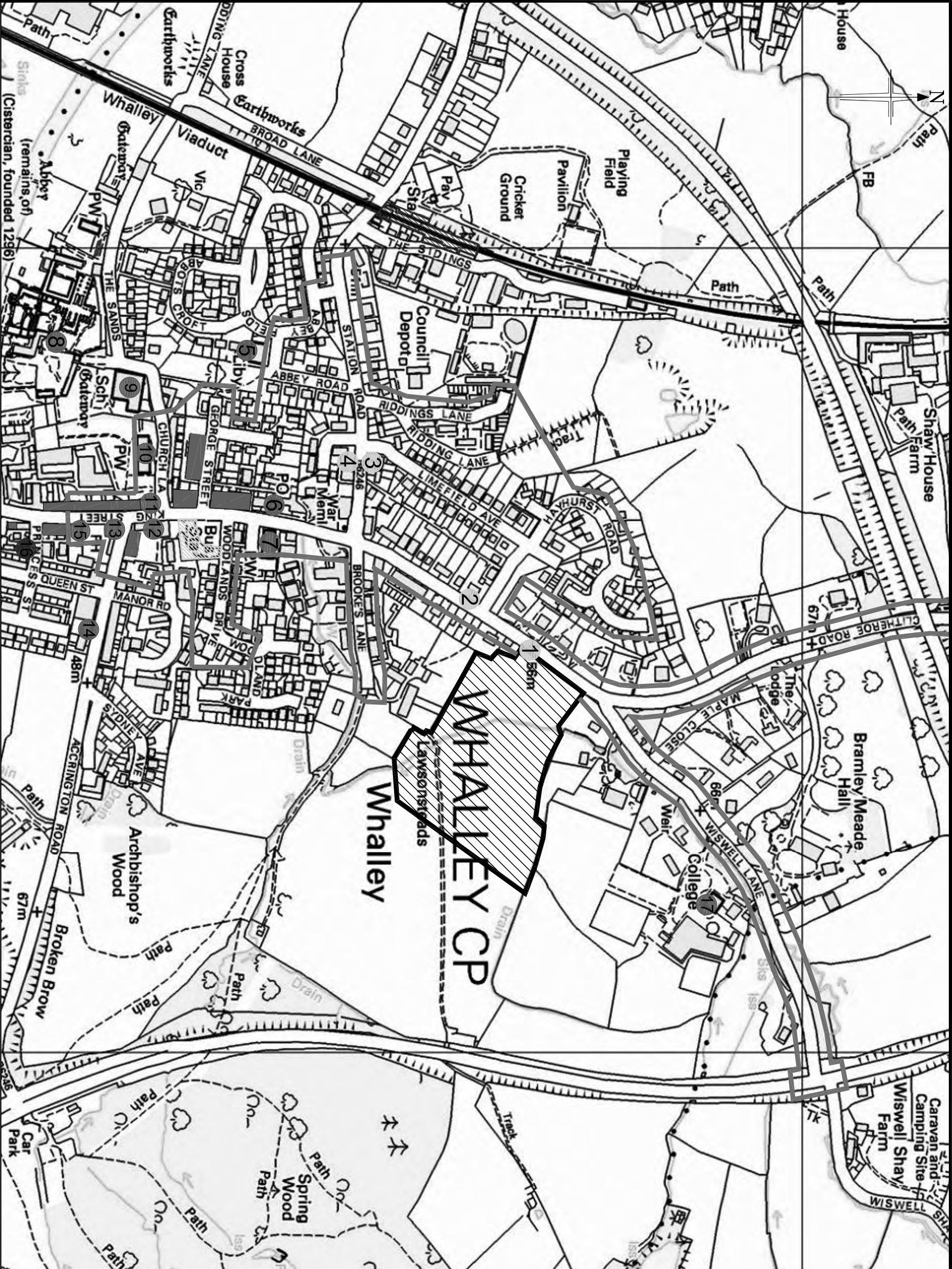


APPENDIX BGH 11



APPENDIX BGH 12



KEY

Site

800 Metre Walking Distance

Nearest Bus Stops to Site

Bus Station

Railway Station

Whalley Centre

Shopping Area including:

Funeral Directors

Estate Agents

Ironmongers

Dentist

News Agents

Sandwich Shop

Dry Cleaners

Spar

Barclays Bank

Clothing Shops

Italian Restaurant

Florist

Interiors Shop

Hairdresser

Craft Shop

Fish & Chip Shop

Cantonese Takeaway

Tea Shop

Other Facilities

1) Southbound Bus Stop - Clitheroe Road

2) Northbound Bus Stop - Clitheroe Road

3) Eastbound Bus Stop - Station Road

4) Westbound Bus Stop - Station Road

5) Whalley Public Library

6) Post Office

7) Whalley Methodist Church

8) Whalley Abbey

9) Whalley Primary School

10) St Mary's and All Saints Parish Church

11) The De Lacy Arms

12) The Swan Hotel

13) The Whalley Arms

14) Rendezvous Night Club

15) Whalley Medical Centre & Pharmacy

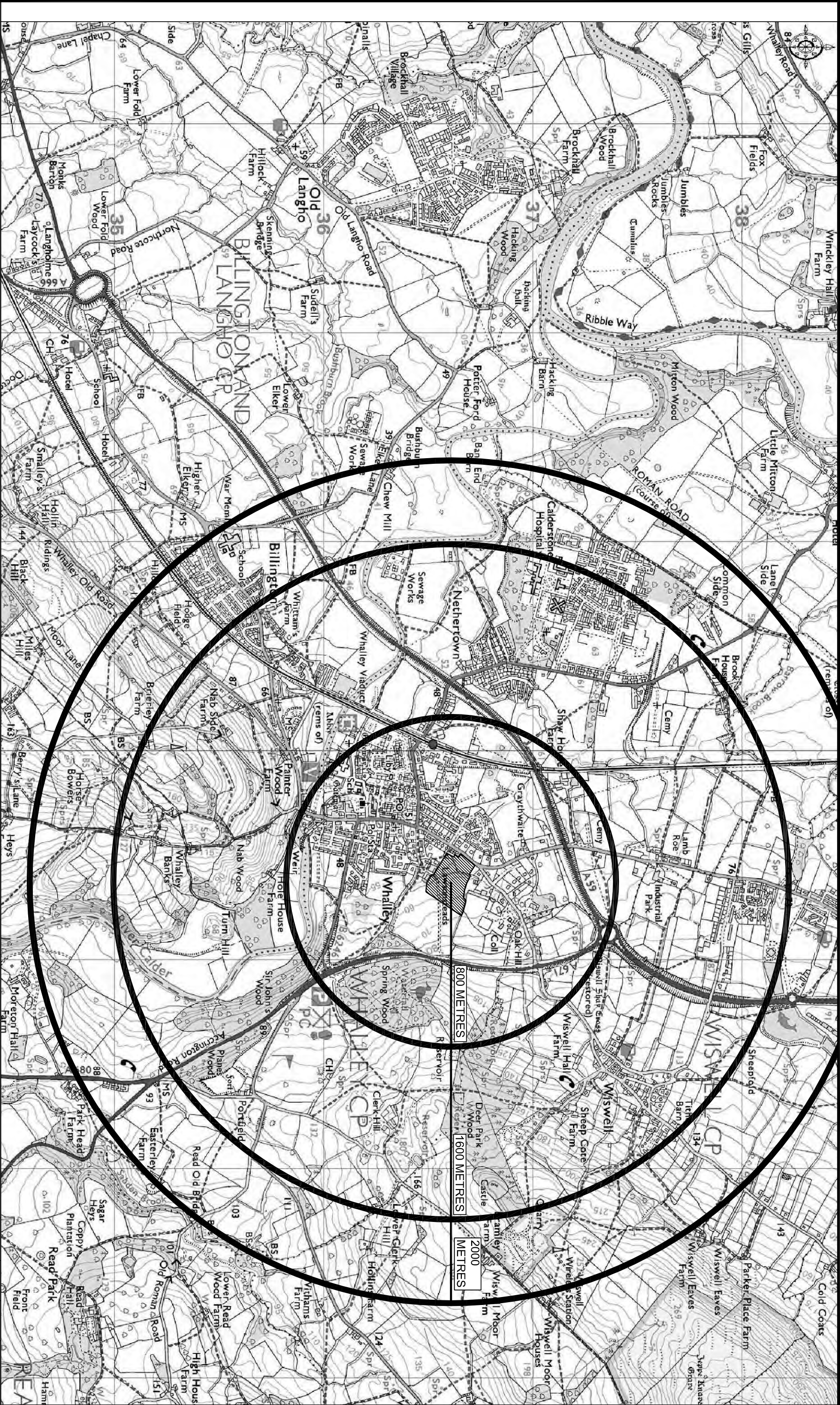
16) Whalley Police Station

17) Oakhill College/Oakhill Academy

Client	COMMERCIAL ESTATES GROUP LTD									
	BRYAN • G • HALL									
	consulting civil & transportation planning engineers									
Project	PROPOSED DEVELOPMENT									
	LAWSONSTEADS FARM, WHALLEY									
	LOCAL FACILITIES WITHIN 800 METRES									
Title	WALKING DISTANCE OF THE CENTRE OF THE SITE									
	Job No 10/228									
	Drawing No BGH12									
Rev	Amendments									
	Scale 1:5000 @ A3									
	Date MARCH 2012									
Drawn	AM									
	Checked DUP									
	Approved DUP									
Job No	10/228									
	Drawing No BGH12									
	Rev -									

FILENAME

APPENDIX BGH 13



Client		Project		Rev		Date		Doc Sheet No		Date	
COMMERCIAL ESTATES GROUP LTD		PROPOSED DEVELOPMENT LAWSONSTEADS FARM, WHALLEY		Amendments		Drawn		Chkd		Appr	
BRYAN • G • HALL		Title		Scale		Date		Checked		Approved	
consulting civil & transportation planning engineers		800, 1600 AND 2000 METRE WALKING ISOCHRONES		1:1.7,000 @ A3		MARCH 2012		DUP		DUP	
Bryan G Hall Ltd. Suite E8 Joseph's Well Horrover Walk LS3 1AB Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201		Job No		Drawing No		Rev					
		10/228		BGH13		—					

