 17:00 to 17:15	A	0.00	5.84	0.000	-	0.0	0.0	0.0	-	0.000
	B	12.68	18.57	0.682	-	1.3	2.1	29.4	-	0.166
	C	2.10	14.65	0.143	-	0.1	0.2	2.4	-	0.080
	D	15.19	18.23	0.833	-	2.2	4.5	59.4	-	0.299
Segment : 3 - 17:15 to 17:30	A	0.00	4.66	0.000	-	0.0	0.0	0.0	-	0.000
	B	15.52	18.52	0.838	-	2.1	4.6	60.9	-	0.300
	C	2.57	13.39	0.192	-	0.2	0.2	3.5	-	0.092
	D	18.61	18.08	1.029	-	4.5	21.6	212.7	-	0.956
Segment : 4 - 17:30 to 17:45	A	0.00	4.50	0.000	-	0.0	0.0	0.0	-	0.000
	B	15.52	18.51	0.839	-	4.6	4.9	71.8	-	0.328
	C	2.57	13.32	0.193	-	0.2	0.2	3.6	-	0.093
	D	18.61	18.07	1.029	-	21.6	33.1	412.3	-	1.710
Segment : 5 - 17:45 to 18:00	A	0.00	5.00	0.000	-	0.0	0.0	0.0	-	0.000
	B	12.68	18.53	0.684	-	4.9	2.2	36.5	-	0.181
	C	2.10	14.55	0.144	-	0.2	0.2	2.6	-	0.080
	D	15.19	18.23	0.833	-	33.1	6.1	238.8	-	1.021
Segment : 6 - 18:00 to 18:15	A	0.00	6.83	0.000	-	0.0	0.0	0.0	-	0.000
	B	10.62	18.62	0.570	-	2.2	1.4	21.2	-	0.127
	C	1.76	15.55	0.113	-	0.2	0.1	2.0	-	0.073
	D	12.72	18.35	0.694	-	6.1	2.3	39.4	-	0.194

## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queueing Delay		Inclusive Queueing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	0.0	0.0	0.0	0.00	0.0	0.00
B	1164.5	776.3	238.3	0.20	238.3	0.20
C	192.7	128.5	15.9	0.08	15.9	0.08
D	1395.7	930.5	992.6	0.71	992.8	0.71
ALL	2752.9	1835.2	1246.8	0.45	1247.0	0.45

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.


These will only be significantly different if there is a large queue remaining at the end of the time period.

## **Accident Data**

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

## **Accident Results**

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

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The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J7 - B1050\_Ramper Rd 2031 Sc2 DM AM Peak (0800-0900)

ODTAB.vai

At: 14:07:10 on Tuesday, June 10, 2014

Mode: Drive On The Left

Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 (e)
Arm B	B1050 (s)
Arm C	Ramper Road

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 7 - B1050- Ramper Road
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

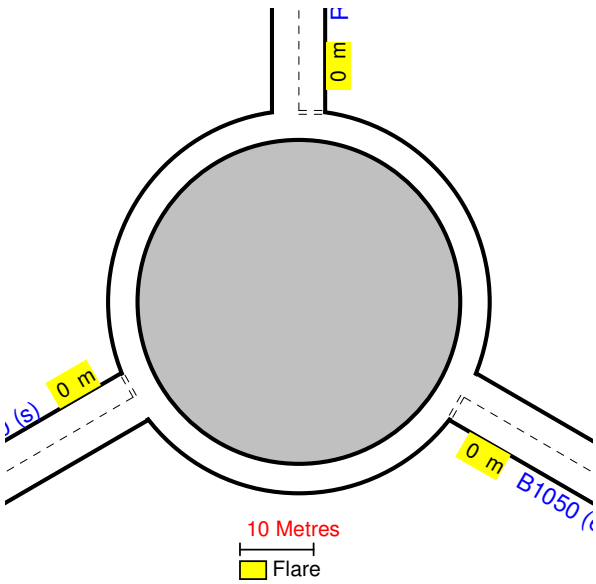
## Errors and Warnings

[No errors or warnings]

## Geometric Data

<b>Data Item</b>	<b>Arm A</b>	<b>Arm B</b>	<b>Arm C</b>
Approach Road Half-Width (m)	3.65	3.65	3.65
Entry Width (m)	3.65	3.65	3.65
Flare Length (m)	0.00	0.00	0.00
Entry Radius (m)	27.90	21.00	46.00
Inscribed Circle Diameter (m)	52.00	52.00	52.00
Entry Angle (degrees)	29.00	35.00	20.00
Slope	0.497	0.481	0.519
Intercept (PCU/Min)	18.752	18.156	19.582

**Junction Diagram: (View Extent = 80m)**



Angles Between Arms (Degrees): Arm A(120) Arm B(120) Arm C(120)

**Demand Data**

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **07:45 to 09:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

**Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM - AM Peak**

From/To	Arm A	Arm B	Arm C
Arm A	0.0	749.0	210.0
Arm B	495.0	0.0	57.0
Arm C	185.0	186.0	0.0

**Entry Flow Data for Demand Set: 2031 DM - AM Peak**

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	11.99	17.98	11.99
Arm B	15.00	45.00	75.00	6.90	10.35	6.90
Arm C	15.00	45.00	75.00	4.64	6.96	4.64

**Turning Proportions**

ODTAB Demand Data type is used, no turning proportions available.

**Heavy Vehicle Percentages for Demand Set: 2031 DM - AM Peak**

Vary over entry

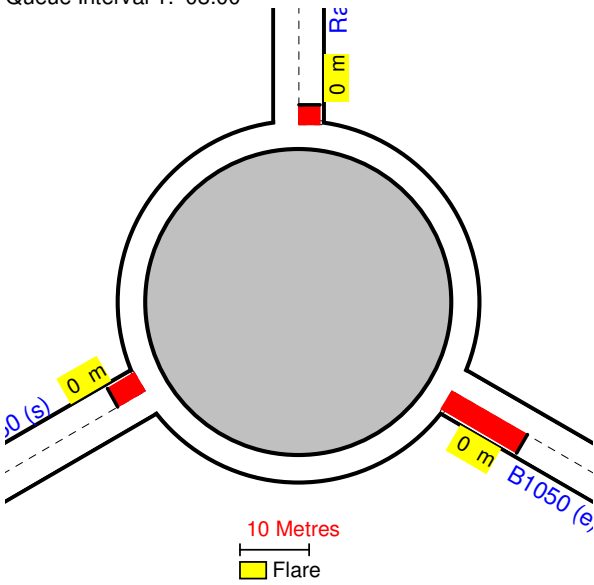
Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

**Queue Diagrams: (View Extent = 80m)**

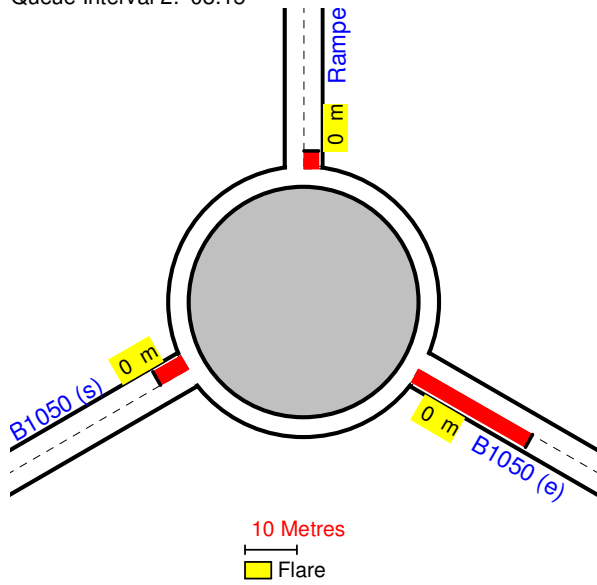
Queue Length	Colour
Mean Queue	Red
5 th % ile	Light Red
90 th % ile	Very Light Red
95 th % ile	Lightest Red

Start Time: 07:45---> End Time: 09:15

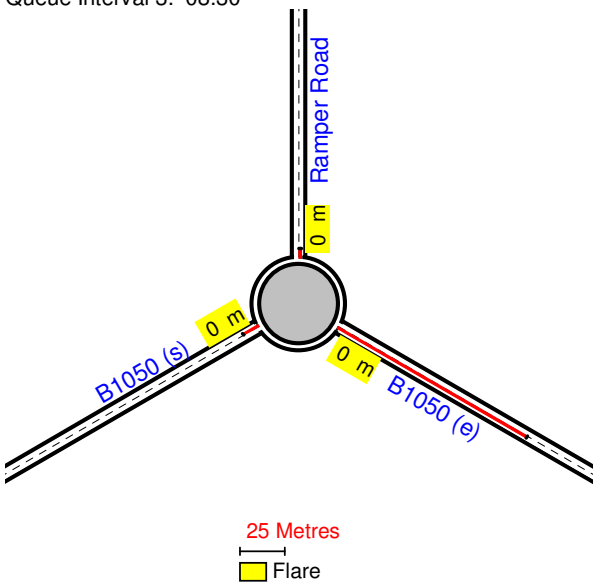
Queue Interval 1: 08:00



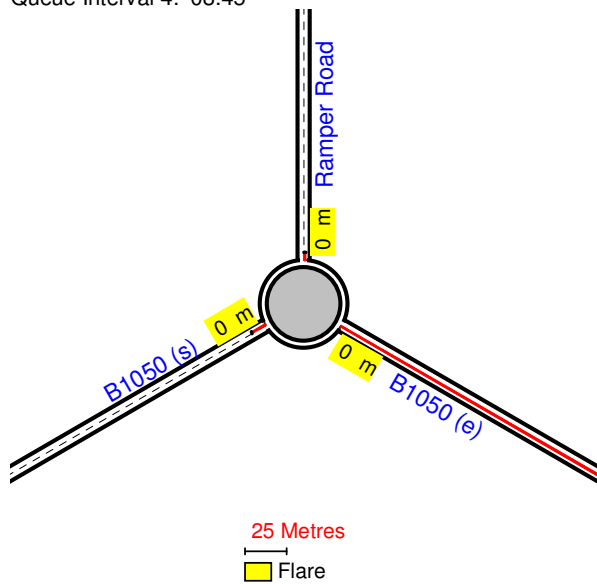
Queue Interval 2: 08:15



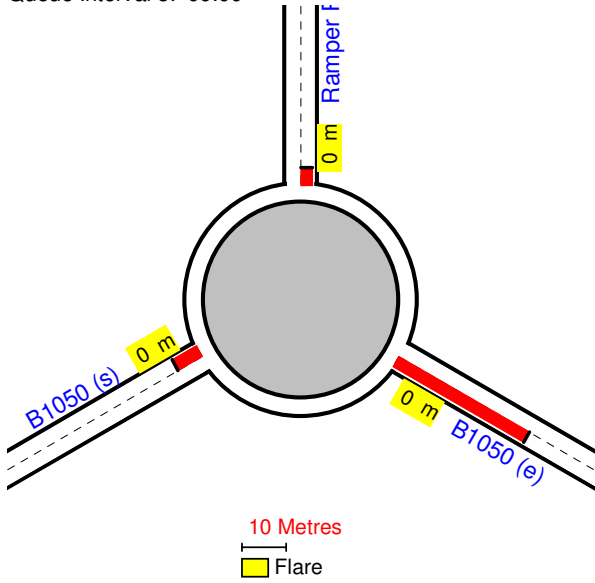
Queue Interval 3: 08:30



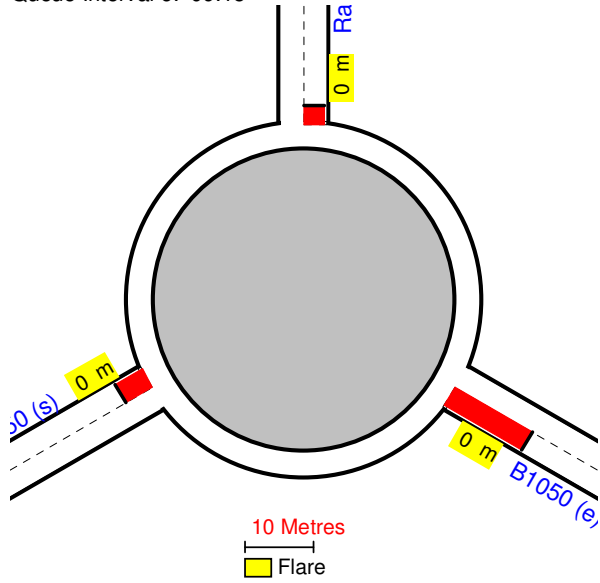
Queue Interval 4: 08:45



Queue Interval 5: 09:00



Queue Interval 6: 09:15

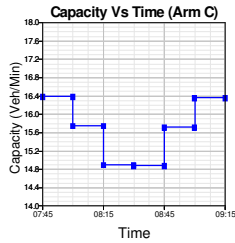
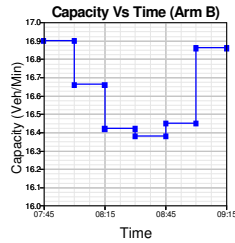
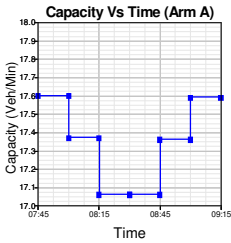


**Demand Data Graphs**

No graph available

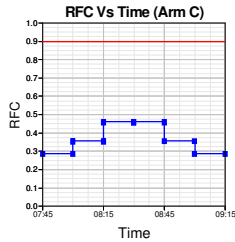
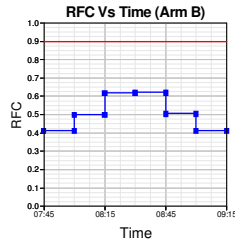
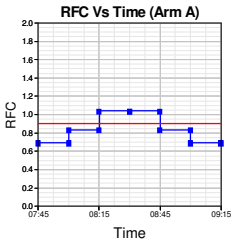
**Capacity (against Time) Graphs, for each 15min Interval (07:45 - 09:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



**RFC (against Time) Graphs, for each 15min Interval (07:45 - 09:15)**

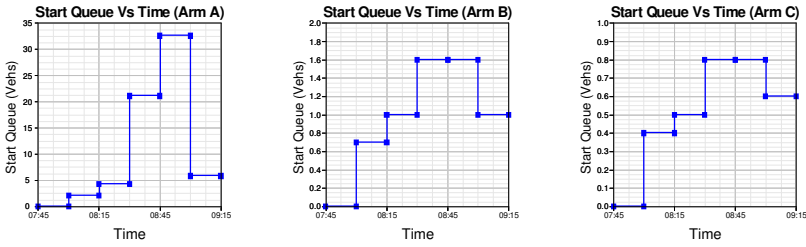
(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)





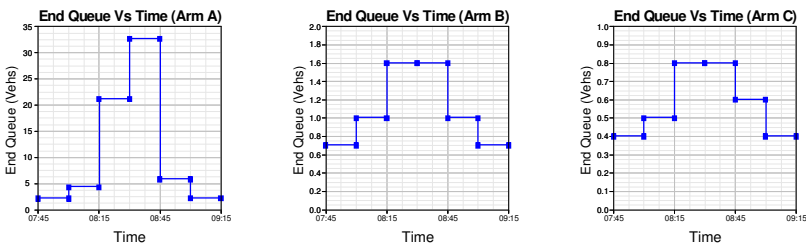
### Start Queue (against Time) Graphs, for each 15min Interval (07:45 - 09:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



### End Queue (against Time) Graphs, for each 15min Interval (07:45 - 09:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)

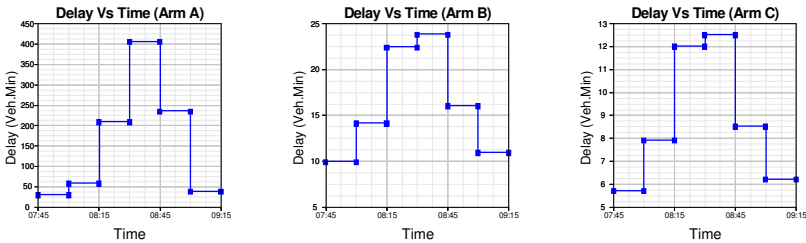


### Geometric Delay Graph

No Data. Please select 'Geometric Delay' in 'Principal Options' and try again.

### Delay (against Time) Graphs, for each 15min Interval (07:45 - 09:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



## Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 07:45 to 08:00	A	12.03	17.60	0.684	-	0.0	2.1	28.8	-	0.172
	B	6.93	16.90	0.410	-	0.0	0.7	9.9	-	0.099
	C	4.66	16.38	0.284	-	0.0	0.4	5.7	-	0.085
Segment : 2 - 08:00 to 08:15	A	14.37	17.37	0.827	-	2.1	4.3	57.1	-	0.304
	B	8.27	16.66	0.497	-	0.7	1.0	14.1	-	0.119
	C	5.56	15.74	0.353	-	0.4	0.5	7.9	-	0.098
Segment : 3 - 08:15 to 08:30	A	17.60	17.06	1.032	-	4.3	21.1	207.8	-	0.993
	B	10.13	16.42	0.617	-	1.0	1.6	22.4	-	0.157
	C	6.81	14.89	0.457	-	0.5	0.8	12.0	-	0.123
Segment : 4 - 08:30 to 08:45	A	17.60	17.06	1.032	-	21.1	32.6	405.6	-	1.780
	B	10.13	16.38	0.618	-	1.6	1.6	23.8	-	0.160
	C	6.81	14.87	0.458	-	0.8	0.8	12.5	-	0.124
Segment : 5 - 08:45 to 09:00	A	14.37	17.36	0.828	-	32.6	5.8	234.3	-	1.055
	B	8.27	16.45	0.503	-	1.6	1.0	16.0	-	0.123
	C	5.56	15.71	0.354	-	0.8	0.6	8.5	-	0.099
Segment : 6 - 09:00 to 09:15	A	12.03	17.59	0.684	-	5.8	2.2	37.6	-	0.196
	B	6.93	16.86	0.411	-	1.0	0.7	10.9	-	0.101
	C	4.66	16.35	0.285	-	0.6	0.4	6.2	-	0.086

## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queuing Delay		Inclusive Queuing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1320.0	880.0	971.2	0.74	971.4	0.74
B	759.8	506.5	97.1	0.13	97.1	0.13
C	510.7	340.4	52.9	0.10	52.9	0.10
ALL	2590.4	1727.0	1121.2	0.43	1121.4	0.43

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.


These will only be significantly different if there is a large queue remaining at the end of the time period.

## Accident Data

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

## Accident Results

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

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The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J7 - B1050\_Ramper Rd 2031 Sc2 DM PM Peak (1700-1800) ODTAB.vai

At: 14:43:38 on Tuesday, June 10, 2014

Mode: Drive On The Left

Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 (e)
Arm B	B1050 (s)
Arm C	Ramper Road

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 7 - B1050- Ramper Road
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

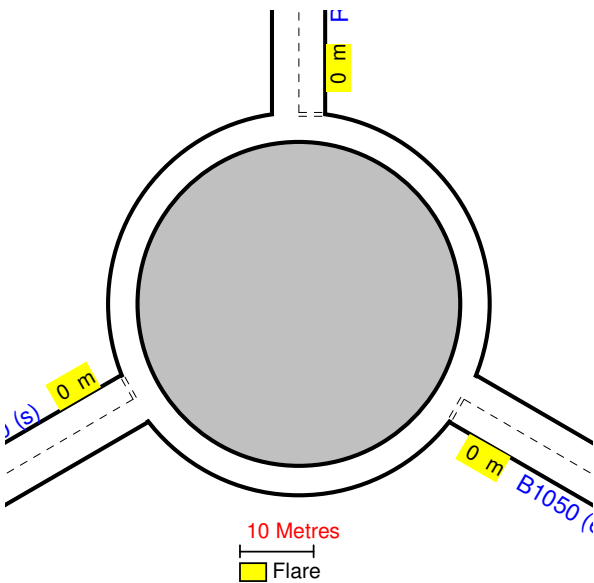
## Errors and Warnings

[No errors or warnings]

## Geometric Data

<b>Data Item</b>	<b>Arm A</b>	<b>Arm B</b>	<b>Arm C</b>
Approach Road Half-Width (m)	3.65	3.65	3.65
Entry Width (m)	3.65	3.65	3.65
Flare Length (m)	0.00	0.00	0.00
Entry Radius (m)	27.90	21.00	46.00
Inscribed Circle Diameter (m)	52.00	52.00	52.00
Entry Angle (degrees)	29.00	35.00	20.00
Slope	0.497	0.481	0.519
Intercept (PCU/Min)	18.752	18.156	19.582

**Junction Diagram: (View Extent = 80m)**



Angles Between Arms (Degrees): Arm A(120) Arm B(120) Arm C(120)

**Demand Data**

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **16:45 to 18:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

**Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM - PM Peak**

From/To	Arm A	Arm B	Arm C
Arm A	0.0	604.0	192.0
Arm B	797.0	0.0	140.0
Arm C	216.0	83.0	0.0

**Entry Flow Data for Demand Set: 2031 DM - PM Peak**

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	9.95	14.92	9.95
Arm B	15.00	45.00	75.00	11.71	17.57	11.71
Arm C	15.00	45.00	75.00	3.74	5.61	3.74

**Turning Proportions**

ODTAB Demand Data type is used, no turning proportions available.

**Heavy Vehicle Percentages for Demand Set: 2031 DM - PM Peak**

Vary over entry

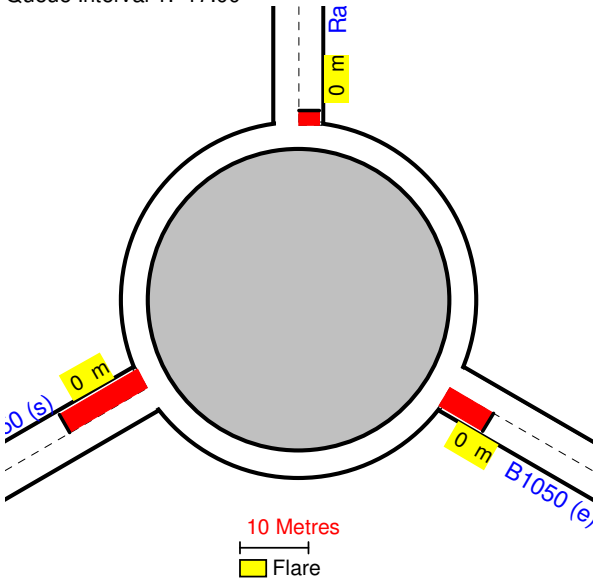
Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

**Queue Diagrams: (View Extent = 80m)**

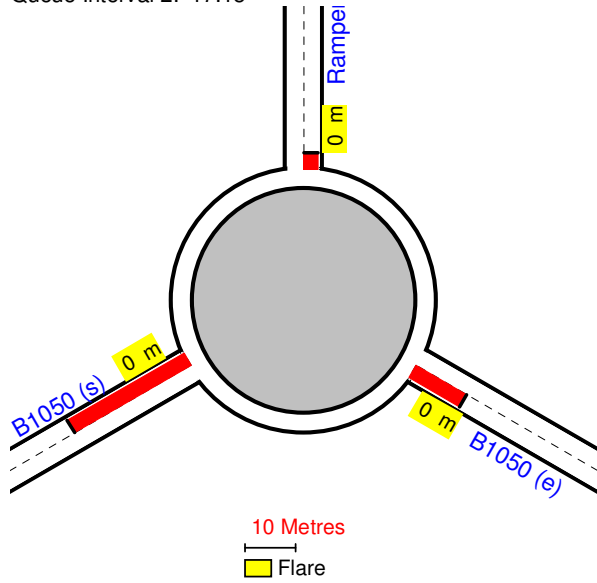
Queue Length	Colour
Mean Queue	Red
5 th % ile	Light Red
90 th % ile	Very Light Red
95 th % ile	White

Start Time: 16:45---> End Time: 18:15

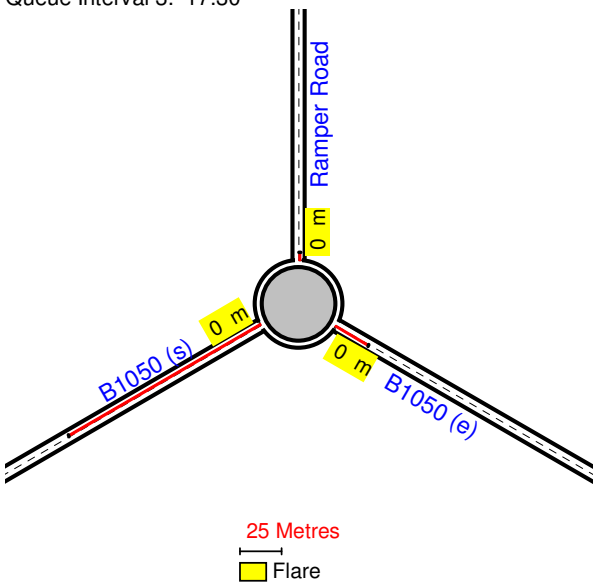
Queue Interval 1: 17:00



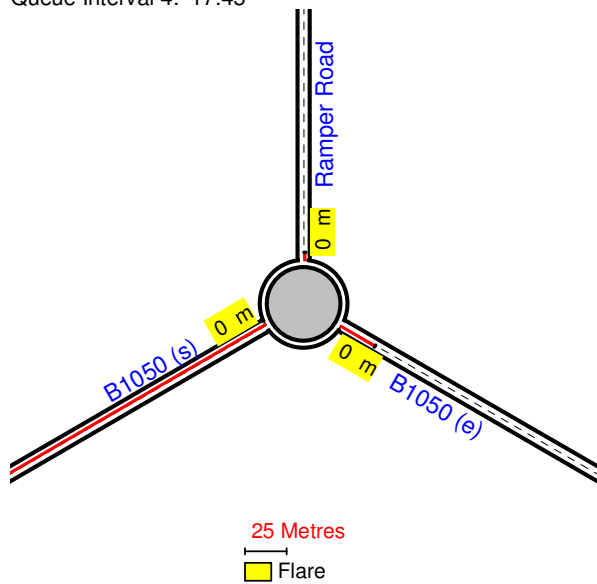
Queue Interval 2: 17:15



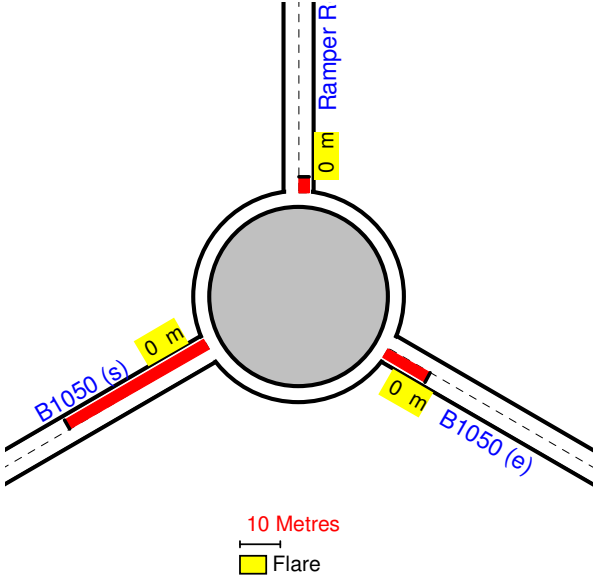
Queue Interval 3: 17:30



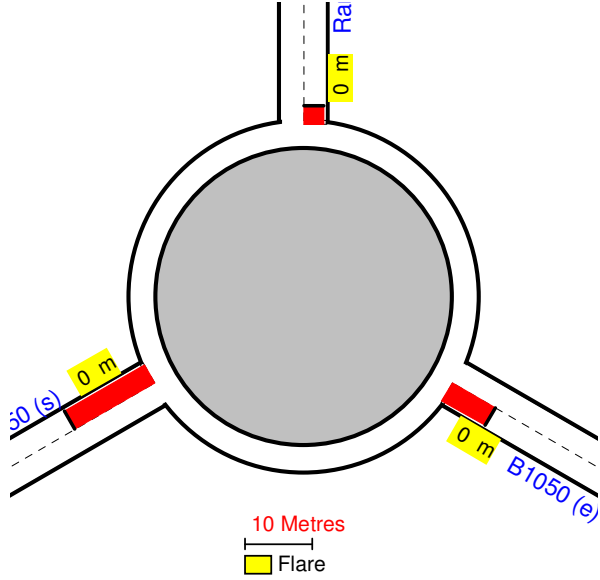
Queue Interval 4: 17:45



Queue Interval 5: 18:00



Queue Interval 6: 18:15

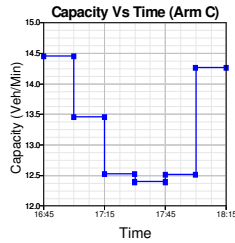
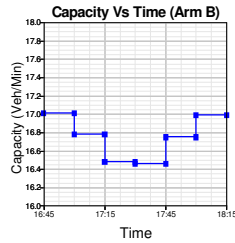
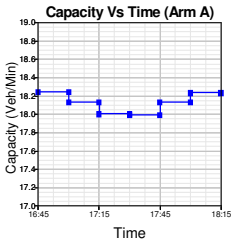


**Demand Data Graphs**

No graph available

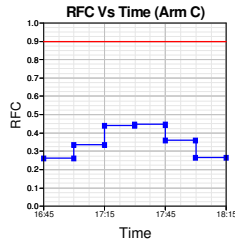
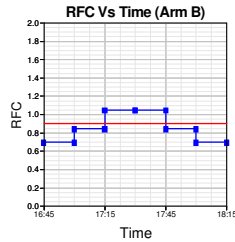
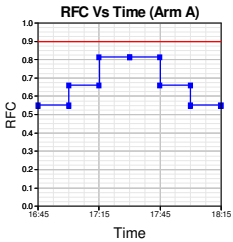
**Capacity (against Time) Graphs, for each 15min Interval (16:45 - 18:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



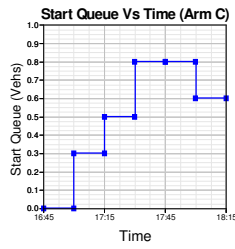
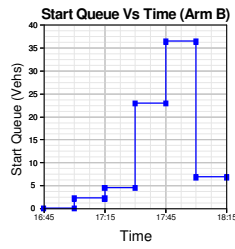
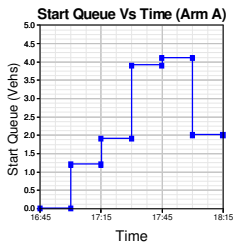
**RFC (against Time) Graphs, for each 15min Interval (16:45 - 18:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



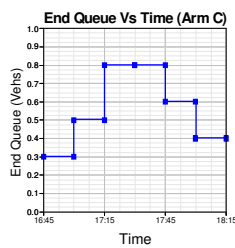
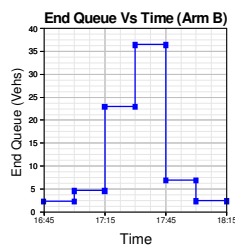
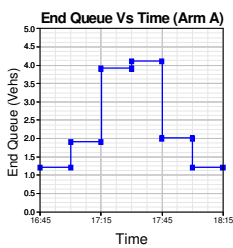
## Start Queue (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



## End Queue (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)

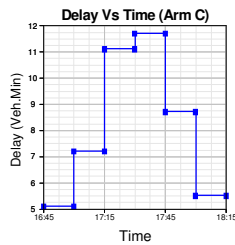
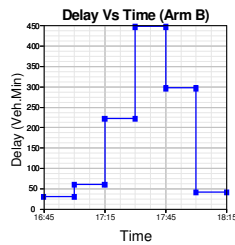
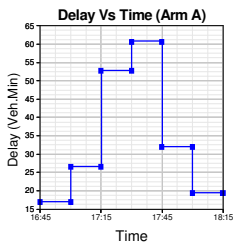


## Geometric Delay Graph

No Data. Please select 'Geometric Delay' in 'Principal Options' and try again.

## Delay (against Time) Graphs, for each 15min Interval (16:45 - 18:15)

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)





## Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 16:45 to 17:00	A	9.99	18.24	0.548	-	0.0	1.2	16.9	-	0.119
	B	11.76	17.01	0.691	-	0.0	2.2	29.6	-	0.181
	C	3.75	14.45	0.260	-	0.0	0.3	5.1	-	0.093
Segment : 2 - 17:00 to 17:15	A	11.93	18.13	0.658	-	1.2	1.9	26.5	-	0.159
	B	14.04	16.78	0.837	-	2.2	4.5	59.8	-	0.329
	C	4.48	13.45	0.333	-	0.3	0.5	7.2	-	0.111
Segment : 3 - 17:15 to 17:30	A	14.61	18.00	0.812	-	1.9	3.9	52.7	-	0.274
	B	17.19	16.48	1.044	-	4.5	22.9	221.4	-	1.084
	C	5.49	12.52	0.438	-	0.5	0.8	11.1	-	0.141
Segment : 4 - 17:30 to 17:45	A	14.61	17.99	0.812	-	3.9	4.1	60.6	-	0.292
	B	17.19	16.46	1.045	-	22.9	36.4	446.8	-	2.012
	C	5.49	12.39	0.443	-	0.8	0.8	11.7	-	0.145
Segment : 5 - 17:45 to 18:00	A	11.93	18.13	0.658	-	4.1	2.0	31.9	-	0.169
	B	14.04	16.75	0.838	-	36.4	6.8	296.1	-	1.350
	C	4.48	12.51	0.358	-	0.8	0.6	8.7	-	0.125
Segment : 6 - 18:00 to 18:15	A	9.99	18.23	0.548	-	2.0	1.2	19.3	-	0.123
	B	11.76	16.99	0.692	-	6.8	2.3	40.3	-	0.214
	C	3.75	14.26	0.263	-	0.6	0.4	5.5	-	0.095

## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queuing Delay		Inclusive Queuing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	1095.6	730.4	208.0	0.19	208.0	0.19
B	1289.7	859.8	1093.9	0.85	1094.1	0.85
C	411.6	274.4	49.3	0.12	49.3	0.12
ALL	2796.9	1864.6	1351.3	0.48	1351.5	0.48

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

## Accident Data

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

## Accident Results

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

PICADY		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK	<input checked="" type="checkbox"/> J8 - Over Rd_Ramper Rd Jct 2031 DM Sc2 <small>CC - Wokingham, Berks.</small>	Tel: +44 (0)1344 770758 Fax: +44 (0)1344 770864 E-mail: <a href="mailto:software@trl.co.uk">software@trl.co.uk</a> Web: <a href="http://www.trlsoftware.co.uk">www.trlsoftware.co.uk</a>
The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

## Run Analysis

Parameter	Values
File Run	\\H..\Traffic models\J8 - Over Rd_Ramper Rd Jct 2031 DM Sc2 DS.vpi
Date Run	24 July 2014
Time Run	11:53:30
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Ramper Road (w)	100
Arm B	Over Road	100
Arm C	Ramper Road (e)	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	Junction 8 - Over Road / Ramper Road junction
Location	Longstanton (Northstowe)
Date	09 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	3.00
Minor Road First Lane Width (m)	2.65
Minor Road Visibility To Right (m)	37
Minor Road Visibility To Left (m)	33
Major Road Right Turn Visibility (m)	100
Major Road Right Turn Blocks Traffic	No

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	488.729	0.089	0.225	0.142	0.321
B-C	624.550	0.096	0.242	-	-
C-B	686.890	0.266	0.266	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections

## Demand Data

### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

## ODTAB Turning Counts

Demand Set: 2031 DM AM Peak  
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	73.0	195.0
Arm B	226.0	0.0	0.0
Arm C	146.0	0.0	0.0

Demand Set: 2031 DM PM Peak  
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	181.0	152.0
Arm B	104.0	0.0	0.0
Arm C	195.0	0.0	0.0

## ODTAB Synthesised Flows

Demand Set: 2031 DM AM Peak  
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	3.350	08:30	5.025	09:00	3.350
Arm B	08:00	2.825	08:30	4.238	09:00	2.825
Arm C	08:00	1.825	08:30	2.738	09:00	1.825

## Heavy Vehicles Percentages

Demand Set: 2031 DM AM Peak  
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

Demand Set: 2031 DM PM Peak  
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

## Queues &amp; Delays

Demand Set: 2031 DM AM Peak  
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	2.84	7.25	0.391	-	0.00	0.63	-	8.8	0.22
	C-A	1.83	-	-	-	-	-	-	-	-
	C-B	0.00	9.59	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.92	-	-	-	-	-	-	-	-
	A-C	2.45	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	3.39	7.08	0.478	-	0.63	0.89	-	12.7	0.27
	C-A	2.19	-	-	-	-	-	-	-	-
	C-B	0.00	9.44	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.09	-	-	-	-	-	-	-	-
	A-C	2.92	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	4.15	6.84	0.606	-	0.89	1.46	-	20.2	0.36
	C-A	2.68	-	-	-	-	-	-	-	-
	C-B	0.00	9.22	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.34	-	-	-	-	-	-	-	-
	A-C	3.58	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	4.15	6.84	0.606	-	1.46	1.49	-	22.2	0.37
	C-A	2.68	-	-	-	-	-	-	-	-
	C-B	0.00	9.22	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.34	-	-	-	-	-	-	-	-
	A-C	3.58	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	3.39	7.08	0.478	-	1.49	0.95	-	15.1	0.28
	C-A	2.19	-	-	-	-	-	-	-	-
	C-B	0.00	9.44	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.09	-	-	-	-	-	-	-	-
	A-C	2.92	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	2.84	7.25	0.391	-	0.95	0.66	-	10.3	0.23
	C-A	1.83	-	-	-	-	-	-	-	-
	C-B	0.00	9.59	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	0.92	-	-	-	-	-	-	-	-
	A-C	2.45	-	-	-	-	-	-	-	-

Demand Set: 2031 DM PM Peak  
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	1.30	7.17	0.182	-	0.00	0.22	-	3.1	0.17
	C-A	2.45	-	-	-	-	-	-	-	-
	C-B	0.00	9.40	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	2.27	-	-	-	-	-	-	-	-
	A-C	1.91	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	1.56	6.98	0.223	-	0.22	0.28	-	4.1	0.18
	C-A	2.92	-	-	-	-	-	-	-	-
	C-B	0.00	9.20	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	2.71	-	-	-	-	-	-	-	-
	A-C	2.28	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	1.91	6.72	0.284	-	0.28	0.39	-	5.6	0.21
	C-A	3.58	-	-	-	-	-	-	-	-
	C-B	0.00	8.93	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	3.32	-	-	-	-	-	-	-	-
	A-C	2.79	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	1.91	6.72	0.284	-	0.39	0.39	-	5.9	0.21
	C-A	3.58	-	-	-	-	-	-	-	-
	C-B	0.00	8.93	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	3.32	-	-	-	-	-	-	-	-


	A-C	2.79	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	1.56	6.98	0.223	-	0.39	0.29	-	4.5	0.18
	C-A	2.92	-	-	-	-	-	-	-	-
	C-B	0.00	9.20	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	2.71	-	-	-	-	-	-	-	-
	A-C	2.28	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	1.30	7.17	0.182	-	0.29	0.23	-	3.5	0.17
	C-A	2.45	-	-	-	-	-	-	-	-
	C-B	0.00	9.40	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	2.27	-	-	-	-	-	-	-	-
	A-C	1.91	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

PICADY 5 Run Successful

PICADY		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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## Run Analysis

Parameter	Values
File Run	\\H..\Traffic models\J9 - Boxworth End_Ramper_Middlewatch Jct 2031 Sc2 DM.vpi
Date Run	24 July 2014
Time Run	13:29:59
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Middlewatch	100
Arm B	Ramper Rd	100
Arm C	Boxworth End	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	J9 - Boxworth End / Ramper Rd / Middlewatch
Location	Swavesey (Northstowe)
Date	10 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-



## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.00
Minor Road Visibility To Right (m)	16
Minor Road Visibility To Left (m)	13
Major Road Right Turn Visibility (m)	120
Major Road Right Turn Blocks Traffic	No

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	489.728	0.085	0.216	0.136	0.308
B-C	634.009	0.093	0.235	-	-
C-B	643.456	0.238	0.238	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections

## Demand Data

### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

## ODTAB Turning Counts

Demand Set: 2031 DM AM Peak  
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	32.0	459.0
Arm B	50.0	0.0	145.0
Arm C	194.0	114.0	0.0

Demand Set: 2031 DM PM Peak  
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	32.0	292.0
Arm B	57.0	0.0	95.0
Arm C	490.0	163.0	0.0

## ODTAB Synthesised Flows

Demand Set: 2031 DM AM Peak  
Modelling Period: 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	6.137	08:30	9.206	09:00	6.137
Arm B	08:00	2.438	08:30	3.656	09:00	2.438
Arm C	08:00	3.850	08:30	5.775	09:00	3.850

## Heavy Vehicles Percentages

Demand Set: 2031 DM AM Peak  
Modelling Period: 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