APPENDIX BGH 14

Bus Services - Clitheroe Road and Station Road

CLITHEROE ROAD					
Service	Route	Approx Frequency (Mins)			
		Monday to Friday		Saturday	Sunday
		Daytime	Evening		
26/27	Colne - Nelson - Burnley - Padiham	30	60	30	60
225	Clitheroe - Whalley - Blackburn - Bolton	30	60	30	60
231	Clitheroe - Whalley - Accrington	60	No Service	60	No Service
241	Clitheroe - Accrington - Royal - Blackburn	60	No Service	60	No Service
280/X80	Skipton - Barnoldswick - Clitheroe - Preston	60	No Service	60	No Service
STATION ROAD					
Service	Route	Approx Frequency (Mins)			
		Monday to Friday		Saturday	Sunday
		Daytime	Evening		
5	Clitheroe - Whalley - Ribchester - Longridge	120	No Service	120	No Service
C25	Clitheroe - Whalley - Brockhall - Blackburn	120	No Service	120	No Service

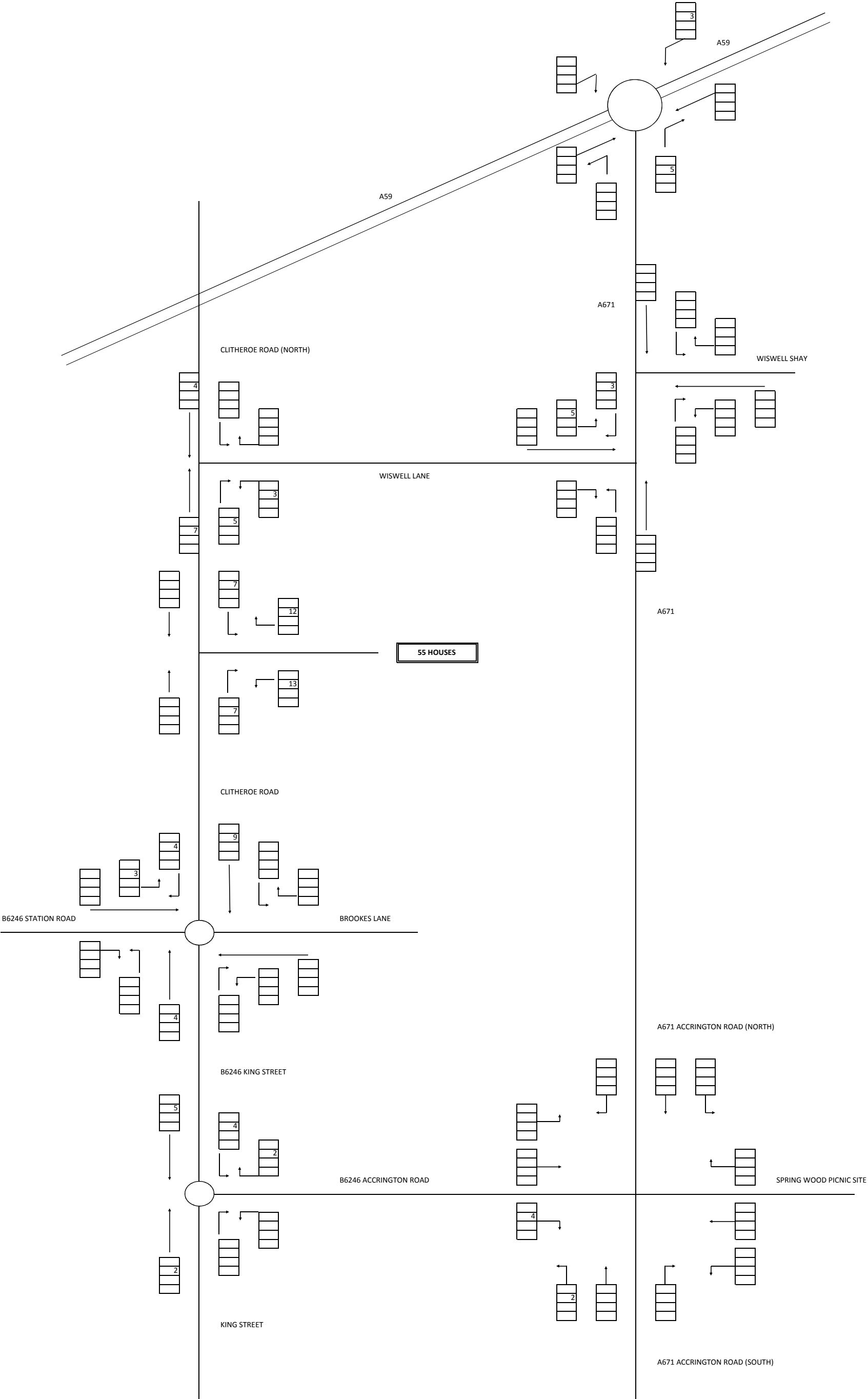
Rail Services - Whalley Railway Station

Route	Frequency (Mins)		
	Monday to Friday	Saturday	Sunday
Whalley - Clitheroe	60	60	60
Whalley - Manchester Victoria	60	60	60

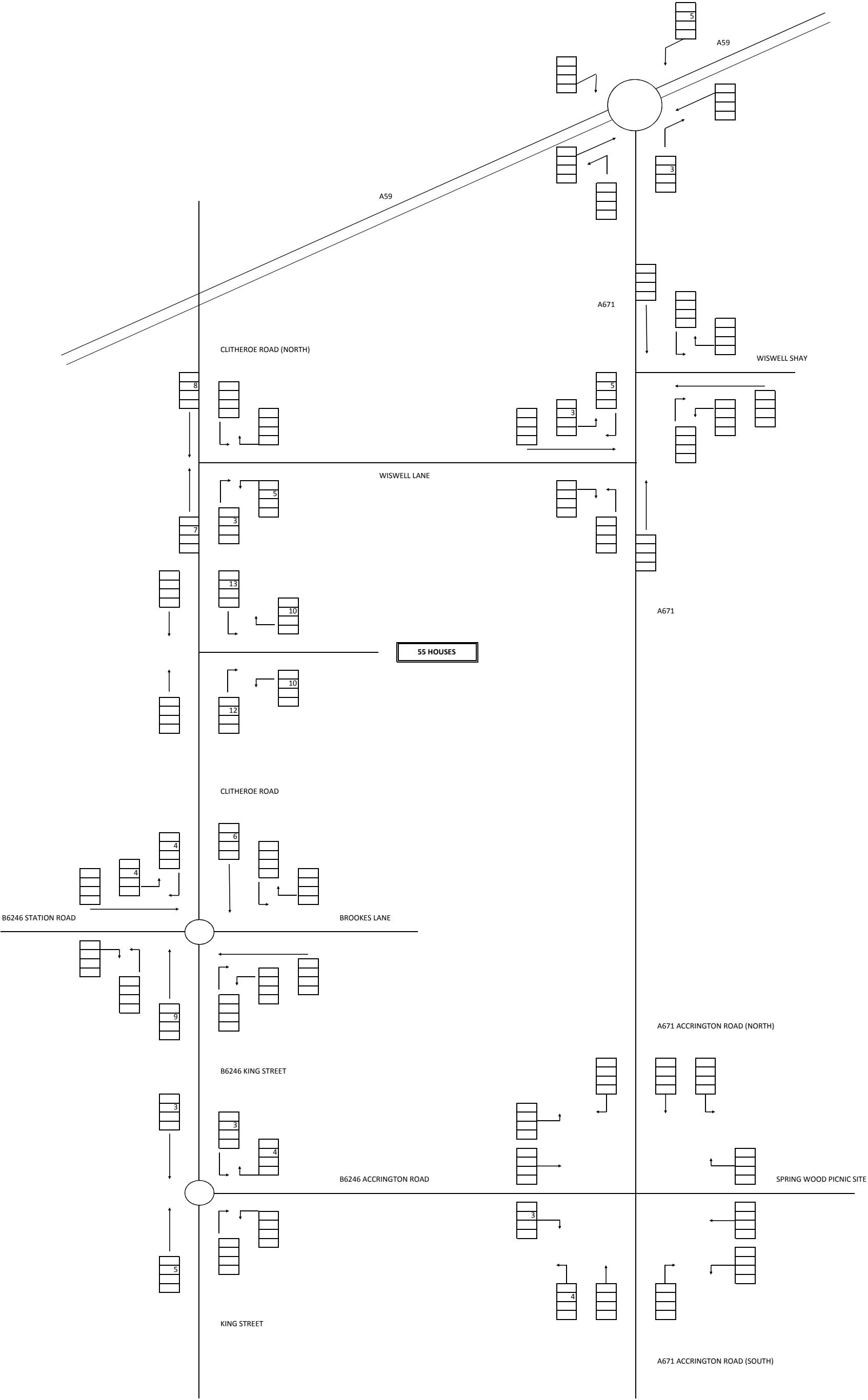
APPENDIX BGH 15

APPENDIX BGH 16

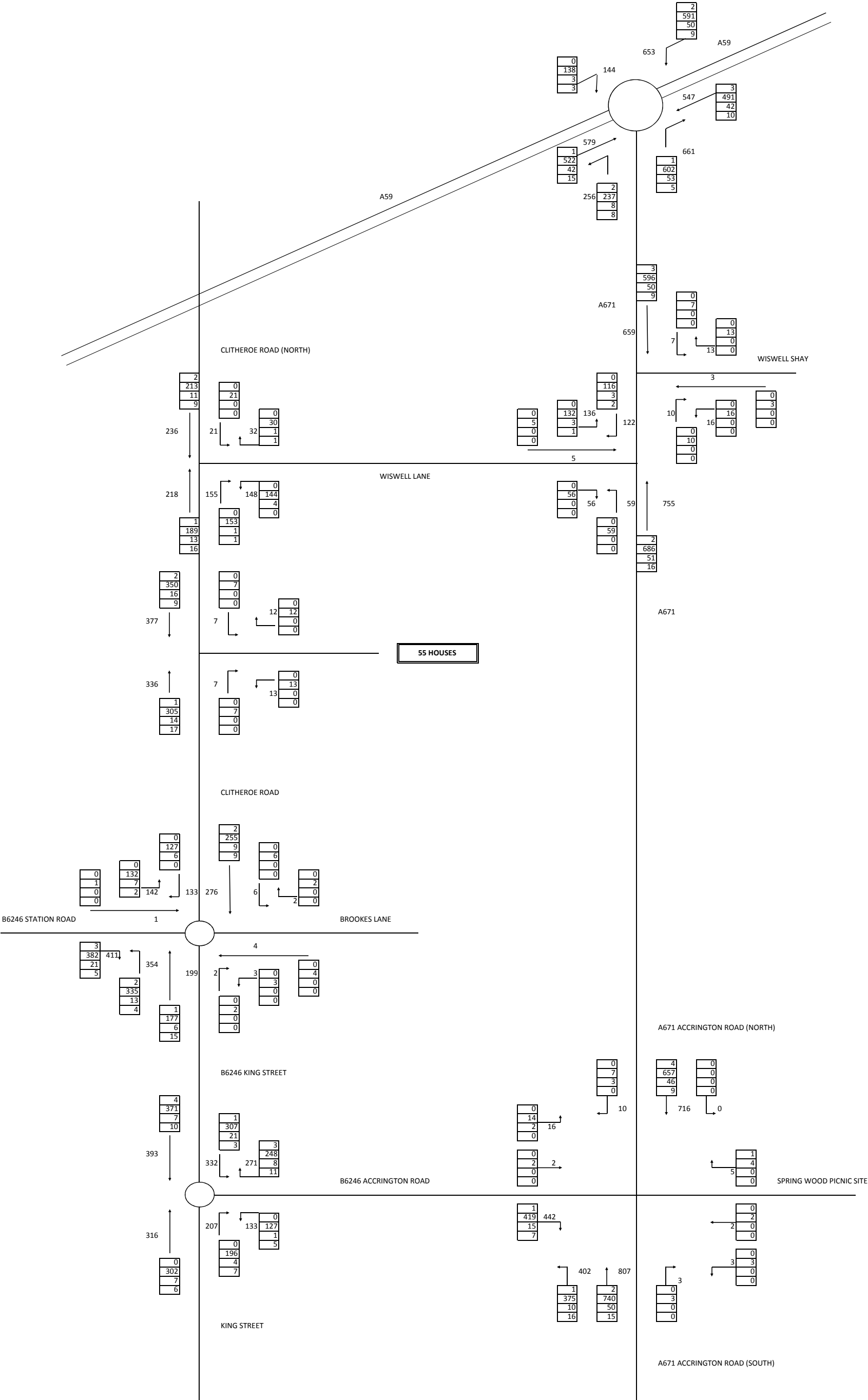
RENERATED RESIDENTIAL TRAFFIC FLOWS (55 DWELLINGS)
CEG, WHALLEY
08:00 - 09:00



RENERATED RESIDENTIAL TRAFFIC FLOWS (55 DWELLINGS)
CEG, WHALLEY
17:00 - 18:00



APPENDIX BGH 17



2017 PREDICTED TRAFFIC FLOWS

17:00 - 18:00



BROOKES LANE

B6246 KING STREET

B6246 ACCRINGTON ROAD

KING STREET

A671 ACCRINGTON ROAD (NORTH)

SPRING WOOD PICNIC SITE

A671 ACCRINGTON ROAD (SOUTH)

APPENDIX BGH 18

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (55 Dwellings)
\\PICADY\Clitheroe Road-Wiswell Lane\Clitheroe Road-Wiswell Lane

Report generation date: 30/03/2012 14:51:47

Existing Layout - 2017 Predicted, AM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

AM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Stream B-AC	0.67	0.21	0.40	B	62% [Stream B-AC]
Stream C-AB	0.80	0.14	0.37	A	
Stream C-A	-	-	-	-	
Stream A-B	-	-	-	-	
Stream A-C	-	-	-	-	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met

'D1 - 2017 Predicted, AM Peak' model duration: 07:45 - 09:15

'D2 - 2017 Predicted, PM Peak' model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 30/03/2012 14:51:46

File summary

File Description

Title	2016 Predicted Assessment 'Through Route Scenario'
Location	Clitheroe Road/Wiswell Lane
Site Number	
Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	Clitheroe Road/Wiswell Lane - Priority Junction

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (min)	Queue Threshold (PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

Existing Layout - 2017 Predicted, AM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, AM Peak	2017 Predicted	AM Peak		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (min)	Junction LOS
untitled	T-Junction	Two-way	A,B,C		0.17	B

Junction Network Options

Driving Side	Lighting	Road Surface	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	(Mini-roundabouts only)	62	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm Type
A	Clitheroe Road (North)		Major
B	Wiswell Lane		Minor
C	Clitheroe Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
-----	--------------------------	----------------------------	-------------------------------------	--------------------	--------------------------	-------------------------------	---------	----------------------

C	7.50	0.00	2.20	80.00	✓	0.00
---	------	------	------	-------	---	------

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.00										25	15

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	493.080	0.084	0.212	0.133	0.303
1	B-C	633.380	0.091	0.229	-	-
1	C-B	620.292	0.225	0.225	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	257.00	100.000
B	ONE HOUR	✓	180.00	100.000
C	ONE HOUR	✓	374.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

	To		
	A	B	C

From	A	0.000	21.000	236.000
	B	32.000	0.000	148.000
	C	219.000	155.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.08	0.92
	B	0.18	0.00	0.82
	C	0.59	0.41	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To			
From		A	B	C
	A	1.000	1.000	1.085
	B	1.063	1.000	1.027
	C	1.132	1.013	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
From		A	B	C
	A	0.000	0.000	8.470
	B	6.250	0.000	2.680
	C	13.240	1.290	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
B-AC	0.40	0.21	0.67	B	165.17	247.76	44.20	0.18	0.49	44.20	0.18
C-AB	0.37	0.14	0.80	A	203.37	305.06	51.47	0.17	0.57	51.47	0.17
C-A	-	-	-	-	139.81	209.72	-	-	-	-	-
A-B	-	-	-	-	19.27	28.90	-	-	-	-	-
A-C	-	-	-	-	216.56	324.84	-	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	135.51	33.88	134.13	0.00	520.65	0.260	0.00	0.35	0.155	A
C-AB	154.42	38.61	152.90	0.00	672.24	0.230	0.00	0.38	0.115	A
C-A	127.14	31.76	127.14	0.00	-	-	-	-	-	-

A-B	15.81	3.95	15.81	0.00	-	-	-	-	-	-
A-C	177.67	44.42	177.67	0.00	-	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	161.82	40.45	161.36	0.00	507.78	0.319	0.35	0.46	0.173	B
C-AB	195.61	48.90	195.04	0.00	685.07	0.286	0.38	0.52	0.122	A
C-A	140.61	35.15	140.61	0.00	-	-	-	-	-	-
A-B	18.88	4.72	18.88	0.00	-	-	-	-	-	-
A-C	212.16	53.04	212.16	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	198.18	49.55	197.36	0.00	489.63	0.405	0.46	0.67	0.205	B
C-AB	259.48	64.87	258.42	0.00	703.23	0.369	0.52	0.78	0.135	A
C-A	152.31	38.08	152.31	0.00	-	-	-	-	-	-
A-B	23.12	5.78	23.12	0.00	-	-	-	-	-	-
A-C	259.84	64.96	259.84	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	198.18	49.55	198.15	0.00	489.53	0.405	0.67	0.67	0.206	B
C-AB	259.80	64.95	259.76	0.00	703.48	0.369	0.78	0.80	0.136	A
C-A	151.98	37.99	151.98	0.00	-	-	-	-	-	-
A-B	23.12	5.78	23.12	0.00	-	-	-	-	-	-
A-C	259.84	64.96	259.84	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	161.82	40.45	162.60	0.00	507.64	0.319	0.67	0.48	0.174	B
C-AB	196.01	49.00	197.02	0.00	685.39	0.286	0.80	0.54	0.124	A
C-A	140.21	35.05	140.21	0.00	-	-	-	-	-	-
A-B	18.88	4.72	18.88	0.00	-	-	-	-	-	-
A-C	212.16	53.04	212.16	0.00	-	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	135.51	33.88	135.99	0.00	520.46	0.260	0.48	0.36	0.156	A
C-AB	154.94	38.73	155.54	0.00	672.47	0.230	0.54	0.39	0.117	A
C-A	126.63	31.66	126.63	0.00	-	-	-	-	-	-
A-B	15.81	3.95	15.81	0.00	-	-	-	-	-	-
A-C	177.67	44.42	177.67	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	4.97	0.33	0.155	A	A
C-AB	5.62	0.37	0.115	A	A
C-A	-	-	-	-	-

C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.69	0.45	0.173	B	B
C-AB	7.86	0.52	0.122	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.57	0.64	0.205	B	B
C-AB	11.84	0.79	0.135	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	10.05	0.67	0.206	B	B
C-AB	12.07	0.80	0.136	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	7.41	0.49	0.174	B	B
C-AB	8.16	0.54	0.124	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	5.52	0.37	0.156	A	A
C-AB	5.89	0.39	0.117	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (60 Dwellings)
\\PICADY\Clitheroe Road-Wiswell Lane\Clitheroe Road-Wiswell Lane

Report generation date: 28/03/2012 14:56:43

Existing Layout - 2017 Predicted, PM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

PM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Stream B-AC	0.90	0.25	0.48	B	42% [Stream B-AC]
Stream C-AB	0.69	0.12	0.32	A	
Stream C-A	-	-	-	-	
Stream A-B	-	-	-	-	
Stream A-C	-	-	-	-	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

'D1 - 2017 Predicted, AM Peak' model duration: 07:45 - 09:15

'D2 - 2017 Predicted, PM Peak' model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 28/03/2012 14:56:42

File summary

File Description

Title	2016 Predicted Assessment 'Through Route Scenario'
Location	Clitheroe Road/Wiswell Lane
Site Number	
Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	Clitheroe Road/Wiswell Lane - Priority Junction