Demand Set: 2031 DM PM Peak  
Modelling Period: 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

## Queues &amp; Delays

Demand Set: 2031 DM AM Peak  
Modelling Period: 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	2.45	8.13	0.301	-	0.00	0.42	-	6.0	0.17
	C-A	2.43	-	-	-	-	-	-	-	-
	C-B	1.43	9.26	0.155	-	0.00	0.18	-	2.6	0.13
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	5.76	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	2.92	7.79	0.375	-	0.42	0.59	-	8.5	0.20
	C-A	2.91	-	-	-	-	-	-	-	-
	C-B	1.71	8.97	0.190	-	0.18	0.23	-	3.4	0.14
	A-B	0.48	-	-	-	-	-	-	-	-
	A-C	6.88	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	3.58	7.31	0.490	-	0.59	0.93	-	13.1	0.26
	C-A	3.56	-	-	-	-	-	-	-	-
	C-B	2.09	8.58	0.244	-	0.23	0.32	-	4.6	0.15
	A-B	0.59	-	-	-	-	-	-	-	-
	A-C	8.42	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	3.58	7.31	0.490	-	0.93	0.94	-	14.1	0.27
	C-A	3.56	-	-	-	-	-	-	-	-
	C-B	2.09	8.58	0.244	-	0.32	0.32	-	4.8	0.15
	A-B	0.59	-	-	-	-	-	-	-	-
	A-C	8.42	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	2.92	7.79	0.375	-	0.94	0.61	-	9.6	0.21
	C-A	2.91	-	-	-	-	-	-	-	-
	C-B	1.71	8.97	0.190	-	0.32	0.24	-	3.7	0.14
	A-B	0.48	-	-	-	-	-	-	-	-
	A-C	6.88	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	2.45	8.13	0.301	-	0.61	0.44	-	6.8	0.18
	C-A	2.43	-	-	-	-	-	-	-	-
	C-B	1.43	9.26	0.155	-	0.24	0.18	-	2.8	0.13
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	5.76	-	-	-	-	-	-	-	-

Demand Set: 2031 DM PM Peak  
Modelling Period: 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	1.91	7.78	0.245	-	0.00	0.32	-	4.6	0.17
	C-A	6.15	-	-	-	-	-	-	-	-
	C-B	2.05	9.75	0.210	-	0.00	0.26	-	3.8	0.13
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	3.66	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	2.28	7.41	0.307	-	0.32	0.44	-	6.3	0.19
	C-A	7.34	-	-	-	-	-	-	-	-
	C-B	2.44	9.57	0.255	-	0.26	0.34	-	4.9	0.14
	A-B	0.48	-	-	-	-	-	-	-	-
	A-C	4.38	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	2.79	6.87	0.406	-	0.44	0.67	-	9.5	0.24
	C-A	8.99	-	-	-	-	-	-	-	-
	C-B	2.99	9.31	0.321	-	0.34	0.47	-	6.8	0.16
	A-B	0.59	-	-	-	-	-	-	-	-
	A-C	5.36	-	-	-	-	-	-	-	-


Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	2.79	6.87	0.406	-	0.67	0.67	-	10.1	0.24
	C-A	8.99	-	-	-	-	-	-	-	-
	C-B	2.99	9.31	0.321	-	0.47	0.47	-	7.0	0.16
	A-B	0.59	-	-	-	-	-	-	-	-
	A-C	5.36	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	2.28	7.41	0.307	-	0.67	0.45	-	7.1	0.20
	C-A	7.34	-	-	-	-	-	-	-	-
	C-B	2.44	9.57	0.255	-	0.47	0.35	-	5.4	0.14
	A-B	0.48	-	-	-	-	-	-	-	-
	A-C	4.38	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	1.91	7.78	0.245	-	0.45	0.33	-	5.1	0.17
	C-A	6.15	-	-	-	-	-	-	-	-
	C-B	2.05	9.75	0.210	-	0.35	0.27	-	4.1	0.13
	A-B	0.40	-	-	-	-	-	-	-	-
	A-C	3.66	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

PICADY 5 Run Successful

<b>ARCADY 6</b>		
GUI Version: 6.2 AG Analysis Program: Release 7.0 (FEBRUARY 2010) (c) Copyright TRL Limited, 2004 Adapted from ARCADY/3 which is Crown Copyright by permission of the controller of HMSO For sales and distribution information, program advice and maintenance, contact:		
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The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution		

## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J11 - Oakington Rd\_Rampton Rd 2031 Sc2 DM - AM Peak Full roundabout ODTAB.vai  
 At: 09:07:43 on Wednesday, June 11, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Rampton Rd (NW)
Arm B	Rampton Rd (SE)
Arm C	Oakington Rd

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	J11 - Oakington Rd / Rampton Rd Mini
<b>Location</b>	Cottenham
<b>Date</b>	10/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

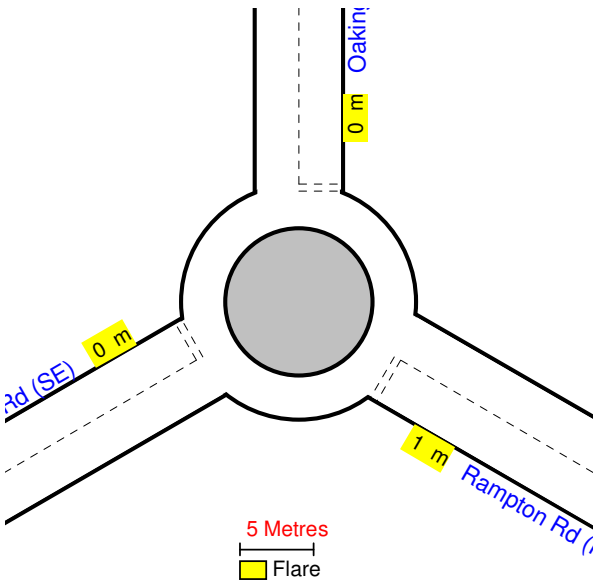
## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.25	3.00	3.00
Flare Length (m)	1.00	0.00	0.00
Entry Radius (m)	85.00	15.00	20.00
Inscribed Circle Diameter (m)	15.00	15.00	15.00
Entry Angle (degrees)	38.00	40.00	44.00
Slope	0.516	0.477	0.478
Intercept (PCU/Min)	16.004	14.377	14.414

**Junction Diagram: (View Extent = 40m)**



Angles Between Arms (Degrees): Arm A(120) Arm B(120) Arm C(120)

**Demand Data**

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **07:45 to 09:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

**Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM AM Peak**

From/To	Arm A	Arm B	Arm C
Arm A	0.0	424.0	60.0
Arm B	199.0	0.0	567.0
Arm C	11.0	397.0	0.0

**Entry Flow Data for Demand Set: 2031 DM AM Peak**

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	6.05	9.08	6.05
Arm B	15.00	45.00	75.00	9.57	14.36	9.57
Arm C	15.00	45.00	75.00	5.10	7.65	5.10

**Turning Proportions**

ODTAB Demand Data type is used, no turning proportions available.

**Heavy Vehicle Percentages for Demand Set: 2031 DM AM Peak**

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

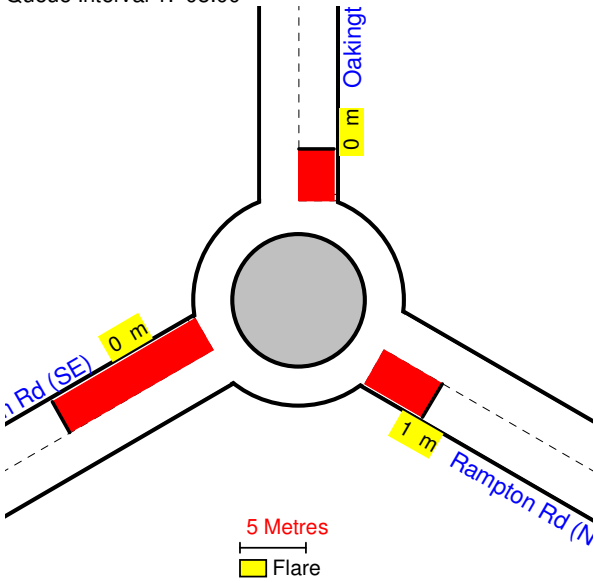


**Queue Diagrams: (View Extent = 40m)**

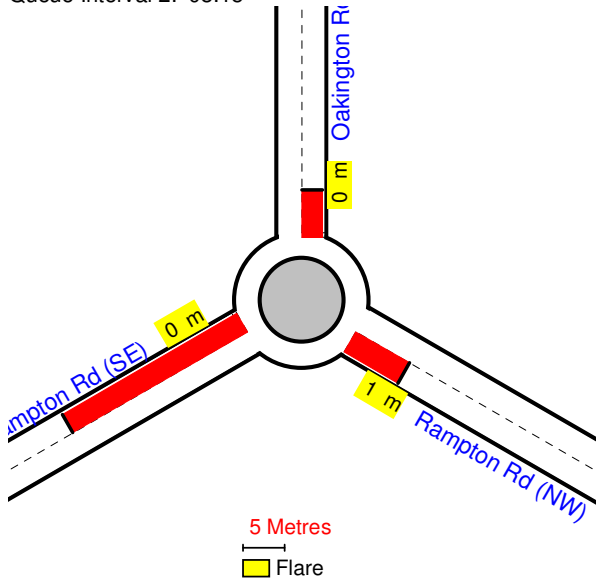
Queue Length	Colour
Mean Queue	Red
5 th % ile	Light Red
90 th % ile	Very Light Red
95 th % ile	Lightest Red

Start Time: 07:45---> End Time: 09:15

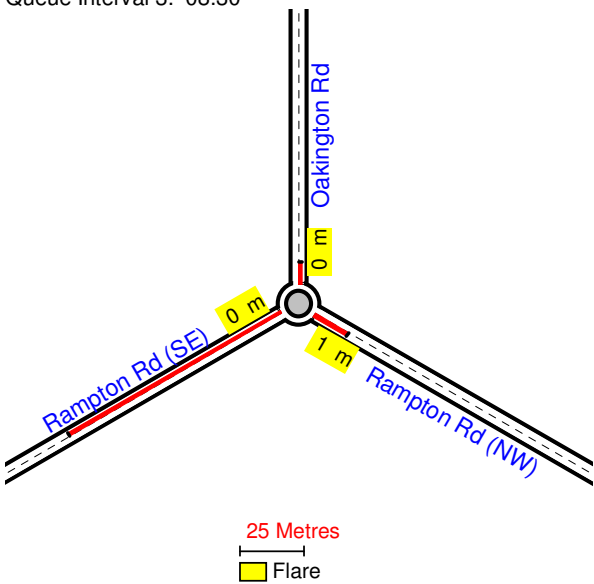
Queue Interval 1: 08:00



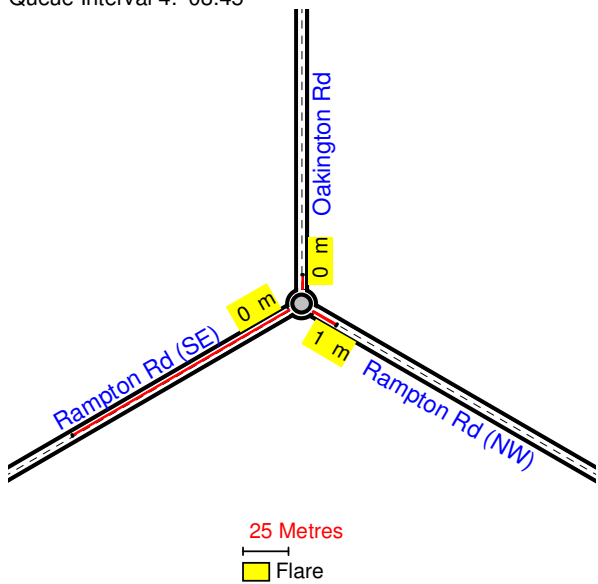
Queue Interval 2: 08:15



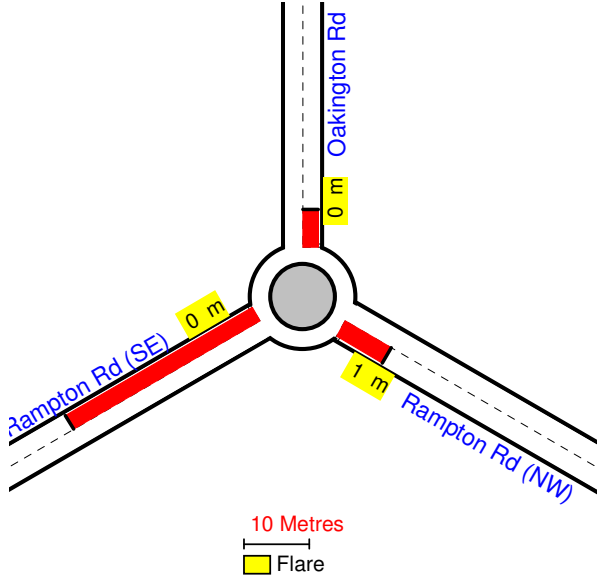
Queue Interval 3: 08:30



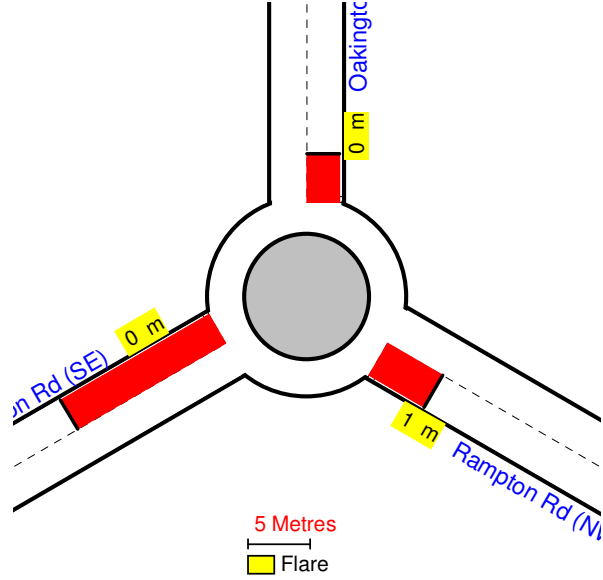
Queue Interval 4: 08:45



Queue Interval 5: 09:00



Queue Interval 6: 09:15

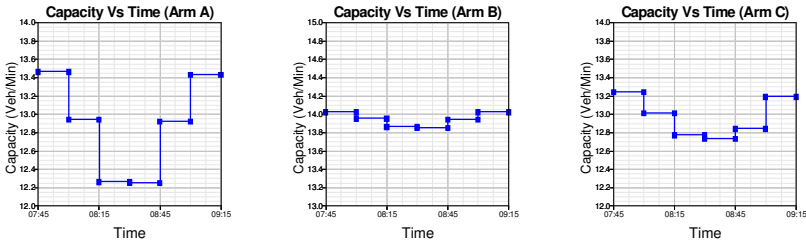


**Demand Data Graphs**

No graph available

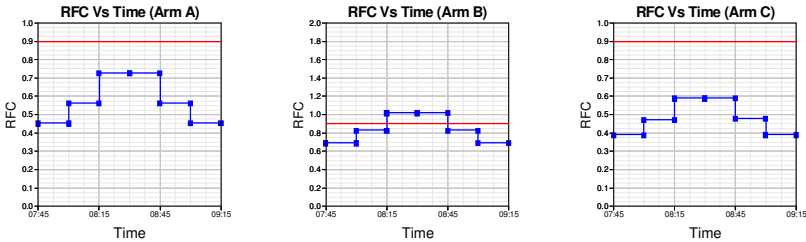
**Capacity (against Time) Graphs, for each 15min Interval (07:45 - 09:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



**RFC (against Time) Graphs, for each 15min Interval (07:45 - 09:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)





## Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 07:45 to 08:00	A	6.07	13.46	0.451	-	0.0	0.8	11.5	-	0.133
	B	9.61	14.02	0.685	-	0.0	2.1	28.3	-	0.214
	C	5.12	13.24	0.387	-	0.0	0.6	8.9	-	0.122
Segment : 2 - 08:00 to 08:15	A	7.25	12.94	0.560	-	0.8	1.2	17.8	-	0.174
	B	11.48	13.95	0.823	-	2.1	4.1	54.2	-	0.366
	C	6.11	13.01	0.470	-	0.6	0.9	12.6	-	0.144
Segment : 3 - 08:15 to 08:30	A	8.88	12.26	0.724	-	1.2	2.5	33.6	-	0.282
	B	14.06	13.86	1.014	-	4.1	16.4	168.0	-	1.009
	C	7.49	12.77	0.586	-	0.9	1.4	19.6	-	0.187
Segment : 4 - 08:30 to 08:45	A	8.88	12.25	0.725	-	2.5	2.5	37.7	-	0.295
	B	14.06	13.85	1.015	-	16.4	23.8	303.8	-	1.689
	C	7.49	12.73	0.588	-	1.4	1.4	20.9	-	0.191
Segment : 5 - 08:45 to 09:00	A	7.25	12.92	0.561	-	2.5	1.3	20.9	-	0.181
	B	11.48	13.94	0.823	-	23.8	5.6	173.4	-	0.993
	C	6.11	12.84	0.476	-	1.4	0.9	14.5	-	0.150
Segment : 6 - 09:00 to 09:15	A	6.07	13.43	0.452	-	1.3	0.8	13.1	-	0.137
	B	9.61	14.02	0.686	-	5.6	2.3	38.6	-	0.251
	C	5.12	13.19	0.388	-	0.9	0.6	10.0	-	0.124

## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queuing Delay		Inclusive Queuing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	666.2	444.1	134.7	0.20	134.7	0.20
B	1054.3	702.9	766.3	0.73	766.5	0.73
C	561.6	374.4	86.5	0.15	86.5	0.15
ALL	2282.1	1521.4	987.5	0.43	987.8	0.43

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.


These will only be significantly different if there is a large queue remaining at the end of the time period.

## Accident Data

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

## Accident Results

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

<b>ARCADY 6</b>		
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## Run Information

Run with file:- C:\Users\pjs84174\Documents\Northstowe DM 2031\J11 - Oakington Rd\_Rampton Rd 2031 Sc2 DM - PM Peak Full roundabout ODTAB.vai

At: 09:25:41 on Wednesday, June 11, 2014

Mode: Drive On The Left

Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Rampton Rd (NW)
Arm B	Rampton Rd (SE)
Arm C	Oakington Rd

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	J11 - Oakington Rd / Rampton Rd Mini
<b>Location</b>	Cottenham
<b>Date</b>	10/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

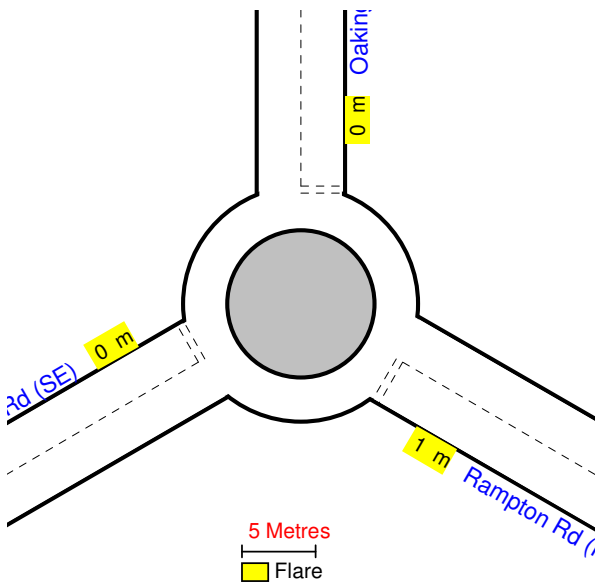
## Errors and Warnings

[No errors or warnings]

## Geometric Data

<b>Data Item</b>	<b>Arm A</b>	<b>Arm B</b>	<b>Arm C</b>
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.25	3.00	3.00
Flare Length (m)	1.00	0.00	0.00
Entry Radius (m)	85.00	15.00	20.00
Inscribed Circle Diameter (m)	15.00	15.00	15.00
Entry Angle (degrees)	38.00	40.00	44.00
Slope	0.516	0.477	0.478
Intercept (PCU/Min)	16.004	14.377	14.414

**Junction Diagram: (View Extent = 40m)**



Angles Between Arms (Degrees): Arm A(120) Arm B(120) Arm C(120)

**Demand Data**

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **16:45 to 18:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

**Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DM PM Peak**

From/To	Arm A	Arm B	Arm C
Arm A	0.0	158.0	27.0
Arm B	450.0	0.0	467.0
Arm C	74.0	430.0	0.0

**Entry Flow Data for Demand Set: 2031 DM PM Peak**

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	2.31	3.47	2.31
Arm B	15.00	45.00	75.00	11.46	17.19	11.46
Arm C	15.00	45.00	75.00	6.30	9.45	6.30

**Turning Proportions**

ODTAB Demand Data type is used, no turning proportions available.

**Heavy Vehicle Percentages for Demand Set: 2031 DM PM Peak**

Vary over entry

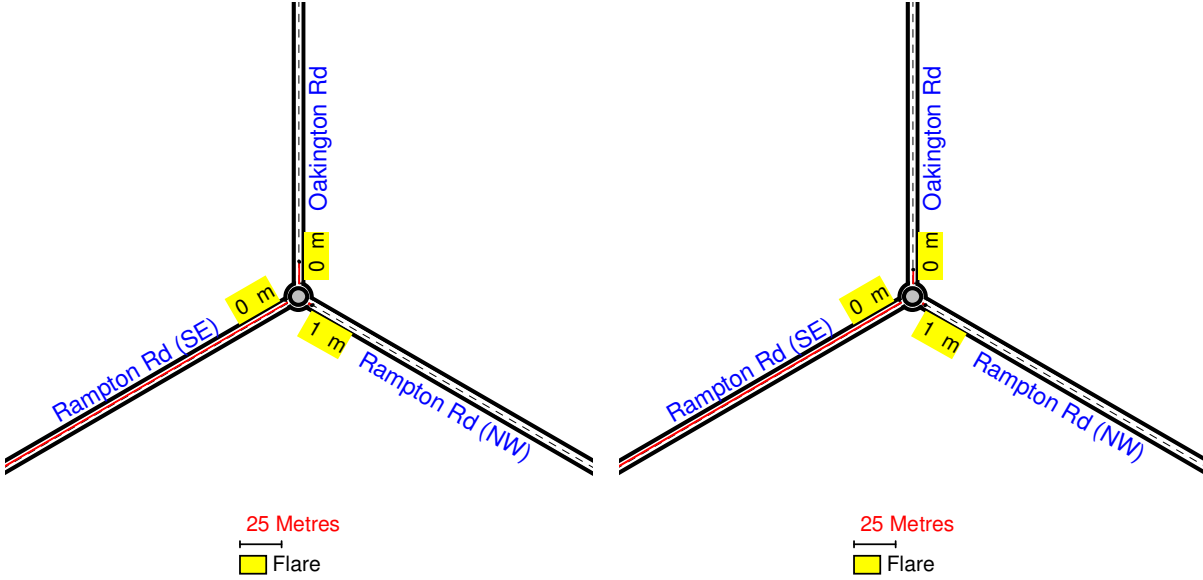
Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0





Queue Interval 5: 18:00

Queue Interval 6: 18:15

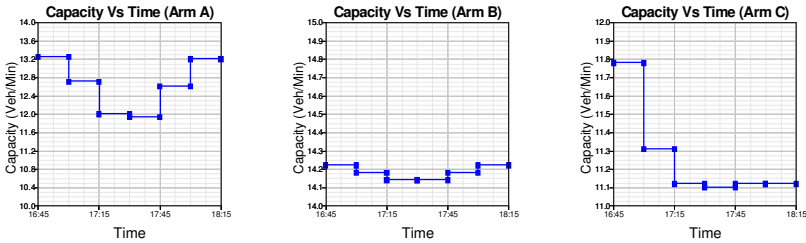


**Demand Data Graphs**

No graph available

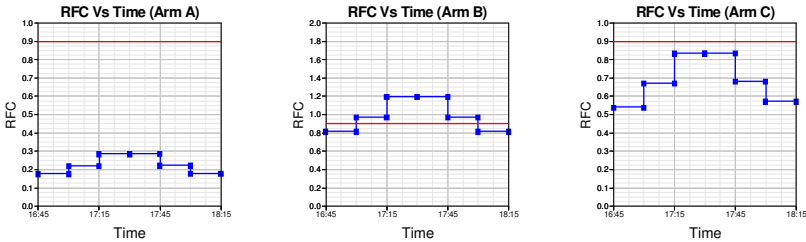
**Capacity (against Time) Graphs, for each 15min Interval (16:45 - 18:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)



**RFC (against Time) Graphs, for each 15min Interval (16:45 - 18:15)**

(QUEUEING DELAY INFORMATION OVER WHOLE PERIOD)





## Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 16:45 to 17:00	A	2.32	13.25	0.175	-	0.0	0.2	3.1	-	0.091
	B	11.51	14.22	0.809	-	0.0	3.8	48.5	-	0.315
	C	6.32	11.78	0.537	-	0.0	1.1	15.8	-	0.179
Segment : 2 - 17:00 to 17:15	A	2.77	12.71	0.218	-	0.2	0.3	4.1	-	0.101
	B	13.74	14.18	0.969	-	3.8	11.5	128.0	-	0.782
	C	7.55	11.31	0.668	-	1.1	1.9	26.6	-	0.259
Segment : 3 - 17:15 to 17:30	A	3.39	12.00	0.283	-	0.3	0.4	5.7	-	0.116
	B	16.83	14.14	1.190	-	11.5	53.0	487.6	-	2.520
	C	9.25	11.12	0.832	-	1.9	4.2	54.2	-	0.462
Segment : 4 - 17:30 to 17:45	A	3.39	11.94	0.284	-	0.4	0.4	5.9	-	0.117
	B	16.83	14.14	1.190	-	53.0	93.6	1099.8	-	5.340
	C	9.25	11.10	0.833	-	4.2	4.5	66.1	-	0.519
Segment : 5 - 17:45 to 18:00	A	2.77	12.61	0.220	-	0.4	0.3	4.4	-	0.102
	B	13.74	14.18	0.969	-	93.6	89.1	1370.2	-	6.516
	C	7.55	11.12	0.679	-	4.5	2.2	36.9	-	0.304
Segment : 6 - 18:00 to 18:15	A	2.32	13.20	0.176	-	0.3	0.2	3.3	-	0.092
	B	11.51	14.22	0.809	-	89.1	50.9	1050.0	-	5.009
	C	6.32	11.12	0.569	-	2.2	1.4	21.7	-	0.214

## Queuing Delay Information Over Whole Period

Arm	Total Demand		Queuing Delay		Inclusive Queuing Delay	
	(Veh)	(Veh/Hr)	(Min)	(Min/Veh)	(Min)	(Min/Veh)
A	254.6	169.8	26.4	0.10	26.4	0.10
B	1262.2	841.5	4184.0	3.31	4275.0	3.39
C	693.7	462.5	221.4	0.32	221.5	0.32
ALL	2210.5	1473.7	4431.7	2.00	4522.8	2.05

Delay is that occurring only within the time period.

Inclusive delay includes delay suffered by vehicles that are still queueing after the end of the time period.

These will only be significantly different if there is a large queue remaining at the end of the time period.

## Accident Data

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

## Accident Results

No Data, please select the 'Accident Analysis' option in 'Principal Options' and try again.

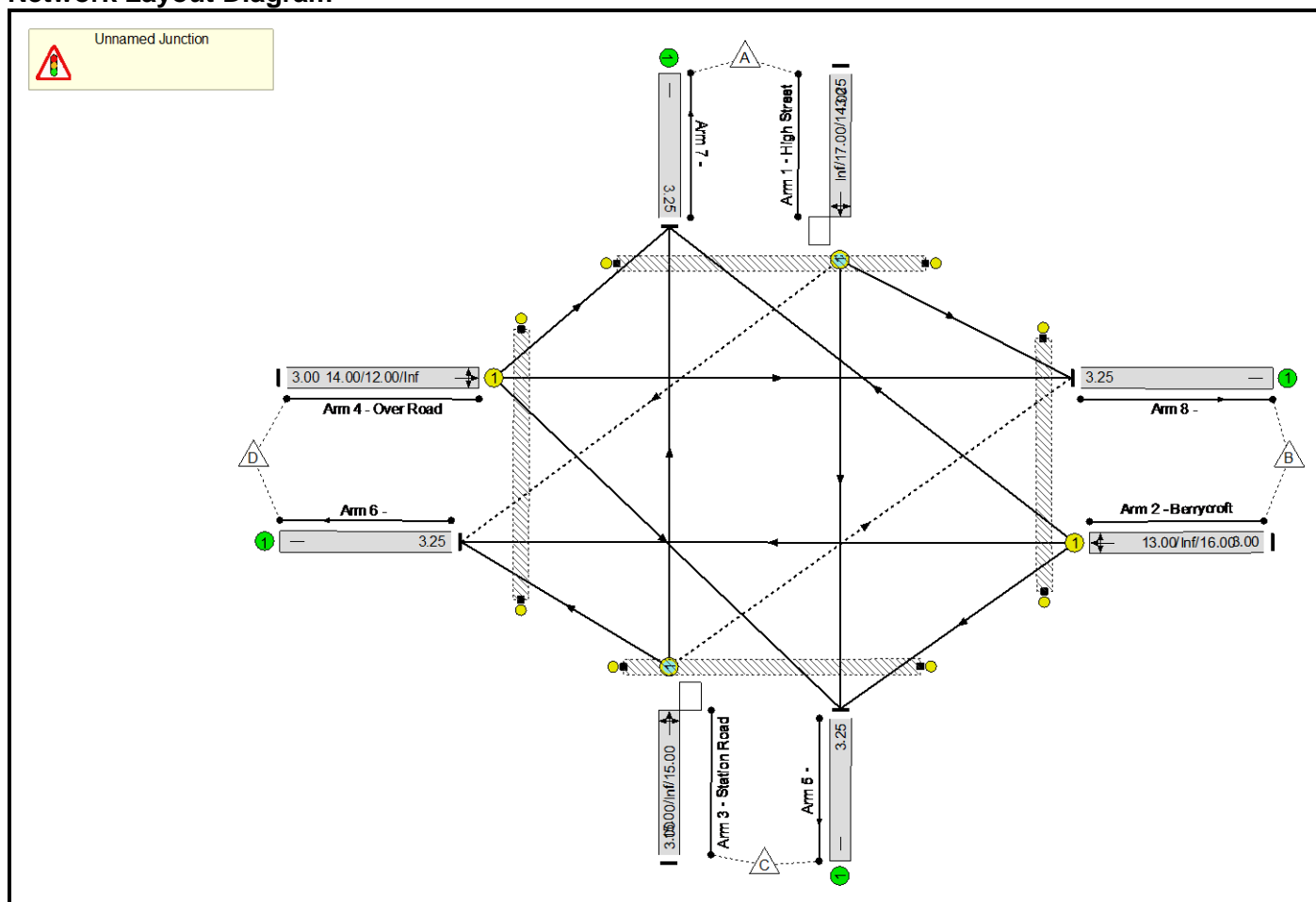
Basic Results Summary  
**Basic Results Summary**

**User and Project Details**

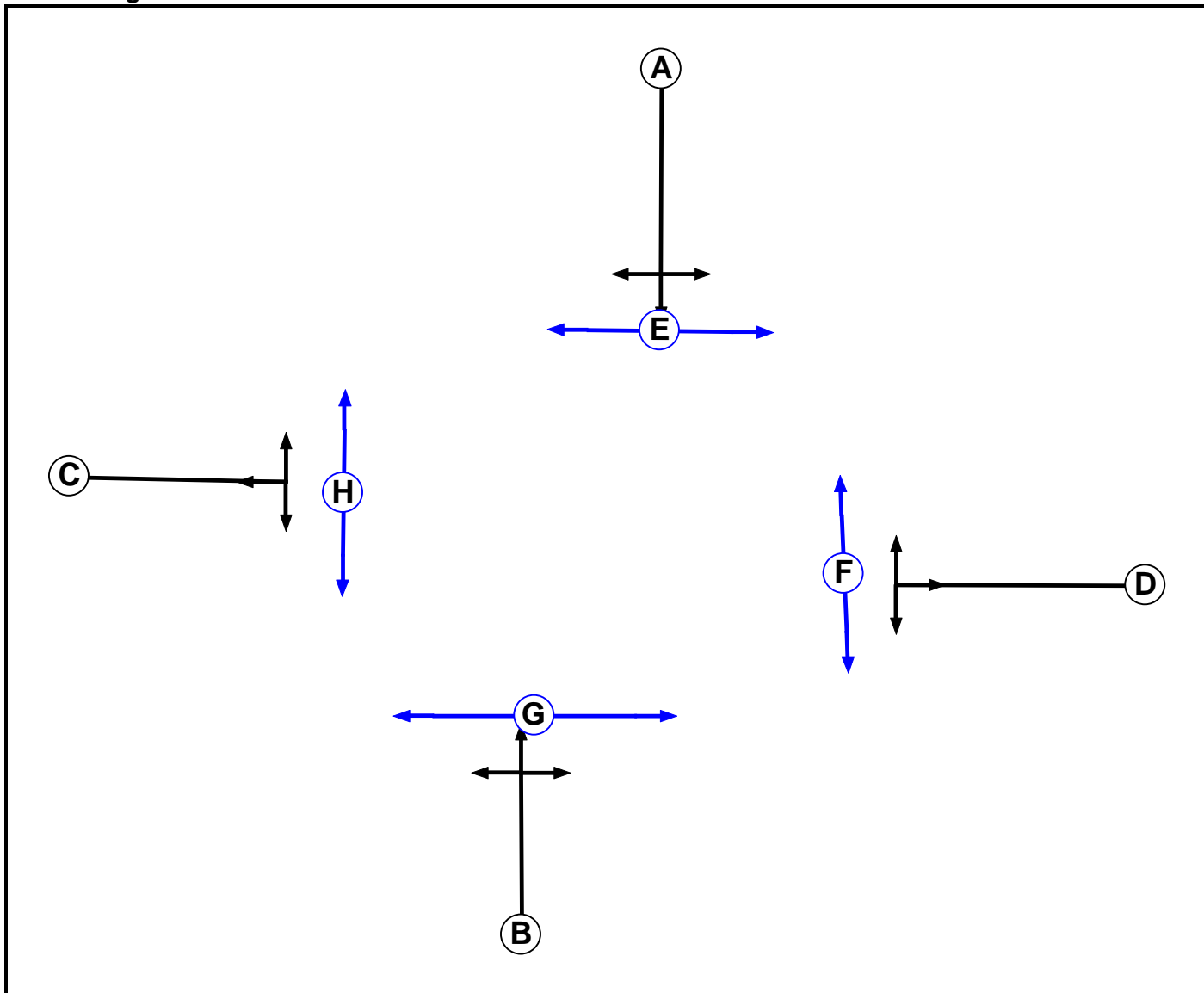
<b>Project:</b>	<b>Northstowe</b>
<b>Title:</b>	<b>High St / Station Road / Over Road / Berrycroft</b>
<b>Location:</b>	Willingham
<b>File name:</b>	J12 - High St_Station Rd_Over Rd_Berrycroft 2031 Sc2 DM.lsg3x
<b>Author:</b>	DRC
<b>Company:</b>	Hyder
<b>Address:</b>	Cardiff
<b>Notes:</b>	

**Scenario 1: '2031 DM AM Peak'** (FG1: '2031 DM AM Peak', Plan 1: 'Network Control Plan 1')

**Network Layout Diagram**



Phase Diagram

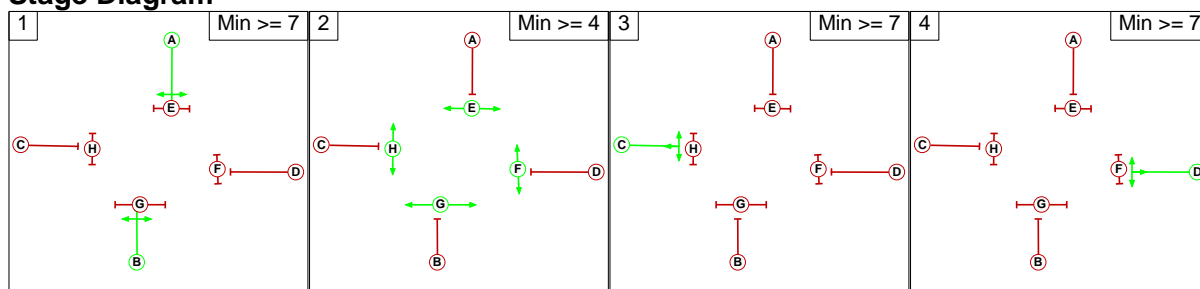


# Basic Results Summary

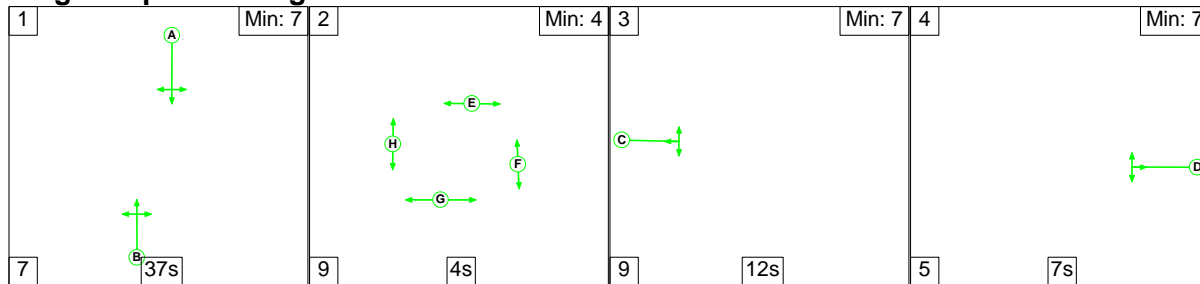
## Phase Intergrens Matrix

Terminating Phase	Starting Phase									
		A	B	C	D	E	F	G	H	
	A		-	9	9	9	9	9	9	9
	B	-		9	9	9	9	9	9	
	C	7	7		5	9	9	9	9	
	D	7	7	5		9	9	9	9	
	E	9	9	9	9		-	-	-	
	F	9	9	9	9	-		-	-	
	G	9	9	9	9	-	-		-	
H	9	9	9	9	-	-	-			