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (min)	Queue Threshold (PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

Existing Layout - 2017 Predicted, PM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, PM Peak	2017 Predicted	PM Peak		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (min)	Junction LOS
untitled	T-Junction	Two-way	A,B,C		0.18	B

Junction Network Options

Driving Side	Lighting	Road Surface	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	(Mini-roundabouts only)	42	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm Type
A	Clitheroe Road (North)		Major
B	Wiswell Lane		Minor
C	Clitheroe Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
-----	--------------------------	----------------------------	-------------------------------------	--------------------	--------------------------	-------------------------------	---------	----------------------

C	7.50	0.00	2.20	80.00	✓	0.00
---	------	------	------	-------	---	------

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.00										25	15

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	493.080	0.084	0.212	0.133	0.303
1	B-C	633.380	0.091	0.229	-	-
1	C-B	620.292	0.225	0.225	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	319.00	100.000
B	ONE HOUR	✓	202.00	100.000
C	ONE HOUR	✓	416.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

	To		
	A	B	C

From	A	0.000	22.000	297.000
	B	45.000	0.000	157.000
	C	289.000	127.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.00	0.07	0.93
	B	0.22	0.00	0.78
From	C	0.69	0.31	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To			
		A	B	C
	A	1.000	1.000	1.034
	B	1.000	1.000	1.051
From	C	1.038	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.000	0.000	3.370
	B	0.000	0.000	5.100
From	C	3.800	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
B-AC	0.48	0.25	0.90	B	185.36	278.04	56.93	0.20	0.63	56.94	0.20
C-AB	0.32	0.12	0.69	A	185.01	277.52	44.60	0.16	0.50	44.61	0.16
C-A	-	-	-	-	196.72	295.08	-	-	-	-	-
A-B	-	-	-	-	20.19	30.28	-	-	-	-	-
A-C	-	-	-	-	272.53	408.80	-	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	152.08	38.02	150.37	0.00	502.00	0.303	0.00	0.43	0.170	B
C-AB	137.43	34.36	136.11	0.00	711.16	0.193	0.00	0.33	0.104	A
C-A	175.76	43.94	175.76	0.00	-	-	-	-	-	-

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A-B	16.56	4.14	16.56	0.00	-	-	-	-	-	-
A-C	223.60	55.90	223.60	0.00	-	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	181.59	45.40	180.97	0.00	487.10	0.373	0.43	0.58	0.196	B
C-AB	176.97	44.24	176.48	0.00	730.46	0.242	0.33	0.45	0.108	A
C-A	197.00	49.25	197.00	0.00	-	-	-	-	-	-
A-B	19.78	4.94	19.78	0.00	-	-	-	-	-	-
A-C	267.00	66.75	267.00	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	222.41	55.60	221.19	0.00	466.06	0.477	0.58	0.89	0.244	B
C-AB	240.00	60.00	239.08	0.00	757.60	0.317	0.45	0.68	0.116	A
C-A	218.03	54.51	218.03	0.00	-	-	-	-	-	-
A-B	24.22	6.06	24.22	0.00	-	-	-	-	-	-
A-C	327.00	81.75	327.00	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	222.41	55.60	222.35	0.00	465.98	0.477	0.89	0.90	0.246	B
C-AB	240.33	60.08	240.30	0.00	757.91	0.317	0.68	0.69	0.116	A
C-A	217.70	54.42	217.70	0.00	-	-	-	-	-	-
A-B	24.22	6.06	24.22	0.00	-	-	-	-	-	-
A-C	327.00	81.75	327.00	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	181.59	45.40	182.76	0.00	486.97	0.373	0.90	0.61	0.198	B
C-AB	177.38	44.34	178.26	0.00	730.91	0.243	0.69	0.47	0.109	A
C-A	196.60	49.15	196.60	0.00	-	-	-	-	-	-
A-B	19.78	4.94	19.78	0.00	-	-	-	-	-	-
A-C	267.00	66.75	267.00	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	152.08	38.02	152.74	0.00	501.82	0.303	0.61	0.44	0.172	B
C-AB	137.97	34.49	138.49	0.00	711.53	0.194	0.47	0.34	0.105	A
C-A	175.22	43.80	175.22	0.00	-	-	-	-	-	-
A-B	16.56	4.14	16.56	0.00	-	-	-	-	-	-
A-C	223.60	55.90	223.60	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.09	0.41	0.170	B	B
C-AB	4.87	0.32	0.104	A	A
C-A	-	-	-	-	-

C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	8.42	0.56	0.196	B	B
C-AB	6.84	0.46	0.108	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	12.62	0.84	0.244	B	B
C-AB	10.31	0.69	0.116	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	13.41	0.89	0.246	B	B
C-AB	10.47	0.70	0.116	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	9.52	0.63	0.198	B	B
C-AB	7.04	0.47	0.109	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	6.86	0.46	0.172	B	B
C-AB	5.08	0.34	0.105	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted AM Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (60 Dwellings)
ARCADY\Clitheroe Road-Brookes Lane-King Street-Station Road

Report generation date: 28/03/2012 15:05:17

Existing Layout - 2017 Predicted, AM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

AM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Arm A	19.19	2.47	1.04	F	-16% [Arm A]
Arm B	0.06	0.38	0.06	C	
Arm C	4.41	0.46	0.83	D	
Arm D	4.85	0.51	0.84	D	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

T2 - 2017 Predicted, AM Peak: model duration: 07:45 - 09:15

Run using ARCADY 8.0.0.296 at 28/03/2012 15:05:15

File summary

File Description

Title	2010 Existing and 2016 Base AM Assessment
Location	Clitheroe Road-Brookes Lane-King Street-Station Road
Site Number	
Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	R Spencer
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (min)	Queue Threshold (PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Existing Layout - 2017 Predicted, AM Peak

Data Errors and Warnings

No errors or warnings.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, AM Peak	2017 Predicted	AM Peak		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Arm Order	Junction Delay (min)	Junction LOS
untitled	Mini-roundabout	A,B,C,D	1.02	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	Normal/unknown		-16	Arm A

Arms

Arms

Arm	Name	Description
A	Clitheroe Road	
B	Brookes Lane	
C	King Street	
D	Station Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.00	3.00	3.10	0.01	9.00	6.50	-2.40	
B	2.40	2.40	3.30	0.01	14.00	10.00	-2.40	
C	3.00	3.00	4.20	4.00	12.50	4.00	3.00	
D	3.00	3.00	3.30	2.00	15.50	10.40	2.50	

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

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.625	771.199
B		(calculated)	(calculated)	0.598	726.551
C		(calculated)	(calculated)	0.685	893.740
D		(calculated)	(calculated)	0.644	928.582

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	417.00	100.000
B	ONE HOUR	✓	9.00	100.000
C	ONE HOUR	✓	555.00	100.000
D	ONE HOUR	✓	554.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

		To			
From		A	B	C	D
	A	0.000	6.000	277.000	134.000
	B	2.000	0.000	3.000	4.000
	C	199.000	2.000	0.000	354.000
	D	142.000	1.000	411.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To			
From		A	B	C	D
	A	0.00	0.01	0.66	0.32
	B	0.22	0.00	0.33	0.44
	C	0.36	0.00	0.00	0.64
	D	0.26	0.00	0.74	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
From		A	B	C	D
	A	1.000	1.000	1.067	1.047
	B	1.000	1.000	1.000	1.000
	C	1.108	1.000	1.000	1.048
	D	1.065	1.000	1.063	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
From		A	B	C	D
	A	0.000	0.000	6.740	4.650
	B	0.000	0.000	0.000	0.000
	C	10.770	0.000	0.000	4.800
	D	6.470	0.000	6.330	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
A	1.04	2.47	19.19	F	382.65	573.97	582.56	1.01	6.47	582.69	1.02
B	0.06	0.38	0.06	C	8.26	12.39	3.41	0.28	0.04	3.41	0.28
C	0.83	0.46	4.41	D	509.28	763.92	215.89	0.28	2.40	215.95	0.28
D	0.84	0.51	4.85	D	508.36	762.54	224.10	0.29	2.49	224.16	0.29

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	313.94	78.49	308.48	255.36	308.25	0.00	534.50	405.97	0.587	0.00	1.36	0.260	C
B	6.78	1.69	6.70	6.67	610.06	0.00	338.96	148.50	0.020	0.00	0.02	0.181	B
C	417.83	104.46	413.16	513.16	103.59	0.00	766.54	684.96	0.545	0.00	1.17	0.168	B
D	417.08	104.27	412.49	365.63	151.12	0.00	771.92	686.86	0.540	0.00	1.15	0.165	A

Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	374.88	93.72	369.24	306.56	369.98	0.00	495.80	405.97	0.756	1.36	2.77	0.454	D
B	8.09	2.02	8.05	7.99	731.23	0.00	261.97	148.50	0.031	0.02	0.03	0.236	B
C	498.94	124.73	496.08	615.25	124.02	0.00	752.87	684.96	0.663	1.17	1.88	0.231	B
D	498.04	124.51	495.10	438.65	181.45	0.00	751.61	686.86	0.663	1.15	1.88	0.231	B

Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	459.13	114.78	420.67	371.80	448.09	0.00	446.83	405.97	1.028	2.77	12.39	1.423	F

B	9.91	2.48	9.81	9.31	859.45	0.00	180.48	148.50	0.055	0.03	0.06	0.351	C
C	611.07	152.77	602.22	727.54	141.72	0.00	741.04	684.96	0.825	1.88	4.10	0.408	C
D	609.97	152.49	599.61	523.66	220.28	0.00	725.61	686.86	0.841	1.88	4.47	0.443	D

Main results: (08:30-08:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	459.13	114.78	431.92	376.81	454.69	0.00	442.70	405.97	1.037	12.39	19.19	2.474	F
B	9.91	2.48	9.89	9.51	877.10	0.00	169.28	148.50	0.059	0.06	0.06	0.376	C
C	611.07	152.77	609.82	741.60	145.39	0.00	738.58	684.96	0.827	4.10	4.41	0.456	D
D	609.97	152.49	608.44	532.16	223.05	0.00	723.75	686.86	0.843	4.47	4.85	0.505	D

Main results: (08:45-09:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	374.88	93.72	435.62	314.41	380.47	0.00	489.22	405.97	0.766	19.19	4.00	1.388	F
B	8.09	2.02	8.17	9.02	807.07	0.00	213.83	148.50	0.038	0.06	0.04	0.292	C
C	498.94	124.73	507.83	669.82	145.43	0.00	738.51	684.96	0.676	4.41	2.18	0.269	C
D	498.04	124.51	509.14	467.53	185.73	0.00	748.74	686.86	0.665	4.85	2.08	0.261	C

Main results: (09:00-09:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	313.94	78.49	323.90	260.48	314.27	0.00	530.72	405.97	0.592	4.00	1.51	0.303	C
B	6.78	1.69	6.85	6.94	631.23	0.00	325.51	148.50	0.021	0.04	0.02	0.188	B
C	417.83	104.46	421.60	529.43	108.65	0.00	763.15	684.96	0.548	2.18	1.24	0.178	B
D	417.08	104.27	420.55	376.04	154.21	0.00	769.85	686.86	0.542	2.08	1.21	0.173	B

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.63	1.24	0.260	C	B
B	0.29	0.02	0.181	B	B
C	16.41	1.09	0.168	B	B
D	16.13	1.08	0.165	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	36.68	2.45	0.454	D	C
B	0.45	0.03	0.236	B	B
C	26.41	1.76	0.231	B	B
D	26.37	1.76	0.231	B	B

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	124.68	8.31	1.423	F	F
B	0.81	0.05	0.351	C	C
C	53.26	3.55	0.408	C	C
D	57.18	3.81	0.443	D	C

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	238.56	15.90	2.474	F	F
B	0.90	0.06	0.376	C	C
C	64.23	4.28	0.456	D	D
D	70.48	4.70	0.505	D	C

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	138.31	9.22	1.386	F	F
B	0.63	0.04	0.292	C	B
C	35.89	2.39	0.269	D	B
D	34.76	2.32	0.261	C	B

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	25.70	1.71	0.303	C	B
B	0.34	0.02	0.188	B	B
C	19.69	1.31	0.178	B	B
D	19.19	1.28	0.173	B	B

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted PM Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (55 Dwellings)
ARCADY\Clitheroe Road-Brookes Lane-King Street-Station Road

Report generation date: 30/03/2012 15:00:50

Existing Layout - 2017 Predicted, PM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

PM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Arm A	13.51	1.75	0.99	F	-14% [Arm C]
Arm B	0.03	0.33	0.03	C	
Arm C	26.71	2.06	1.04	F	
Arm D	3.74	0.42	0.80	C	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

T2 - 2017 Predicted, PM Peak: model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 30/03/2012 15:00:48

File summary

File Description

Title	2010 Existing and 2016 Base PM Assessment
Location	Clitheroe Road-Brookes Lane-King Street-Station Road
Site Number	
Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	R Spencer
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (min)	Queue Threshold (PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Existing Layout - 2017 Predicted, PM Peak

Data Errors and Warnings

No errors or warnings.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, PM Peak	2017 Predicted	PM Peak		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Arm Order	Junction Delay (min)	Junction LOS
untitled	Mini-roundabout	A,B,C,D	1.46	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	Normal/unknown		-14	Arm C

Arms

Arms

Arm	Name	Description
A	Clitheroe Road	
B	Brookes Lane	
C	King Street	
D	Station Road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00
D	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	3.00	3.00	3.10	0.01	9.00	6.50	-2.40	
B	2.40	2.40	3.30	0.01	14.00	10.00	-2.40	
C	3.00	3.00	4.20	4.00	12.50	4.00	3.00	
D	3.00	3.00	3.30	2.00	15.50	10.40	2.50	

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

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.625	771.199
B		(calculated)	(calculated)	0.598	726.551
C		(calculated)	(calculated)	0.685	893.740
D		(calculated)	(calculated)	0.644	928.582

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	433.00	100.000
B	ONE HOUR	✓	5.00	100.000
C	ONE HOUR	✓	687.00	100.000
D	ONE HOUR	✓	514.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

		To			
From		A	B	C	D
	A	0.000	2.000	252.000	179.000
	B	2.000	0.000	1.000	2.000
	C	295.000	4.000	0.000	388.000
	D	136.000	1.000	377.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To			
From		A	B	C	D
	A	0.00	0.00	0.58	0.41
	B	0.40	0.00	0.20	0.40
	C	0.43	0.01	0.00	0.56
	D	0.26	0.00	0.73	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To				
From		A	B	C	D
	A	1.000	1.000	1.033	1.063
	B	1.000	1.000	1.000	1.000
	C	1.032	1.000	1.000	1.028
	D	1.023	1.000	1.016	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To				
From		A	B	C	D
	A	0.000	0.000	3.250	6.290
	B	0.000	0.000	0.000	0.000
	C	3.150	0.000	0.000	2.840
	D	2.270	0.000	1.590	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
A	0.99	1.75	13.51	F	397.33	595.99	437.51	0.73	4.86	437.62	0.73
B	0.03	0.33	0.03	C	4.59	6.88	1.69	0.25	0.02	1.69	0.25
C	1.04	2.06	26.71	F	630.40	945.60	846.41	0.90	9.40	846.59	0.90
D	0.80	0.42	3.74	C	471.85	707.48	185.42	0.26	2.06	185.46	0.26

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	325.98	81.50	320.73	321.58	284.61	0.00	565.12	429.23	0.577	0.00	1.31	0.241	B
B	3.76	0.94	3.72	5.19	600.15	0.00	356.20	153.64	0.011	0.00	0.01	0.170	B
C	517.21	129.30	509.45	468.31	135.57	0.00	772.31	660.78	0.670	0.00	1.94	0.222	B
D	386.97	96.74	382.97	421.81	223.22	0.00	766.81	685.88	0.505	0.00	1.00	0.155	A

Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	389.26	97.31	384.43	385.06	341.55	0.00	530.53	429.23	0.734	1.31	2.52	0.398	C
B	4.49	1.12	4.47	6.22	719.76	0.00	282.39	153.64	0.016	0.01	0.02	0.216	B
C	617.60	154.40	609.36	561.73	162.50	0.00	753.29	660.78	0.820	1.94	4.00	0.395	C
D	462.07	115.52	459.61	504.86	267.00	0.00	738.25	685.88	0.626	1.00	1.61	0.213	B

Main results: (17:15-17:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	476.74	119.19	447.94	452.16	414.78	0.00	486.03	429.23	0.981	2.52	9.72	1.119	F

B	5.51	1.38	5.46	7.25	855.47	0.00	198.81	153.64	0.028	0.02	0.03	0.310	C
C	756.40	189.10	703.80	671.38	189.54	0.00	734.19	660.77	1.030	4.00	17.15	1.163	F
D	565.92	141.48	558.44	584.85	308.50	0.00	711.17	685.88	0.796	1.61	3.49	0.375	C

Main results: (17:30-17:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	476.74	119.19	461.59	460.05	419.63	0.00	483.08	429.23	0.987	9.72	13.51	1.752	F
B	5.51	1.38	5.50	7.41	873.81	0.00	187.42	153.64	0.029	0.03	0.03	0.330	C
C	756.40	189.10	718.16	684.09	195.22	0.00	730.18	660.77	1.036	17.15	26.71	2.057	F
D	565.92	141.48	564.92	598.62	314.76	0.00	707.08	685.88	0.800	3.49	3.74	0.415	C

Main results: (17:45-18:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	389.26	97.31	430.41	425.60	349.23	0.00	525.86	429.23	0.740	13.51	3.22	0.790	E
B	4.49	1.12	4.54	6.96	772.68	0.00	249.43	153.64	0.018	0.03	0.02	0.245	B
C	617.60	154.40	697.70	595.65	181.56	0.00	739.81	660.78	0.835	26.71	6.68	1.433	F
D	462.07	115.52	469.35	573.79	305.48	0.00	713.14	685.88	0.648	3.74	1.92	0.253	C

Main results: (18:00-18:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	325.98	81.50	333.11	334.68	290.22	0.00	561.72	429.23	0.580	3.22	1.44	0.270	C
B	3.76	0.94	3.79	5.41	617.91	0.00	345.19	153.64	0.011	0.02	0.01	0.176	B
C	517.21	129.30	535.31	480.96	140.74	0.00	768.65	660.78	0.673	6.68	2.16	0.275	C
D	386.97	96.74	390.40	441.55	234.50	0.00	759.45	685.88	0.510	1.92	1.06	0.164	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.02	1.20	0.241	B	B
B	0.15	0.01	0.170	B	B
C	26.39	1.76	0.222	B	B
D	14.10	0.94	0.155	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	33.82	2.25	0.398	C	C
B	0.23	0.02	0.216	B	B
C	52.37	3.49	0.395	C	C
D	22.77	1.52	0.213	B	B

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	103.55	6.90	1.119	F	E
B	0.40	0.03	0.310	C	B
C	171.90	11.46	1.163	F	E
D	45.95	3.06	0.375	C	C

Report generated by ARCADY 8 (8.0.0.296) on 30/03/2012 15:00:51

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	176.09	11.74	1.752	F	F
B	0.44	0.03	0.330	C	B
C	330.98	22.07	2.057	F	F
D	54.59	3.64	0.415	C	C

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	82.38	5.49	0.790	E	D
B	0.29	0.02	0.245	B	B
C	226.46	15.10	1.433	F	F
D	31.22	2.08	0.253	C	B

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	23.65	1.58	0.270	C	B
B	0.17	0.01	0.176	B	B
C	38.30	2.55	0.275	C	B
D	16.78	1.12	0.164	A	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted AM Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (60 Dwellings)
ARCADY\B6246 King Street-Accrington Road-King Street

Report generation date: 28/03/2012 16:01:45

Existing Layout - 2017 Predicted, AM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

AM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Arm A	71.30	6.11	1.18	F	-25% [Arm A]
Arm B	2.23	0.31	0.70	C	
Arm C	17.52	1.85	1.01	F	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