## Stage Diagram



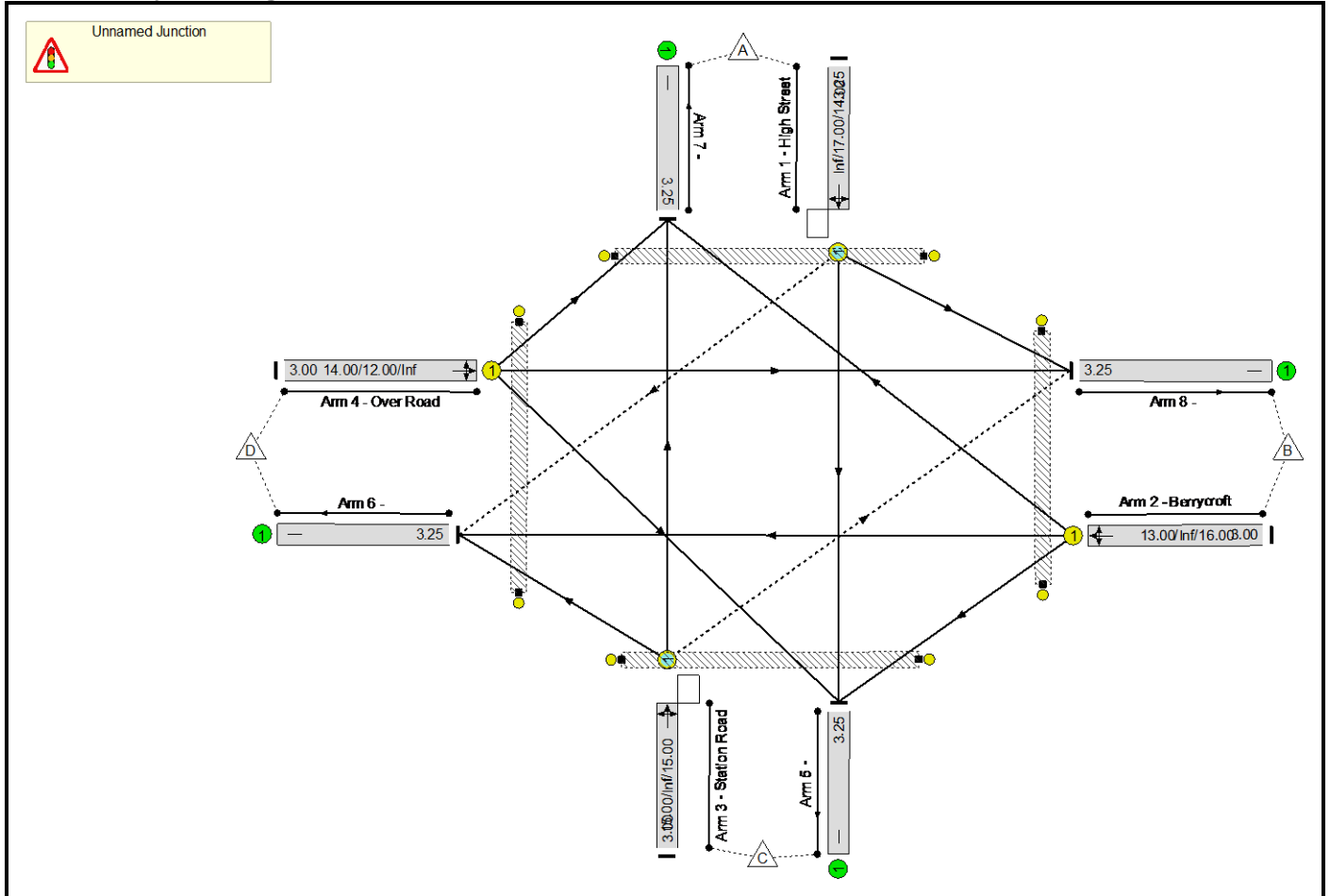
## Stage Sequence Diagram



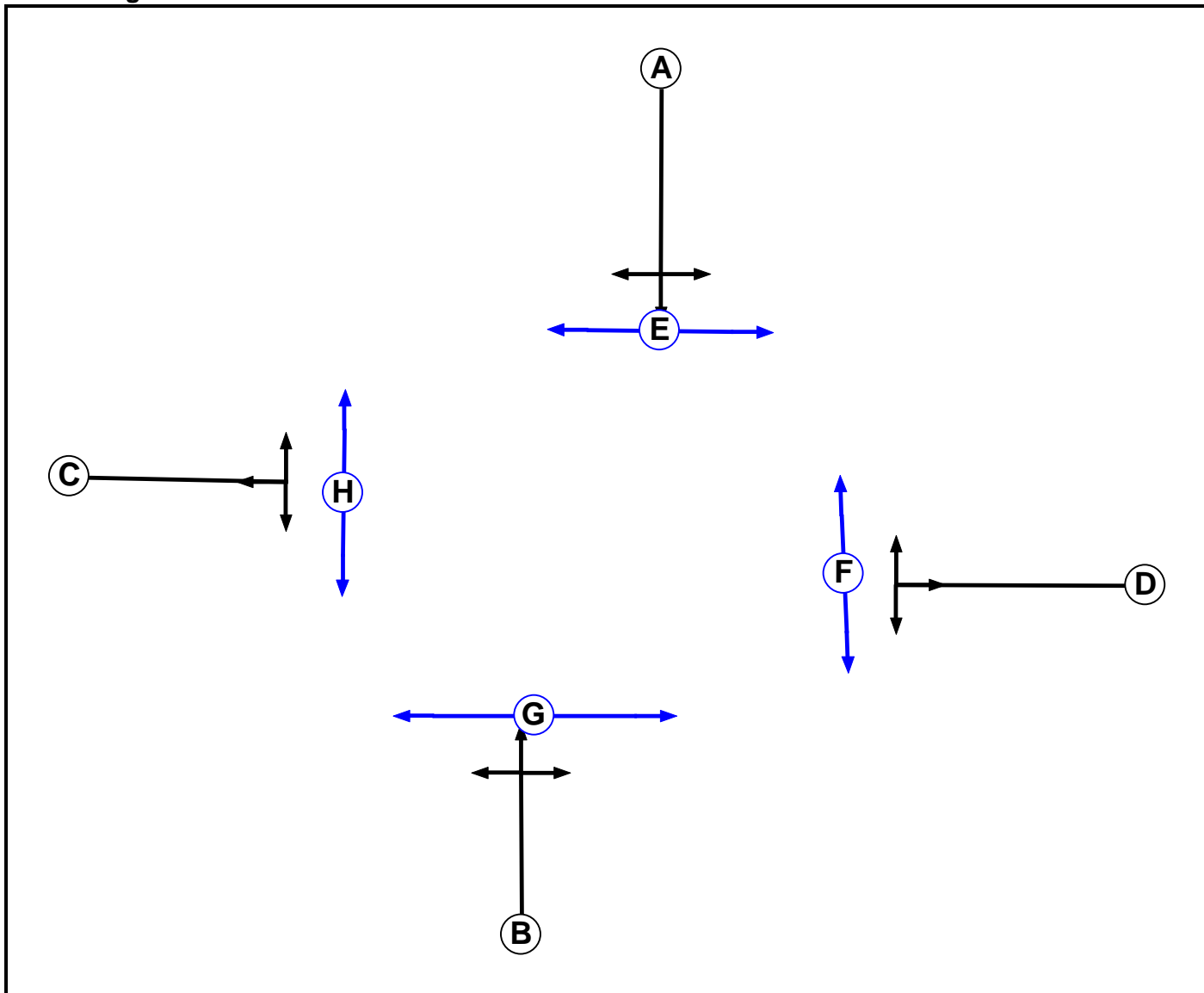
Basic Results Summary

Scenario 2: '2031 DM PM Peak' (FG2: '2031 DM PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Phase Diagram



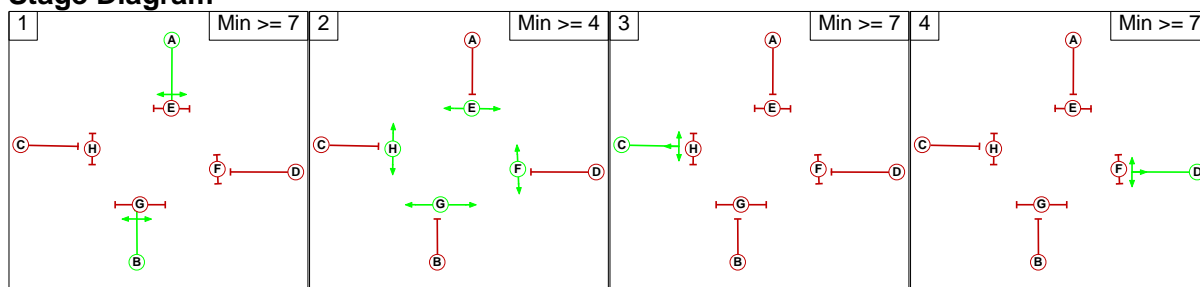


Basic Results Summary

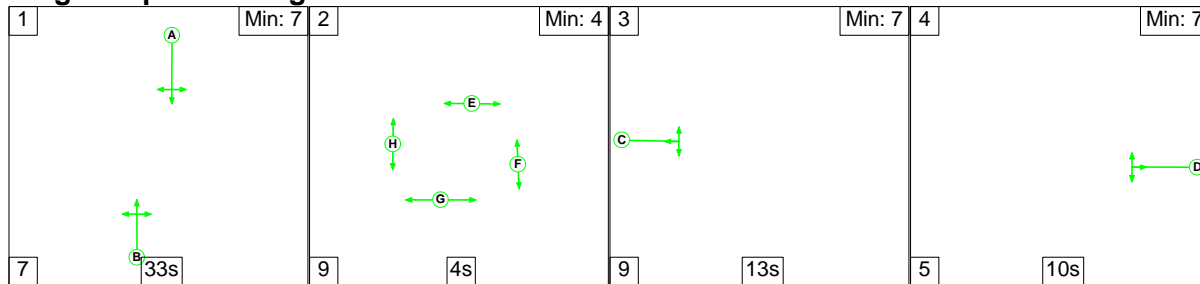
**Phase Intergreens Matrix**

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	9	9	9	9	9	9	9
B	9	-	9	9	9	9	9	9
C	7	7	-	5	9	9	9	9
D	7	7	5	-	9	9	9	9
E	9	9	9	9	-	-	-	-
F	9	9	9	9	-	-	-	-
G	9	9	9	9	-	-	-	-
H	9	9	9	9	-	-	-	-

**Stage Diagram**



**Stage Sequence Diagram**



**Scenario 1: '2031 DM AM Peak' (FG1: '2031 DM AM Peak', Plan 1: 'Network Control Plan 1')**

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					Tot.
	A	B	C	D		
A	0	160	622	83	865	
B	123	0	25	125	273	
C	416	92	0	10	518	
D	36	78	4	0	118	
Tot.	575	330	651	218	1774	

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)	
<b>Network: High St / Station Road / Over Road / Berrycroft</b>	-	-	-		-	-	-	-	-	-	108.6%	138	0	30	70.1	-	-	
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	108.6%	138	0	30	70.1	-	-	
1/1	High Street Ahead Right Left	O	A		1	37	-	865	1887	797	108.6%	76	0	0	48.7	202.9	62.9	
2/1	Berrycroft Left Ahead Right	U	C		1	12	-	273	1819	263	103.9%	-	-	-	14.4	190.4	18.3	
3/1	Station Road Left Ahead Right	O	B		1	37	-	518	1878	764	67.8%	62	0	30	4.3	30.1	11.3	
4/1	Over Road Right Left Ahead	U	D		1	7	-	118	1838	163	72.2%	-	-	-	2.5	77.6	4.1	
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-	
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-	
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-	
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-	
C1				PRC for Signalled Lanes (%):	-20.6		Total Delay for Signalled Lanes (pcuHr):		70.06		Cycle Time (s):		90					
				PRC Over All Lanes (%):	-20.6		Total Delay Over All Lanes(pcuHr):		70.06									

Basic Results Summary

**Scenario 2: '2031 DM PM Peak'** (FG2: '2031 DM PM Peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Actual**

**Actual Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	67	484	134	685
	B	212	0	41	36	289
	C	585	126	0	9	720
	D	88	138	16	0	242
	Tot.	885	331	541	179	1936

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)		
<b>Network: High St / Station Road / Over Road / Berrycroft</b>	-	-	-		-	-	-	-	-	-	112.3%	166	0	78	106.7	-	-		
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	112.3%	166	0	78	106.7	-	-		
1/1	High Street Ahead Right Left	O	A		1	33	-	685	1888	610	112.3%	42	0	78	50.4	264.7	60.7		
2/1	Berrycroft Left Ahead Right	U	C		1	13	-	289	1765	275	105.3%	-	-	-	16.3	203.5	20.4		
3/1	Station Road Left Ahead Right	O	B		1	33	-	720	1880	710	101.4%	124	0	0	22.2	111.1	34.3		
4/1	Over Road Right Left Ahead	U	D		1	10	-	242	1819	222	108.9%	-	-	-	17.8	264.5	21.0		
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-		
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-		
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-		
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-		
C1				PRC for Signalled Lanes (%):		-24.8		Total Delay for Signalled Lanes (pcuHr):		106.69		Cycle Time (s):		90					
				PRC Over All Lanes (%):		-24.8		Total Delay Over All Lanes(pcuHr):		106.69									

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM  
RELEASE 5.0 (JUNE 2010)

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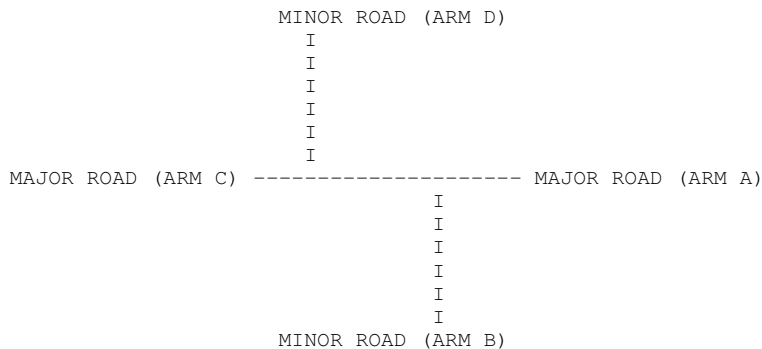
Run with file:-  
"\\HC-UKR-CA-FS-10\CA\_Proj\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc2 - 2031 DM\  
Traffic models\J13 - High St\_Rampton Rd\_Woodside\_School Ln ODTAB 2031 Sc2 DM.vpi"  
(drive-on-the-left) at 13:33:29 on Thursday, 24 July 2014

RUN INFORMATION  
\*\*\*\*\*

RUN TITLE : J13 - High St\_Rampton Rd\_Woodside\_School Ln  
LOCATION : Longstanton (Northstowe)  
DATE : 16/05/14  
CLIENT : HCA  
ENUMERATOR : dca76340 [HCL57004]  
JOB NUMBER : UA006156  
STATUS : Preliminary  
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY  
\*\*\*\*\*

INPUT DATA  
-----



ARM A IS Rampton Rd  
ARM B IS Woodside  
ARM C IS School Lane  
ARM D IS High Street

STREAM LABELLING CONVENTION  
-----

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B  
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C  
ETC.

-----  
 GEOMETRIC DATA  
 -----

I	DATA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	( W ) 6.00 M.	I	( W ) 6.00 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR ) 0.00 M.	I	(WCR ) 0.00 M.	I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I	(WA-D) 2.20 M.	I
I	- VISIBILITY	I	(VC-B)130.00 M.	I	(VA-D)150.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES ( 1)	I	YES ( 1)	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 20.0 M.	I	(VD-A) 17.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 25.0 M.	I	(VD-C) 29.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 2.50 M.	I	(WD-A) 3.00 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

-----  
 .SLOPES AND INTERCEPT  
 -----

(NB:Streams may be combined, in which case capacity will be adjusted)

STREAM B-A

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-D	STREAM A-B	STREAM C-A	I
I	471.52	0.22	0.22	0.09	0.14	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-A	STREAM C-B	STREAM D-B	STREAM D-B	I
I	0.14	0.31	0.31		I

STREAM D-C

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-C	STREAM C-A	STREAM C-B	STREAM C-D	STREAM A-C	I
I	497.35	0.23	0.23	0.09	0.14	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-D	STREAM B-D	STREAM B-D	I
I	0.14	0.33	0.33		I

STREAM CD-B

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D	STREAM A-C	I
I	660.83	0.25	0.25	0.22		I

STREAM AB-D

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B	STREAM C-B	I
I	660.83	0.26	0.26	0.23		I

STREAM B-CD

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-CD	STREAM A-C	STREAM A-D	STREAM A-B	STREAM A-B	I
I	607.65	0.24	0.24	0.09		I

STREAM D-AB

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-AB	STREAM C-A	STREAM C-B	STREAM C-D	STREAM C-D	I
I	642.19	0.25	0.25	0.10		I

TRAFFIC DEMAND DATA

ARM	FLOW SCALE (%)
A	100
B	100
C	100
D	100

Demand set: 2031 DM AM Peak

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
A	15.00	45.00	75.00	0.99	1.48	0.99
B	15.00	45.00	75.00	1.15	1.72	1.15
C	15.00	45.00	75.00	0.73	1.09	0.73
D	15.00	45.00	75.00	3.10	4.65	3.10

Demand set: 2031 DM AM Peak

TIME	TURNING PROPORTIONS							
	FROM/TO	ARM A	ARM B	ARM C	ARM D	TURNING COUNTS	(PERCENTAGE OF H.V.S)	
07.45 - 09.15	ARM A	0.000	0.114	0.747	0.139			
		0.0	9.0	59.0	11.0			
		( 0.0)	( 0.0)	( 0.0)	( 0.0)			
	ARM B	0.054	0.000	0.207	0.739			
		5.0	0.0	19.0	68.0			
		( 0.0)	( 0.0)	( 0.0)	( 0.0)			
	ARM C	0.362	0.000	0.000	0.638			
		21.0	0.0	0.0	37.0			
		( 0.0)	( 0.0)	( 0.0)	( 0.0)			
	ARM D	0.056	0.383	0.560	0.000			
		14.0	95.0	139.0	0.0			
		( 0.0)	( 0.0)	( 0.0)	( 0.0)			

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2031 DM AM Peak  
 AND FOR TIME PERIOD 1





TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-ACD	1.38	9.66	0.143		0.21	0.17	2.6		0.12
A-B	0.13								
A-C	0.88								
A-D	0.16								
AB-CD (	1.19)	10.79	0.110		0.13	0.11	1.7		0.10
AB-C (	1.17)								
D-ABC	3.72	8.68	0.428		1.12	0.77	12.0		0.20
C-D	0.55								
C-A	0.31								
C-B	0.00								
CD-AB (	1.43)	10.52	0.136		0.17	0.14	2.0		0.11
CD-A (	0.53)								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-ACD	1.15	9.71	0.119		0.17	0.14	2.1		0.12
A-B	0.11								
A-C	0.74								
A-D	0.14								
AB-CD (	0.99)	10.83	0.092		0.11	0.09	1.4		0.10
AB-C (	0.98)								
D-ABC	3.11	8.76	0.355		0.77	0.56	8.7		0.18
C-D	0.46								
C-A	0.26								
C-B	0.00								
CD-AB (	1.20)	10.57	0.113		0.14	0.11	1.7		0.11
CD-A (	0.44)								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.1

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.5 *
08.15	0.7 *
08.30	1.1 *
08.45	1.1 *
09.00	0.8 *
09.15	0.6 *

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	* DELAY *	I
I	I	I	I	I	I	I	I	I	I	I
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	B-ACD	I	126.6	I	84.4	I	15.3	I	0.12	I
I	A-B	I	12.4	I	8.3	I		I		I
I	A-C	I	81.2	I	54.1	I		I		I
I	A-D	I	15.1	I	10.1	I		I		I
I	AB-CD	I	108.6	I	72.4	I	10.1	I	0.09	I
I	AB-C	I	107.3	I	71.6	I		I		I
I	D-ABC	I	341.4	I	227.6	I	71.3	I	0.21	I
I	C-D	I	50.9	I	34.0	I		I		I
I	C-A	I	28.9	I	19.3	I		I		I
I	C-B	I	0.0	I	0.0	I		I		I
I	CD-AB	I	130.5	I	87.0	I	12.4	I	0.09	I
I	CD-A	I	48.1	I	32.1	I		I		I
I	ALL	I	656.6	I	437.7	I	109.0	I	0.17	I

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

STREAM B-A

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-D	STREAM A-B	STREAM C-A	I
I	471.52	0.22	0.22	0.09	0.14	I
I		Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I		STREAM D-A	STREAM C-B	STREAM D-B		I
I		0.14	0.31	0.31		I

STREAM D-C

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-C	STREAM C-A	STREAM C-B	STREAM C-D	STREAM A-C	I
I	497.35	0.23	0.23	0.09	0.14	I
I		Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I		STREAM B-C	STREAM A-D	STREAM B-D		I
I		0.14	0.33	0.33		I

STREAM CD-B

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D		I
I	660.83	0.25	0.25	0.22		I

STREAM AB-D

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B		I
I	660.83	0.26	0.26	0.23		I

STREAM B-CD

I Intercept For I STREAM B-CD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing I
I 607.65	0.24	0.24	0.09	I

STREAM D-AB

I Intercept For I STREAM D-AB	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing I
I 642.19	0.25	0.25	0.10	I

TRAFFIC DEMAND DATA

I ARM I FLOW SCALE (%) I

I A	I	100	I
I B	I	100	I
I C	I	100	I
I D	I	100	I

Demand set: 2031 DM PM Peak

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM	I NUMBER OF MINUTES FROM START WHEN			I RATE OF FLOW (VEH/MIN)		
	I FLOW STARTS I TO RISE	I TOP OF PEAK I IS REACHED	I FLOW STOPS I FALLING	I BEFORE I PEAK	I AT TOP I OF PEAK	I AFTER I PEAK
I ARM A	I 15.00	I 45.00	I 75.00	I 0.82	I 1.24	I 0.82
I ARM B	I 15.00	I 45.00	I 75.00	I 1.56	I 2.34	I 1.56
I ARM C	I 15.00	I 45.00	I 75.00	I 2.34	I 3.51	I 2.34
I ARM D	I 15.00	I 45.00	I 75.00	I 1.95	I 2.93	I 1.95

Demand set: 2031 DM PM Peak

I TIME	I TURNING PROPORTIONS								
	I TURNING COUNTS (PERCENTAGE OF H.V.S)								
I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D	I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D
I 16.45 - 18.15	I ARM A	I 0.000	I 0.136	I 0.576	I 0.288	I 0.0	I 9.0	I 38.0	I 19.0
		I ( 0.0)	I ( 0.0)	I ( 0.0)	I ( 0.0)	I	I	I	I
	I ARM B	I 0.072	I 0.000	I 0.168	I 0.760	I 9.0	I 0.0	I 21.0	I 95.0
		I ( 0.0)	I ( 0.0)	I ( 0.0)	I ( 0.0)	I	I	I	I
	I ARM C	I 0.326	I 0.005	I 0.000	I 0.668	I 61.0	I 1.0	I 0.0	I 125.0
		I ( 0.0)	I ( 0.0)	I ( 0.0)	I ( 0.0)	I	I	I	I
	I ARM D	I 0.090	I 0.506	I 0.404	I 0.000	I 14.0	I 79.0	I 63.0	I 0.0
		I ( 0.0)	I ( 0.0)	I ( 0.0)	I ( 0.0)	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2031 DM PM Peak  
AND FOR TIME PERIOD 2



TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-ACD	1.87	9.64	0.194		0.31	0.24	3.7		0.13
A-B	0.13								
A-C	0.57								
A-D	0.28								
AB-CD (	1.71)	10.30	0.166		0.21	0.17	2.5		0.12
AB-C (	0.88)								
D-ABC	2.34	8.78	0.266		0.50	0.37	5.7		0.16
C-D	1.87								
C-A	0.91								
C-B	0.01								
CD-AB (	1.20)	10.57	0.114		0.14	0.11	1.7		0.11
CD-A (	1.12)								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-ACD	1.57	9.69	0.162		0.24	0.19	3.0		0.12
A-B	0.11								
A-C	0.48								
A-D	0.24								
AB-CD (	1.43)	10.41	0.138		0.17	0.14	2.1		0.11
AB-C (	0.74)								
D-ABC	1.96	8.91	0.220		0.37	0.28	4.4		0.14
C-D	1.57								
C-A	0.77								
C-B	0.01								
CD-AB (	1.01)	10.61	0.095		0.11	0.10	1.4		0.10
CD-A (	0.94)								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.2

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3
17.15	0.4
17.30	0.5
17.45	0.5
18.00	0.4
18.15	0.3

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		I
I		I		I	* DELAY *	I	* DELAY *	I		I
I		I	(VEH)	I	(MIN)	I	(MIN)	I	(MIN/VEH)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I		I
I	B-ACD	I	172.1	I	114.7	I	22.2	I	0.13	I
I	A-B	I	12.4	I	8.3	I		I		I
I	A-C	I	52.3	I	34.9	I		I		I
I	A-D	I	26.2	I	17.4	I		I		I
I	AB-CD	I	( 156.8)	I	( 104.5)	I	15.2	I	0.10	I
I	AB-C	I	( 81.2)	I	( 54.1)	I		I		I
I	D-ABC	I	214.7	I	143.1	I	33.8	I	0.16	I
I	C-D	I	172.1	I	114.7	I		I		I
I	C-A	I	84.0	I	56.0	I		I		I
I	C-B	I	1.4	I	0.9	I		I		I
I	CD-AB	I	( 110.0)	I	( 73.3)	I	10.4	I	0.09	I
I	CD-A	I	( 103.2)	I	( 68.8)	I		I		I
I	ALL	I	735.0	I	490.0	I	81.7	I	0.11	I

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

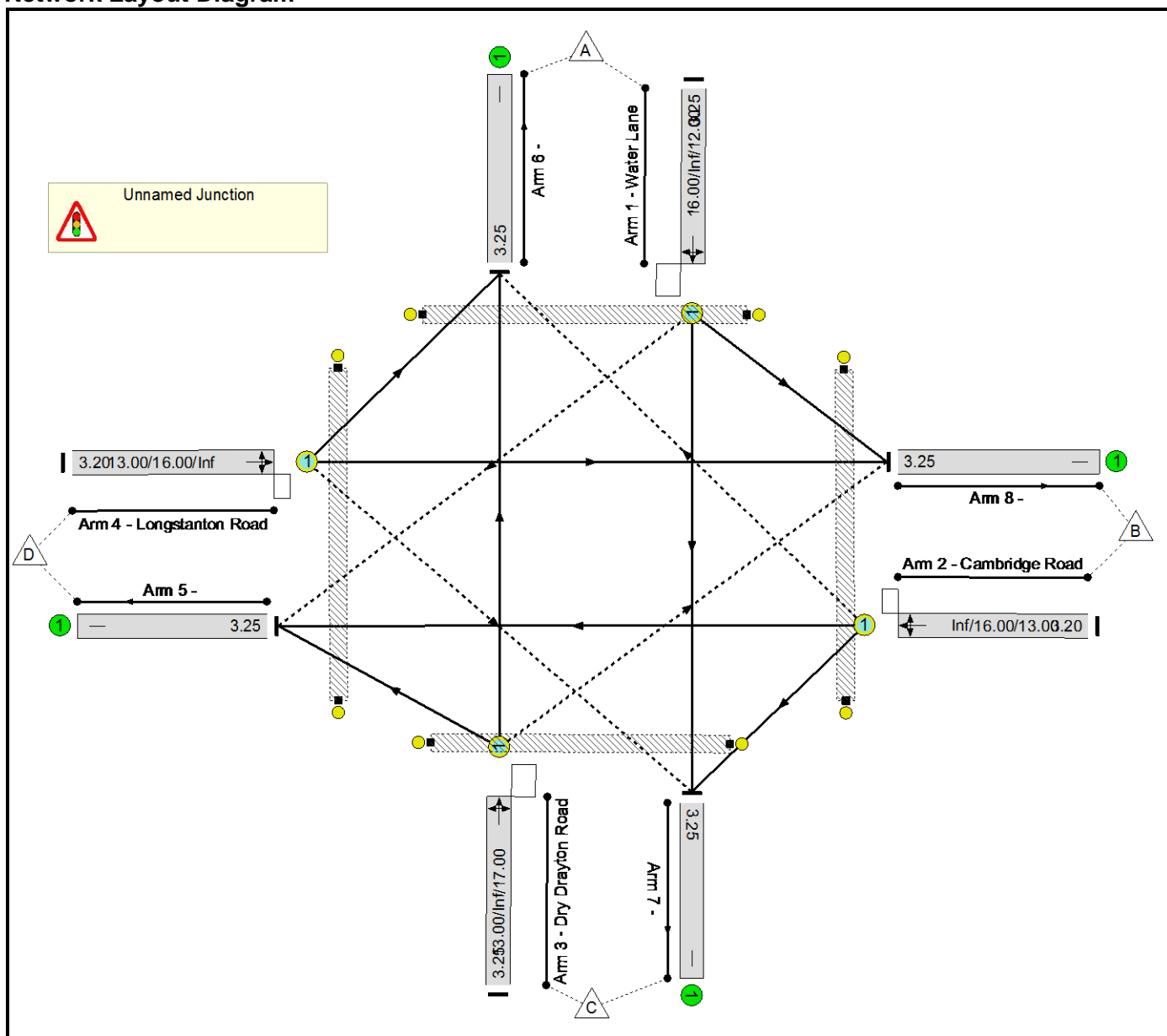
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Basic Results Summary  
**Basic Results Summary**

**User and Project Details**

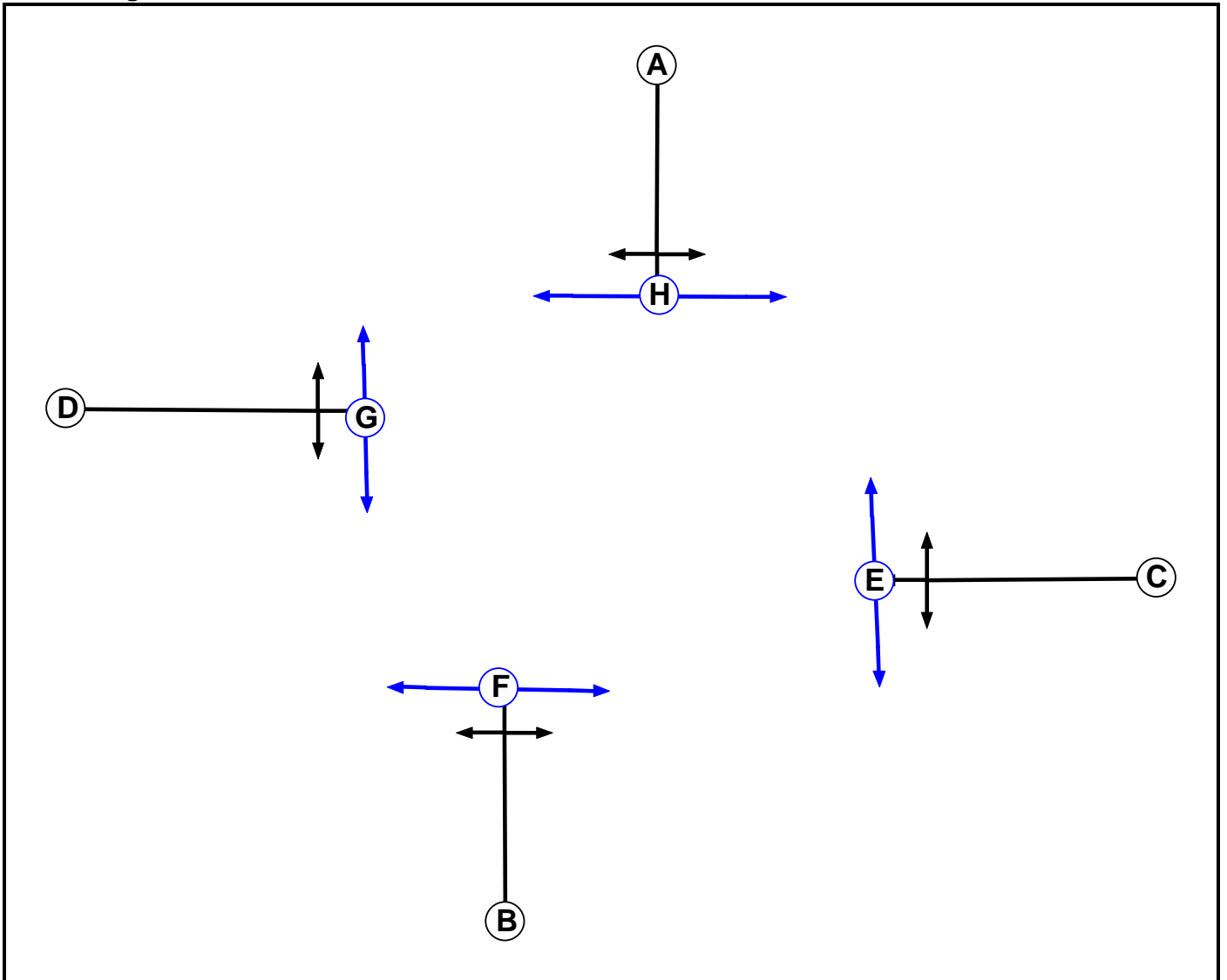
Project:	Northstowe Phase 2
Title:	Longstanton Road / Dry Drayton Road Crossroads
Location:	Oakington
File name:	J14 - Longstanton Rd_Dry Drayton Road Crossroads - 2031 Sc2 DM.lsg3x
Author:	DRC
Company:	Hyder
Address:	Cardiff
Notes:	

**Scenario 1: '2031 DM AM Peak' (FG1: '2031 DM AM Peak', Plan 1: 'Network Control Plan 1')**  
**Network Layout Diagram**





Phase Diagram

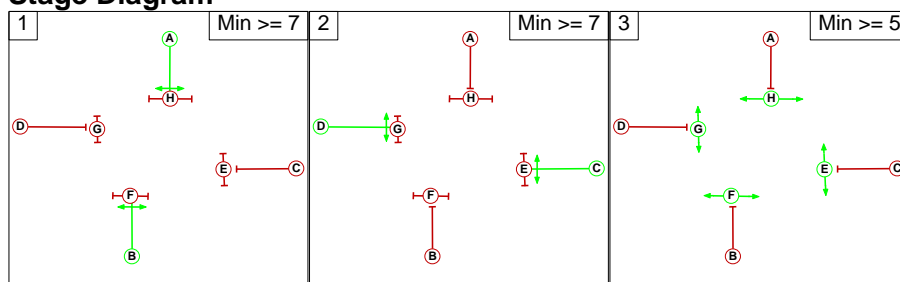


# Basic Results Summary

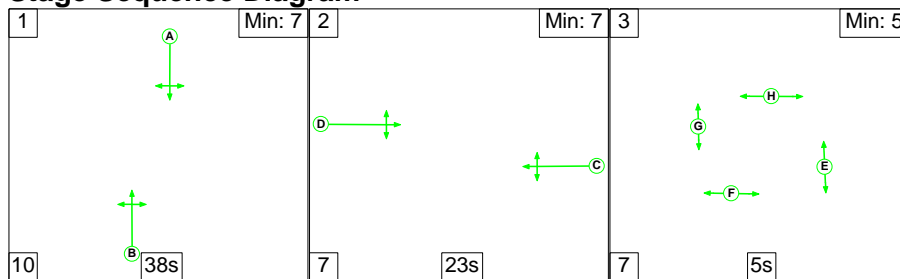
## Phase Intergrens Matrix

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	7	7	7	7	7	7	7
B	7	-	7	7	7	7	7	7
C	6	6	-	7	7	7	7	7
D	6	6	-	-	7	7	7	7
E	10	10	10	10	-	-	-	-
F	10	10	10	10	-	-	-	-
G	10	10	10	10	-	-	-	-
H	10	10	10	10	-	-	-	-

## Stage Diagram

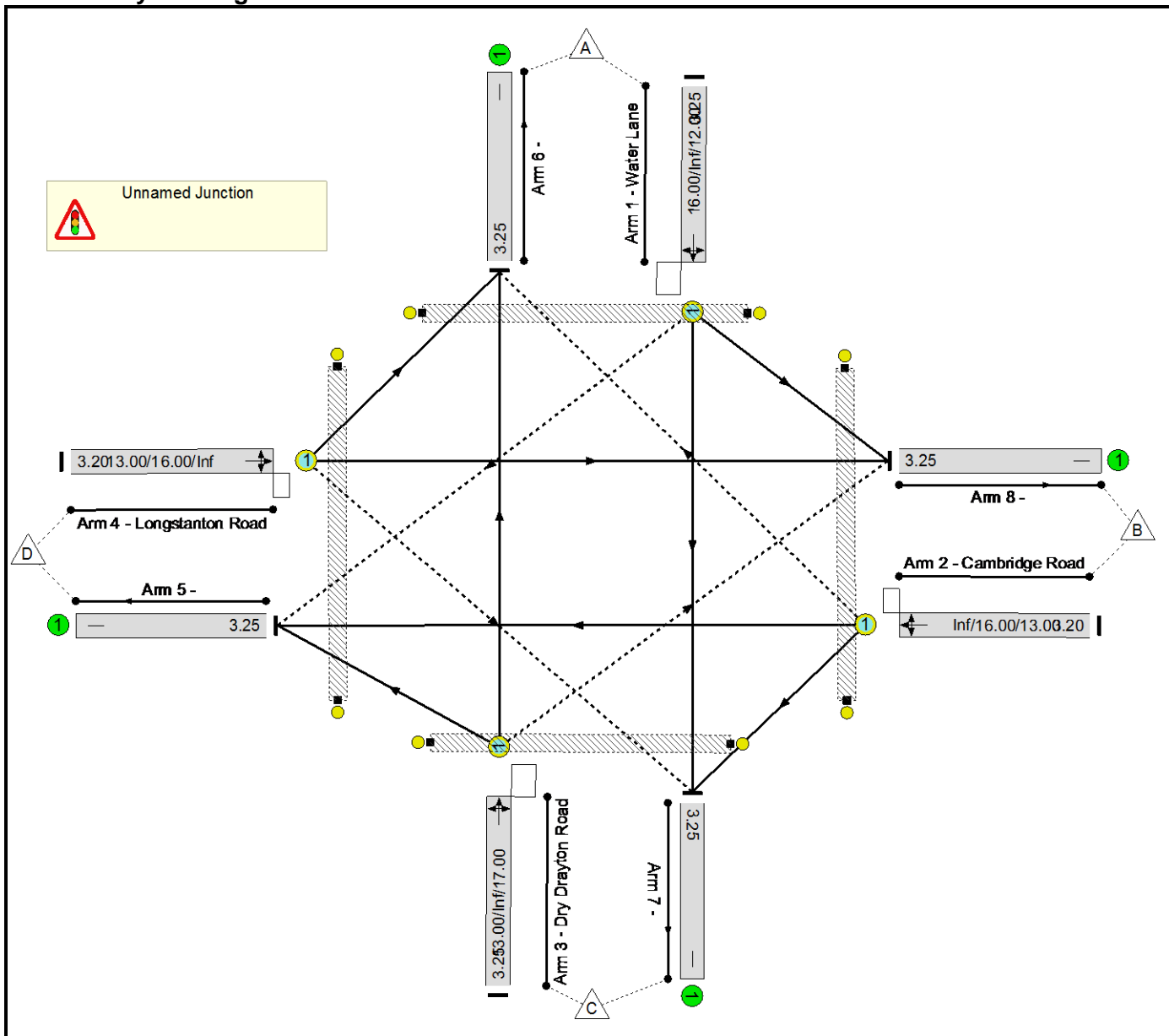


## Stage Sequence Diagram

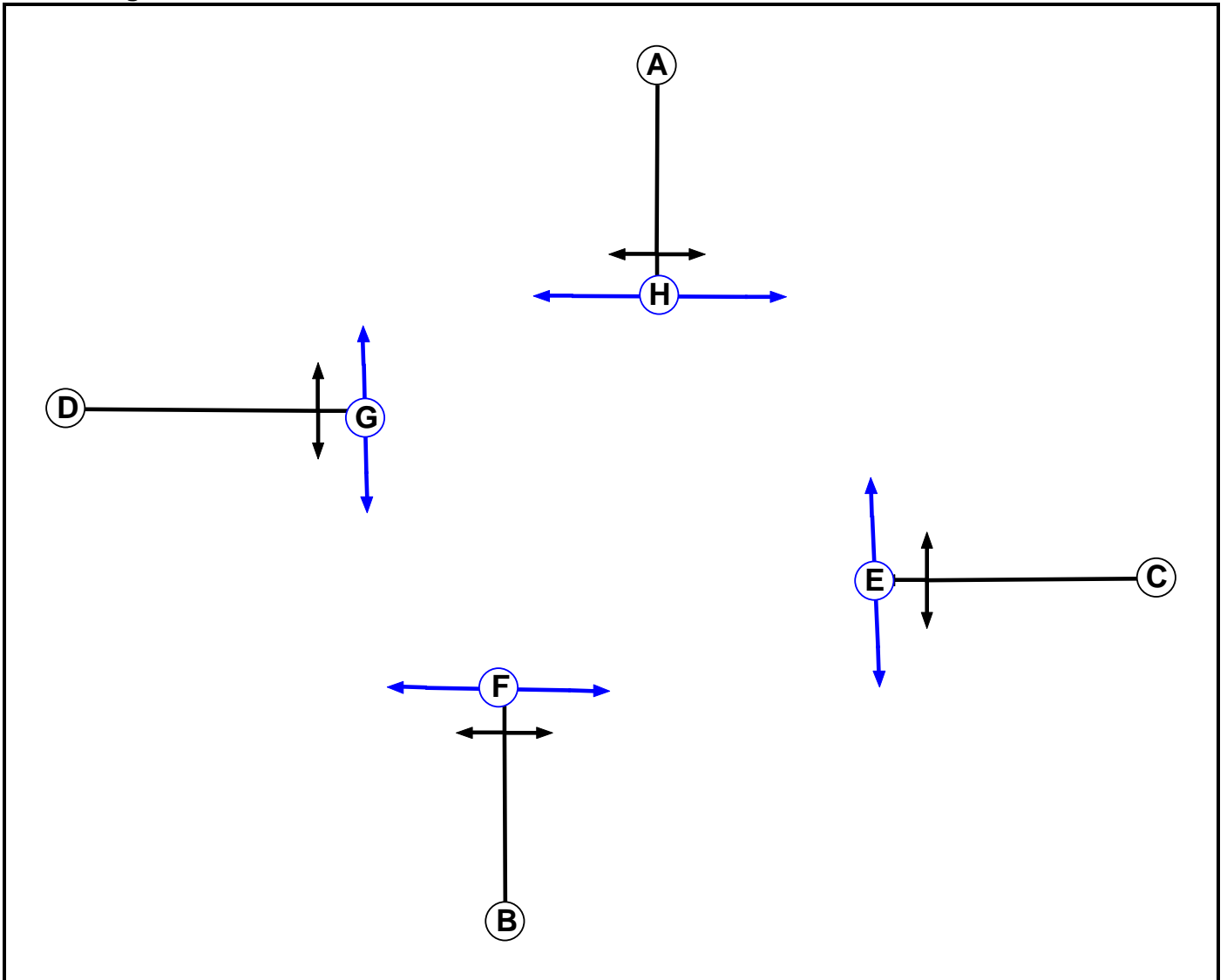


Scenario 2: '2031 DM PM Peak' (FG2: '2031 DM PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Phase Diagram