'D1 - 2017 Predicted, AM Peak' model duration: 07:45 - 09:15

Run using ARCADY 8.0.0.296 at 28/03/2012 16:01:44

File summary

File Description

Title	2010 Existing and 2016 Base AM Assessment
Location	B6246 King Street-Accrington Road-King Street
Site Number	
Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
----------------	----------	--------------------	----------------------------	-----	-------------------------	-----------------

(m)	Variations	Capacity	Type	Threshold	(min)	(PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Existing Layout - 2017 Predicted, AM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

							Model		Results				
--	--	--	--	--	--	--	-------	--	---------	--	--	--	--

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, AM Peak	2017 Predicted	AM Peak		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Arm Order	Junction Delay (min)	Junction LOS
untitled	Mini-roundabout	A,B,C	3.34	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	Normal/unknown		-25	Arm A

Arms

Arms

Arm	Name	Description
A	B6246 King Street	
B	B6246 Accrington Road	
C	King Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	2.70	2.70	4.10	4.20	15.00	10.00	0.00	
B	3.80	3.80	4.90	10.00	11.00	2.00	0.00	
C	3.50	3.50	3.50	0.00	16.00	16.00	0.00	

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

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.527	834.959
B		(calculated)	(calculated)	0.585	899.867

C	(calculated)	(calculated)	0.607	792.631
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The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	725.00	100.000
B	ONE HOUR	✓	404.00	100.000
C	ONE HOUR	✓	523.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	332.000	393.000
	B	271.000	0.000	133.000
	C	316.000	207.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.46	0.54
	B	0.67	0.00	0.33
	C	0.60	0.40	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.072	1.043
	B	1.070	1.000	1.045
	C	1.041	1.053	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C

From	A	0.000	7.230	4.330
	B	7.010	0.000	4.510
	C	4.110	5.310	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
A	1.18	6.11	71.30	F	665.27	997.91	3087.72	3.09	34.31	3122.73	3.13
B	0.70	0.31	2.23	C	370.72	556.08	128.23	0.23	1.42	128.27	0.23
C	1.01	1.85	17.52	F	479.91	719.87	560.56	0.78	6.23	560.71	0.78

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	545.82	136.45	533.69	435.98	153.34	0.00	709.74	687.60	0.769	0.00	3.03	0.322	C
B	304.15	76.04	300.99	397.73	289.30	0.00	681.23	633.29	0.446	0.00	0.79	0.157	A
C	393.74	98.44	387.42	388.38	201.90	0.00	632.47	493.99	0.623	0.00	1.58	0.239	B

Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	651.76	162.94	629.92	522.91	183.71	0.00	693.80	687.60	0.939	3.03	6.49	0.754	E
B	363.19	90.80	361.46	472.17	341.46	0.00	651.26	633.30	0.558	0.79	1.22	0.206	B
C	470.17	117.54	464.15	460.45	242.46	0.00	607.27	493.98	0.774	1.58	3.08	0.403	C

Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	798.24	199.56	671.49	621.64	213.41	0.00	678.20	687.60	1.177	8.49	40.18	2.441	F
B	444.81	111.20	441.05	520.90	363.99	0.00	638.31	633.31	0.697	1.22	2.16	0.298	C
C	575.83	143.96	539.19	509.19	295.86	0.00	574.11	493.97	1.003	3.08	12.24	1.138	F

Main results: (08:30-08:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	798.24	199.56	673.76	633.37	219.56	0.00	674.97	687.60	1.183	40.18	71.30	5.148	F
B	444.81	111.20	444.54	528.09	365.22	0.00	637.61	633.31	0.698	2.16	2.23	0.310	C
C	575.83	143.96	554.73	511.57	298.19	0.00	572.65	493.97	1.006	12.24	17.52	1.846	F

Main results: (08:45-09:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	651.76	162.94	671.93	562.57	207.40	0.00	681.36	687.60	0.957	71.30	66.36	6.106	F

B	363.19	90.80	366.67	515.10	364.23	0.00	638.18	633.30	0.569	2.23	1.36	0.224	B
C	470.17	117.54	524.01	484.94	245.96	0.00	605.10	493.98	0.777	17.52	4.06	0.948	F

Main results: (09:00-09:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	545.82	136.45	695.99	448.64	159.52	0.00	706.50	687.60	0.773	66.26	28.71	4.159	F
B	304.15	76.04	305.79	478.23	377.28	0.00	630.68	633.29	0.482	1.36	0.95	0.186	B
C	393.74	98.44	403.04	477.94	205.12	0.00	630.47	493.99	0.625	4.06	1.73	0.274	C

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	39.23	2.62	0.322	C	B
B	11.23	0.75	0.157	A	A
C	21.59	1.44	0.239	B	B

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	98.23	6.55	0.754	E	C
B	17.41	1.16	0.206	B	B
C	41.01	2.73	0.403	C	C

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	369.83	24.66	2.441	F	F
B	29.77	1.98	0.298	C	B
C	127.40	8.49	1.138	F	E

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	836.48	55.77	5.148	F	F
B	33.08	2.21	0.310	C	B
C	225.24	15.02	1.846	F	F

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	1031.68	68.78	6.106	F	F
B	21.78	1.45	0.224	B	B
C	116.40	7.76	0.948	F	E

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	712.28	47.49	4.159	F	F
B	14.96	1.00	0.186	B	B
C	28.93	1.93	0.274	C	B

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted PM Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (55 Dwellings)
VARCADY\B6246 King Street-Accrington Road-King Street

Report generation date: 30/03/2012 15:04:26

Existing Layout - 2017 Predicted, PM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

PM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Arm A	19.44	1.61	1.00	F	-19% [Arm C]
Arm B	2.58	0.32	0.73	C	
Arm C	38.52	3.36	1.10	F	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

'D2 - 2017 Predicted, PM Peak' model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 30/03/2012 15:04:25

File summary

File Description

Title	2010 Existing and 2016 Base PM Assessment
Location	B6246 King Street-Accrington Road-King Street
Site Number	
Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
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(m)	Variations	Capacity	Type	Threshold	(min)	(PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

Existing Layout - 2017 Predicted, PM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, PM Peak	2017 Predicted	PM Peak		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Arm Order	Junction Delay (min)	Junction LOS
untitled	Mini-roundabout	A,B,C	1.88	F

Junction Network Options

Driving Side	Lighting	Road Surface	In London	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	Normal/unknown		-19	Arm C

Arms

Arms

Arm	Name	Description
A	B6246 King Street	
B	B6246 Accrington Road	
C	King Street	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
A	2.70	2.70	4.10	4.20	15.00	10.00	0.00	
B	3.80	3.80	4.90	10.00	11.00	2.00	0.00	
C	3.50	3.50	3.50	0.00	16.00	16.00	0.00	

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

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.527	834.959
B		(calculated)	(calculated)	0.585	899.867
C		(calculated)	(calculated)	0.607	792.631

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	668.00	100.000
B	ONE HOUR	✓	451.00	100.000
C	ONE HOUR	✓	590.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

	To		
	A	B	C
From	A	0.000	353.000
	B	283.000	0.000
	C	420.000	170.000

Turning Proportions (Veh) - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.00	0.53	0.47
	B	0.63	0.00	0.37
	C	0.71	0.29	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To			
		A	B	C
From	A	1.000	1.014	1.019
	B	1.036	1.000	1.012
	C	1.015	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.000	1.430	1.920
	B	3.570	0.000	1.190
	C	1.450	0.000	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
A	1.00	1.61	19.44	F	612.97	919.45	654.96	0.71	7.28	655.15	0.71
B	0.73	0.32	2.58	C	413.85	620.77	138.05	0.22	1.53	138.08	0.22
C	1.10	3.36	38.52	F	541.40	812.09	1274.99	1.57	14.17	1275.24	1.57

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	502.91	125.73	495.31	521.45	125.67	0.00	756.20	743.42	0.665	0.00	1.90	0.224	B
B	339.54	84.88	336.21	387.41	233.57	0.00	740.79	672.88	0.458	0.00	0.83	0.147	A
C	444.18	111.05	436.15	358.81	210.97	0.00	653.24	521.77	0.680	0.00	2.01	0.267	C

Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	600.52	150.13	593.18	623.69	149.92	0.00	743.63	743.42	0.808	1.90	3.73	0.381	C

B	405.44	101.36	403.65	463.39	279.72	0.00	714.01	672.88	0.568	0.83	1.28	0.192	B
C	530.40	132.60	520.32	430.08	253.29	0.00	626.90	521.74	0.846	2.01	4.53	0.518	D

Main results: (17:15-17:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	735.48	183.87	695.46	719.11	166.14	0.00	735.23	743.42	1.000	3.73	13.74	1.001	F
B	496.56	124.14	491.87	533.65	327.95	0.00	686.01	672.88	0.724	1.28	2.45	0.302	C
C	649.60	162.40	576.60	511.18	308.65	0.00	592.45	521.74	1.096	4.53	22.78	1.724	F

Main results: (17:30-17:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	735.48	183.87	712.66	728.89	169.03	0.00	733.73	743.42	1.002	13.74	19.44	1.606	F
B	496.56	124.14	496.06	545.63	336.06	0.00	681.30	672.88	0.729	2.45	2.58	0.322	C
C	649.60	162.40	586.65	520.84	311.28	0.00	590.82	521.74	1.100	22.78	38.52	3.358	F

Main results: (17:45-18:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	600.52	150.13	656.06	690.53	175.37	0.00	730.45	743.42	0.822	19.44	5.56	0.976	F
B	405.44	101.36	410.00	522.05	309.37	0.00	696.80	672.88	0.582	2.58	1.43	0.212	B
C	530.40	132.60	608.62	462.09	257.27	0.00	624.42	521.74	0.849	38.52	18.96	2.909	F

Main results: (18:00-18:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	502.91	125.73	516.43	578.05	147.17	0.00	745.06	743.42	0.675	5.56	2.18	0.276	C
B	339.54	84.88	341.78	420.07	243.53	0.00	735.01	672.88	0.462	1.43	0.87	0.153	A
C	444.18	111.05	510.76	370.84	214.46	0.00	651.06	521.77	0.682	18.96	2.32	0.603	E