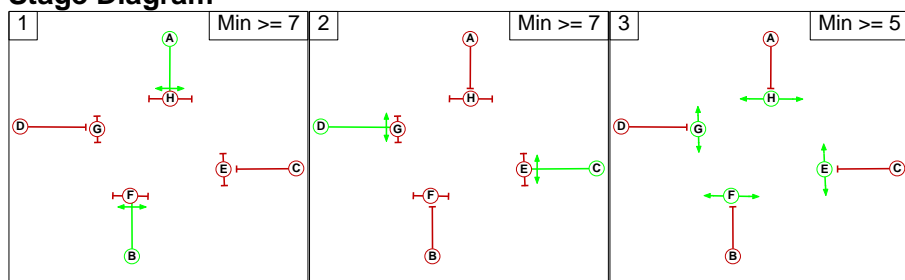


Basic Results Summary

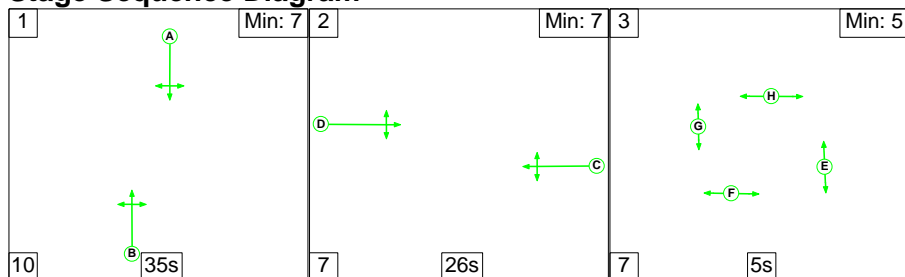
**Phase Intergreens Matrix**

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	7	7	7	7	7	7	7
B	7	-	7	7	7	7	7	7
C	6	6	-	7	7	7	7	7
D	6	6	-	-	7	7	7	7
E	10	10	10	10	-	-	-	-
F	10	10	10	10	-	-	-	-
G	10	10	10	10	-	-	-	-
H	10	10	10	10	-	-	-	-

**Stage Diagram**



**Stage Sequence Diagram**



**Scenario 1: '2031 DM AM Peak' (FG1: '2031 DM AM Peak', Plan 1: 'Network Control Plan 1')**

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	120	456	51	627	
B	66	0	189	130	385	
C	268	162	0	60	490	
D	76	207	89	0	372	
Tot.	410	489	734	241	1874	

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
<b>Network: Longstanton Road / Dry Drayton Road Crossroads</b>	-	-	-		-	-	-	-	-	-	84.8%	351	0	17	22.5	-	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	84.8%	351	0	17	22.5	-	-
1/1	Water Lane Right Ahead Left	O	A		1	38	-	627	1881	815	76.9%	51	0	0	5.4	31.1	14.9
2/1	Cambridge Road Ahead Right Left	O	C		1	23	-	385	1804	481	80.0%	66	0	0	5.2	48.9	10.8
3/1	Dry Drayton Road Left Ahead Right	O	B		1	38	-	490	1859	578	84.8%	145	0	17	6.1	45.1	14.1
4/1	Longstanton Road Left Right Ahead	O	D		1	23	-	372	1850	445	83.6%	89	0	0	5.7	54.8	11.1
Ped Link: P1	Unnamed Ped Link	-	E		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	H		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	F		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
C1				PRC for Signalled Lanes (%):			6.2	Total Delay for Signalled Lanes (pcuHr):				22.46	Cycle Time (s): 90				
				PRC Over All Lanes (%):			6.2	Total Delay Over All Lanes(pcuHr):				22.46					

Basic Results Summary

**Scenario 2: '2031 DM PM Peak'** (FG2: '2031 DM PM Peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Actual**

**Actual Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	73	336	67	476
	B	171	0	171	76	418
	C	359	182	0	160	701
	D	71	136	82	0	289
	Tot.	601	391	589	303	1884

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
<b>Network: Longstanton Road / Dry Drayton Road Crossroads</b>	-	-	-		-	-	-	-	-	-	95.0%	502	0	0	26.7	-	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	95.0%	502	0	0	26.7	-	-
1/1	Water Lane Right Ahead Left	O	A		1	35	-	476	1879	752	63.3%	67	0	0	3.7	28.2	10.4
2/1	Cambridge Road Ahead Right Left	O	C		1	26	-	418	1782	458	91.2%	171	0	0	8.0	69.0	14.4
3/1	Dry Drayton Road Left Ahead Right	O	B		1	35	-	701	1849	738	95.0%	182	0	0	12.3	63.0	23.8
4/1	Longstanton Road Left Right Ahead	O	D		1	26	-	289	1834	550	52.5%	82	0	0	2.7	33.3	6.5
Ped Link: P1	Unnamed Ped Link	-	E		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	H		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	F		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
C1			PRC for Signalled Lanes (%):				-5.5	Total Delay for Signalled Lanes (pcuHr):				26.67	Cycle Time (s): 90				
			PRC Over All Lanes (%):				-5.5	Total Delay Over All Lanes(pcuHr):				26.67					



Basic Results Summary  
**Basic Results Summary**

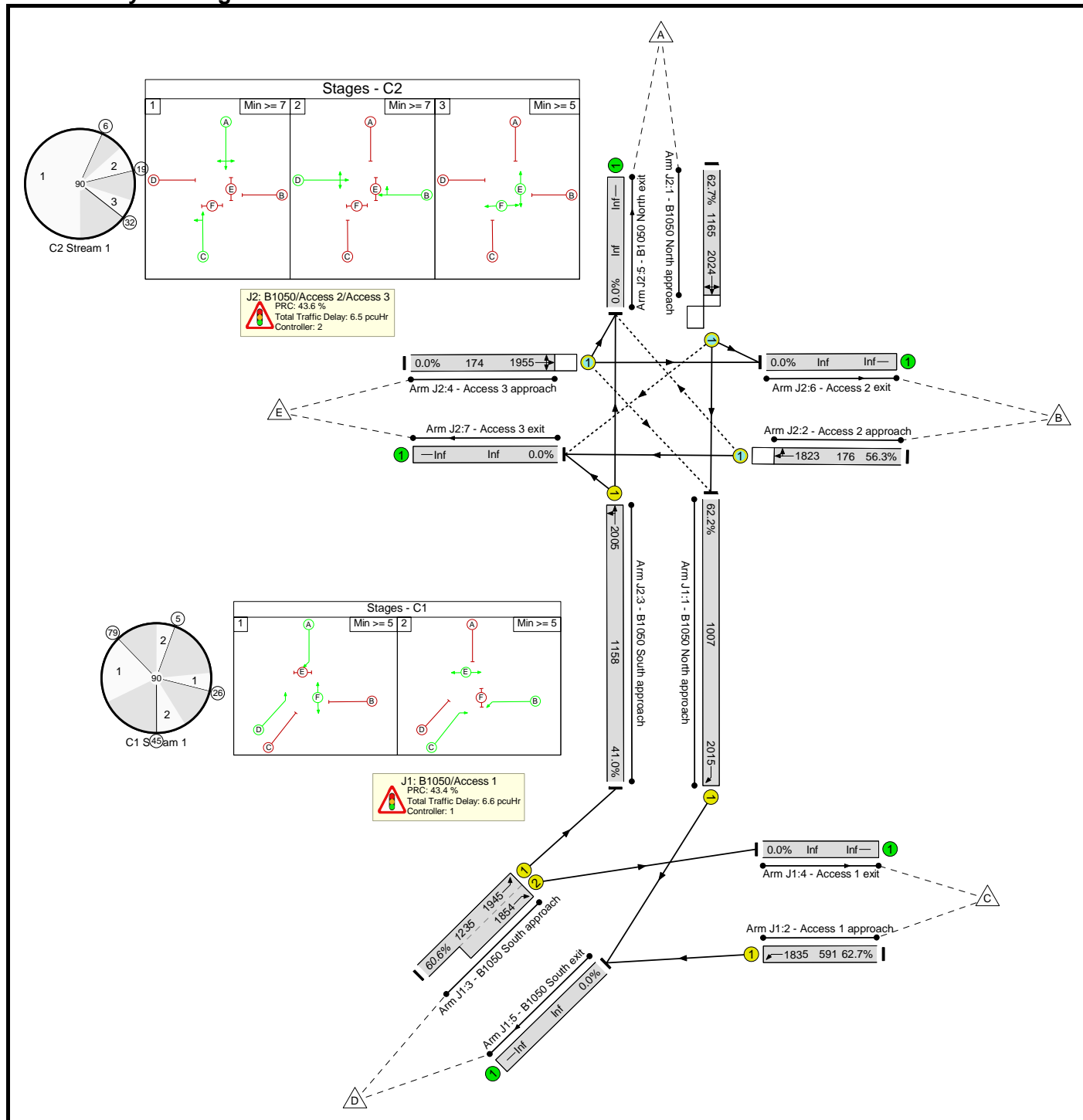
**User and Project Details**

<b>Project:</b>	<b>Northstowe Phase 1</b>
<b>Title:</b>	<b>B1050 Access to West Site</b>
<b>Location:</b>	
<b>File name:</b>	Proposed Northstowe 07_08_2014.lsg3x
<b>Author:</b>	Peter Smith
<b>Company:</b>	Hyder Consulting
<b>Address:</b>	Manning House, Carlisle Place
<b>Notes:</b>	

Basic Results Summary

Scenario 1: 'AM Peak 2031 DM' (FG17: 'AM Peak 2031 DM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

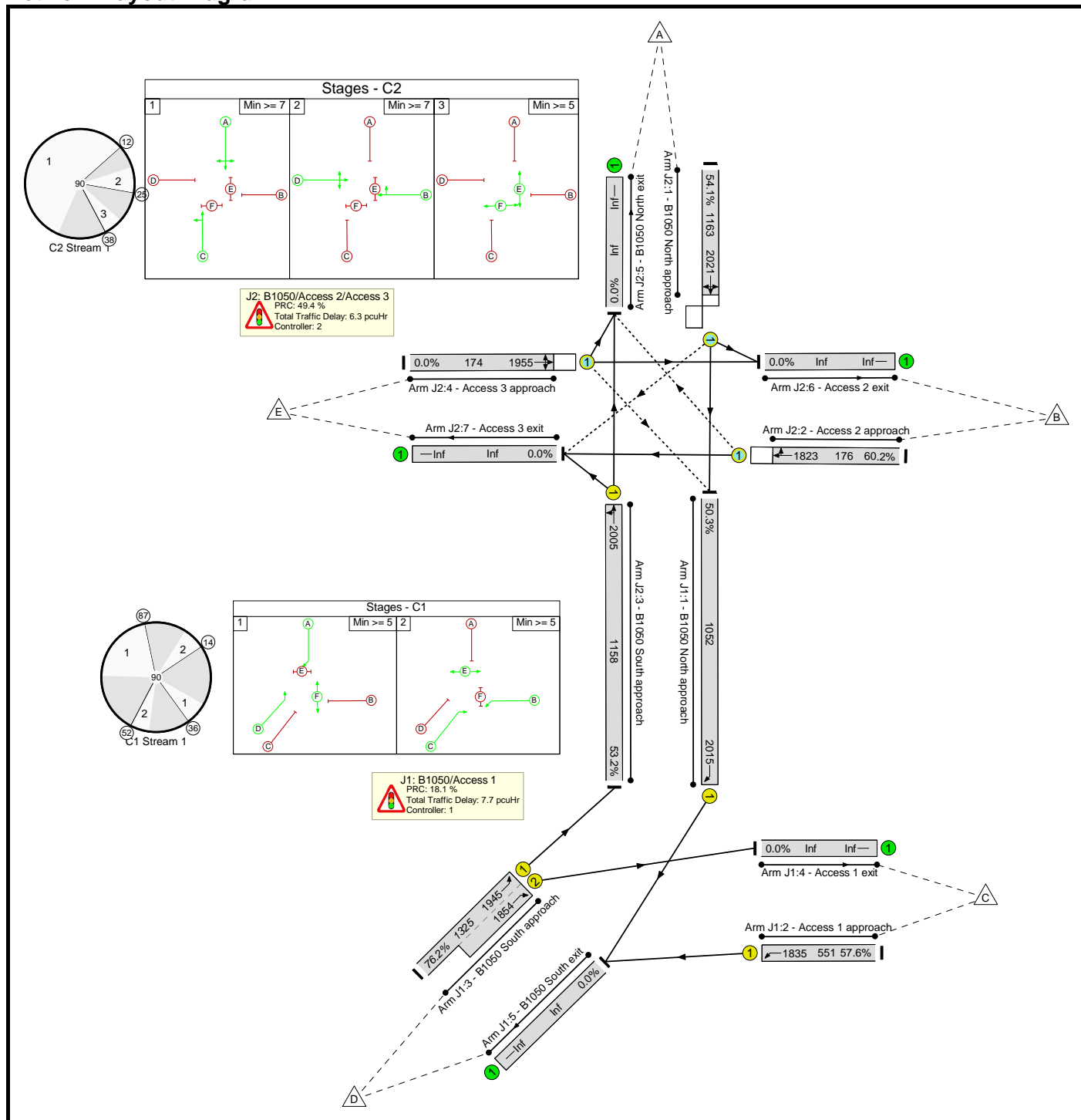
**Network Results**

Item	Lane Description	Lane Type	Deg Sat (%)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network: B1050 Access to West Site</b>	-	-	<b>62.7%</b>	<b>13.0</b>	-
<b>J1: B1050/Access 1</b>	-	-	<b>62.7%</b>	<b>6.6</b>	-
1/1	B1050 North approach Right	U	62.2%	1.4	5.9
2/1	Access 1 approach Ahead	U	62.7%	2.2	5.6
3/1+3/2	B1050 South approach Ahead Left	U	60.6%	2.9	5.3
<b>J2: B1050/Access 2/Access 3</b>	-	-	<b>62.7%</b>	<b>6.5</b>	-
1/1	B1050 North approach Ahead Left Right	O	62.7%	3.4	12.8
2/1	Access 2 approach Right Ahead	O	56.3%	1.7	3.0
3/1	B1050 South approach Ahead Left	U	41.0%	1.3	5.3
4/1	Access 3 approach Right Left Ahead	O	0.0%	0.0	0.0
C1	PRC for Signalled Lanes (%)	43.4	Total Delay for Signalled Lanes (pcuHr):	6.58	Cycle Time (s): 90
C2	PRC for Signalled Lanes (%)	43.6	Total Delay for Signalled Lanes (pcuHr):	6.46	Cycle Time (s): 90
	PRC Over All Lanes (%)	43.4	Total Delay Over All Lanes(pcuHr):	13.04	

Basic Results Summary

Scenario 2: 'PM Peak 2031 DM' (FG21: 'PM Peak 2031 DM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

**Network Results**



Item	Lane Description	Lane Type	Deg Sat (%)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network: B1050 Access to West Site</b>	-	-	<b>76.2%</b>	<b>14.0</b>	-
<b>J1: B1050/Access 1</b>	-	-	<b>76.2%</b>	<b>7.7</b>	-
1/1	B1050 North approach Right	U	50.3%	1.1	5.1
2/1	Access 1 approach Ahead	U	57.6%	1.9	4.6
3/1+3/2	B1050 South approach Ahead Left	U	76.2%	4.7	7.6
<b>J2: B1050/Access 2/Access 3</b>	-	-	<b>60.2%</b>	<b>6.3</b>	-
1/1	B1050 North approach Ahead Left Right	O	54.1%	2.6	10.2
2/1	Access 2 approach Right Ahead	O	60.2%	1.9	3.3
3/1	B1050 South approach Ahead Left	U	53.2%	1.8	7.3
4/1	Access 3 approach Right Left Ahead	O	0.0%	0.0	0.0
C1	PRC for Signalled Lanes (%)	18.1	Total Delay for Signalled Lanes (pcuHr):	7.68	Cycle Time (s): 90
C2	PRC for Signalled Lanes (%)	49.4	Total Delay for Signalled Lanes (pcuHr):	6.32	Cycle Time (s): 90
	PRC Over All Lanes (%)	18.1	Total Delay Over All Lanes(pcuHr):	13.99	



# NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 15  
Do Something 2031 Junction Assessments

August 2014

<b>PICADY</b>	
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)	
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TRL Limited Crowthorne House Nine Mile Ride Wokingham, Berks. RG40 3GA, UK	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  J1 - 2031 Sc2 DS - Girton Rd_Huntingdon Rd Junction._XXCADYReportImage1.bmp         </div> Tel: +44 (0)1344 770758  Fax: +44 (0)1344 770864 E-mail: <a href="mailto:software@trl.co.uk">software@trl.co.uk</a> Web: <a href="http://www.trlsoftware.co.uk">www.trlsoftware.co.uk</a>
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## Run Analysis

Parameter	Values
File Run	\\H.\Junction 1 - Girton Rd_Huntingdon Rd junction (need)\J1 - 2031 Sc2 DS - Girton Rd_Huntingdon Rd Junction.vpi
Date Run	24 July 2014
Time Run	13:50:30
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Huntingdon Road (w)	100
Arm B	Girton Road (n)	100
Arm C	Huntingdon Road (e)	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	J1 - Girton Rd / Huntingdon Rd
Location	Girton (Northstowe)
Date	10 April 2014
Enumerator	dchapman
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.00
Major Road Kerbed Central Reserve Width (m)	3.00
Major Road Right Turning Lane Width (m)	3.00
Minor Road First Lane Width (m)	3.65
Minor Road Visibility To Right (m)	56
Minor Road Visibility To Left (m)	40
Major Road Right Turn Visibility (m)	130
Major Road Right Turn Blocks Traffic	No

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	588.855	0.096	0.243	0.153	0.347
B-C	702.088	0.103	0.260	-	-
C-B	705.776	0.262	0.262	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections

## Demand Data

### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15



### ODTAB Turning Counts

**Demand Set:** 2031 DS AM Peak

**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	172.0	793.0
Arm B	399.0	0.0	68.0
Arm C	700.0	16.0	0.0

**Demand Set:** 2031 DS PM Peak

**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	427.0	679.0
Arm B	185.0	0.0	99.0
Arm C	772.0	53.0	0.0

### ODTAB Synthesised Flows

**Demand Set:** 2031 DS AM Peak

**Modelling Period:** 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	12.063	08:30	18.094	09:00	12.063
Arm B	08:00	5.838	08:30	8.756	09:00	5.838
Arm C	08:00	8.950	08:30	13.425	09:00	8.950

### Heavy Vehicles Percentages

**Demand Set:** 2031 DS AM Peak

**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

**Demand Set:** 2031 DS PM Peak

**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

## Queues & Delays

**Demand Set:** 2031 DS AM Peak  
**Modelling Period:** 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	5.86	6.09	<b>0.963</b>	-	0.00	7.43	-	75.7	1.05
	C-A	8.78	-	-	-	-	-	-	-	-
	C-B	0.20	8.60	0.023	-	0.00	0.02	-	0.3	0.12
	A-B	2.16	-	-	-	-	-	-	-	-
	A-C	9.95	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	7.00	5.30	<b>1.320</b>	-	7.43	33.63	-	310.2	4.61
	C-A	10.49	-	-	-	-	-	-	-	-
	C-B	0.24	7.98	0.030	-	0.02	0.03	-	0.5	0.13
	A-B	2.58	-	-	-	-	-	-	-	-
	A-C	11.88	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	8.57	4.20	<b>2.038</b>	-	33.63	99.13	-	995.8	15.87
	C-A	12.85	-	-	-	-	-	-	-	-
	C-B	0.29	7.13	0.041	-	0.03	0.04	-	0.6	0.15
	A-B	3.16	-	-	-	-	-	-	-	-
	A-C	14.55	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	8.57	4.20	<b>2.038</b>	-	99.13	164.61	-	1978.1	31.68
	C-A	12.85	-	-	-	-	-	-	-	-
	C-B	0.29	7.13	0.041	-	0.04	0.04	-	0.6	0.15
	A-B	3.16	-	-	-	-	-	-	-	-
	A-C	14.55	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	7.00	5.30	<b>1.320</b>	-	164.61	190.06	-	2660.0	31.27
	C-A	10.49	-	-	-	-	-	-	-	-
	C-B	0.24	7.98	0.030	-	0.04	0.03	-	0.5	0.13
	A-B	2.58	-	-	-	-	-	-	-	-
	A-C	11.88	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	5.86	6.09	<b>0.963</b>	-	190.06	187.14	-	2829.0	31.13
	C-A	8.78	-	-	-	-	-	-	-	-
	C-B	0.20	8.60	0.023	-	0.03	0.02	-	0.4	0.12
	A-B	2.16	-	-	-	-	-	-	-	-
	A-C	9.95	-	-	-	-	-	-	-	-

**Demand Set:** 2031 DS PM Peak  
**Modelling Period:** 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	3.56	6.37	0.560	-	0.00	1.21	-	16.3	0.34
	C-A	9.69	-	-	-	-	-	-	-	-
	C-B	0.67	8.13	0.082	-	0.00	0.09	-	1.3	0.13
	A-B	5.36	-	-	-	-	-	-	-	-
	A-C	8.52	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	4.26	5.53	0.769	-	1.21	2.80	-	35.8	0.68
	C-A	11.57	-	-	-	-	-	-	-	-
	C-B	0.79	7.43	0.107	-	0.09	0.12	-	1.7	0.15
	A-B	6.40	-	-	-	-	-	-	-	-
	A-C	10.17	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	5.21	4.34	<b>1.200</b>	-	2.80	17.99	-	162.1	2.96
	C-A	14.17	-	-	-	-	-	-	-	-
	C-B	0.97	6.45	0.151	-	0.12	0.17	-	2.5	0.18
	A-B	7.84	-	-	-	-	-	-	-	-
	A-C	12.46	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	5.21	4.34	<b>1.200</b>	-	17.99	31.49	-	371.6	5.81
	C-A	14.17	-	-	-	-	-	-	-	-
	C-B	0.97	6.45	0.151	-	0.17	0.18	-	2.6	0.18
	A-B	7.84	-	-	-	-	-	-	-	-


	A-C	12.46	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	4.26	5.53	0.769	-	31.49	14.88	-	347.8	4.40
	C-A	11.57	-	-	-	-	-	-	-	-
	C-B	0.79	7.43	0.107	-	0.18	0.12	-	1.9	0.15
	A-B	6.40	-	-	-	-	-	-	-	-
	A-C	10.17	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	3.56	6.36	0.560	-	14.88	1.37	-	59.8	0.76
	C-A	9.69	-	-	-	-	-	-	-	-
	C-B	0.67	8.13	0.082	-	0.12	0.09	-	1.4	0.13
	A-B	5.36	-	-	-	-	-	-	-	-
	A-C	8.52	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

### PICADY 5 Run Successful

<b>PICADY</b>		
GUI Version: 5.1 AE Analysis Program Release: 5.0 (MAY 2010)		
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## Run Analysis

Parameter	Values
File Run	\\H.\Junction 2 - New Road_Cambridge Road\J2 - 2031 Sc2 DS - New Road_Cambridge Road (synthesised peak).vpi
Date Run	24 July 2014
Time Run	13:51:55
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Cambridge Road (NW)	100
Arm B	New Road (NE)	100
Arm C	Oakington Rd (SE)	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	Junction 2 - Cambridge Road - New Road Priority
Location	Northstowe (Oakington)
Date	07 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.00
Minor Road Visibility To Right (m)	30
Minor Road Visibility To Left (m)	35
Major Road Right Turn Visibility (m)	150
Major Road Right Turn Blocks Traffic	Yes (if over 1 veh)

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	503.677	0.092	0.232	0.146	0.331
B-C	642.823	0.099	0.249	-	-
C-B	660.830	0.256	0.256	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections

## Demand Data

### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

### ODTAB Turning Counts

**Demand Set:** 2031 DS sc1 AM Peak Flows  
**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	197.0	232.0
Arm B	189.0	0.0	175.0
Arm C	203.0	245.0	0.0

**Demand Set:** 2031 DS sc1 PM Peak Flows  
**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	179.0	264.0
Arm B	232.0	0.0	143.0
Arm C	229.0	176.0	0.0

### ODTAB Synthesised Flows

**Demand Set:** 2031 DS sc1 AM Peak Flows  
**Modelling Period:** 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	5.363	08:30	8.044	09:00	5.363
Arm B	08:00	4.550	08:30	6.825	09:00	4.550
Arm C	08:00	5.600	08:30	8.400	09:00	5.600

### Heavy Vehicles Percentages

**Demand Set:** 2031 DS sc1 AM Peak Flows  
**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

**Demand Set:** 2031 DS sc1 PM Peak Flows  
**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

## Queues & Delays

**Demand Set:** 2031 DS sc1 AM Peak Flows

**Modelling Period:** 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	4.57	7.44	0.614	-	0.00	1.50	-	20.1	0.33
	C-AB	3.07	9.64	0.319	-	0.00	0.50	-	7.4	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.47	-	-	-	-	-	-	-	-
	A-C	2.91	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	5.45	7.03	0.776	-	1.50	2.99	-	39.0	0.56
	C-AB	3.67	9.37	0.392	-	0.50	0.71	-	10.6	0.17
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.95	-	-	-	-	-	-	-	-
	A-C	3.48	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	6.68	6.45	<b>1.035</b>	-	2.99	12.02	-	121.7	1.61
	C-AB	4.50	9.00	0.500	-	0.71	1.16	-	17.4	0.22
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.62	-	-	-	-	-	-	-	-
	A-C	4.26	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	6.68	6.44	<b>1.037</b>	-	12.02	18.05	-	227.0	2.70
	C-AB	4.50	9.00	0.500	-	1.16	1.18	-	18.0	0.22
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.62	-	-	-	-	-	-	-	-
	A-C	4.26	-	-	-	-	-	-	-	-



Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	5.45	7.02	0.777	-	18.05	4.47	-	145.1	1.68
	C-AB	3.67	9.37	0.392	-	1.18	0.74	-	11.3	0.18
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.95	-	-	-	-	-	-	-	-
	A-C	3.48	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	4.57	7.43	0.615	-	4.47	1.69	-	29.5	0.40
	C-AB	3.07	9.64	0.319	-	0.74	0.52	-	7.8	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.47	-	-	-	-	-	-	-	-
	A-C	2.91	-	-	-	-	-	-	-	-

**Demand Set:** 2031 DS sc1 PM Peak Flows

**Modelling Period:** 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	4.71	7.24	0.650	-	0.00	1.73	-	22.9	0.36
	C-AB	2.21	9.59	0.230	-	0.00	0.32	-	4.7	0.13
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.25	-	-	-	-	-	-	-	-
	A-C	3.31	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	5.62	6.85	0.821	-	1.73	3.70	-	47.0	0.68
	C-AB	2.64	9.31	0.283	-	0.32	0.43	-	6.4	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.68	-	-	-	-	-	-	-	-
	A-C	3.96	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	6.88	6.30	<b>1.092</b>	-	3.70	16.09	-	156.0	2.02
	C-AB	3.23	8.93	0.362	-	0.43	0.65	-	9.7	0.17
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.28	-	-	-	-	-	-	-	-
	A-C	4.84	-	-	-	-	-	-	-	-


Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	6.88	6.30	1.093	-	16.09	26.08	-	317.4	3.68
	C-AB	3.23	8.93	0.362	-	0.65	0.65	-	9.9	0.18
	C-A	-	-	-	-	-	-	-	-	-
	A-B	3.28	-	-	-	-	-	-	-	-
	A-C	4.84	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	5.62	6.84	0.821	-	26.08	11.54	-	282.1	2.98
	C-AB	2.64	9.31	0.283	-	0.65	0.44	-	6.7	0.15
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.68	-	-	-	-	-	-	-	-
	A-C	3.96	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	4.71	7.23	0.651	-	11.54	2.03	-	55.5	0.67
	C-AB	2.21	9.59	0.230	-	0.44	0.32	-	4.9	0.14
	C-A	-	-	-	-	-	-	-	-	-
	A-B	2.25	-	-	-	-	-	-	-	-
	A-C	3.31	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

### PICADY 5 Run Successful

<b>ARCADY 6</b>		
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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\Junction 3 - Hattons Road\_B1050 roundabout\J3 - 2031 Sc1 DS - Hattons Rd - B1050 2031 AM Peak ODTAB.vai  
 At: 15:39:04 on Wednesday, May 14, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 North
Arm B	Hattons Road
Arm C	B1050 Hattons Road South

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 3 - Hattons Road / B1050 roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	07/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.25	3.00	3.65
Entry Width (m)	3.25	3.00	7.30
Flare Length (m)	0.00	0.00	19.00
Entry Radius (m)	30.00	36.00	46.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00
Entry Angle (degrees)	32.00	23.00	29.00
Slope	0.493	0.495	0.666
Intercept (PCU/Min)	16.566	15.847	30.776

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS Sc1 AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	0.0	788.0
Arm B	0.0	0.0	248.0
Arm C	443.0	88.0	0.0

### Entry Flow Data for Demand Set: 2031 DS Sc1 AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	9.85	14.78	9.85
Arm B	15.00	45.00	75.00	3.10	4.65	3.10
Arm C	15.00	45.00	75.00	6.64	9.96	6.64

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 DS Sc1 AM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

## Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 07:45 to 08:00	A	9.89	16.02	0.617	-	0.0	1.6	21.9	-	0.158
	B	3.11	11.00	0.283	-	0.0	0.4	5.6	-	0.126
	C	6.66	30.78	0.216	-	0.0	0.3	4.1	-	0.041
Segment : 2 - 08:00 to 08:15	A	11.81	15.92	0.742	-	1.6	2.7	37.5	-	0.235
	B	3.72	10.04	0.370	-	0.4	0.6	8.4	-	0.157
	C	7.96	30.78	0.259	-	0.3	0.3	5.1	-	0.044
Segment : 3 - 08:15 to 08:30	A	14.46	15.77	0.917	-	2.7	7.8	93.1	-	0.522
	B	4.55	8.85	0.514	-	0.6	1.0	14.5	-	0.229
	C	9.74	30.78	0.317	-	0.3	0.5	6.8	-	0.048
Segment : 4 - 08:30 to 08:45	A	14.46	15.77	0.917	-	7.8	8.9	126.0	-	0.658
	B	4.55	8.72	0.522	-	1.0	1.1	15.8	-	0.239
	C	9.74	30.78	0.317	-	0.5	0.5	6.9	-	0.048
Segment : 5 - 08:45 to 09:00	A	11.81	15.92	0.742	-	8.9	3.0	55.2	-	0.293
	B	3.72	9.81	0.379	-	1.1	0.6	9.7	-	0.166
	C	7.96	30.78	0.259	-	0.5	0.3	5.3	-	0.044
Segment : 6 - 09:00 to 09:15	A	9.89	16.02	0.617	-	3.0	1.7	26.4	-	0.168
	B	3.11	10.91	0.285	-	0.6	0.4	6.3	-	0.129
	C	6.66	30.78	0.216	-	0.3	0.3	4.2	-	0.041

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\Junction 3 - Hattons Road\_B1050 roundabout\J3 - 2031 Sc1 DS - Hattons Rd - B1050 2031 PM Peak ODTAB.vai  
At: 15:39:29 on Wednesday, May 14, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 North
Arm B	Hattons Road
Arm C	B1050 Hattons Road South

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 3 - Hattons Road / B1050 roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	07/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.25	3.00	3.65
Entry Width (m)	3.25	3.00	7.30
Flare Length (m)	0.00	0.00	19.00
Entry Radius (m)	30.00	36.00	46.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00
Entry Angle (degrees)	32.00	23.00	29.00
Slope	0.493	0.495	0.666
Intercept (PCU/Min)	16.566	15.847	30.776

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 PM Peak Sc1 DS

From/To	Arm A	Arm B	Arm C
Arm A	0.0	0.0	560.0
Arm B	0.0	0.0	156.0
Arm C	832.0	245.0	0.0

### Entry Flow Data for Demand Set: 2031 PM Peak Sc1 DS

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	7.00	10.50	7.00
Arm B	15.00	45.00	75.00	1.95	2.93	1.95
Arm C	15.00	45.00	75.00	13.46	20.19	13.46

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 PM Peak Sc1 DS

Vary over entry


Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

## Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
<b>Segment : 1 - 16:45 to 17:00</b>	A	7.03	15.06	0.467	-	0.0	0.9	12.3	-	0.123
	B	1.96	12.40	0.158	-	0.0	0.2	2.7	-	0.096
	C	13.51	30.78	0.439	-	0.0	0.8	11.4	-	0.058
<b>Segment : 2 - 17:00 to 17:15</b>	A	8.39	14.76	0.568	-	0.9	1.3	18.5	-	0.156
	B	2.34	11.71	0.200	-	0.2	0.2	3.6	-	0.107
	C	16.14	30.78	0.524	-	0.8	1.1	16.0	-	0.068
<b>Segment : 3 - 17:15 to 17:30</b>	A	10.28	14.36	0.716	-	1.3	2.4	33.0	-	0.237
	B	2.86	10.80	0.265	-	0.2	0.4	5.2	-	0.126
	C	19.76	30.78	0.642	-	1.1	1.8	25.5	-	0.090
<b>Segment : 4 - 17:30 to 17:45</b>	A	10.28	14.35	0.716	-	2.4	2.5	36.4	-	0.245
	B	2.86	10.76	0.266	-	0.4	0.4	5.4	-	0.127
	C	19.76	30.78	0.642	-	1.8	1.8	26.6	-	0.091
<b>Segment : 5 - 17:45 to 18:00</b>	A	8.39	14.75	0.569	-	2.5	1.3	21.4	-	0.161
	B	2.34	11.66	0.201	-	0.4	0.3	3.9	-	0.108
	C	16.14	30.78	0.524	-	1.8	1.1	17.2	-	0.069
<b>Segment : 6 - 18:00 to 18:15</b>	A	7.03	15.05	0.467	-	1.3	0.9	13.9	-	0.126
	B	1.96	12.35	0.158	-	0.3	0.2	2.9	-	0.096
	C	13.51	30.78	0.439	-	1.1	0.8	12.1	-	0.058



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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc1 - 2031 DS\Junction 4 - Over Road\_Hattons Road roundabout\J4 - 2031 Sc1 DS - Over Road\_Hattons Road 2014 AM Peak ODTAB.vai

At: 15:57:17 on Friday, August 15, 2014

Mode: Drive On The Left

Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Over Road (e)
Arm B	Hattons Road
Arm C	Over Road (nw)

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 4 - Over Road - Hattons Road
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	07/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.65	2.50
Entry Width (m)	3.00	3.65	3.00
Flare Length (m)	0.00	0.00	1.00
Entry Radius (m)	34.00	17.00	34.00
Inscribed Circle Diameter (m)	30.00	40.00	24.00
Entry Angle (degrees)	40.00	40.00	40.00
Slope	0.489	0.501	0.473
Intercept (PCU/Min)	14.929	17.634	13.398

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

## Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 Sc1 DS AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	3.0	56.0	16.0
Arm B	10.0	0.0	11.0
Arm C	54.0	10.0	0.0

## Entry Flow Data for Demand Set: 2031 Sc1 DS AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.94	1.41	0.94
Arm B	15.00	45.00	75.00	0.26	0.39	0.26
Arm C	15.00	45.00	75.00	0.80	1.20	0.80

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.


## Heavy Vehicle Percentages for Demand Set: 2031 Sc1 DS AM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	33.3	1.8	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

**Queues and Delay:**

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 07:45 to 08:00</b>	A	0.94	14.48	0.065	-	0.0	0.1	1.0	-	0.074
	B	0.26	17.51	0.015	-	0.0	0.0	0.2	-	0.058
	C	0.80	13.31	0.060	-	0.0	0.1	0.9	-	0.080
<b>Segment : 2 - 08:00 to 08:15</b>	A	1.12	14.47	0.078	-	0.1	0.1	1.2	-	0.075
	B	0.31	17.48	0.018	-	0.0	0.0	0.3	-	0.058
	C	0.96	13.30	0.072	-	0.1	0.1	1.1	-	0.081
<b>Segment : 3 - 08:15 to 08:30</b>	A	1.38	14.45	0.095	-	0.1	0.1	1.5	-	0.076
	B	0.39	17.45	0.022	-	0.0	0.0	0.3	-	0.059
	C	1.17	13.28	0.088	-	0.1	0.1	1.4	-	0.083
<b>Segment : 4 - 08:30 to 08:45</b>	A	1.38	14.45	0.095	-	0.1	0.1	1.6	-	0.076
	B	0.39	17.45	0.022	-	0.0	0.0	0.3	-	0.059
	C	1.17	13.28	0.088	-	0.1	0.1	1.4	-	0.083
<b>Segment : 5 - 08:45 to 09:00</b>	A	1.12	14.47	0.078	-	0.1	0.1	1.3	-	0.075
	B	0.31	17.48	0.018	-	0.0	0.0	0.3	-	0.058
	C	0.96	13.30	0.072	-	0.1	0.1	1.2	-	0.081
<b>Segment : 6 - 09:00 to 09:15</b>	A	0.94	14.48	0.065	-	0.1	0.1	1.1	-	0.074
	B	0.26	17.51	0.015	-	0.0	0.0	0.2	-	0.058
	C	0.80	13.31	0.060	-	0.1	0.1	1.0	-	0.080

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc1 - 2031 DS\Junction 4 - Over Road\_Hattons Road roundabout\J4 - 2031 Sc1 DS - Over Road\_Hattons Road 2014 PM Peak ODTAB.vai

At: 15:58:11 on Friday, August 15, 2014

Mode: Drive On The Left

Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Over Road (e)
Arm B	Hattons Road
Arm C	Over Road (nw)

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 4 - Over Road - Hattons Road
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	07/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.65	2.50
Entry Width (m)	3.00	3.65	3.00
Flare Length (m)	0.00	0.00	1.00
Entry Radius (m)	34.00	17.00	34.00
Inscribed Circle Diameter (m)	30.00	40.00	24.00
Entry Angle (degrees)	40.00	40.00	40.00
Slope	0.489	0.501	0.473
Intercept (PCU/Min)	14.929	17.634	13.398

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **16:45 to 18:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS Sc1 PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	1.0	21.0	27.0
Arm B	50.0	1.0	14.0
Arm C	17.0	17.0	0.0

### Entry Flow Data for Demand Set: 2031 DS Sc1 PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.61	0.92	0.61
Arm B	15.00	45.00	75.00	0.81	1.22	0.81
Arm C	15.00	45.00	75.00	0.43	0.64	0.43

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.