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	25.85	1.72	0.224	B	B
B	11.81	0.79	0.147	A	A
C	26.97	1.80	0.267	C	B

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	49.36	3.29	0.381	C	C
B	18.20	1.21	0.192	B	B
C	57.48	3.83	0.518	D	C

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	144.52	9.63	1.001	F	E
B	33.40	2.23	0.302	C	B
C	214.29	14.29	1.724	F	F

Queueing Delay results: (17:30-17:45)

Queueing Delay results: (17:30-17:43)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	251.10	16.74	1.606	F	F
B	37.92	2.53	0.322	C	B
C	460.78	30.72	3.358	F	F

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	146.90	9.79	0.976	F	E
B	23.00	1.53	0.212	B	B
C	431.10	28.74	2.909	F	F

Queueing Delay results: (18:00-18:15)

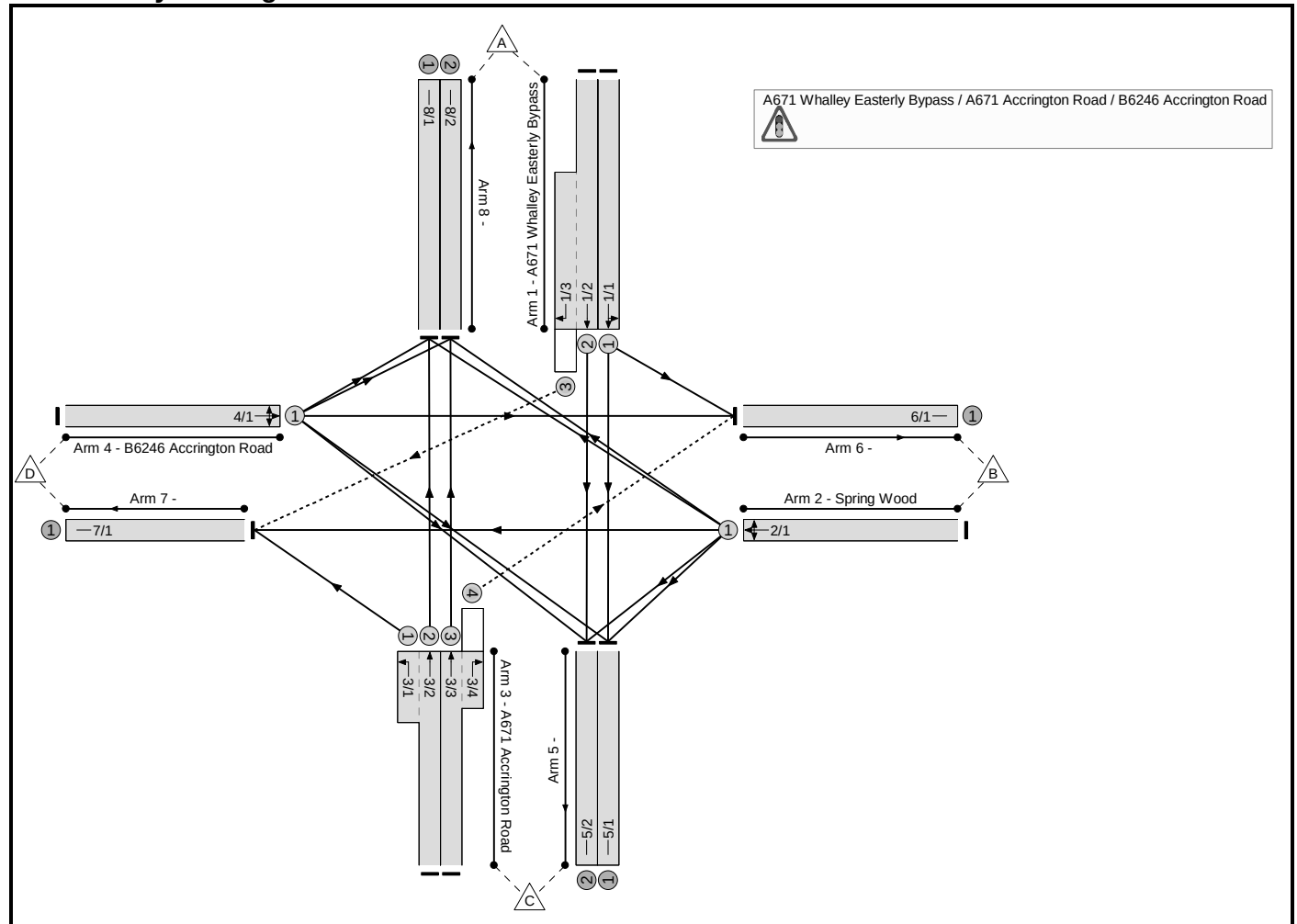
Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	37.22	2.48	0.276	D	B
B	13.73	0.92	0.153	A	A
C	84.38	5.63	0.603	E	D

A671 Whalley Easterly Bypass/B6246 Accrington Road - Predicted 2017
A671 Whalley Easterly Bypass/B6246 Accrington Road - Predicted 2017

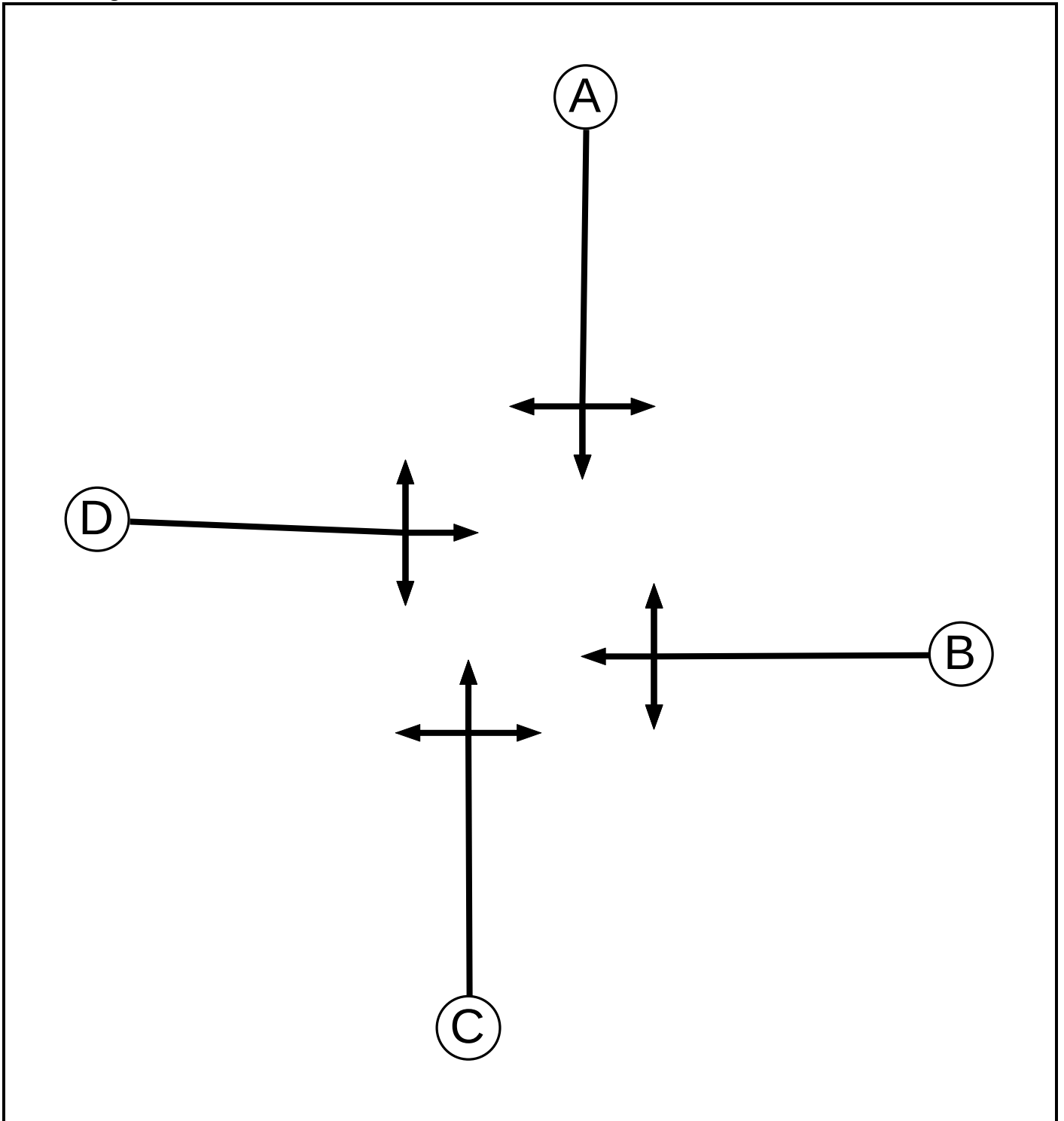
User and Project Details

Project:	Proposed Residential Development, Whalley Road, Barrow
Title:	Existing Layout Assessment
Location:	A671 Whalley Easterly Bypass/A671 Accrington Road/B6246 Accrington Road
File name:	A671 Whalley Easterly Bypass - B6246 Accrington Road_March 2012.lsg3x
Author:	Richard Ian Spencer
Company:	Bryan G Hall Ltd
Address:	Suite E8, Josephs Well, Hanover Way, Leeds, LS3 1AB
Notes:	No pedestrian facilities present as of November 2009. Site observations indicate an average cycle time of 70 seconds.