### Heavy Vehicle Percentages for Demand Set: 2031 DS Sc1 PM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	100.0	0.0
	Arm C	0.0	0.0	0.0

**Queues and Delay:**

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 16:45 to 17:00</b>	A	0.61	14.81	0.042	-	0.0	0.0	0.6	-	0.070
	B	0.82	17.19	0.047	-	0.0	0.0	0.7	-	0.061
	C	0.43	13.08	0.033	-	0.0	0.0	0.5	-	0.079
<b>Segment : 2 - 17:00 to 17:15</b>	A	0.73	14.79	0.050	-	0.0	0.1	0.8	-	0.071
	B	0.97	17.16	0.057	-	0.0	0.1	0.9	-	0.062
	C	0.51	13.02	0.039	-	0.0	0.0	0.6	-	0.080
<b>Segment : 3 - 17:15 to 17:30</b>	A	0.90	14.76	0.061	-	0.1	0.1	1.0	-	0.072
	B	1.19	17.11	0.070	-	0.1	0.1	1.1	-	0.063
	C	0.62	12.94	0.048	-	0.0	0.1	0.7	-	0.081
<b>Segment : 4 - 17:30 to 17:45</b>	A	0.90	14.76	0.061	-	0.1	0.1	1.0	-	0.072
	B	1.19	17.11	0.070	-	0.1	0.1	1.1	-	0.063
	C	0.62	12.94	0.048	-	0.1	0.1	0.8	-	0.081
<b>Segment : 5 - 17:45 to 18:00</b>	A	0.73	14.79	0.050	-	0.1	0.1	0.8	-	0.071
	B	0.97	17.16	0.057	-	0.1	0.1	0.9	-	0.062
	C	0.51	13.02	0.039	-	0.1	0.0	0.6	-	0.080
<b>Segment : 6 - 18:00 to 18:15</b>	A	0.61	14.81	0.042	-	0.1	0.0	0.7	-	0.071
	B	0.82	17.19	0.047	-	0.1	0.1	0.8	-	0.061
	C	0.43	13.08	0.033	-	0.0	0.0	0.5	-	0.079

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\Junction 5 - High Street\_Over Road mini roundabout\J5 - High St\_Over Rd\_ 2031 Sc1 DS AM Peak.vai  
At: 16:03:52 on Wednesday, May 14, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	High Street (N)
Arm B	High Street (S)
Arm C	Over Road

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 5 - High Street & Over Road mini roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Mini-Roundabout Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.00	3.00	3.00
Flare Length (m)	0.00	0.00	0.00
Minimum Approach Half-Width (m)	3.00	3.00	3.00
Distance Between Arm and Next Arm (m)	16.00	15.00	14.00
Kerb Line Distance (m)	17.00	13.00	13.00
Gradient (%)	0.00	0.00	0.00
Kerbed Central Island	No	No	No
Slope	0.633	0.521	0.521
Intercept (PCU/Min)	12.999	11.376	10.666

Lighting Conditions: **Normal**  
Road Surface Conditions: **Normal**

## Demand Data

Demand Profiles are Synthesised using **DIRECT** Data  
Period of interest (for Queue and Delay calculations): **08:00 to 09:00**  
Length of Time Period: **60 min**  
Length of Time Segment: **15 min**

### Direct Data for Demand Set: 2031 DS Sc1 AM Peak (0800-0900)

Time Period	Arm	Demand Data (Veh/Min)
Segment : 1 - 08:00 to 08:15	A	1.33
	B	1.58
	C	0.17
Segment : 2 - 08:15 to 08:30	A	1.33
	B	1.58
	C	0.17
Segment : 3 - 08:30 to 08:45	A	1.33
	B	1.58
	C	0.17
Segment : 4 - 08:45 to 09:00	A	1.33
	B	1.58
	C	0.17

### Turning Proportions for Demand Set: 2031 DS Sc1 AM Peak (0800-0900)

Turning proportions vary over entry and calculated from turning count data (shaded)

Time Period	From/To	Arm A	Arm B	Arm C
08:00 to 09:00	Arm A	0.000	0.863	0.138
		0.0	69.0	11.0
	Arm B	1.000	0.000	0.000
		95.0	0.0	0.0
	Arm C	1.000	0.000	0.000
		10.0	0.0	0.0

### Heavy Vehicle Percentages for Demand Set: 2031 DS Sc1 AM Peak (0800-0900)

Vary over entry


Time Period	From/To	Arm A	Arm B	Arm C
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08:00 to 09:00	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

### Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 08:00 to 08:15	A	1.33	13.00	0.102	-	0.0	0.1	1.7	-	0.086
	B	1.58	11.28	0.140	-	0.0	0.2	2.3	-	0.103
	C	0.17	9.84	0.017	-	0.0	0.0	0.3	-	0.103
Segment : 2 - 08:15 to 08:30	A	1.33	13.00	0.102	-	0.1	0.1	1.7	-	0.086
	B	1.58	11.28	0.140	-	0.2	0.2	2.4	-	0.103
	C	0.17	9.84	0.017	-	0.0	0.0	0.3	-	0.103
Segment : 3 - 08:30 to 08:45	A	1.33	13.00	0.102	-	0.1	0.1	1.7	-	0.086
	B	1.58	11.28	0.140	-	0.2	0.2	2.4	-	0.103
	C	0.17	9.84	0.017	-	0.0	0.0	0.3	-	0.103
Segment : 4 - 08:45 to 09:00	A	1.33	13.00	0.102	-	0.1	0.1	1.7	-	0.086
	B	1.58	11.28	0.140	-	0.2	0.2	2.4	-	0.103
	C	0.17	9.84	0.017	-	0.0	0.0	0.3	-	0.103

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\Junction 5 - High Street\_Over Road mini roundabout\J5 - High St\_Over Rd\_ 2031 Sc1 DS PM Peak.vai  
 At: 16:21:17 on Wednesday, May 14, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	High Street (N)
Arm B	High Street (S)
Arm C	Over Road

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 5 - High Street & Over Road mini roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Mini-Roundabout Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.00	3.00	3.00
Flare Length (m)	0.00	0.00	0.00
Minimum Approach Half-Width (m)	3.00	3.00	3.00
Distance Between Arm and Next Arm (m)	16.00	15.00	14.00
Kerb Line Distance (m)	17.00	13.00	13.00
Gradient (%)	0.00	0.00	0.00
Kerbed Central Island	No	No	No
Slope	0.633	0.521	0.521
Intercept (PCU/Min)	12.999	11.376	10.666

Lighting Conditions: **Normal**  
Road Surface Conditions: **Normal**

## Demand Data

Demand Profiles are Synthesised using **DIRECT** Data  
Period of interest (for Queue and Delay calculations): **17:00 to 18:00**  
Length of Time Period: **60 min**  
Length of Time Segment: **15 min**

### Direct Data for Demand Set: 2031 DS Sc1 PM Peak (1700-1800)

Time Period	Arm	Demand Data (Veh/Min)
Segment : 1 - 17:00 to 17:15	A	2.05
	B	1.56
	C	0.28
Segment : 2 - 17:15 to 17:30	A	2.05
	B	1.56
	C	0.28
Segment : 3 - 17:30 to 17:45	A	2.05
	B	1.56
	C	0.28
Segment : 4 - 17:45 to 18:00	A	2.05
	B	1.56
	C	0.28

### Turning Proportions for Demand Set: 2031 DS Sc1 PM Peak (1700-1800)

Turning proportions vary over entry and calculated from turning count data (shaded)

Time Period	From/To	Arm A	Arm B	Arm C
17:00 to 18:00	Arm A	0.000	0.886	0.114
		0.0	109.0	14.0
	Arm B	1.000	0.000	0.000
		94.0	0.0	0.0
	Arm C	1.000	0.000	0.000
		17.0	0.0	0.0

### Heavy Vehicle Percentages for Demand Set: 2031 DS Sc1 PM Peak (1700-1800)


Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
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17:00 to 18:00	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

### Queues and Delay:

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
Segment : 1 - 17:00 to 17:15	A	2.05	13.00	0.158	-	0.0	0.2	2.7	-	0.091
	B	1.56	11.25	0.139	-	0.0	0.2	2.3	-	0.103
	C	0.28	9.85	0.028	-	0.0	0.0	0.4	-	0.104
Segment : 2 - 17:15 to 17:30	A	2.05	13.00	0.158	-	0.2	0.2	2.8	-	0.091
	B	1.56	11.25	0.139	-	0.2	0.2	2.4	-	0.103
	C	0.28	9.85	0.028	-	0.0	0.0	0.4	-	0.104
Segment : 3 - 17:30 to 17:45	A	2.05	13.00	0.158	-	0.2	0.2	2.8	-	0.091
	B	1.56	11.25	0.139	-	0.2	0.2	2.4	-	0.103
	C	0.28	9.85	0.028	-	0.0	0.0	0.4	-	0.104
Segment : 4 - 17:45 to 18:00	A	2.05	13.00	0.158	-	0.2	0.2	2.8	-	0.091
	B	1.56	11.25	0.139	-	0.2	0.2	2.4	-	0.103
	C	0.28	9.85	0.028	-	0.0	0.0	0.4	-	0.104

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\Junction 6 - Station Rd\_B1050 roundabout\J6 - Station Rd\_B1050 - 2031 Sc1 DS AM Peak.vai  
At: 08:59:58 on Thursday, May 15, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Farm Access
Arm B	Station Road (e)
Arm C	Station Road (s)
Arm D	B1050 (w)

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

## File Properties

<b>Run Title</b>	Junction 6 - Station Road / B1050 roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	2.50	3.65	3.00	3.65
Entry Width (m)	3.00	3.65	6.50	3.65
Flare Length (m)	1.00	0.00	6.00	0.00
Entry Radius (m)	10.00	45.00	25.00	45.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00	45.00
Entry Angle (degrees)	30.00	30.00	44.00	30.00
Slope	0.433	0.526	0.524	0.526
Intercept (PCU/Min)	12.931	18.933	20.489	18.933

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **07:45 to 09:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS Sc1 AM Peak (0800-0900)

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	0.0	0.0
Arm B	0.0	0.0	51.0	833.0
Arm C	0.0	91.0	0.0	20.0
Arm D	0.0	719.0	12.0	0.0

### Entry Flow Data for Demand Set: 2031 DS Sc1 AM Peak (0800-0900)

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.00	0.00	0.00
Arm B	15.00	45.00	75.00	11.05	16.58	11.05
Arm C	15.00	45.00	75.00	1.39	2.08	1.39
Arm D	15.00	45.00	75.00	9.14	13.71	9.14


## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 DS Sc1 AM Peak (0800-0900)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
07:45 to 09:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0
	Arm D	0.0	0.0	0.0	0.0

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\Junction 6 - Station Rd\_B1050 roundabout\J6 - Station Rd\_B1050 - 2031 Sc1 DS PM Peak.vai  
 At: 09:16:15 on Thursday, May 15, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Farm Access
Arm B	Station Road (e)
Arm C	Station Road (s)
Arm D	B1050 (w)

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100
Arm D	100

## File Properties

<b>Run Title</b>	Junction 6 - Station Road / B1050 roundabout
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C	Arm D
Approach Road Half-Width (m)	2.50	3.65	3.00	3.65
Entry Width (m)	3.00	3.65	6.50	3.65
Flare Length (m)	1.00	0.00	6.00	0.00
Entry Radius (m)	10.00	45.00	25.00	45.00
Inscribed Circle Diameter (m)	45.00	45.00	45.00	45.00
Entry Angle (degrees)	30.00	30.00	44.00	30.00
Slope	0.433	0.526	0.524	0.526
Intercept (PCU/Min)	12.931	18.933	20.489	18.933

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data  
 Period of interest (for Queue and Delay calculations): **16:45 to 18:15**  
 Length of Time Period: **90 min**  
 Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS Sc1 PM Peak (1700-1800)

From/To	Arm A	Arm B	Arm C	Arm D
Arm A	0.0	0.0	0.0	0.0
Arm B	0.0	0.0	99.0	784.0
Arm C	0.0	80.0	0.0	22.0
Arm D	0.0	908.0	22.0	0.0

### Entry Flow Data for Demand Set: 2031 DS Sc1 PM Peak (1700-1800)

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	0.00	0.00	0.00
Arm B	15.00	45.00	75.00	11.04	16.56	11.04
Arm C	15.00	45.00	75.00	1.27	1.91	1.27
Arm D	15.00	45.00	75.00	11.63	17.44	11.63

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 DS Sc1 PM Peak (1700-1800)

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C	Arm D
16:45 to 18:15	Arm A	0.0	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0	0.0
	Arm D	0.0	0.0	0.0	0.0




**Queues and Delay:**

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 16:45 to 17:00</b>	A	0.00	7.50	0.000	-	0.0	0.0	0.0	-	0.000
	B	11.08	18.79	0.590	-	0.0	1.4	19.9	-	0.127
	C	1.28	15.37	0.083	-	0.0	0.1	1.3	-	0.071
	D	11.67	18.41	0.634	-	0.0	1.7	23.6	-	0.144
<b>Segment : 2 - 17:00 to 17:15</b>	A	0.00	6.42	0.000	-	0.0	0.0	0.0	-	0.000
	B	13.23	18.76	0.705	-	1.4	2.3	32.4	-	0.177
	C	1.53	14.36	0.106	-	0.1	0.1	1.7	-	0.078
	D	13.93	18.30	0.761	-	1.7	3.0	41.5	-	0.220
<b>Segment : 3 - 17:15 to 17:30</b>	A	0.00	5.10	0.000	-	0.0	0.0	0.0	-	0.000
	B	16.20	18.73	<b>0.865</b>	-	2.3	5.5	70.9	-	0.340
	C	1.87	13.04	0.143	-	0.1	0.2	2.4	-	0.089
	D	17.07	18.16	<b>0.940</b>	-	3.0	9.7	112.2	-	0.538
<b>Segment : 4 - 17:30 to 17:45</b>	A	0.00	4.96	0.000	-	0.0	0.0	0.0	-	0.000
	B	16.20	18.72	<b>0.865</b>	-	5.5	5.9	86.2	-	0.382
	C	1.87	12.96	0.144	-	0.2	0.2	2.5	-	0.090
	D	17.07	18.16	<b>0.940</b>	-	9.7	11.4	159.5	-	0.716
<b>Segment : 5 - 17:45 to 18:00</b>	A	0.00	6.15	0.000	-	0.0	0.0	0.0	-	0.000
	B	13.23	18.75	0.705	-	5.9	2.5	41.3	-	0.196
	C	1.53	14.22	0.107	-	0.2	0.1	1.9	-	0.079
	D	13.93	18.30	0.761	-	11.4	3.4	65.0	-	0.291
<b>Segment : 6 - 18:00 to 18:15</b>	A	0.00	7.40	0.000	-	0.0	0.0	0.0	-	0.000
	B	11.08	18.79	0.590	-	2.5	1.5	23.1	-	0.132
	C	1.28	15.30	0.084	-	0.1	0.1	1.4	-	0.071
	D	11.67	18.40	0.634	-	3.4	1.8	28.3	-	0.153

**Queues and Delay:**

Segment	Arm	Demand (Veh / Min)	Capacity (Veh / Min)	Demand / Capacity (RFC)	Ped Flow (Ped / Min)	Start Queue (Veh)	End Queue (Veh)	Delay (Veh.Min / Time Segment)	Geometric Delay (Veh.Min / Time Segment)	Arrival Delay (Min / Veh)
<b>Segment : 1 - 07:45 to 08:00</b>	A	0.00	8.50	0.000	-	0.0	0.0	0.0	-	0.000
	B	11.09	18.85	0.588	-	0.0	1.4	19.8	-	0.126
	C	1.39	15.05	0.093	-	0.0	0.1	1.5	-	0.073
	D	9.17	18.34	0.500	-	0.0	1.0	14.1	-	0.108
<b>Segment : 2 - 08:00 to 08:15</b>	A	0.00	7.61	0.000	-	0.0	0.0	0.0	-	0.000
	B	13.24	18.84	0.703	-	1.4	2.3	32.1	-	0.175
	C	1.66	13.97	0.119	-	0.1	0.1	2.0	-	0.081
	D	10.95	18.22	0.601	-	1.0	1.5	21.2	-	0.136
<b>Segment : 3 - 08:15 to 08:30</b>	A	0.00	6.44	0.000	-	0.0	0.0	0.0	-	0.000
	B	16.22	18.82	<b>0.862</b>	-	2.3	5.4	69.7	-	0.334
	C	2.04	12.58	0.162	-	0.1	0.2	2.8	-	0.095
	D	13.41	18.06	0.743	-	1.5	2.7	38.0	-	0.208
<b>Segment : 4 - 08:30 to 08:45</b>	A	0.00	6.40	0.000	-	0.0	0.0	0.0	-	0.000
	B	16.22	18.82	<b>0.862</b>	-	5.4	5.8	84.2	-	0.373
	C	2.04	12.48	0.163	-	0.2	0.2	2.9	-	0.096
	D	13.41	18.06	0.743	-	2.7	2.8	41.8	-	0.214
<b>Segment : 5 - 08:45 to 09:00</b>	A	0.00	7.56	0.000	-	0.0	0.0	0.0	-	0.000
	B	13.24	18.84	0.703	-	5.8	2.5	40.7	-	0.193
	C	1.66	13.83	0.120	-	0.2	0.1	2.1	-	0.082
	D	10.95	18.21	0.601	-	2.8	1.5	24.4	-	0.141
<b>Segment : 6 - 09:00 to 09:15</b>	A	0.00	8.45	0.000	-	0.0	0.0	0.0	-	0.000
	B	11.09	18.85	0.588	-	2.5	1.5	23.0	-	0.131
	C	1.39	14.97	0.093	-	0.1	0.1	1.6	-	0.074
	D	9.17	18.33	0.500	-	1.5	1.0	15.8	-	0.110

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\Junction 7 - B1050\_Ramper Road roundabout\J7 - B1050\_Ramper Rd 2031 Sc1 DS AM Peak (0800-0900) ODTAB.vai  
 At: 08:38:01 on Wednesday, May 14, 2014  
 Mode: Drive On The Left  
 Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 (e)
Arm B	B1050 (s)
Arm C	Ramper Road

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 7 - B1050- Ramper Road
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.65	3.65	3.65
Entry Width (m)	3.65	3.65	3.65
Flare Length (m)	0.00	0.00	0.00
Entry Radius (m)	27.90	21.00	46.00
Inscribed Circle Diameter (m)	52.00	52.00	52.00
Entry Angle (degrees)	29.00	35.00	20.00
Slope	0.497	0.481	0.519
Intercept (PCU/Min)	18.752	18.156	19.582

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 Sc1 DS - AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	609.0	245.0
Arm B	387.0	0.0	56.0
Arm C	344.0	180.0	0.0

### Entry Flow Data for Demand Set: 2031 Sc1 DS - AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	10.68	16.01	10.68
Arm B	15.00	45.00	75.00	5.54	8.31	5.54
Arm C	15.00	45.00	75.00	6.55	9.83	6.55

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 Sc1 DS - AM Peak


Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

## Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 07:45 to 08:00	A	10.72	17.64	0.608	-	0.0	1.5	21.3	-	0.141
	B	5.56	16.69	0.333	-	0.0	0.5	7.2	-	0.089
	C	6.57	17.08	0.385	-	0.0	0.6	9.0	-	0.094
Segment : 2 - 08:00 to 08:15	A	12.80	17.41	0.735	-	1.5	2.6	36.6	-	0.210
	B	6.64	16.40	0.405	-	0.5	0.7	9.8	-	0.102
	C	7.85	16.58	0.474	-	0.6	0.9	12.9	-	0.114
Segment : 3 - 08:15 to 08:30	A	15.67	17.12	0.916	-	2.6	7.8	94.0	-	0.484
	B	8.13	16.04	0.507	-	0.7	1.0	14.6	-	0.126
	C	9.62	15.91	0.605	-	0.9	1.5	21.2	-	0.157
Segment : 4 - 08:30 to 08:45	A	15.67	17.11	0.916	-	7.8	8.9	126.6	-	0.607
	B	8.13	16.00	0.508	-	1.0	1.0	15.3	-	0.127
	C	9.62	15.90	0.605	-	1.5	1.5	22.5	-	0.159
Segment : 5 - 08:45 to 09:00	A	12.80	17.40	0.735	-	8.9	2.9	52.7	-	0.257
	B	6.64	16.33	0.406	-	1.0	0.7	10.7	-	0.104
	C	7.85	16.56	0.474	-	1.5	0.9	14.3	-	0.116
Segment : 6 - 09:00 to 09:15	A	10.72	17.63	0.608	-	2.9	1.6	25.2	-	0.148
	B	5.56	16.66	0.334	-	0.7	0.5	7.8	-	0.090
	C	6.57	17.06	0.386	-	0.9	0.6	9.8	-	0.096

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\Junction 7 - B1050\_Ramper Road roundabout\J7 - B1050\_Ramper Rd 2031 Sc1 DS PM Peak (1700-1800) ODTAB.vai  
At: 08:37:21 on Wednesday, May 14, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	B1050 (e)
Arm B	B1050 (s)
Arm C	Ramper Road

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	Junction 7 - B1050- Ramper Road
<b>Location</b>	Longstanton (Northstowe)
<b>Date</b>	08/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.65	3.65	3.65
Entry Width (m)	3.65	3.65	3.65
Flare Length (m)	0.00	0.00	0.00
Entry Radius (m)	27.90	21.00	46.00
Inscribed Circle Diameter (m)	52.00	52.00	52.00
Entry Angle (degrees)	29.00	35.00	20.00
Slope	0.497	0.481	0.519
Intercept (PCU/Min)	18.752	18.156	19.582

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 Sc1 DS - PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	477.0	329.0
Arm B	669.0	0.0	163.0
Arm C	261.0	84.0	0.0

### Entry Flow Data for Demand Set: 2031 Sc1 DS - PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	10.07	15.11	10.07
Arm B	15.00	45.00	75.00	10.40	15.60	10.40
Arm C	15.00	45.00	75.00	4.31	6.47	4.31

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 Sc1 DS - PM Peak

Vary over entry



Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

## Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 16:45 to 17:00	A	10.11	18.23	0.555	-	0.0	1.2	17.4	-	0.121
	B	10.44	16.18	0.645	-	0.0	1.8	24.4	-	0.167
	C	4.33	15.27	0.283	-	0.0	0.4	5.7	-	0.091
Segment : 2 - 17:00 to 17:15	A	12.08	18.13	0.666	-	1.2	1.9	27.5	-	0.162
	B	12.47	15.79	0.789	-	1.8	3.5	46.6	-	0.282
	C	5.17	14.43	0.358	-	0.4	0.6	8.1	-	0.108
Segment : 3 - 17:15 to 17:30	A	14.79	17.99	0.822	-	1.9	4.2	55.6	-	0.286
	B	15.27	15.28	0.999	-	3.5	15.0	156.2	-	0.859
	C	6.33	13.53	0.468	-	0.6	0.9	12.5	-	0.138
Segment : 4 - 17:30 to 17:45	A	14.79	17.99	0.822	-	4.2	4.4	64.6	-	0.308
	B	15.27	15.25	1.001	-	15.0	21.3	275.5	-	1.404
	C	6.33	13.38	0.473	-	0.9	0.9	13.2	-	0.142
Segment : 5 - 17:45 to 18:00	A	12.08	18.12	0.666	-	4.4	2.1	33.4	-	0.174
	B	12.47	15.75	0.791	-	21.3	4.2	123.3	-	0.618
	C	5.17	13.90	0.372	-	0.9	0.6	9.3	-	0.115
Segment : 6 - 18:00 to 18:15	A	10.11	18.23	0.555	-	2.1	1.3	19.9	-	0.125
	B	10.44	16.16	0.646	-	4.2	1.9	30.7	-	0.184
	C	4.33	15.16	0.286	-	0.6	0.4	6.2	-	0.093



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## Run Analysis

Parameter	Values
File Run	\\H..\Junction 8 - Over Rd_Ramper Rd junction\J8 - Over Rd_Ramper Rd Jct 2031 DS.vpi
Date Run	24 July 2014
Time Run	13:53:25
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Ramper Road (w)	100
Arm B	Over Road	100
Arm C	Ramper Road (e)	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	Junction 8 - Over Road / Ramper Road junction
Location	Longstanton (Northstowe)
Date	09 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	6.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	3.00
Minor Road First Lane Width (m)	2.65
Minor Road Visibility To Right (m)	37
Minor Road Visibility To Left (m)	33
Major Road Right Turn Visibility (m)	100
Major Road Right Turn Blocks Traffic	No

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	488.729	0.089	0.225	0.142	0.321
B-C	624.550	0.096	0.242	-	-
C-B	686.890	0.266	0.266	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections

## Demand Data

### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15

### ODTAB Turning Counts

**Demand Set:** 2031 DS sc1 AM Peak

**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	85.0	216.0
Arm B	245.0	0.0	0.0
Arm C	279.0	0.0	0.0

**Demand Set:** 2031 DS sc1 PM Peak

**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	229.0	263.0
Arm B	181.0	0.0	0.0
Arm C	210.0	0.0	0.0

### ODTAB Synthesised Flows

**Demand Set:** 2031 DS sc1 AM Peak

**Modelling Period:** 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	3.763	08:30	5.644	09:00	3.763
Arm B	08:00	3.063	08:30	4.594	09:00	3.063
Arm C	08:00	3.487	08:30	5.231	09:00	3.487

### Heavy Vehicles Percentages

**Demand Set:** 2031 DS sc1 AM Peak

**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

**Demand Set:** 2031 DS sc1 PM Peak

**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

## Queues & Delays

**Demand Set:** 2031 DS sc1 AM Peak  
**Modelling Period:** 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	3.07	6.95	0.443	-	0.00	0.77	-	10.7	0.25
	C-A	3.50	-	-	-	-	-	-	-	-
	C-B	0.00	9.49	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.07	-	-	-	-	-	-	-	-
	A-C	2.71	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	3.67	6.71	0.547	-	0.77	1.16	-	16.3	0.32
	C-A	4.18	-	-	-	-	-	-	-	-
	C-B	0.00	9.32	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.27	-	-	-	-	-	-	-	-
	A-C	3.24	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	4.50	6.39	0.704	-	1.16	2.15	-	28.8	0.49
	C-A	5.12	-	-	-	-	-	-	-	-
	C-B	0.00	9.07	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.56	-	-	-	-	-	-	-	-
	A-C	3.96	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	4.50	6.39	0.704	-	2.15	2.25	-	33.1	0.52
	C-A	5.12	-	-	-	-	-	-	-	-
	C-B	0.00	9.07	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.56	-	-	-	-	-	-	-	-
	A-C	3.96	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	3.67	6.71	0.547	-	2.25	1.26	-	20.5	0.34
	C-A	4.18	-	-	-	-	-	-	-	-
	C-B	0.00	9.32	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.27	-	-	-	-	-	-	-	-
	A-C	3.24	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	3.07	6.95	0.443	-	1.26	0.82	-	13.0	0.26
	C-A	3.50	-	-	-	-	-	-	-	-
	C-B	0.00	9.49	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	1.07	-	-	-	-	-	-	-	-
	A-C	2.71	-	-	-	-	-	-	-	-

**Demand Set:** 2031 DS sc1 PM Peak

**Modelling Period:** 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	2.27	6.77	0.335	-	0.00	0.49	-	6.9	0.22
	C-A	2.63	-	-	-	-	-	-	-	-
	C-B	0.00	8.91	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	2.87	-	-	-	-	-	-	-	-
	A-C	3.30	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	2.71	6.51	0.417	-	0.49	0.69	-	9.9	0.26
	C-A	3.15	-	-	-	-	-	-	-	-
	C-B	0.00	8.62	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	3.43	-	-	-	-	-	-	-	-
	A-C	3.94	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	3.32	6.14	0.541	-	0.69	1.12	-	15.7	0.35
	C-A	3.85	-	-	-	-	-	-	-	-
	C-B	0.00	8.22	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	4.20	-	-	-	-	-	-	-	-
	A-C	4.83	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	3.32	6.14	0.541	-	1.12	1.15	-	17.1	0.35
	C-A	3.85	-	-	-	-	-	-	-	-
	C-B	0.00	8.22	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	4.20	-	-	-	-	-	-	-	-



	A-C	4.83	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	2.71	6.51	0.417	-	1.15	0.73	-	11.7	0.27
	C-A	3.15	-	-	-	-	-	-	-	-
	C-B	0.00	8.62	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	3.43	-	-	-	-	-	-	-	-
	A-C	3.94	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	2.27	6.77	0.335	-	0.73	0.52	-	8.1	0.22
	C-A	2.63	-	-	-	-	-	-	-	-
	C-B	0.00	8.91	0.000	-	0.00	0.00	-	0.0	0.00
	A-B	2.87	-	-	-	-	-	-	-	-
	A-C	3.30	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.

In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.

Delays marked with '###' could not be calculated.

### PICADY 5 Run Successful

<b>PICADY</b>		
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## Run Analysis

Parameter	Values
File Run	\\H..\Junction 9 - Boxworth End_Ramper Rd_Middlewatch (need)\J9 - Boxworth End_Ramper_Middlewatch Jct 2031 Sc2 DS.vpi
Date Run	24 July 2014
Time Run	13:58:27
Driving Side	Drive On The Left

## Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	Middlewatch	100
Arm B	Ramper Rd	100
Arm C	Boxworth End	100

## Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

## Run Information

Parameter	Values
Run Title	J9 - Boxworth End / Ramper Rd / Middlewatch
Location	Swavesey (Northstowe)
Date	10 April 2014
Enumerator	dca76340 [HCL57004]
Job Number	UA006156
Status	Preliminary
Client	HCA
Description	-

## Geometric Data

### Geometric Parameters

Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.00
Minor Road Visibility To Right (m)	16
Minor Road Visibility To Left (m)	13
Major Road Right Turn Visibility (m)	120
Major Road Right Turn Blocks Traffic	No

### Slope and Intercept Values

Stream	Intercept for Stream	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	489.728	0.085	0.216	0.136	0.308
B-C	634.009	0.093	0.235	-	-
C-B	643.456	0.238	0.238	-	-

Note: Streams may be combined in which case capacity will be adjusted  
These values do not allow for any site-specific corrections

## Demand Data

### Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	07:45-09:15	90	15
Second Modelling Period	16:45-18:15	90	15



### ODTAB Turning Counts

**Demand Set:** 2031 DS sc1 AM Peak  
**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	54.0	428.0
Arm B	62.0	0.0	154.0
Arm C	188.0	225.0	0.0

**Demand Set:** 2031 DS sc1 PM Peak  
**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	0.0	56.0	268.0
Arm B	116.0	0.0	147.0
Arm C	437.0	154.0	0.0

### ODTAB Synthesised Flows

**Demand Set:** 2031 DS sc1 AM Peak  
**Modelling Period:** 07:45-09:15

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	08:00	6.025	08:30	9.038	09:00	6.025
Arm B	08:00	2.700	08:30	4.050	09:00	2.700
Arm C	08:00	5.162	08:30	7.744	09:00	5.162

### Heavy Vehicles Percentages

**Demand Set:** 2031 DS sc1 AM Peak  
**Modelling Period:** 07:45-09:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

**Demand Set:** 2031 DS sc1 PM Peak  
**Modelling Period:** 16:45-18:15

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

## Queues & Delays

**Demand Set:** 2031 DS sc1 AM Peak

**Modelling Period:** 07:45-09:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
07:45-08:00	B-AC	2.71	7.87	0.344	-	0.00	0.51	-	7.3	0.19
	C-A	2.36	-	-	-	-	-	-	-	-
	C-B	2.82	9.28	0.304	-	0.00	0.43	-	6.2	0.15
	A-B	0.68	-	-	-	-	-	-	-	-
	A-C	5.37	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:00-08:15	B-AC	3.24	7.48	0.433	-	0.51	0.74	-	10.6	0.23
	C-A	2.82	-	-	-	-	-	-	-	-
	C-B	3.37	9.00	0.374	-	0.43	0.59	-	8.5	0.18
	A-B	0.81	-	-	-	-	-	-	-	-
	A-C	6.41	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:15-08:30	B-AC	3.96	6.92	0.573	-	0.74	1.28	-	17.8	0.33
	C-A	3.45	-	-	-	-	-	-	-	-
	C-B	4.13	8.62	0.479	-	0.59	0.90	-	12.8	0.22
	A-B	0.99	-	-	-	-	-	-	-	-
	A-C	7.85	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:30-08:45	B-AC	3.96	6.91	0.573	-	1.28	1.31	-	19.5	0.34
	C-A	3.45	-	-	-	-	-	-	-	-
	C-B	4.13	8.62	0.479	-	0.90	0.91	-	13.5	0.22
	A-B	0.99	-	-	-	-	-	-	-	-
	A-C	7.85	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
08:45-09:00	B-AC	3.24	7.47	0.433	-	1.31	0.78	-	12.5	0.24
	C-A	2.82	-	-	-	-	-	-	-	-
	C-B	3.37	9.00	0.374	-	0.91	0.61	-	9.5	0.18
	A-B	0.81	-	-	-	-	-	-	-	-
	A-C	6.41	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
09:00-09:15	B-AC	2.71	7.87	0.345	-	0.78	0.54	-	8.4	0.20
	C-A	2.36	-	-	-	-	-	-	-	-
	C-B	2.82	9.28	0.304	-	0.61	0.44	-	6.9	0.16
	A-B	0.68	-	-	-	-	-	-	-	-
	A-C	5.37	-	-	-	-	-	-	-	-

**Demand Set:** 2031 DS sc1 PM Peak  
**Modelling Period:** 16:45-18:15

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	3.30	7.66	0.431	-	0.00	0.74	-	10.3	0.22
	C-A	5.48	-	-	-	-	-	-	-	-
	C-B	1.93	9.75	0.198	-	0.00	0.24	-	3.5	0.13
	A-B	0.70	-	-	-	-	-	-	-	-
	A-C	3.36	-	-	-	-	-	-	-	-


Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	3.94	7.30	0.540	-	0.74	1.13	-	15.9	0.29
	C-A	6.55	-	-	-	-	-	-	-	-
	C-B	2.31	9.57	0.241	-	0.24	0.31	-	4.6	0.14
	A-B	0.84	-	-	-	-	-	-	-	-
	A-C	4.02	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	4.83	6.79	0.711	-	1.13	2.23	-	29.7	0.47
	C-A	8.02	-	-	-	-	-	-	-	-
	C-B	2.83	9.31	0.304	-	0.31	0.43	-	6.3	0.15
	A-B	1.03	-	-	-	-	-	-	-	-
	A-C	4.92	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	4.83	6.78	0.711	-	2.23	2.34	-	34.4	0.50
	C-A	8.02	-	-	-	-	-	-	-	-
	C-B	2.83	9.31	0.304	-	0.43	0.43	-	6.5	0.15
	A-B	1.03	-	-	-	-	-	-	-	-
	A-C	4.92	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
17:45-18:00	B-AC	3.94	7.29	0.540	-	2.34	1.22	-	19.9	0.31
	C-A	6.55	-	-	-	-	-	-	-	-
	C-B	2.31	9.57	0.241	-	0.43	0.32	-	5.0	0.14
	A-B	0.84	-	-	-	-	-	-	-	-
	A-C	4.02	-	-	-	-	-	-	-	-
Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/segment)	Delay (veh.min/segment)	Mean Arriving Vehicle Delay (min)
18:00-18:15	B-AC	3.30	7.65	0.431	-	1.22	0.78	-	12.3	0.23
	C-A	5.48	-	-	-	-	-	-	-	-
	C-B	1.93	9.75	0.198	-	0.32	0.25	-	3.8	0.13
	A-B	0.70	-	-	-	-	-	-	-	-
	A-C	3.36	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.  
 In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.  
 Delays marked with '###' could not be calculated.

### PICADY 5 Run Successful

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## Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc1 - 2031 DS\Junction 11 - Oakington Rd\_Rampton Rd\_mini Rbt (need)\J11 - Oakington Rd\_Rampton Rd 2031 DS - AM Peak Full roundabout ODTAB.vai  
At: 14:01:14 on Thursday, July 24, 2014  
Mode: Drive On The Left  
Units: Metric

## Arm Labelling

Arm	Full Arm Names
Arm A	Rampton Rd (NW)
Arm B	Rampton Rd (SE)
Arm C	Oakington Rd

## Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

## File Properties

<b>Run Title</b>	J11 - Oakington Rd / Rampton Rd Mini
<b>Location</b>	Cottenham
<b>Date</b>	10/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

## Errors and Warnings

[No errors or warnings]

## Geometric Data

Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.25	3.00	3.00
Flare Length (m)	1.00	0.00	0.00
Entry Radius (m)	85.00	15.00	20.00
Inscribed Circle Diameter (m)	15.00	15.00	15.00
Entry Angle (degrees)	38.00	40.00	44.00
Slope	0.516	0.477	0.478
Intercept (PCU/Min)	16.004	14.377	14.414

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **07:45 to 09:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS AM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	384.0	60.0
Arm B	206.0	0.0	568.0
Arm C	34.0	360.0	0.0

### Entry Flow Data for Demand Set: 2031 DS AM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	5.55	8.33	5.55
Arm B	15.00	45.00	75.00	9.68	14.51	9.68
Arm C	15.00	45.00	75.00	4.93	7.39	4.93

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 DS AM Peak


Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
07:45 to 09:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

## Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 07:45 to 08:00	A	5.57	13.69	0.407	-	0.0	0.7	9.7	-	0.122
	B	9.71	14.02	0.693	-	0.0	2.1	29.2	-	0.218
	C	4.94	13.20	0.375	-	0.0	0.6	8.5	-	0.120
Segment : 2 - 08:00 to 08:15	A	6.65	13.23	0.503	-	0.7	1.0	14.3	-	0.151
	B	11.60	13.95	0.831	-	2.1	4.3	56.6	-	0.378
	C	5.90	12.96	0.456	-	0.6	0.8	11.9	-	0.141
Segment : 3 - 08:15 to 08:30	A	8.15	12.61	0.646	-	1.0	1.8	24.6	-	0.219
	B	14.20	13.86	1.025	-	4.3	17.8	180.2	-	1.074
	C	7.23	12.72	0.568	-	0.8	1.3	18.3	-	0.180
Segment : 4 - 08:30 to 08:45	A	8.15	12.60	0.647	-	1.8	1.8	26.7	-	0.225
	B	14.20	13.85	1.025	-	17.8	26.7	336.2	-	1.838
	C	7.23	12.68	0.570	-	1.3	1.3	19.5	-	0.183
Segment : 5 - 08:45 to 09:00	A	6.65	13.21	0.504	-	1.8	1.0	16.3	-	0.155
	B	11.60	13.95	0.832	-	26.7	6.2	208.2	-	1.181
	C	5.90	12.77	0.462	-	1.3	0.9	13.7	-	0.147
Segment : 6 - 09:00 to 09:15	A	5.57	13.67	0.408	-	1.0	0.7	10.8	-	0.124
	B	9.71	14.02	0.693	-	6.2	2.4	40.6	-	0.261
	C	4.94	13.15	0.376	-	0.9	0.6	9.5	-	0.122

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### Run Information

Run with file:- k:\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Sc1 - 2031 DS\Junction 11 - Oakington Rd\_Rampton Rd\_mini Rbt (need)\J11 - Oakington Rd\_Rampton Rd 2031 DS - PM Peak Full roundabout ODTAB.vai  
At: 14:01:45 on Thursday, July 24, 2014  
Mode: Drive On The Left  
Units: Metric

### Arm Labelling

Arm	Full Arm Names
Arm A	Rampton Rd (NW)
Arm B	Rampton Rd (SE)
Arm C	Oakington Rd

### Flow Scaling Factor

Arm	Flow Scaling Factor (%)
Arm A	100
Arm B	100
Arm C	100

### File Properties

<b>Run Title</b>	J11 - Oakington Rd / Rampton Rd Mini
<b>Location</b>	Cottenham
<b>Date</b>	10/04/2014
<b>Client</b>	HCA
<b>Enumerator</b>	dca76340 [HCL57004]
<b>Job Number</b>	UA006156
<b>Status</b>	Preliminary
<b>Description</b>	

### Errors and Warnings

[No errors or warnings]

### Geometric Data



Data Item	Arm A	Arm B	Arm C
Approach Road Half-Width (m)	3.00	3.00	3.00
Entry Width (m)	3.25	3.00	3.00
Flare Length (m)	1.00	0.00	0.00
Entry Radius (m)	85.00	15.00	20.00
Inscribed Circle Diameter (m)	15.00	15.00	15.00
Entry Angle (degrees)	38.00	40.00	44.00
Slope	0.516	0.477	0.478
Intercept (PCU/Min)	16.004	14.377	14.414

## Demand Data

Demand Profiles are Synthesised using **ODTAB** Data

Period of interest (for Queue and Delay calculations): **16:45 to 18:15**

Length of Time Period: **90 min**

Length of Time Segment: **15 min**

### Total Traffic Demand (Vehicles/Hour) for Demand Set: 2031 DS PM Peak

From/To	Arm A	Arm B	Arm C
Arm A	0.0	147.0	41.0
Arm B	428.0	0.0	470.0
Arm C	77.0	430.0	0.0

### Entry Flow Data for Demand Set: 2031 DS PM Peak

Arms	Number of Minutes From Start When			Rate of flow (Veh/Min)		
	Flow Starts To Rise	Top of Peak is Reached	Flow Stops Falling	Before Peak	At Top of Peak	After Peak
Arm A	15.00	45.00	75.00	2.35	3.52	2.35
Arm B	15.00	45.00	75.00	11.23	16.84	11.23
Arm C	15.00	45.00	75.00	6.34	9.51	6.34

## Turning Proportions

ODTAB Demand Data type is used, no turning proportions available.

### Heavy Vehicle Percentages for Demand Set: 2031 DS PM Peak

Vary over entry

Time Period	From/To	Arm A	Arm B	Arm C
16:45 to 18:15	Arm A	0.0	0.0	0.0
	Arm B	0.0	0.0	0.0
	Arm C	0.0	0.0	0.0

## Queues and Delay:

		Demand	Capacity	Demand /	Ped Flow	Start	End	Delay (Veh.Min /	Geometric Delay	Arrival Delay

Segment	Arm	(Veh / Min)	(Veh / Min)	Capacity (RFC)	(Ped / Min)	Queue (Veh)	Queue (Veh)	Time Segment)	(Veh.Min / Time Segment)	(Min / Veh)
Segment : 1 - 16:45 to 17:00	A	2.36	13.25	0.178	-	0.0	0.2	3.1	-	0.092
	B	11.27	14.13	0.797	-	0.0	3.6	45.8	-	0.303
	C	6.36	11.90	0.534	-	0.0	1.1	15.7	-	0.176
Segment : 2 - 17:00 to 17:15	A	2.82	12.71	0.222	-	0.2	0.3	4.1	-	0.101
	B	13.45	14.09	<b>0.955</b>	-	3.6	10.2	116.8	-	0.724
	C	7.60	11.45	0.663	-	1.1	1.9	26.2	-	0.252
Segment : 3 - 17:15 to 17:30	A	3.45	12.00	0.287	-	0.3	0.4	5.8	-	0.117
	B	16.48	14.02	<b>1.175</b>	-	10.2	48.7	446.6	-	2.340
	C	9.30	11.25	0.827	-	1.9	4.1	53.1	-	0.448
Segment : 4 - 17:30 to 17:45	A	3.45	11.94	0.289	-	0.4	0.4	6.0	-	0.118
	B	16.48	14.02	<b>1.175</b>	-	48.7	85.9	1009.5	-	4.960
	C	9.30	11.23	0.829	-	4.1	4.4	64.5	-	0.502
Segment : 5 - 17:45 to 18:00	A	2.82	12.62	0.223	-	0.4	0.3	4.5	-	0.102
	B	13.45	14.08	<b>0.955</b>	-	85.9	78.9	1235.4	-	5.920
	C	7.60	11.24	0.676	-	4.4	2.2	36.2	-	0.297
Segment : 6 - 18:00 to 18:15	A	2.36	13.20	0.179	-	0.3	0.2	3.4	-	0.092
	B	11.27	14.13	0.797	-	78.9	38.6	880.6	-	4.257
	C	6.36	11.24	0.566	-	2.2	1.3	21.4	-	0.210

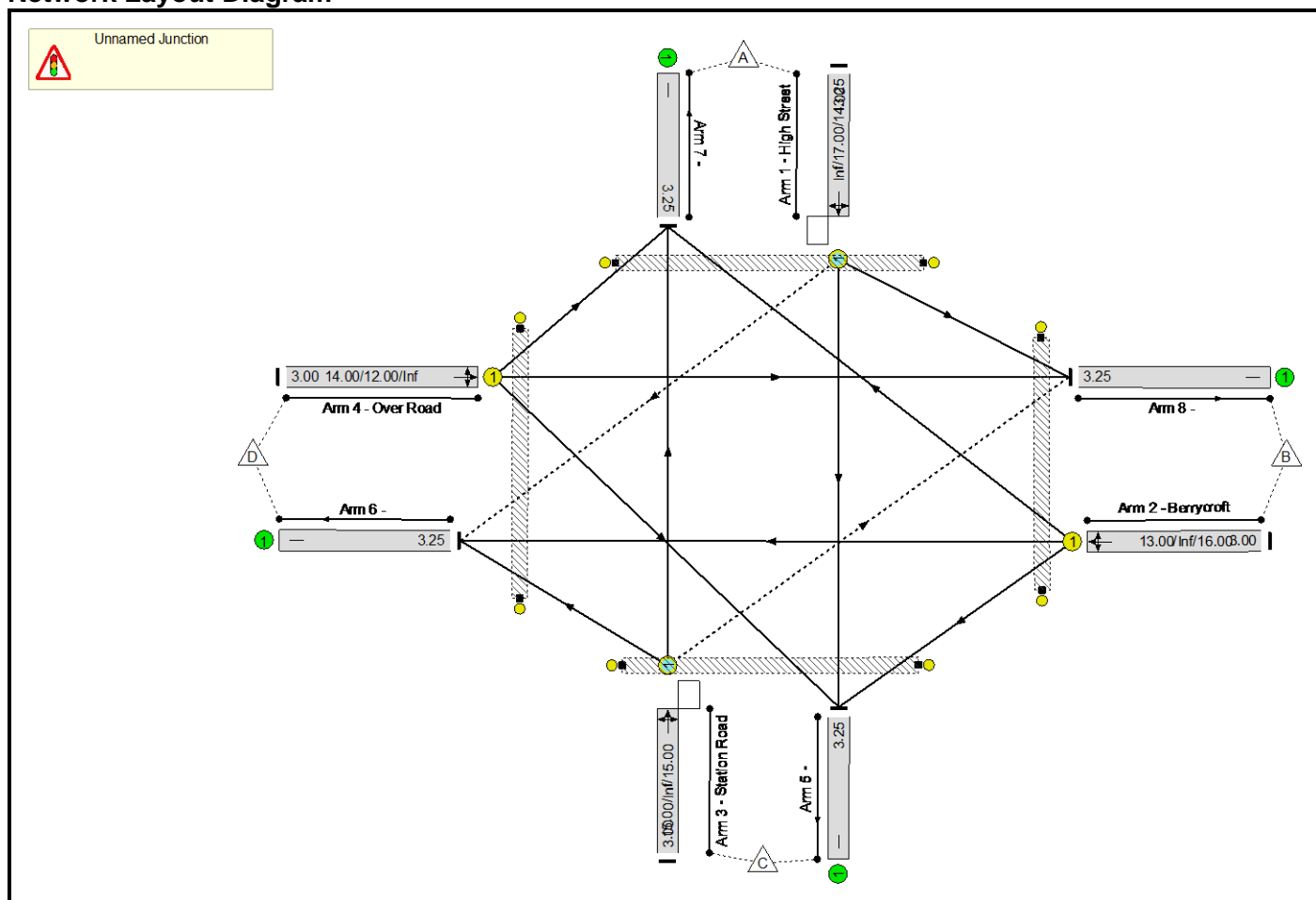
Basic Results Summary  
**Basic Results Summary**

**User and Project Details**

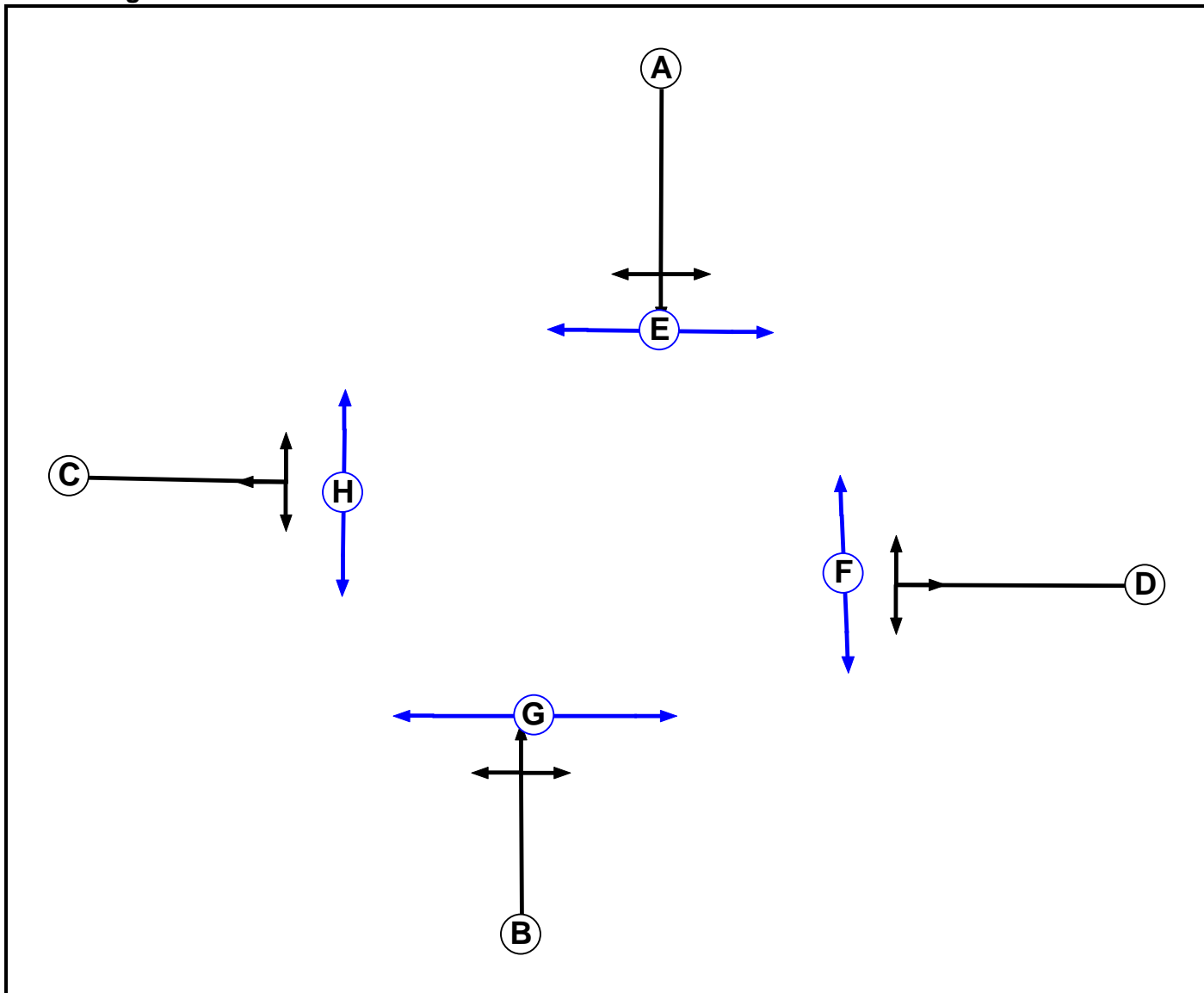
Project:	Northstowe
Title:	High St / Station Road / Over Road / Berrycroft
Location:	Willingham
File name:	J12 - High St_Station Rd_Over Rd_Berrycroft 2031 Sc2 DM.lsg3x
Author:	DRC
Company:	Hyder
Address:	Cardiff
Notes:	

**Scenario 3: '2031 DS AM Peak'** (FG3: '2031 DS AM Peak', Plan 1: 'Network Control Plan 1')

**Network Layout Diagram**



Phase Diagram

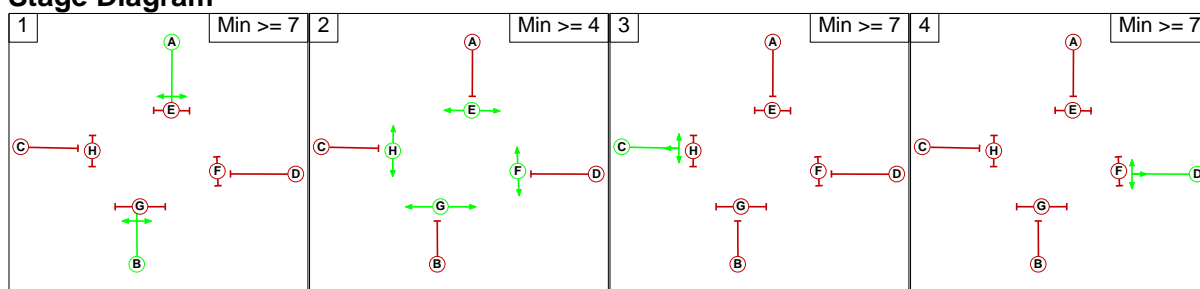


# Basic Results Summary

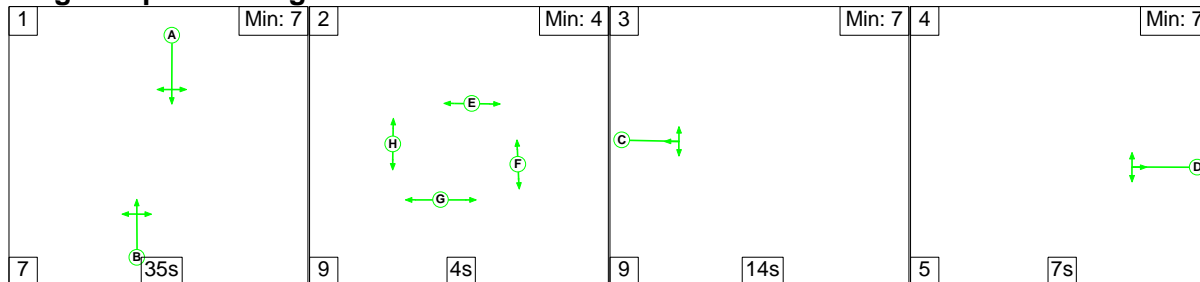
## Phase Intergreens Matrix

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	9	9	9	9	9	9	9
B	-	-	9	9	9	9	9	9
C	7	7	-	5	9	9	9	9
D	7	7	5	-	9	9	9	9
E	9	9	9	9	-	-	-	-
F	9	9	9	9	-	-	-	-
G	9	9	9	9	-	-	-	-
H	9	9	9	9	-	-	-	-

## Stage Diagram



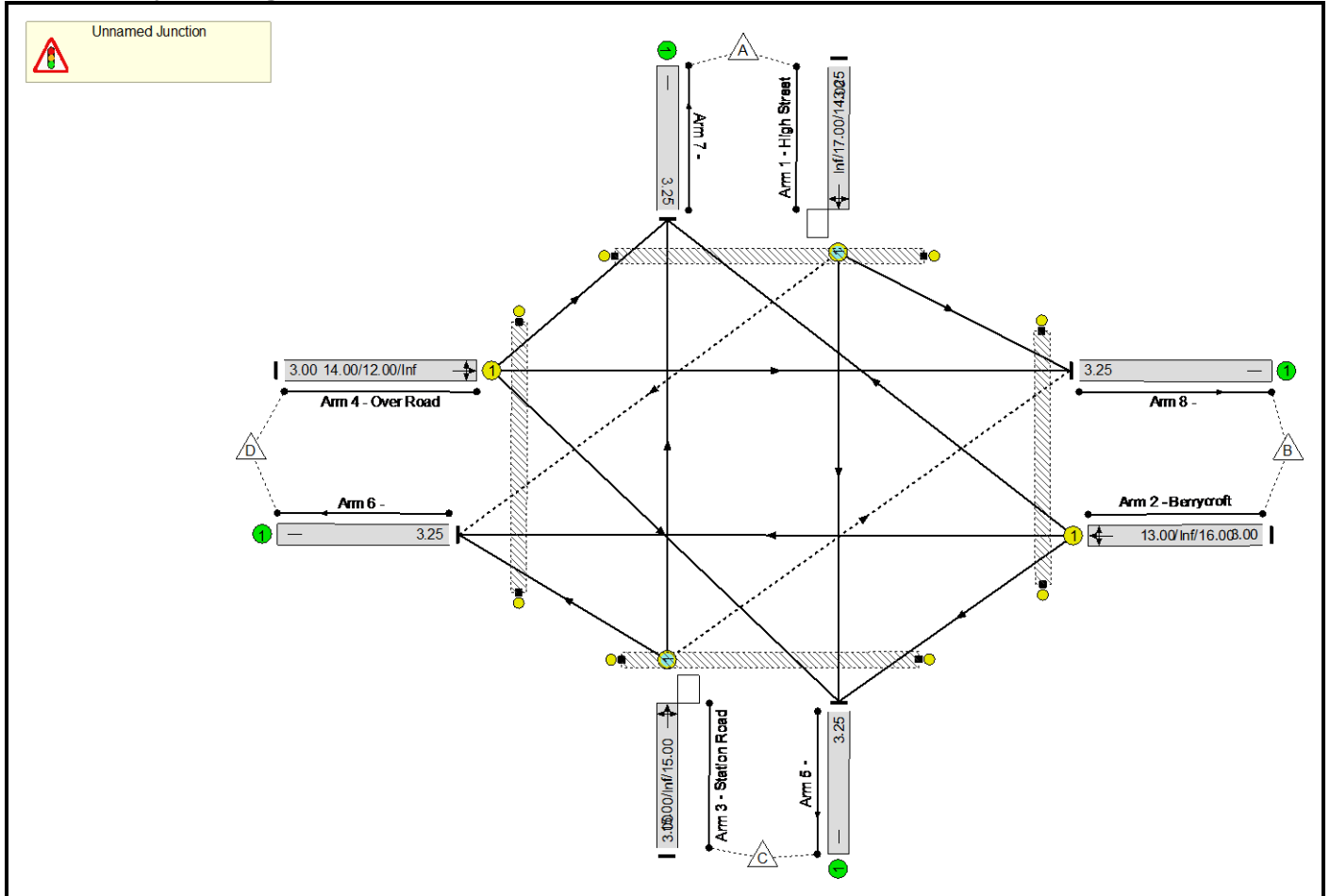
## Stage Sequence Diagram



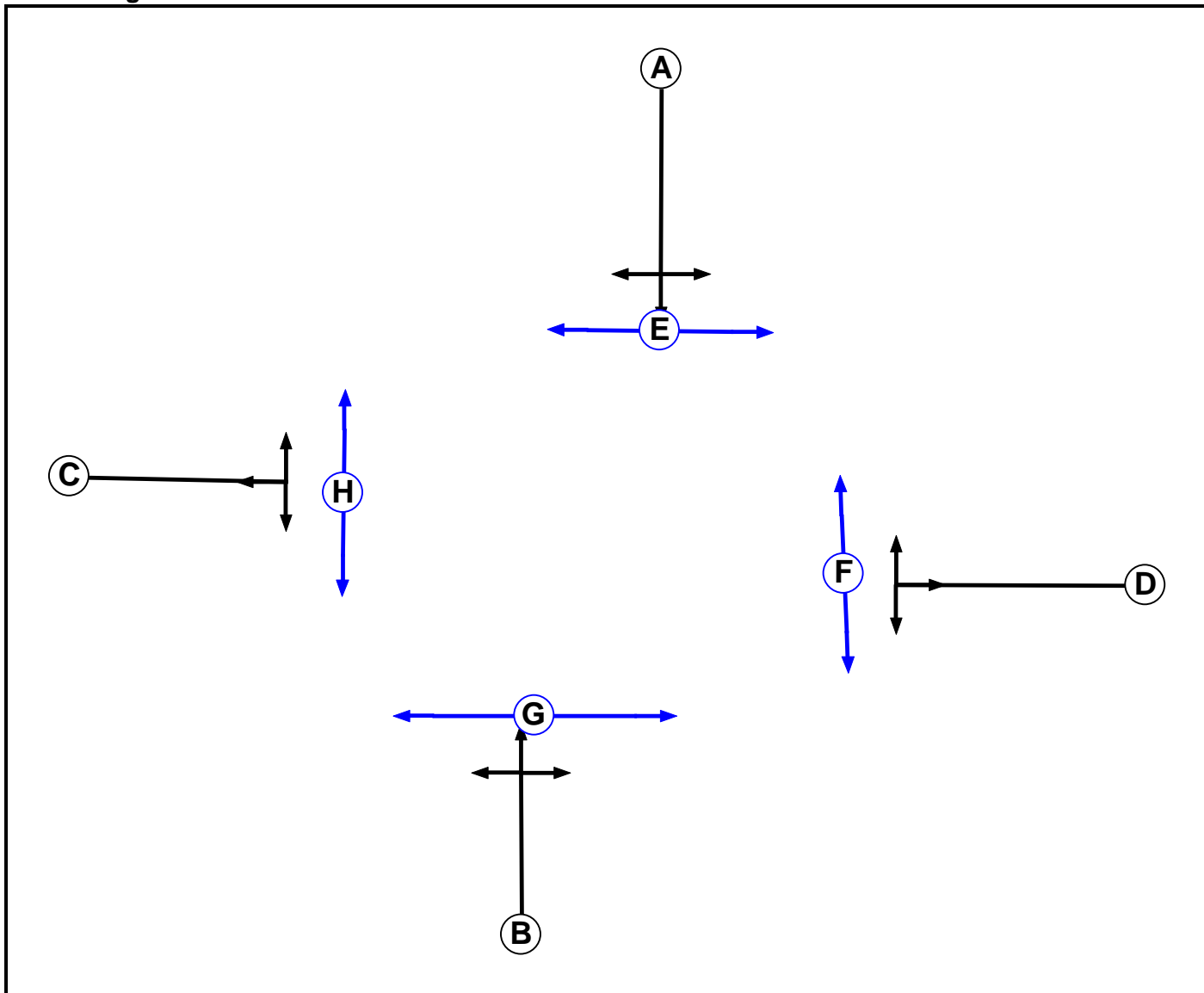
Basic Results Summary

Scenario 4: '2031 DS PM Peak' (FG4: '2031 DS PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Phase Diagram

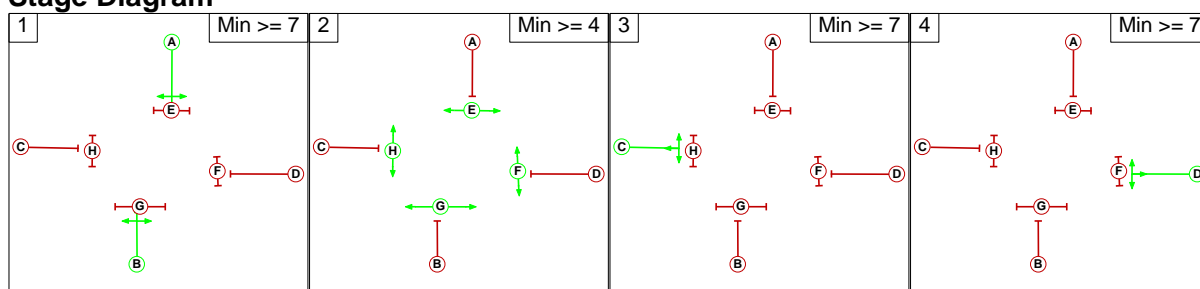


Basic Results Summary

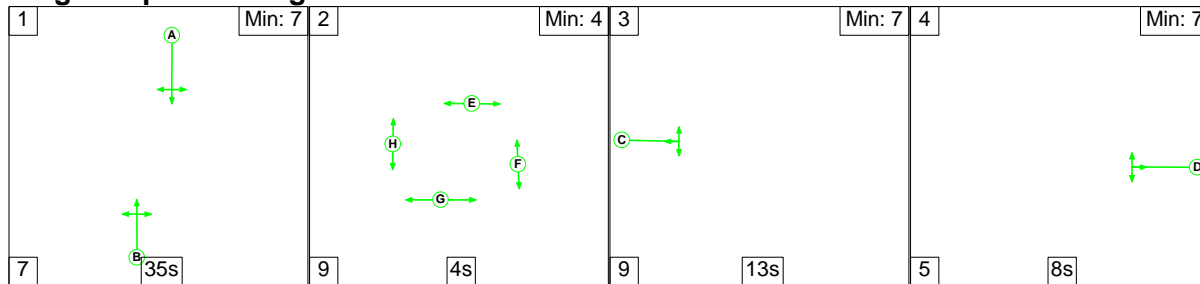
**Phase Intergreens Matrix**

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	9	9	9	9	9	9	9
B	9	-	9	9	9	9	9	9
C	7	7	-	5	9	9	9	9
D	7	7	5	-	9	9	9	9
E	9	9	9	9	-	-	-	-
F	9	9	9	9	-	-	-	-
G	9	9	9	9	-	-	-	-
H	9	9	9	9	-	-	-	-

**Stage Diagram**



**Stage Sequence Diagram**



**Scenario 3: '2031 DS AM Peak' (FG3: '2031 DS AM Peak', Plan 1: 'Network Control Plan 1')**

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					Tot.
	A	B	C	D		
A	0	124	669	87	880	
B	157	0	89	91	337	
C	417	92	0	3	512	
D	39	88	3	0	130	
Tot.	613	304	761	181	1859	



Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
<b>Network: High St / Station Road / Over Road / Berrycroft</b>	-	-	-		-	-	-	-	-	-	116.1%	133	0	34	112.4	-	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	116.1%	133	0	34	112.4	-	-
1/1	High Street Ahead Right Left	O	A		1	35	-	880	1895	758	116.1%	75	0	0	76.2	311.9	89.5
2/1	Berrycroft Left Ahead Right	U	C		1	14	-	337	1783	297	113.4%	-	-	-	28.3	302.8	33.1
3/1	Station Road Left Ahead Right	O	B		1	35	-	512	1880	730	70.1%	58	0	34	4.6	32.6	11.7
4/1	Over Road Right Left Ahead	U	D		1	7	-	130	1841	164	79.4%	-	-	-	3.2	88.7	4.9
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
C1				PRC for Signalled Lanes (%):	-29.0		Total Delay for Signalled Lanes (pcuHr):				112.42		Cycle Time (s): 90				
				PRC Over All Lanes (%):	-29.0		Total Delay Over All Lanes(pcuHr):				112.42						

Basic Results Summary

**Scenario 4: '2031 DS PM Peak'** (FG4: '2031 DS PM Peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Actual**

**Actual Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	72	550	116	738
	B	162	0	85	48	295
	C	694	155	0	5	854
	D	58	142	5	0	205
	Tot.	914	369	640	169	2092

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
<b>Network: High St / Station Road / Over Road / Berrycroft</b>	-	-	-		-	-	-	-	-	-	113.6%	143	0	110	117.8	-	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	113.6%	143	0	110	117.8	-	-
1/1	High Street Ahead Right Left	O	A		1	35	-	738	1894	755	97.7%	54	0	62	15.7	76.6	27.9
2/1	Berrycroft Left Ahead Right	U	C		1	13	-	295	1765	275	107.4%	-	-	-	18.8	229.8	23.0
3/1	Station Road Left Ahead Right	O	B		1	35	-	854	1880	752	113.6%	89	0	48	65.9	278.0	78.8
4/1	Over Road Right Left Ahead	U	D		1	8	-	205	1845	185	111.1%	-	-	-	17.3	303.3	19.9
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
C1				PRC for Signalled Lanes (%):		-26.2		Total Delay for Signalled Lanes (pcuHr):		117.75		Cycle Time (s):		90			
				PRC Over All Lanes (%):		-26.2		Total Delay Over All Lanes(pcuHr):		117.75							

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM  
RELEASE 5.0 (JUNE 2010)

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Run with file:-

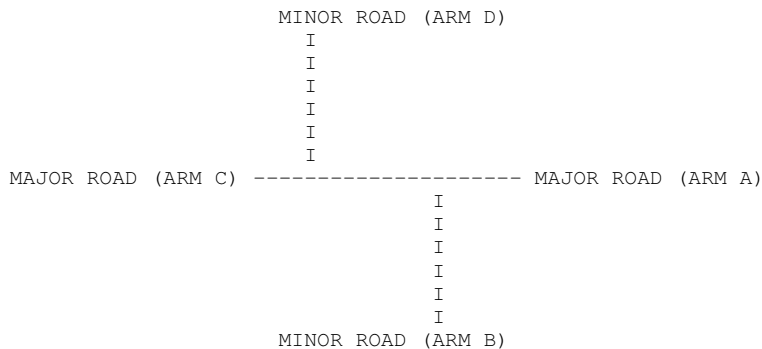
"\\HC-UKR-CA-FS-10\CA\_Proj\UA006156 Northstowe\D-Calculations\Traffic\Junction Modelling\Scenario 1 - 2031 DS\  
Junction 13 - High St\_Rampton Rd\_Woodside\_School Ln junction\J13 - High St\_Rampton Rd\_Woodside\_School Ln ODTAB 2031 Sc1 DS  
(drive-on-the-left) at 11:14:32 on Tuesday, 27 May 2014

RUN INFORMATION  
\*\*\*\*\*

RUN TITLE : J13 - High St\_Rampton Rd\_Woodside\_School Ln  
LOCATION : Longstanton (Northstowe)  
DATE : 16/05/14  
CLIENT : HCA  
ENUMERATOR : dca76340 [HCL57004]  
JOB NUMBER : UA006156  
STATUS : Preliminary  
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY  
\*\*\*\*\*

INPUT DATA  
-----



ARM A IS Rampton Rd  
ARM B IS Woodside  
ARM C IS School Lane  
ARM D IS High Street

STREAM LABELLING CONVENTION  
-----

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B  
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C  
ETC.

-----  
 GEOMETRIC DATA  
 -----

I	DATA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	( W ) 6.00 M.	I	( W ) 6.00 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR ) 0.00 M.	I	(WCR ) 0.00 M.	I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I	(WA-D) 2.20 M.	I
I	- VISIBILITY	I	(VC-B)130.00 M.	I	(VA-D)150.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES ( 1)	I	YES ( 1)	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 20.0 M.	I	(VD-A) 17.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 25.0 M.	I	(VD-C) 29.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 2.50 M.	I	(WD-A) 3.00 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

-----  
 .SLOPES AND INTERCEPT  
 -----

(NB:Streams may be combined, in which case capacity will be adjusted)

STREAM B-A

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-D	STREAM A-B	STREAM C-A	I
I	471.52	0.22	0.22	0.09	0.14	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-A	STREAM C-B	STREAM D-B	STREAM D-B	I
I	0.14	0.31	0.31		I

STREAM D-C

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-C	STREAM C-A	STREAM C-B	STREAM C-D	STREAM A-C	I
I	497.35	0.23	0.23	0.09	0.14	I

I	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-D	STREAM B-D	STREAM B-D	I
I	0.14	0.33	0.33		I

STREAM CD-B

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D	STREAM A-C	I
I	660.83	0.25	0.25	0.22		I

STREAM AB-D

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B	STREAM C-B	I
I	660.83	0.26	0.26	0.23		I

STREAM B-CD

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-CD	STREAM A-C	STREAM A-D	STREAM A-B	STREAM A-B	I
I	607.65	0.24	0.24	0.09		I

STREAM D-AB

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM D-AB	STREAM C-A	STREAM C-B	STREAM C-D	STREAM C-D	I
I	642.19	0.25	0.25	0.10		I

TRAFFIC DEMAND DATA

ARM	FLOW SCALE (%)
A	100
B	100
C	100
D	100

Demand set: 2031 DM Sc1 AM peak

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.  
 LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
A	15.00	45.00	75.00	0.93	1.39	0.93
B	15.00	45.00	75.00	0.00	0.00	0.00
C	15.00	45.00	75.00	0.75	1.13	0.75
D	15.00	45.00	75.00	1.86	2.79	1.86

Demand set: 2031 DM Sc1 AM peak

TIME	TURNING PROPORTIONS							
	FROM/TO	ARM A	ARM B	ARM C	ARM D	PERCENTAGE OF H.V.S	TURNING COUNTS	
07.45 - 09.15	A	0.000	0.000	0.757	0.243			
	B	0.000	0.000	0.000	0.000			
	C	0.383	0.000	0.000	0.617			
	D	0.114	0.000	0.886	0.000			

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2031 DM Sc1 AM peak  
 AND FOR TIME PERIOD 1



TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-ACD	0.00	7.77	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	0.84								
A-D	0.27								
AB-CD (	0.27)	10.78	0.025		0.03	0.03	0.4		0.10
AB-C (	0.84)								
D-ABC	2.23	8.18	0.273		0.50	0.38	5.9		0.17
C-D	0.55								
C-A	0.34								
C-B	0.00								
CD-AB (	0.00)	9.58	0.000		0.00	0.00	0.0		0.00
CD-A (	0.60)								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-ACD	0.00	7.81	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	0.70								
A-D	0.23								
AB-CD (	0.23)	10.82	0.021		0.03	0.02	0.3		0.09
AB-C (	0.70)								
D-ABC	1.87	8.23	0.227		0.38	0.30	4.6		0.16
C-D	0.46								
C-A	0.29								
C-B	0.00								
CD-AB (	0.00)	9.62	0.000		0.00	0.00	0.0		0.00
CD-A (	0.50)								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.3
08.15	0.4
08.30	0.5
08.45	0.5 *
09.00	0.4
09.15	0.3



TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * DELAY	* INCLUSIVE QUEUEING * DELAY
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-ACD	0.0	0.0	0.00
A-B	0.0	0.0	
A-C	77.1	51.4	
A-D	24.8	16.5	
AB-CD	(24.8)	(16.5)	0.09
AB-C	(77.1)	(51.4)	
D-ABC	205.1	136.7	0.17
C-D	50.9	34.0	
C-A	31.7	21.1	
C-B	0.0	0.0	
CD-AB	(0.0)	(0.0)	0.00
CD-A	(55.0)	(36.7)	
ALL	389.5	259.7	0.10

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

STREAM B-A

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM B-A	STREAM A-C	STREAM A-D	STREAM A-B	STREAM C-A
471.52	0.22	0.22	0.09	0.14
	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
	STREAM D-A	STREAM C-B	STREAM D-B	STREAM C-D
	0.14	0.31	0.31	

STREAM D-C

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM D-C	STREAM C-A	STREAM C-B	STREAM C-D	STREAM A-C
497.35	0.23	0.23	0.09	0.14
	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
	STREAM B-C	STREAM A-D	STREAM B-D	STREAM C-B
	0.14	0.33	0.33	

STREAM CD-B

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM CD-B	STREAM A-B	STREAM A-C	STREAM A-D
660.83	0.25	0.25	0.22

STREAM AB-D

Intercept	Slope For Opposing	Slope For Opposing	Slope For Opposing
STREAM AB-D	STREAM C-D	STREAM C-A	STREAM C-B
660.83	0.26	0.26	0.23

STREAM B-CD

I Intercept For I STREAM B-CD	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-D	Slope For Opposing STREAM A-B	Slope For Opposing I
I 607.65	0.24	0.24	0.09	I

STREAM D-AB

I Intercept For I STREAM D-AB	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B	Slope For Opposing STREAM C-D	Slope For Opposing I
I 642.19	0.25	0.25	0.10	I

TRAFFIC DEMAND DATA

I ARM I FLOW SCALE (%) I

I A	I	100	I
I B	I	100	I
I C	I	100	I
I D	I	100	I

Demand set: 2031 DM Sc1 PM peak

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.  
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM	I NUMBER OF MINUTES FROM START WHEN			I RATE OF FLOW (VEH/MIN)		
	I FLOW STARTS I TO RISE	I TOP OF PEAK I IS REACHED	I FLOW STOPS I FALLING	I BEFORE I PEAK	I AT TOP I OF PEAK	I AFTER I PEAK
I ARM A	I 15.00	I 45.00	I 75.00	I 0.79	I 1.18	I 0.79
I ARM B	I 15.00	I 45.00	I 75.00	I 0.00	I 0.00	I 0.00
I ARM C	I 15.00	I 45.00	I 75.00	I 2.20	I 3.30	I 2.20
I ARM D	I 15.00	I 45.00	I 75.00	I 0.99	I 1.48	I 0.99

Demand set: 2031 DM Sc1 PM peak

I TIME	I TURNING PROPORTIONS								
	I TURNING COUNTS (PERCENTAGE OF H.V.S)								
I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D	I FROM/TO	I ARM A	I ARM B	I ARM C	I ARM D
I 16.45 - 18.15	I ARM A	I 0.000	I 0.000	I 0.619	I 0.381	I 0.0	I 0.0	I 39.0	I 24.0
		I ( 0.0)	I ( 0.0)	I ( 0.0)	I ( 0.0)				
	I ARM B	I 0.000	I 0.000	I 0.000	I 0.000	I 0.0	I 0.0	I 0.0	I 0.0
		I ( 0.0)	I ( 0.0)	I ( 0.0)	I ( 0.0)				
	I ARM C	I 0.324	I 0.000	I 0.000	I 0.676	I 57.0	I 0.0	I 0.0	I 119.0
		I ( 0.0)	I ( 0.0)	I ( 0.0)	I ( 0.0)				
	I ARM D	I 0.253	I 0.000	I 0.747	I 0.000	I 20.0	I 0.0	I 59.0	I 0.0
		I ( 0.0)	I ( 0.0)	I ( 0.0)	I ( 0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA  
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2031 DM Sc1 PM peak  
AND FOR TIME PERIOD 2



TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-ACD	0.00	7.76	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	0.58								
A-D	0.36								
AB-CD (	0.36)	10.34	0.035		0.04	0.03	0.5		0.10
AB-C (	0.58)								
D-ABC	1.18	8.25	0.143		0.22	0.17	2.6		0.14
C-D	1.78								
C-A	0.85								
C-B	0.00								
CD-AB (	0.00)	9.62	0.000		0.00	0.00	0.0		0.00
CD-A (	1.15)								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-ACD	0.00	7.80	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	0.49								
A-D	0.30								
AB-CD (	0.30)	10.45	0.029		0.03	0.03	0.4		0.10
AB-C (	0.49)								
D-ABC	0.99	8.34	0.119		0.17	0.14	2.1		0.14
C-D	1.49								
C-A	0.72								
C-B	0.00								
CD-AB (	0.00)	9.66	0.000		0.00	0.00	0.0		0.00
CD-A (	0.97)								

\*WARNING\* NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM AB-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.2
17.45	0.2
18.00	0.2
18.15	0.1

QUEUE FOR STREAM CD-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	I	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I	I	I
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	I	I
I	B-ACD	I	0.0	0.0	0.0	0.00	0.0	0.00	I	I
I	A-B	I	0.0	0.0					I	I
I	A-C	I	53.7	35.8					I	I
I	A-D	I	33.0	22.0					I	I
I	AB-CD	I	( 33.0)	( 22.0)	3.2	0.10	3.2	0.10	I	I
I	AB-C	I	( 53.7)	( 35.8)					I	I
I	D-ABC	I	108.7	72.5	15.4	0.14	15.4	0.14	I	I
I	C-D	I	163.8	109.2					I	I
I	C-A	I	78.5	52.3					I	I
I	C-B	I	0.0	0.0					I	I
I	CD-AB	I	( 0.0)	( 0.0)	0.0	0.00	0.0	0.00	I	I
I	CD-A	I	( 106.0)	( 70.6)					I	I
I	ALL	I	437.7	291.8	18.6	0.04	18.6	0.04	I	I

\* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD  
 \* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD  
 \* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

\*\*\*\*\*END OF RUN\*\*\*\*\*

==== end of file =====

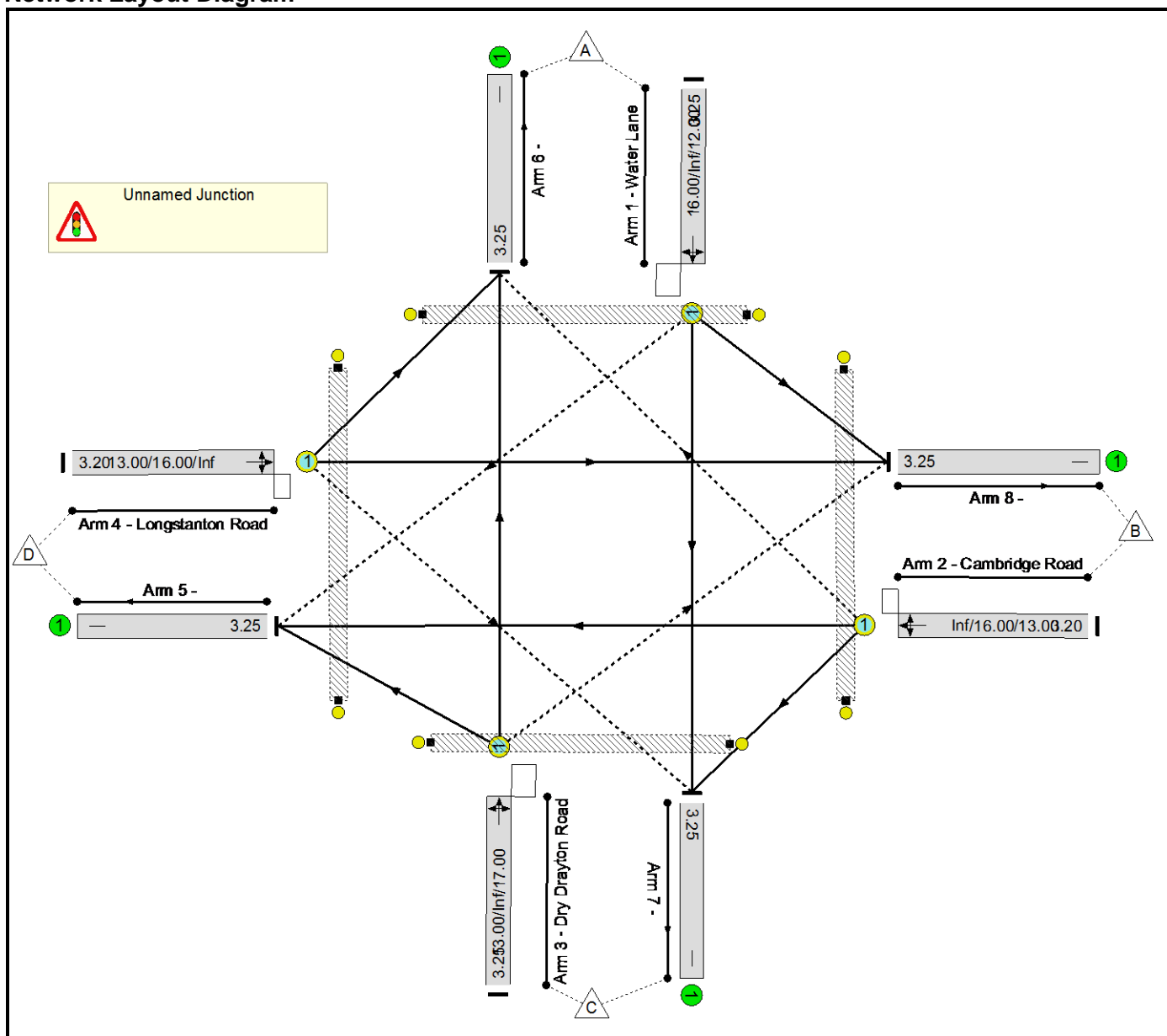
Basic Results Summary  
**Basic Results Summary**

**User and Project Details**

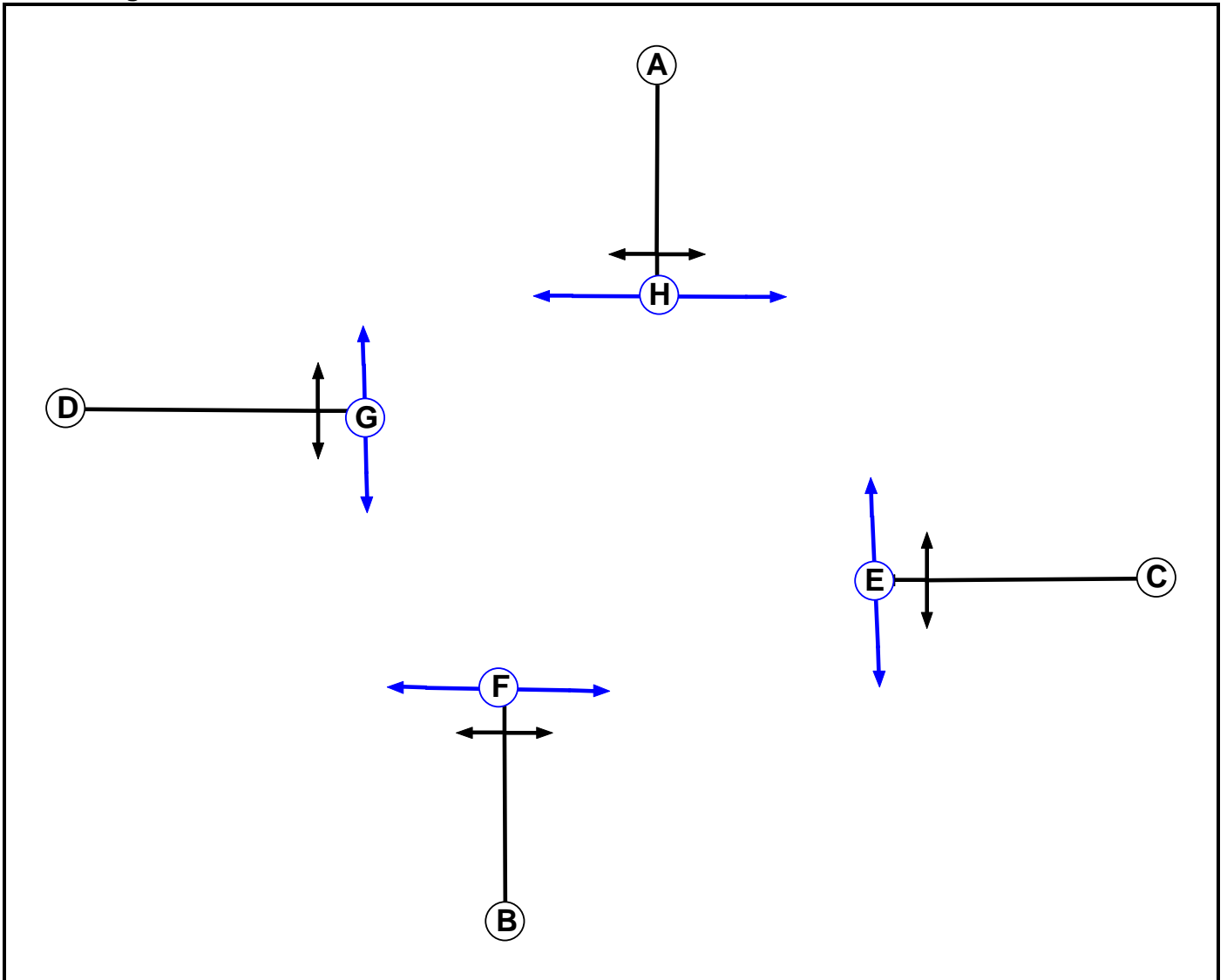
Project:	Northstowe Phase 2
Title:	Longstanton Road / Dry Drayton Road Crossroads
Location:	Oakington
File name:	J14 - Longstanton Rd_Dry Drayton Road Crossroads - 2031 Sc2 DM.lsg3x
Author:	DRC
Company:	Hyder
Address:	Cardiff
Notes:	

Scenario 3: '2031 DS AM Peak' (FG3: '2031 DS AM Peak', Plan 1: 'Network Control Plan 1')

**Network Layout Diagram**



Phase Diagram



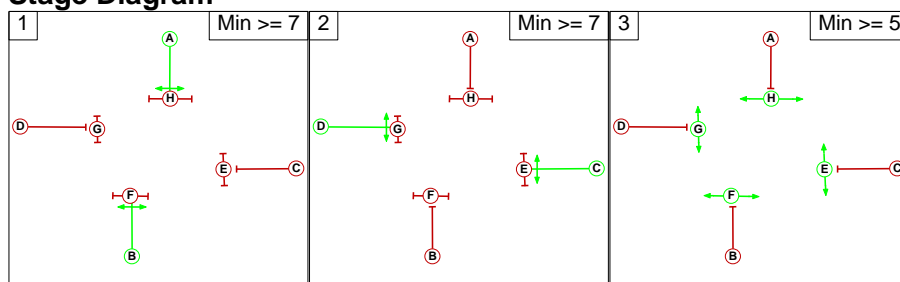


# Basic Results Summary

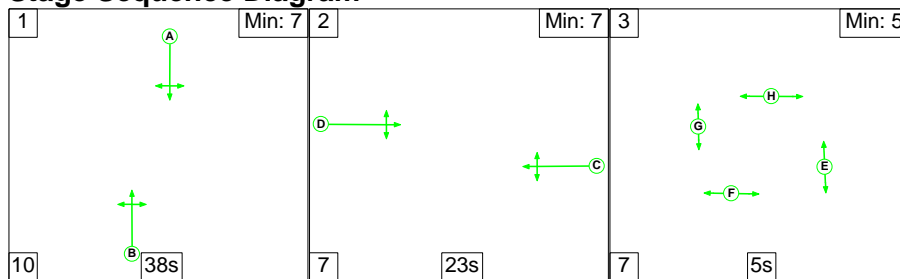
## Phase Intergrens Matrix

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	7	7	7	7	7	7	7
B	7	-	7	7	7	7	7	7
C	6	6	-	7	7	7	7	7
D	6	6	-	-	7	7	7	7
E	10	10	10	10	-	-	-	-
F	10	10	10	10	-	-	-	-
G	10	10	10	10	-	-	-	-
H	10	10	10	10	-	-	-	-

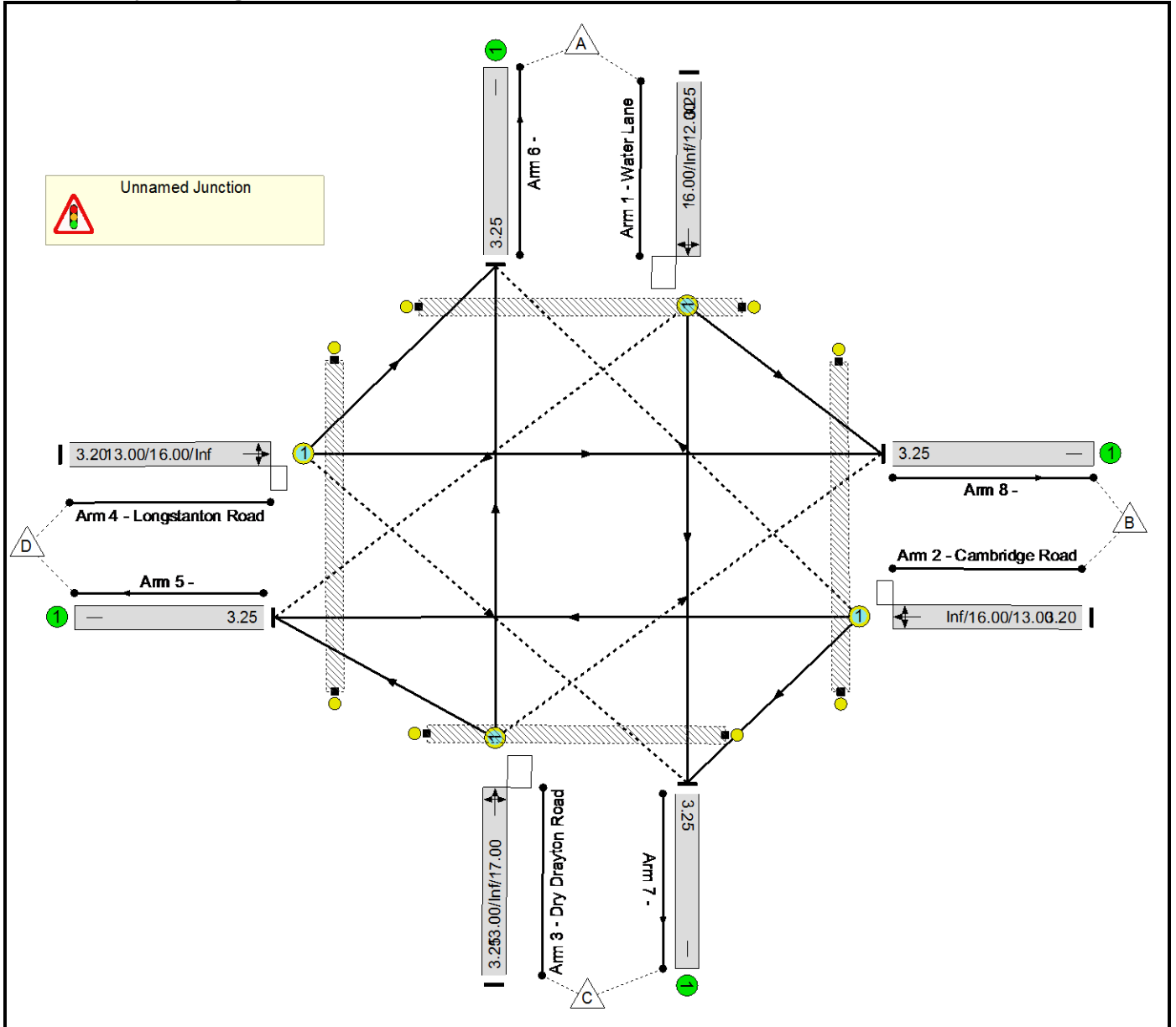
## Stage Diagram



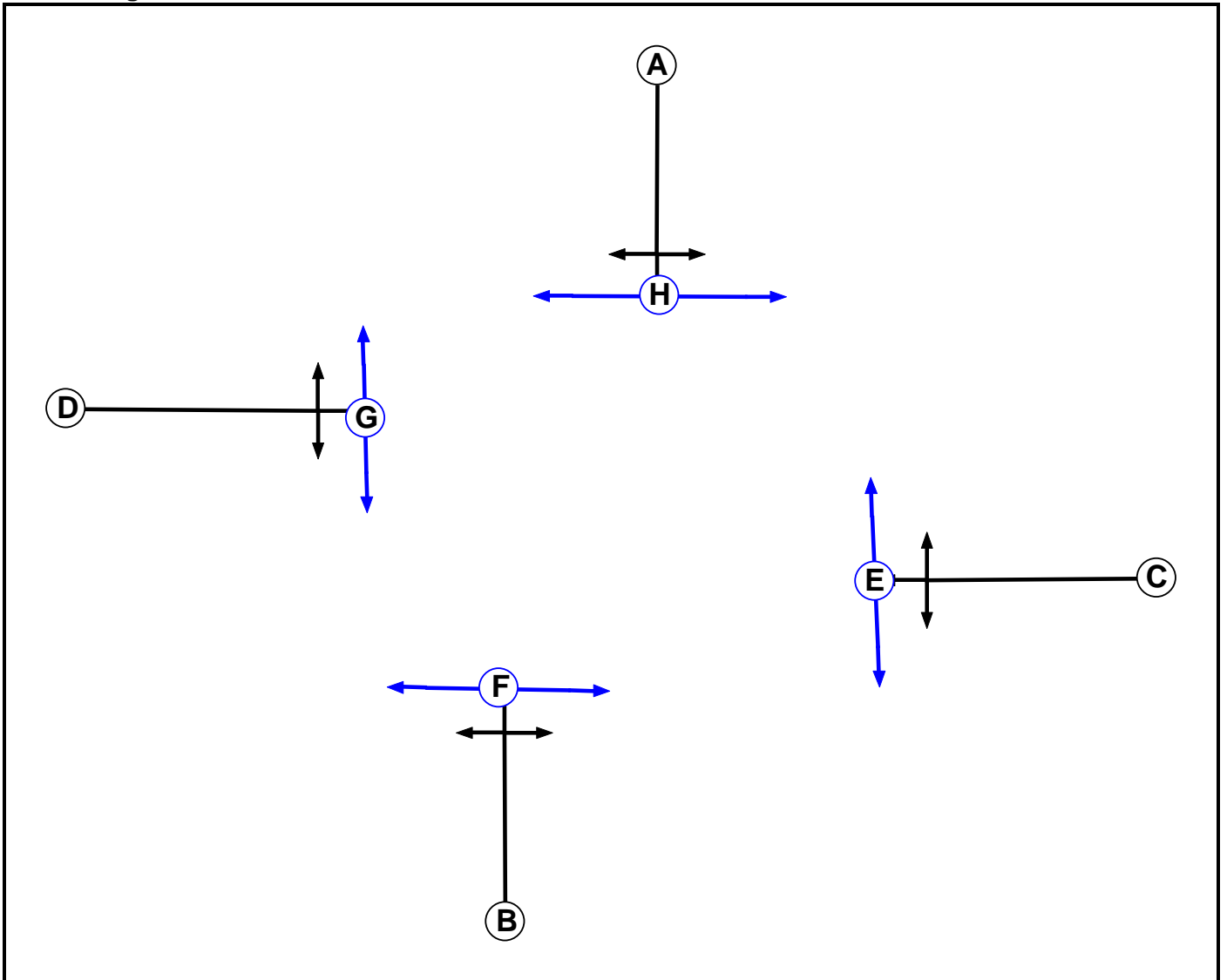
## Stage Sequence Diagram



**Scenario 4: '2031 DS PM Peak'** (FG4: '2031 DS PM Peak', Plan 1: 'Network Control Plan 1')  
**Network Layout Diagram**



Phase Diagram

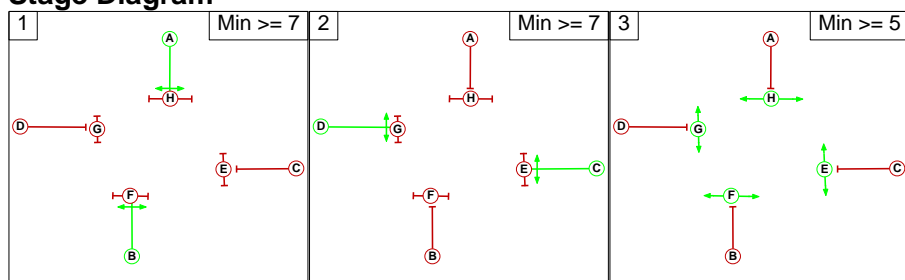


Basic Results Summary

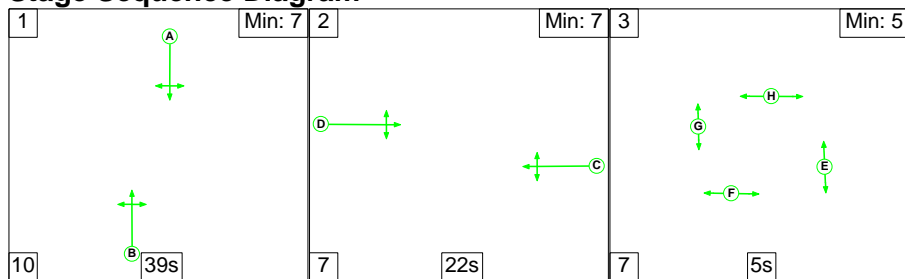
**Phase Intergreens Matrix**

Terminating Phase	Starting Phase							
	A	B	C	D	E	F	G	H
A	-	7	7	7	7	7	7	7
B	7	-	7	7	7	7	7	7
C	6	6	-	7	7	7	7	7
D	6	6	-	-	7	7	7	7
E	10	10	10	10	-	-	-	-
F	10	10	10	10	-	-	-	-
G	10	10	10	10	-	-	-	-
H	10	10	10	10	-	-	-	-

**Stage Diagram**



**Stage Sequence Diagram**



**Scenario 3: '2031 DS AM Peak' (FG3: '2031 DS AM Peak', Plan 1: 'Network Control Plan 1')**

**Traffic Flows, Actual**

**Actual Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	101	490	37	628	
B	69	0	222	101	392	
C	266	169	0	77	512	
D	62	166	100	0	328	
Tot.	397	436	812	215	1860	

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
<b>Network: Longstanton Road / Dry Drayton Road Crossroads</b>	-	-	-		-	-	-	-	-	-	91.8%	344	0	31	25.9	-	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	91.8%	344	0	31	25.9	-	-
1/1	Water Lane Right Ahead Left	O	A		1	38	-	628	1892	820	76.6%	37	0	0	5.4	30.9	14.9
2/1	Cambridge Road Ahead Right Left	O	C		1	23	-	392	1789	477	82.2%	69	0	0	5.6	51.2	11.3
3/1	Dry Drayton Road Left Ahead Right	O	B		1	38	-	512	1854	558	91.8%	138	0	31	8.5	60.1	16.9
4/1	Longstanton Road Left Right Ahead	O	D		1	23	-	328	1842	369	88.9%	100	0	0	6.4	70.0	11.4
Ped Link: P1	Unnamed Ped Link	-	E		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	H		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	F		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
C1				PRC for Signalled Lanes (%):			-2.0	Total Delay for Signalled Lanes (pcuHr):				25.88	Cycle Time (s): 90				
				PRC Over All Lanes (%):			-2.0	Total Delay Over All Lanes(pcuHr):				25.88					

Basic Results Summary

**Scenario 4: '2031 DS PM Peak'** (FG4: '2031 DS PM Peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Actual**

**Actual Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	81	367	53	501
	B	80	0	221	143	444
	C	368	213	0	158	739
	D	59	149	85	0	293
	Tot.	507	443	673	354	1977

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
<b>Network: Longstanton Road / Dry Drayton Road Crossroads</b>	-	-	-		-	-	-	-	-	-	96.5%	419	0	12	31.8	-	-
<b>Unnamed Junction</b>	-	-	-		-	-	-	-	-	-	96.5%	419	0	12	31.8	-	-
1/1	Water Lane Right Ahead Left	O	A		1	39	-	501	1883	837	59.9%	53	0	0	3.4	24.3	10.2
2/1	Cambridge Road Ahead Right Left	O	C		1	22	-	444	1801	460	96.5%	80	0	0	11.3	91.8	18.1
3/1	Dry Drayton Road Left Ahead Right	O	B		1	39	-	739	1847	783	94.4%	213	0	0	11.8	57.6	24.2
4/1	Longstanton Road Left Right Ahead	O	D		1	22	-	293	1842	343	85.5%	73	0	12	5.3	64.7	9.3
Ped Link: P1	Unnamed Ped Link	-	E		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	H		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	F		1	5	-	0	-	0	0.0%	-	-	-	-	-	-
C1		PRC for Signalled Lanes (%):		-7.2		Total Delay for Signalled Lanes (pcuHr):		31.78		Cycle Time (s):		90					
		PRC Over All Lanes (%):		-7.2		Total Delay Over All Lanes(pcuHr):		31.78									

Basic Results Summary  
**Basic Results Summary**

**User and Project Details**

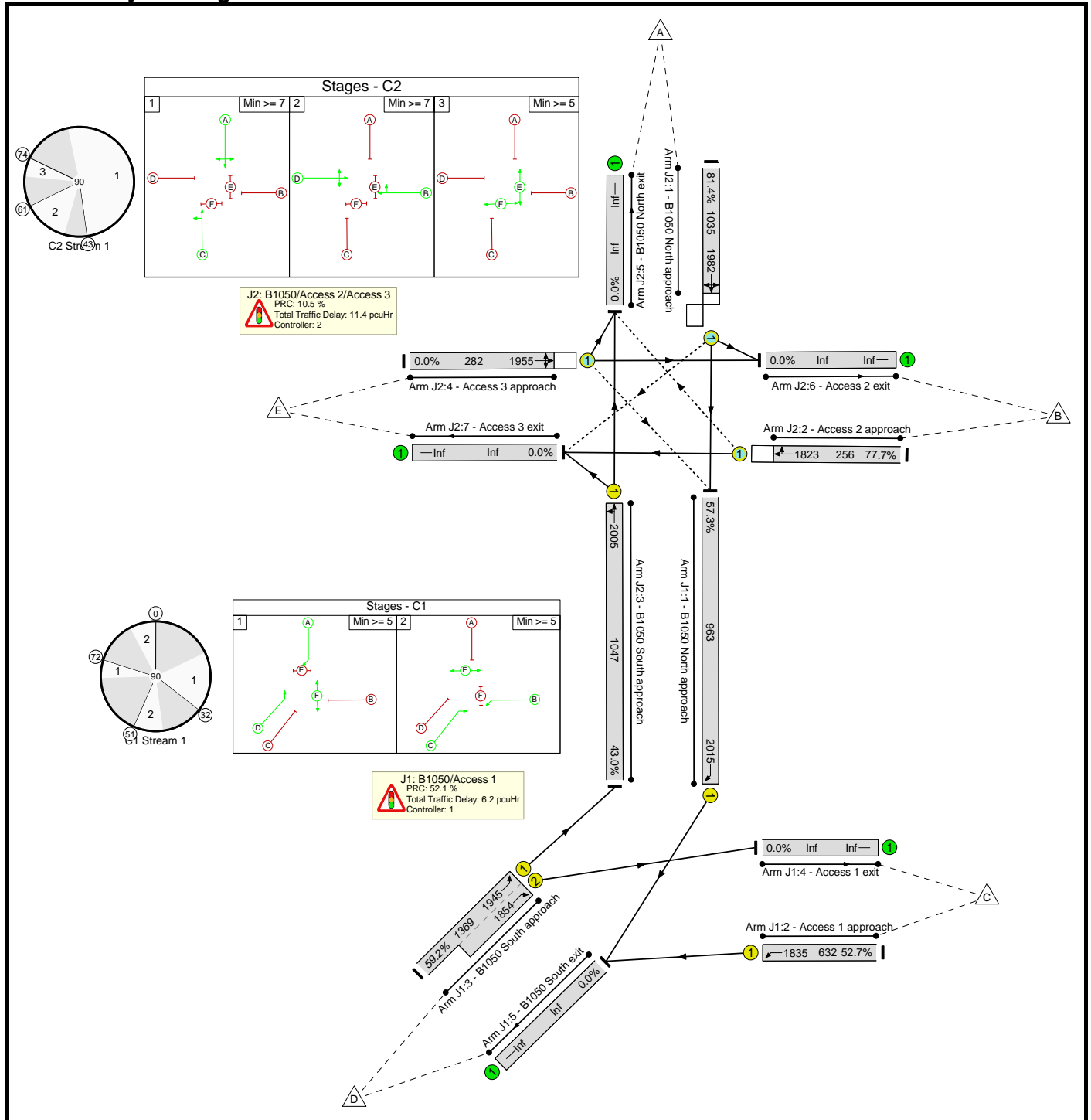
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<b>Title:</b>	<b>B1050 Access to West Site</b>
<b>Location:</b>	
<b>File name:</b>	Proposed Northstowe 07_08_2014.lsg3x
<b>Author:</b>	Peter Smith
<b>Company:</b>	Hyder Consulting
<b>Address:</b>	Manning House, Carlisle Place
<b>Notes:</b>	



Basic Results Summary

Scenario 3: 'AM Peak 2031 DS1' (FG18: 'AM Peak 2031 DS1', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

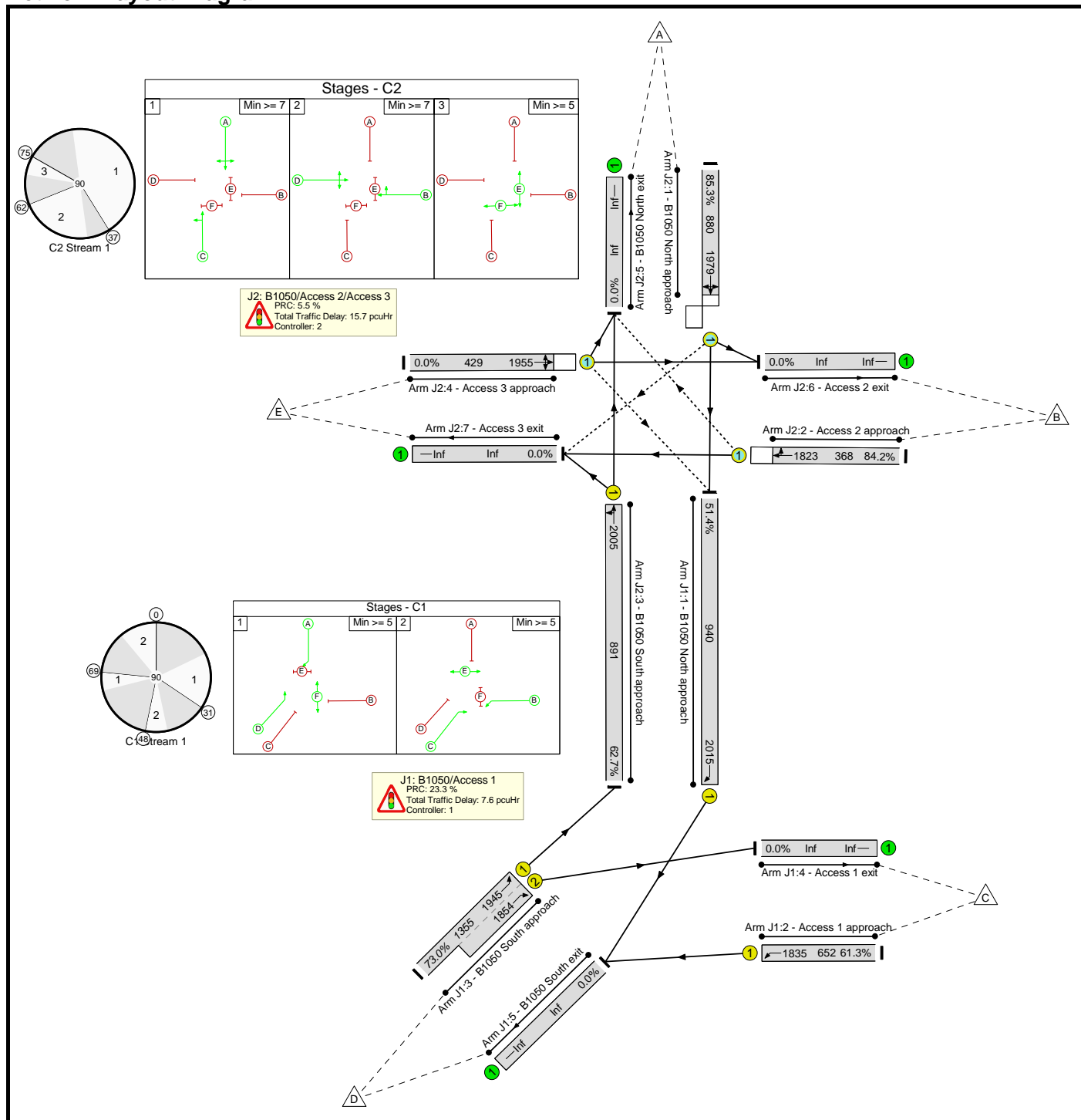
**Network Results**

Item	Lane Description	Lane Type	Deg Sat (%)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network: B1050 Access to West Site</b>	-	-	<b>81.4%</b>	<b>17.7</b>	-
<b>J1: B1050/Access 1</b>	-	-	<b>59.2%</b>	<b>6.2</b>	-
1/1	B1050 North approach Right	U	57.3%	1.4	4.2
2/1	Access 1 approach Ahead	U	52.7%	1.7	4.4
3/1+3/2	B1050 South approach Ahead Left	U	59.2%	3.1	5.0
<b>J2: B1050/Access 2/Access 3</b>	-	-	<b>81.4%</b>	<b>11.4</b>	-
1/1	B1050 North approach Ahead Left Right	O	81.4%	6.4	19.7
2/1	Access 2 approach Right Ahead	O	77.7%	3.8	6.3
3/1	B1050 South approach Ahead Left	U	43.0%	1.3	5.7
4/1	Access 3 approach Right Left Ahead	O	0.0%	0.0	0.0
C1	PRC for Signalled Lanes (%)	52.1	Total Delay for Signalled Lanes (pcuHr):	6.20	Cycle Time (s): 90
C2	PRC for Signalled Lanes (%)	10.5	Total Delay for Signalled Lanes (pcuHr):	11.45	Cycle Time (s): 90
	PRC Over All Lanes (%)	10.5	Total Delay Over All Lanes(pcuHr):	17.65	

Basic Results Summary

Scenario 4: 'PM Peak 2031 DS1' (FG22: 'PM Peak 2031 DS1', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Deg Sat (%)	Total Delay (pcuHr)	Mean Max Queue (pcu)
<b>Network: B1050 Access to West Site</b>	-	-	<b>85.3%</b>	<b>23.4</b>	-
<b>J1: B1050/Access 1</b>	-	-	<b>73.0%</b>	<b>7.6</b>	-
1/1	B1050 North approach Right	U	51.4%	1.0	3.0
2/1	Access 1 approach Ahead	U	61.3%	2.2	5.6
3/1+3/2	B1050 South approach Ahead Left	U	73.0%	4.5	7.4
<b>J2: B1050/Access 2/Access 3</b>	-	-	<b>85.3%</b>	<b>15.7</b>	-
1/1	B1050 North approach Ahead Left Right	O	85.3%	7.5	19.4
2/1	Access 2 approach Right Ahead	O	84.2%	5.5	9.8
3/1	B1050 South approach Ahead Left	U	62.7%	2.8	8.0
4/1	Access 3 approach Right Left Ahead	O	0.0%	0.0	0.0
C1	PRC for Signalled Lanes (%)	23.3	Total Delay for Signalled Lanes (pcuHr):	7.64	Cycle Time (s): 90
C2	PRC for Signalled Lanes (%)	5.5	Total Delay for Signalled Lanes (pcuHr):	15.71	Cycle Time (s): 90
	PRC Over All Lanes (%)	5.5	Total Delay Over All Lanes(pcuHr):	23.35	



# NORTHSTOWE PHASE 2 PLANNING APPLICATION

Transport Assessment: Appendix 16  
Results of Suggested Mitigation for Willingham Traffic  
Signalised Junction

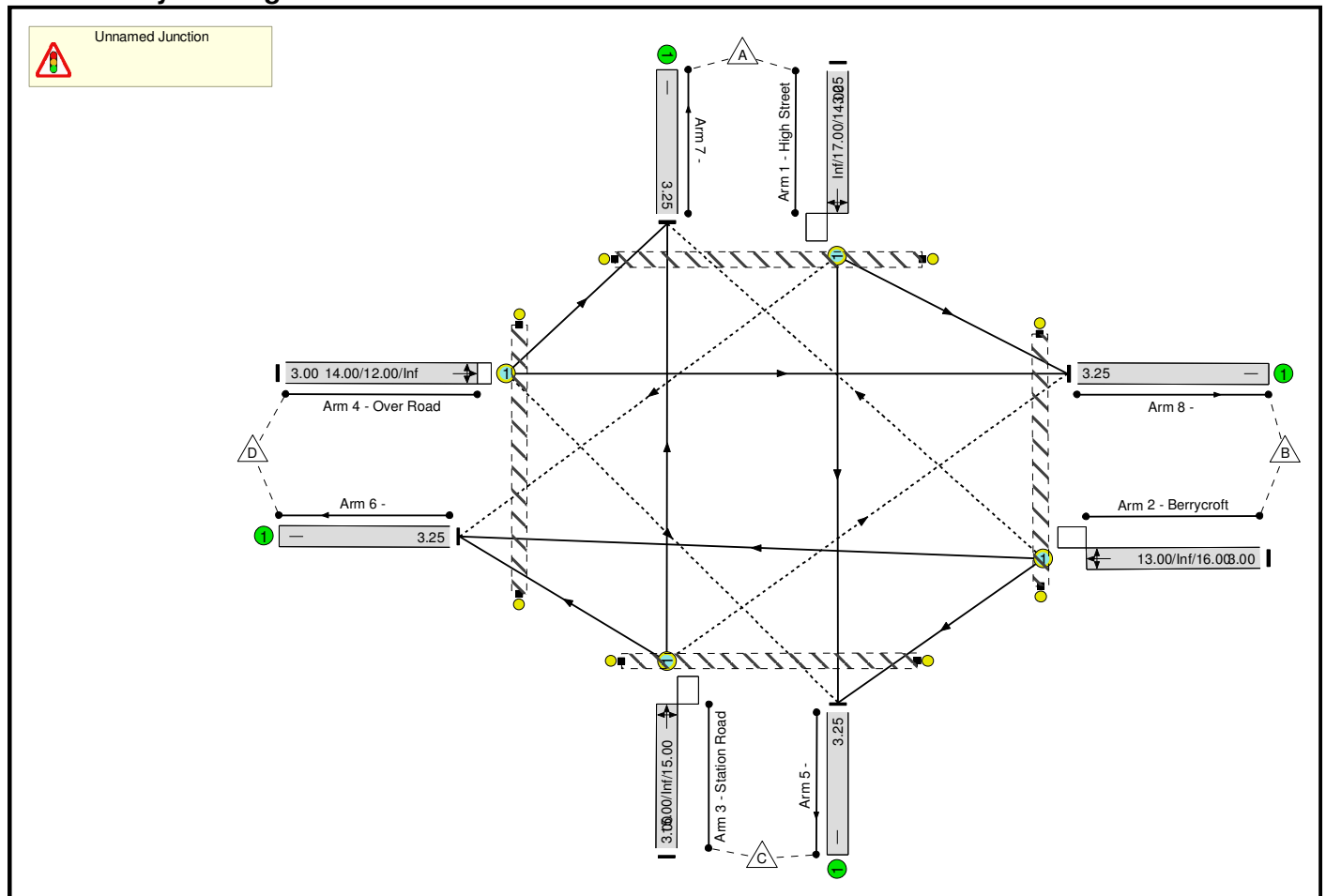
August 2014

Basic Results Summary  
**Basic Results Summary**

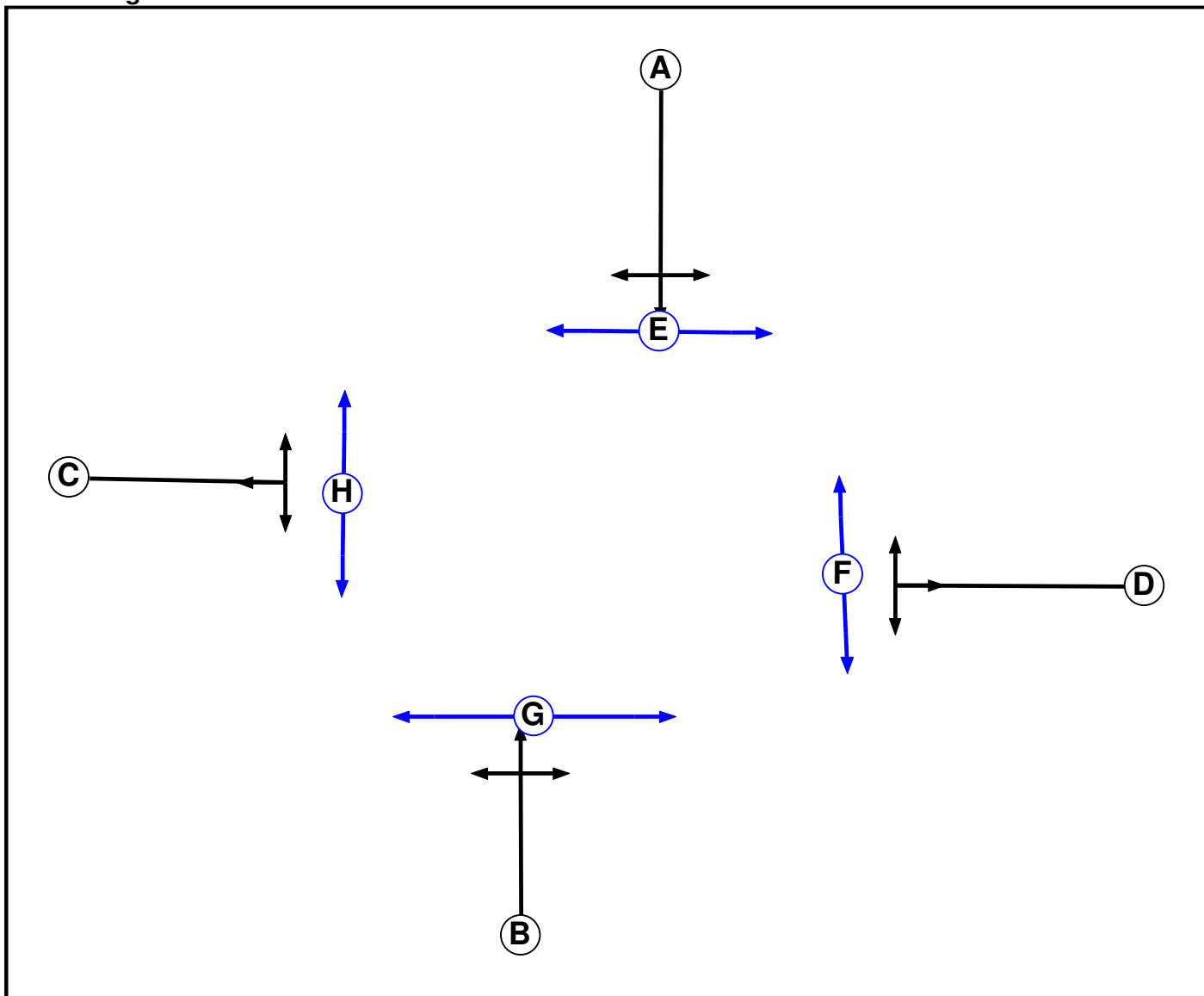
**User and Project Details**

<b>Project:</b>	<b>Northstowe</b>
<b>Title:</b>	<b>High St / Station Road / Over Road / Berrycroft</b>
<b>Location:</b>	Willingham
<b>File name:</b>	J12 - High St_Station Rd_Over Rd_Berrycroft 2031 test.lsg3x
<b>Author:</b>	Peter Smith
<b>Company:</b>	Hyder
<b>Address:</b>	London
<b>Notes:</b>	

**Scenario 1: '2031 DM AM Peak'** (FG1: '2031 DM AM Peak', Plan 1: 'Network Control Plan 1')  
**Network Layout Diagram**



Phase Diagram

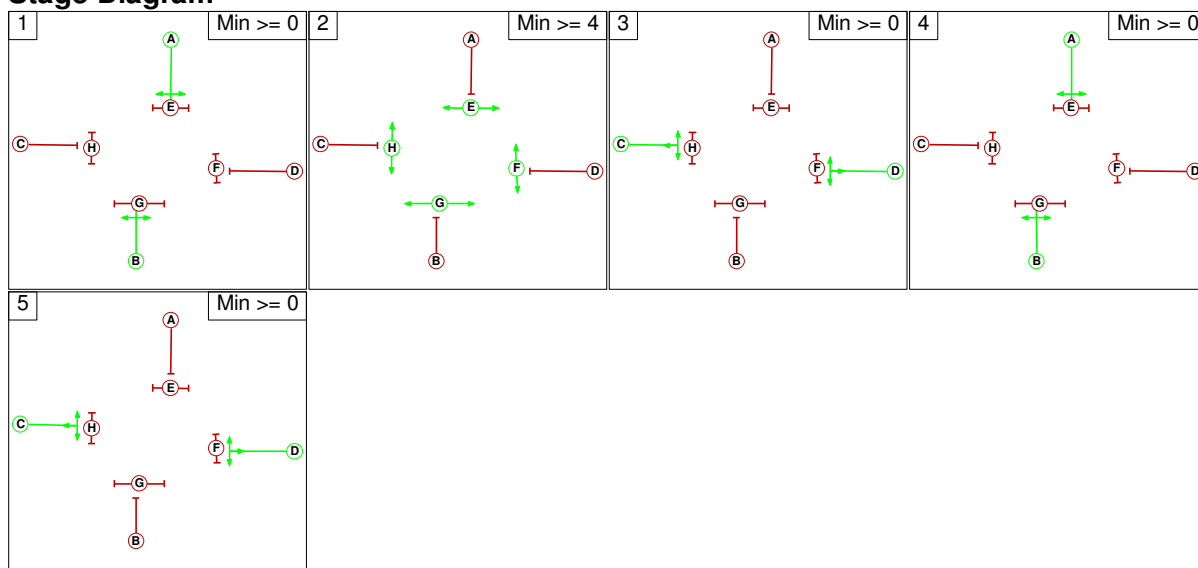


# Basic Results Summary

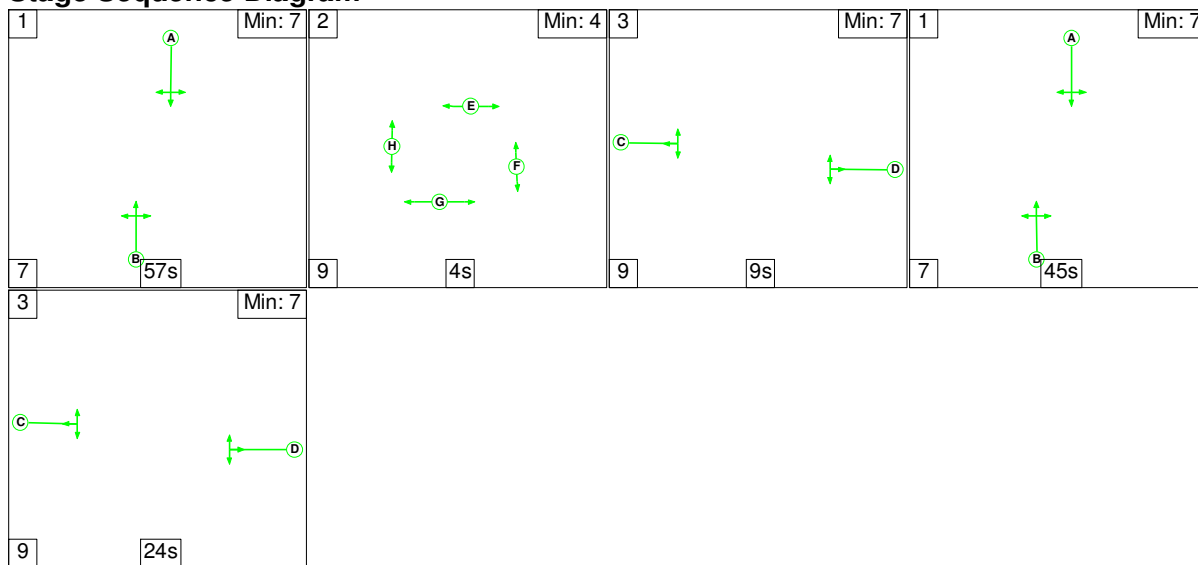
## Phase Intergrens Matrix

		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A	-	9	9	9	9	9	9	9
	B	9	-	9	9	9	9	9	9
	C	7	7	-	9	9	9	9	9
	D	7	7	9	-	9	9	9	9
	E	9	9	9	9	-	-	-	-
	F	9	9	9	9	-	-	-	-
	G	9	9	9	9	-	-	-	-
	H	9	9	9	9	-	-	-	-

## Stage Diagram



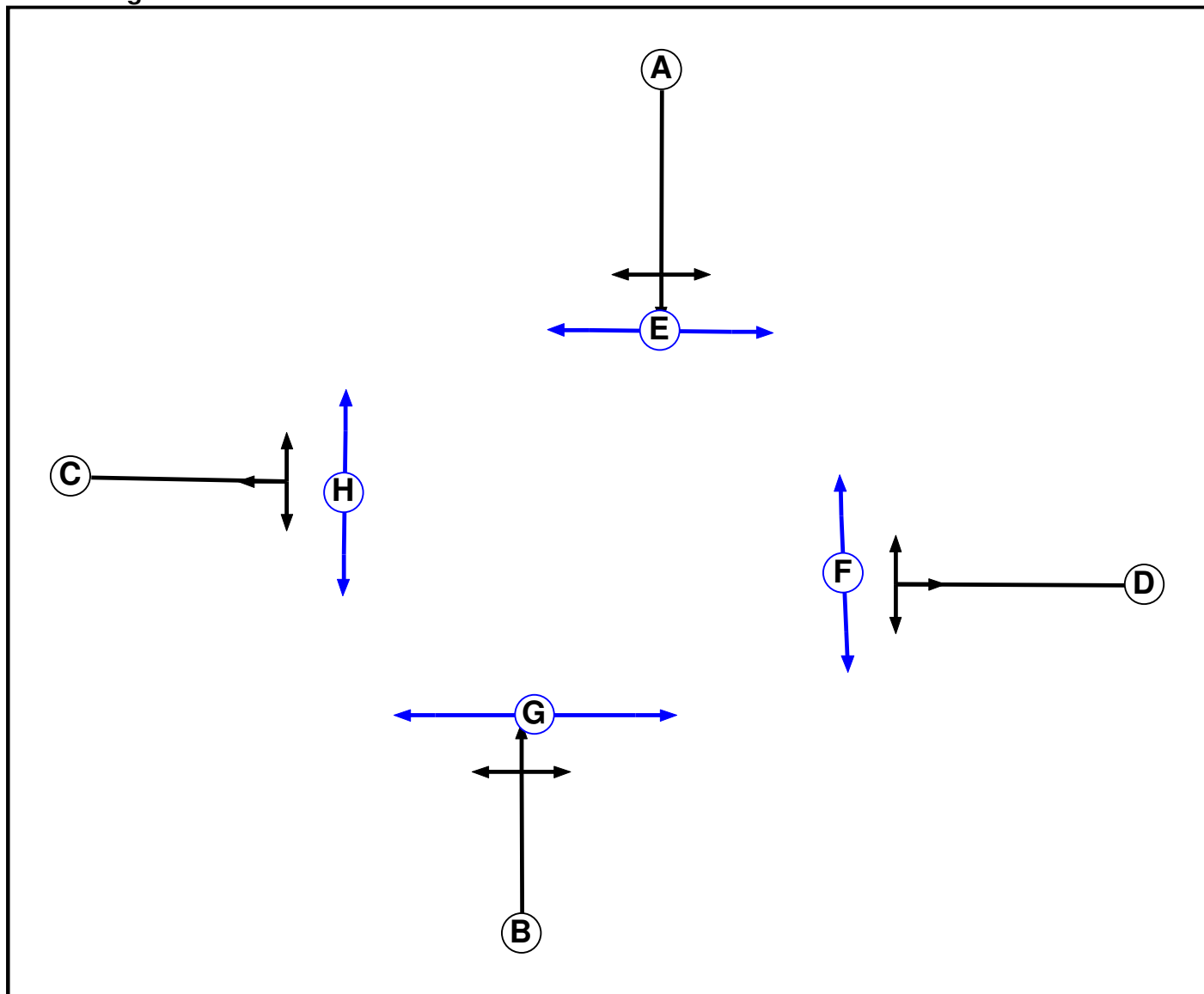
## Stage Sequence Diagram







Phase Diagram

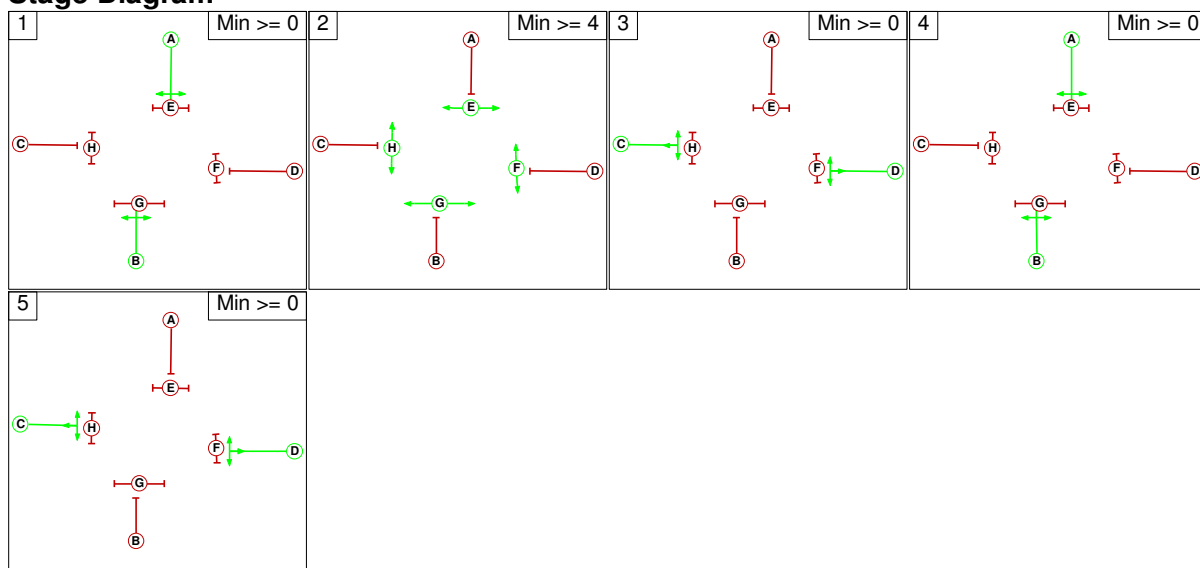


# Basic Results Summary

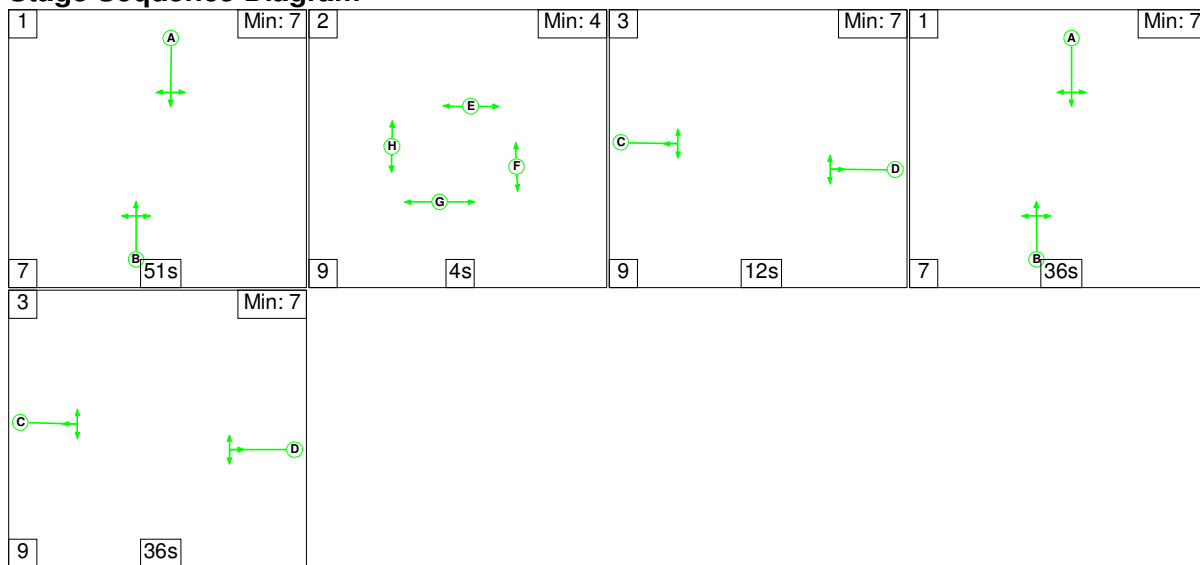
## Phase Intergrens Matrix

		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A	-	9	9	9	9	9	9	9
	B	9	-	9	9	9	9	9	9
	C	7	7	-	9	9	9	9	9
	D	7	7	-	9	9	9	9	9
	E	9	9	9	9	-	-	-	-
	F	9	9	9	9	-	-	-	-
	G	9	9	9	9	-	-	-	-
	H	9	9	9	9	-	-	-	-

## Stage Diagram

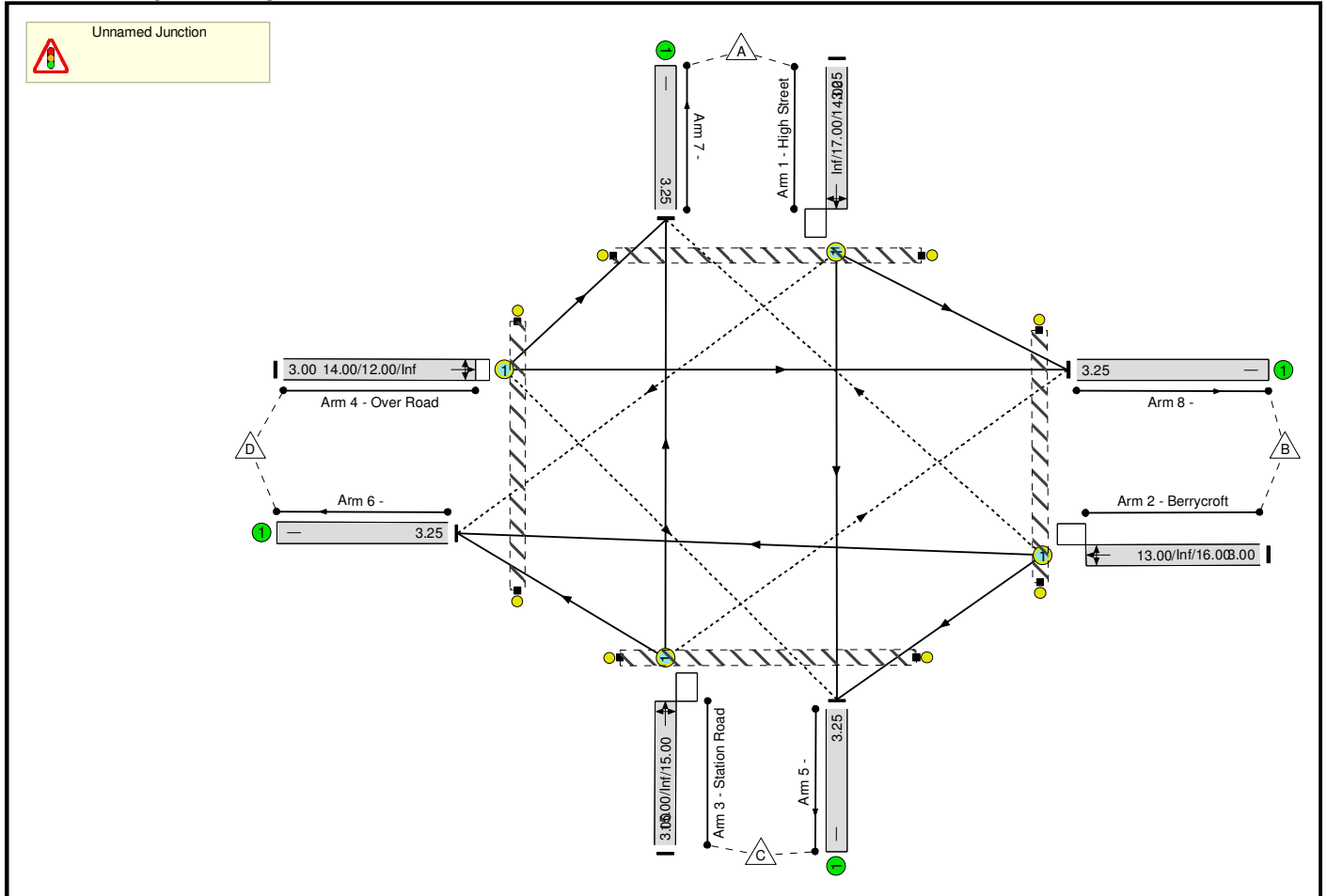


## Stage Sequence Diagram

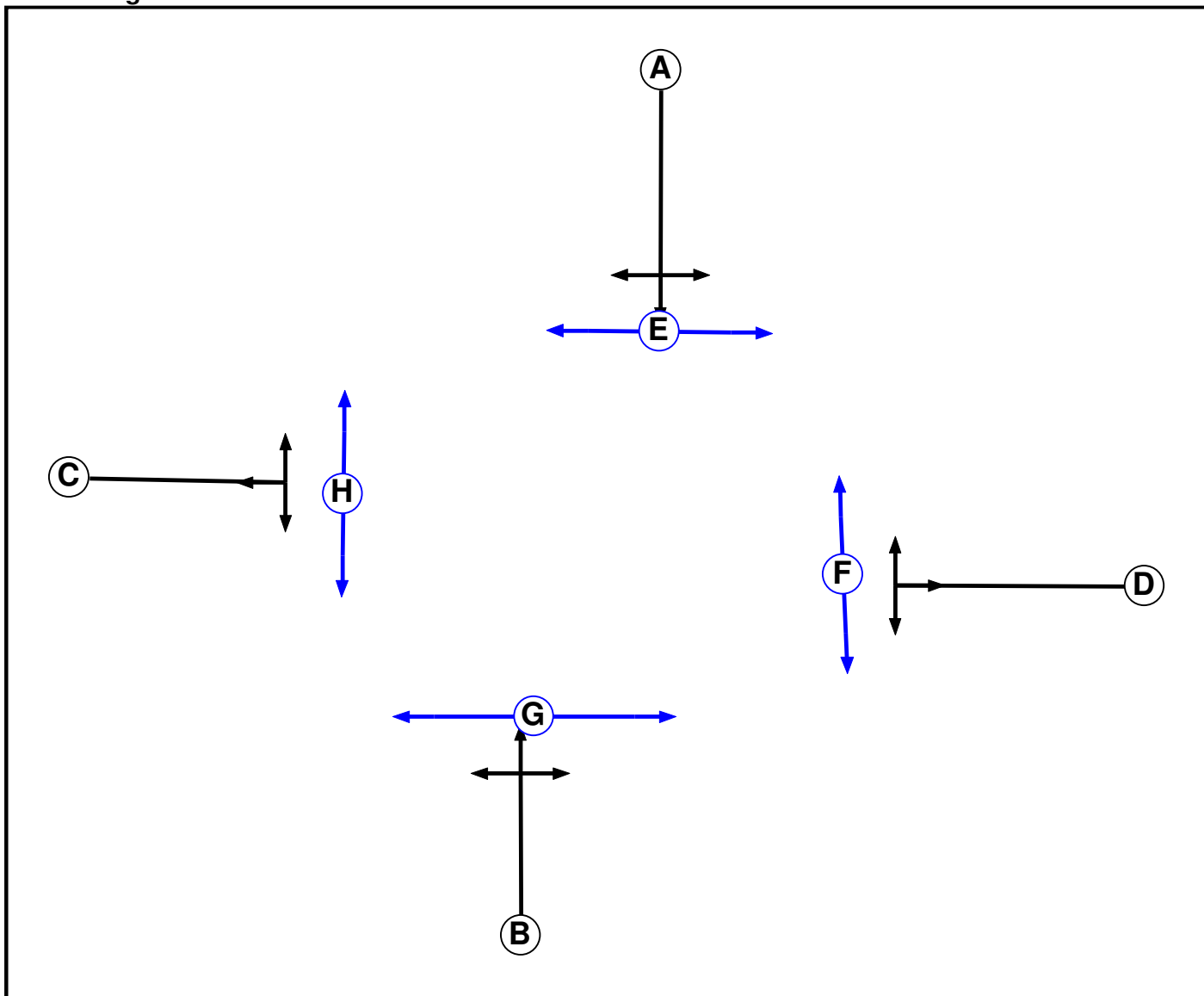


Scenario 3: '2031 DS AM Peak' (FG3: '2031 DS AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Phase Diagram

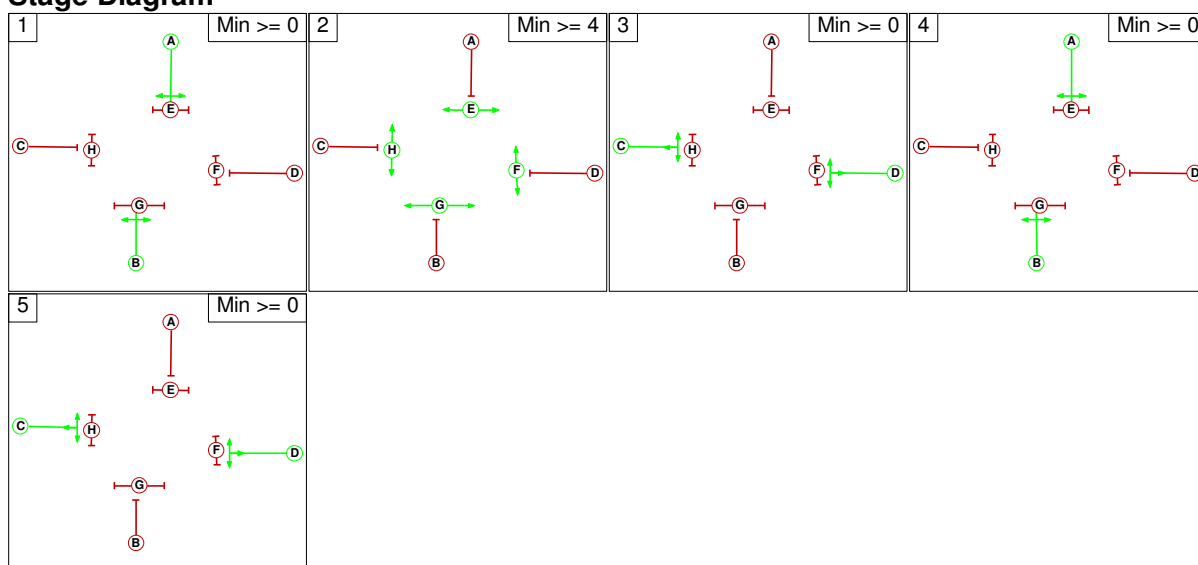


# Basic Results Summary

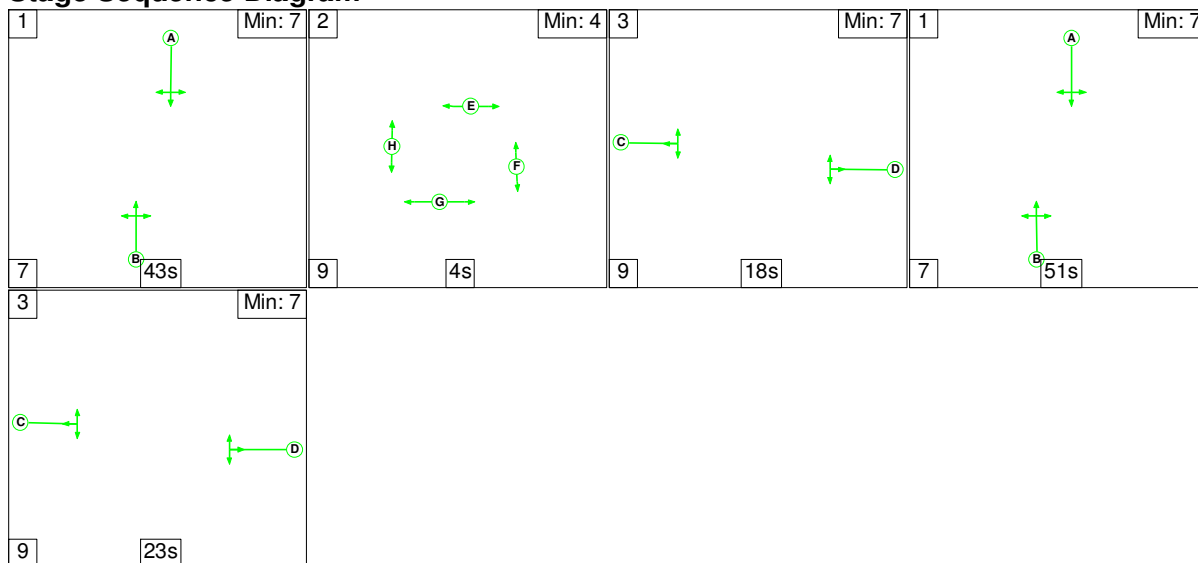
## Phase Intergrens Matrix

		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A	-	9	9	9	9	9	9	9
	B	9	-	9	9	9	9	9	9
	C	7	7	-	9	9	9	9	9
	D	7	7	9	-	9	9	9	9
	E	9	9	9	9	-	-	-	-
	F	9	9	9	9	-	-	-	-
	G	9	9	9	9	-	-	-	-
	H	9	9	9	9	-	-	-	-

## Stage Diagram



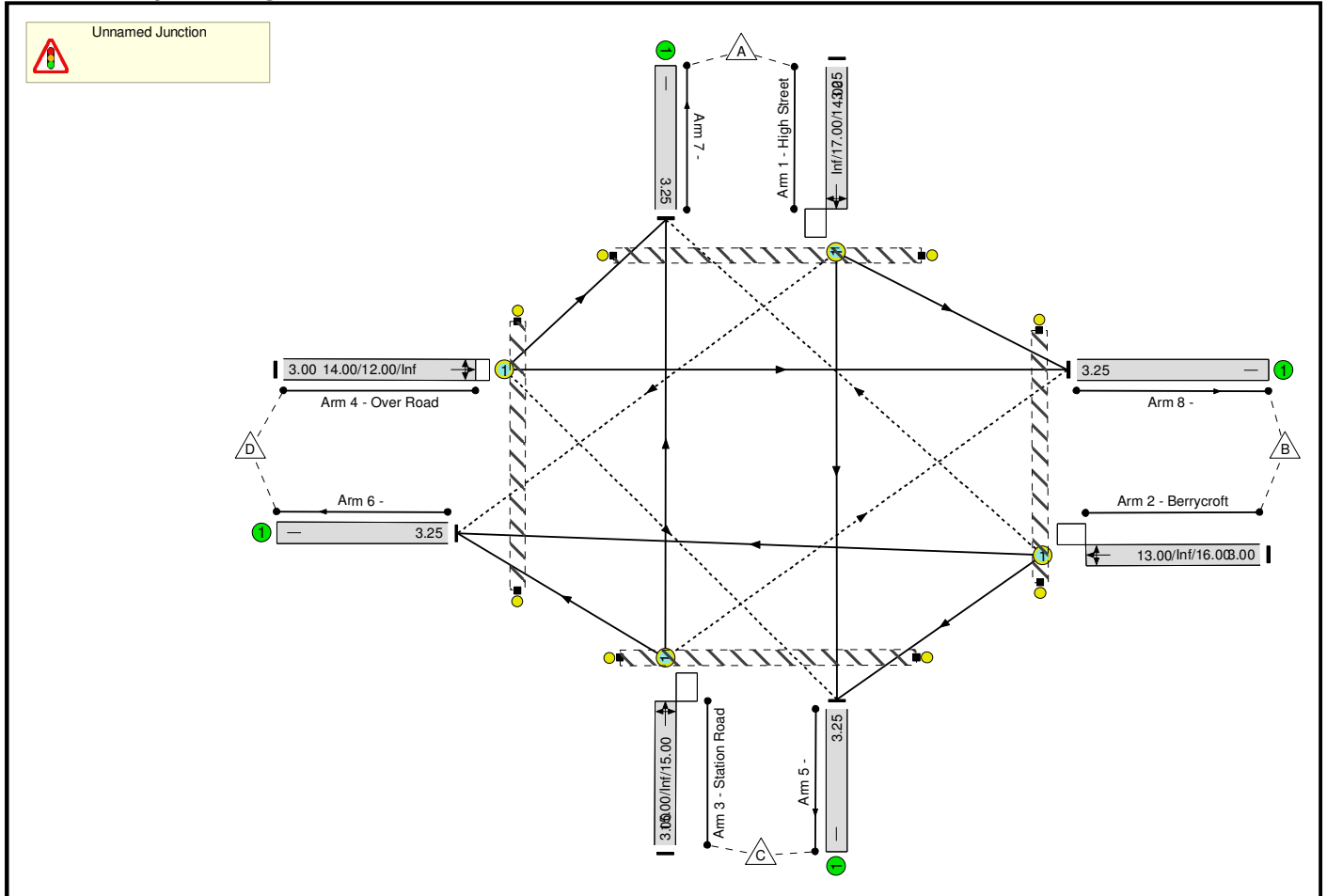
## Stage Sequence Diagram



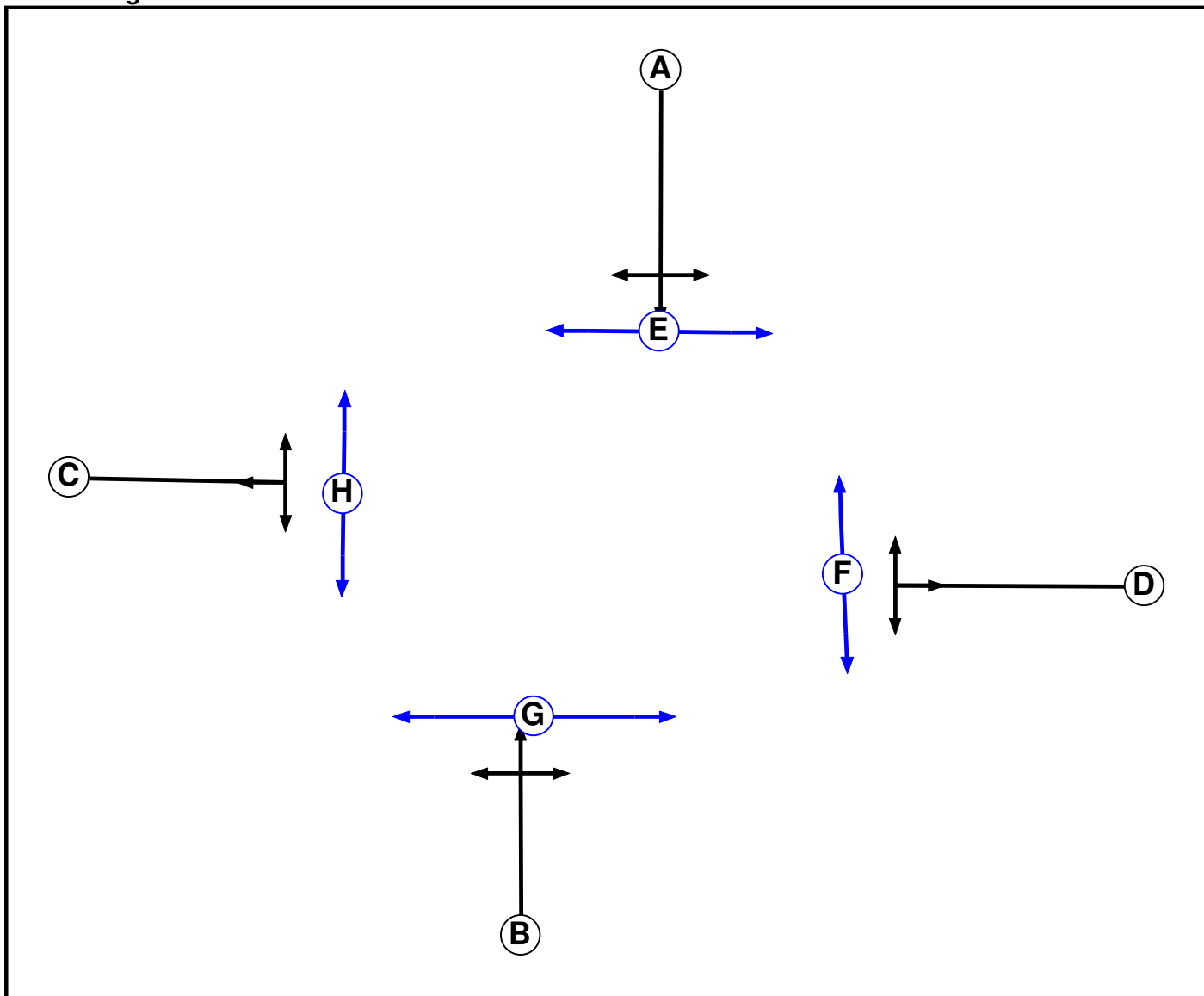
Basic Results Summary

Scenario 4: '2031 DS PM Peak' (FG4: '2031 DS PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Phase Diagram



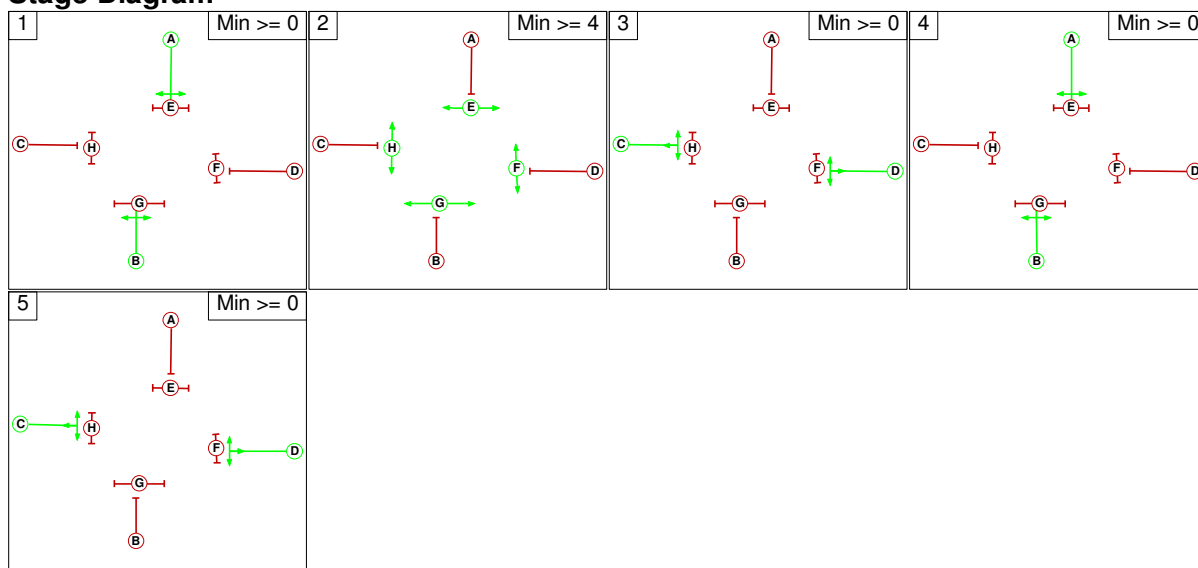


# Basic Results Summary

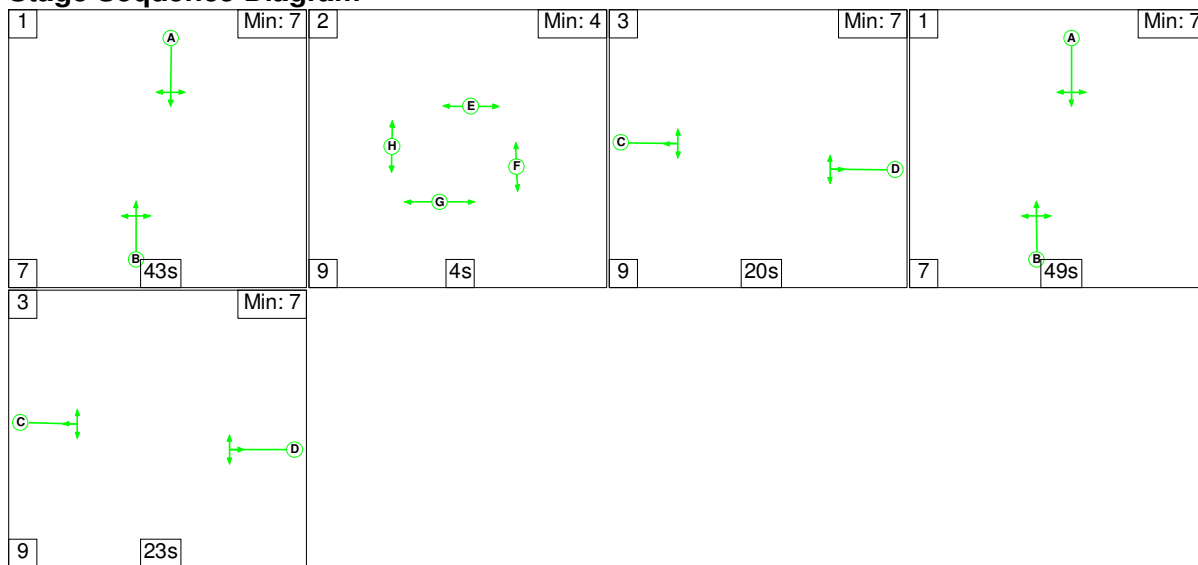
## Phase Intergrens Matrix

		Starting Phase							
		A	B	C	D	E	F	G	H
Terminating Phase	A	-	9	9	9	9	9	9	9
	B	9	-	9	9	9	9	9	9
	C	7	7	-	9	9	9	9	9
	D	7	7	-	9	9	9	9	9
	E	9	9	9	9	-	-	-	-
	F	9	9	9	9	-	-	-	-
	G	9	9	9	9	-	-	-	-
	H	9	9	9	9	-	-	-	-

## Stage Diagram



## Stage Sequence Diagram



Basic Results Summary

**Scenario 1: '2031 DM AM Peak'** (FG1: '2031 DM AM Peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Actual**

**Actual Flow :**

	Destination					Tot.
	A	B	C	D	Tot.	
Origin	A	0	160	622	83	865
	B	123	0	25	125	273
	C	416	92	0	10	518
	D	36	78	4	0	118
	Tot.	575	330	651	218	1774



Basic Results Summary

**Scenario 2: '2031 DM PM Peak'** (FG2: '2031 DM PM Peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Actual**

**Actual Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	67	484	134	685
	B	212	0	41	36	289
	C	585	126	0	9	720
	D	88	138	16	0	242
	Tot.	885	331	541	179	1936

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: High St / Station Road / Over Road / Berrycroft	-	-	-	-	-	-	-	-	-	-	79.3%	447	0	41	19.1	-	-
Unnamed Junction	-	-	-	-	-	-	-	-	-	-	79.3%	447	0	41	19.1	-	-
1/1	High Street Ahead Right Left	O	A		2	87	-	685	1888	934	73.4%	134	0	0	5.1	26.6	16.6
2/1	Berrycroft Left Ahead Right	O	C		2	48	-	289	1765	365	79.3%	172	0	40	6.1	75.5	11.7
3/1	Station Road Left Ahead Right	O	B		2	87	-	720	1880	930	77.5%	126	0	0	5.6	27.9	18.1
4/1	Over Road Right Left Ahead	O	D		2	48	-	242	1819	485	49.9%	15	0	1	2.4	36.0	6.6
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
C1																	
			PRC for Signalled Lanes (%):			13.6		Total Delay for Signalled Lanes (pcuHr):				19.13					
			PRC Over All Lanes (%):			13.6		Total Delay Over All Lanes (pcuHr):				19.13					
																	Cycle Time (s): 180

Basic Results Summary

**Scenario 3: '2031 DS AM Peak'** (FG3: '2031 DS AM Peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Actual**

**Actual Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	124	669	87	880
	B	157	0	89	91	337
	C	417	92	0	3	512
	D	39	88	3	0	130
	Tot.	613	304	761	181	1859

Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: High St / Station Road / Over Road / Berrycroft	-	-	-	-	-	-	-	-	-	-	87.1%	339	0	0	17.5	-	-
Unnamed Junction	-	-	-	-	-	-	-	-	-	-	87.1%	339	0	0	17.5	-	-
1/1	High Street Ahead Right Left	O	A		2	94	-	880	1895	1011	87.1%	87	0	0	7.7	31.6	24.0
2/1	Berrycroft Left Ahead Right	O	C		2	41	-	337	1783	396	85.0%	157	0	0	5.8	61.6	10.9
3/1	Station Road Left Ahead Right	O	B		2	94	-	512	1880	950	53.9%	92	0	0	2.8	19.4	9.5
4/1	Over Road Right Left Ahead	O	D		2	41	-	130	1841	415	31.4%	3	0	0	1.2	34.5	3.0
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
C1						PRC for Signalled Lanes (%): 3.4		Total Delay for Signalled Lanes (pcuHr): 17.49				Total Delay Over All Lanes (pcuHr): 17.49					Cycle Time (s): 180

Basic Results Summary

**Scenario 4: '2031 DS PM Peak'** (FG4: '2031 DS PM Peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Actual**

**Actual Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	72	550	116	738
	B	162	0	85	48	295
	C	694	155	0	5	854
	D	58	142	5	0	205
	Tot.	914	369	640	169	2092



Basic Results Summary

**Network Results**

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
<b>Network: High St / Station Road / Over Road / Berrycroft</b>																	
Unnamed Junction	-	-	-	-	-	-	-	-	-	-	87.0%	429	0	9	20.7	-	-
1/1	High Street Ahead Right Left	O	A		2	92	-	738	1894	989	74.6%	116	0	0	5.1	24.7	17.4
2/1	Berrycroft Left Ahead Right	O	C		2	43	-	295	1765	342	86.3%	153	0	9	5.7	69.1	10.3
3/1	Station Road Left Ahead Right	O	B		2	92	-	854	1880	982	87.0%	155	0	0	7.9	33.5	23.8
4/1	Over Road Right Left Ahead	O	D		2	43	-	205	1845	445	46.0%	5	0	0	2.1	36.2	5.0
Ped Link: P1	Unnamed Ped Link	-	F		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	E		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	G		1	4	-	0	-	0	0.0%	-	-	-	-	-	-
<p>C1      PRC for Signalled Lanes (%): 3.5      Total Delay for Signalled Lanes (pcuHr): 20.73      Cycle Time (s): 180</p> <p>PRC Over All Lanes (%): 3.5      Total Delay Over All Lanes (pcuHr): 20.73</p>																	