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7

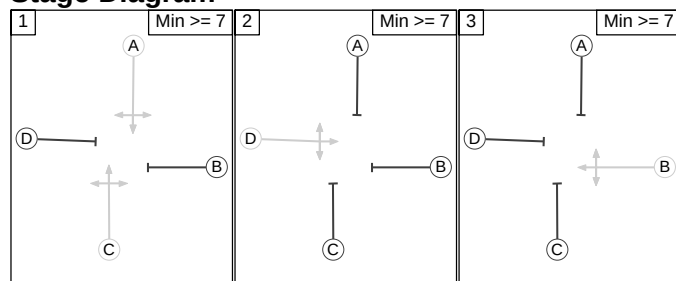
Phase Intergreens Matrix

Terminating Phase	Starting Phase				
		A	B	C	D
	A		5	-	6
	B	5		5	6
	C	-	6		6
	D	6	7	6	

Phases in Stage

Stage No.	Phases in Stage
1	A C
2	D
3	B

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage		
	1	2	3
	1	6	6
	2	6	7
3	5	6	

A671 Whalley Easterly Bypass/B6246 Accrington Road - Predicted 2017

Give-Way Lane Input Data

Junction: A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road										
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/3 (A671 Whalley Easterly Bypass)	7/1 (Right)	1439	3/1	1.09	3/1	3.00	-	0.50	3	3.00
			3/2	1.09	3/2					
3/4 (A671 Accrington Road)	6/1 (Right)	1439	1/1	1.09	1/1	3.00	-	0.50	3	3.00
			1/2	1.09	1/2					

Lane Input Data

Junction: A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A671 Whalley Easterly Bypass)	U	A	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 5 Ahead	Inf
1/2 (A671 Whalley Easterly Bypass)	U	A	2	3	60.0	Geom	-	3.60	0.00	N	Arm 6 Left	10.00
1/3 (A671 Whalley Easterly Bypass)	O	A	2	3	11.0	Geom	-	3.30	0.00	N	Arm 5 Ahead	Inf
2/1 (Spring Wood)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Right	10.00
3/1 (A671 Accrington Road)	U	C	2	3	5.0	Geom	-	2.90	0.00	Y	Arm 5 Left	9.00
3/2 (A671 Accrington Road)	U	C	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 7 Ahead	Inf
3/3 (A671 Accrington Road)	U	C	2	3	60.0	Geom	-	3.80	0.00	N	Arm 8 Right	13.00
3/4 (A671 Accrington Road)	O	C	2	3	4.0	Geom	-	3.20	0.00	N	Arm 7 Left	17.00
4/1 (B6246 Accrington Road)	U	D	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	Arm 8 Left	17.00
5/2	U		2	3	60.0	Inf	-	-	-	-	Arm 5 Right	22.00
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
5: '2017 Predicted Traffic Flows AM Peak'	08:00	09:00	01:00	F3+F7
6: '2017 Predicted Traffic Flows PM Peak'	17:00	18:00	01:00	F4+F8

Scenario 5: '2017 Predicted Traffic Flows AM Peak' (FG5: '2017 Predicted Traffic Flows AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	0	771	13	784
	B	5	0	3	2	10
	C	872	3	0	428	1303
	D	18	2	464	0	484
	Tot.	895	5	1238	443	2581

Traffic Lane Flows

Lane	Scenario 5: 2017 Predicted Traffic Flows AM Peak
Junction: A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road	
1/1	367
1/2 (with short)	417(In) 404(Out)
1/3 (short)	13
2/1	10
3/1 (short)	428
3/2 (with short)	729(In) 301(Out)
3/3 (with short)	574(In) 571(Out)
3/4 (short)	3
4/1	484
5/1	600
5/2	638
6/1	5
7/1	443
8/1	313
8/2	582

Lane Saturation Flows

Junction: A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A671 Whalley Easterly Bypass)	3.70	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1985	1985
				Arm 6 Left	10.00	0.0 %		
1/2 (A671 Whalley Easterly Bypass)	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
1/3 (A671 Whalley Easterly Bypass)	3.30	0.00	N	Arm 7 Right	10.00	100.0 %	1813	1813
2/1 (Spring Wood)	3.00	0.00	Y	Arm 5 Left	9.00	30.0 %	1729	1729
				Arm 7 Ahead	Inf	20.0 %		
				Arm 8 Right	13.00	50.0 %		
3/1 (A671 Accrington Road)	2.90	0.00	Y	Arm 7 Left	17.00	100.0 %	1751	1751
3/2 (A671 Accrington Road)	3.70	0.00	N	Arm 8 Ahead	Inf	100.0 %	2125	2125
3/3 (A671 Accrington Road)	3.80	0.00	N	Arm 8 Ahead	Inf	100.0 %	2135	2135
3/4 (A671 Accrington Road) 4/1 (B6246 Accrington Road)	3.20	0.00	N	Arm 6 Right	16.00	100.0 %	1897	1897
				Arm 5 Right	22.00	95.9 %		
	4.00	0.00	Y	Arm 6 Ahead	Inf	0.4 %	1886	1886
				Arm 8 Left	17.00	3.7 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2017 Predicted Traffic Flows PM Peak' (FG6: '2017 Predicted Traffic Flows PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	0	732	17	749
	B	5	0	5	2	12
	C	710	2	0	405	1117
	D	25	1	384	0	410
	Tot.	740	3	1121	424	2288

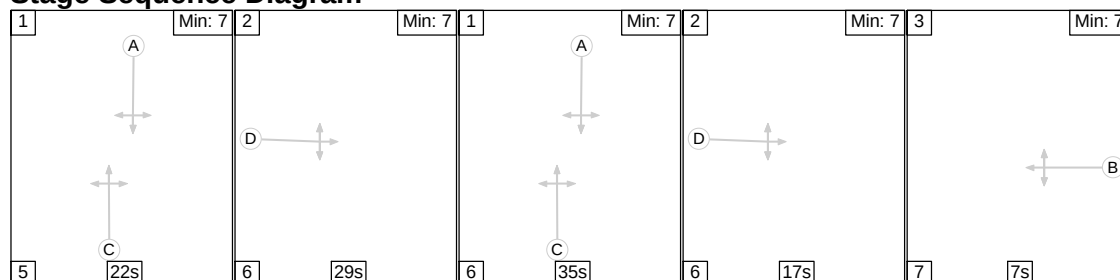
Traffic Lane Flows

Lane	Scenario 6: 2017 Predicted Traffic Flows PM Peak
Junction: A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road	
1/1	347
1/2 (with short)	402(In) 385(Out)
1/3 (short)	17
2/1	12
3/1 (short)	405
3/2 (with short)	639(In) 234(Out)
3/3 (with short)	478(In) 476(Out)
3/4 (short)	2
4/1	410
5/1	541
5/2	580
6/1	3
7/1	424
8/1	250
8/2	490

Lane Saturation Flows

Junction: A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A671 Whalley Easterly Bypass)	3.70	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1985	1985
				Arm 6 Left	10.00	0.0 %		
1/2 (A671 Whalley Easterly Bypass)	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
1/3 (A671 Whalley Easterly Bypass)	3.30	0.00	N	Arm 7 Right	10.00	100.0 %	1813	1813
2/1 (Spring Wood)	3.00	0.00	Y	Arm 5 Left	9.00	41.7 %	1714	1714
				Arm 7 Ahead	Inf	16.7 %		
				Arm 8 Right	13.00	41.7 %		
3/1 (A671 Accrington Road)	2.90	0.00	Y	Arm 7 Left	17.00	100.0 %	1751	1751
3/2 (A671 Accrington Road)	3.70	0.00	N	Arm 8 Ahead	Inf	100.0 %	2125	2125
3/3 (A671 Accrington Road)	3.80	0.00	N	Arm 8 Ahead	Inf	100.0 %	2135	2135
3/4 (A671 Accrington Road) 4/1 (B6246 Accrington Road)	3.20	0.00	N	Arm 6 Right	16.00	100.0 %	1897	1897
				Arm 5 Right	22.00	93.7 %		
	4.00	0.00	Y	Arm 6 Ahead	Inf	0.2 %	1885	1885
				Arm 8 Left	17.00	6.1 %		
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf
8/2	Infinite Saturation Flow						Inf	Inf

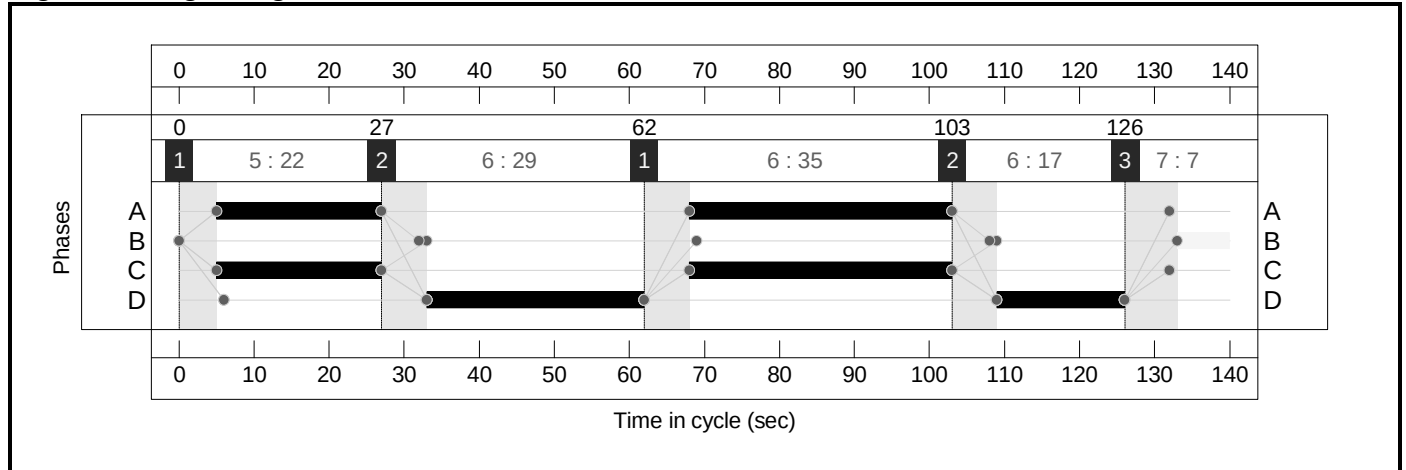
Scenario 5: '2017 Predicted Traffic Flows AM Peak' (FG5: '2017 Predicted Traffic Flows AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Timings

Stage	1	2	1	2	3
Duration	22	29	35	17	7
Change Point	0	27	62	103	126

Signal Timings Diagram



A671 Whalley Easterly Bypass/B6246 Accrington Road - Predicted 2017

Network Results

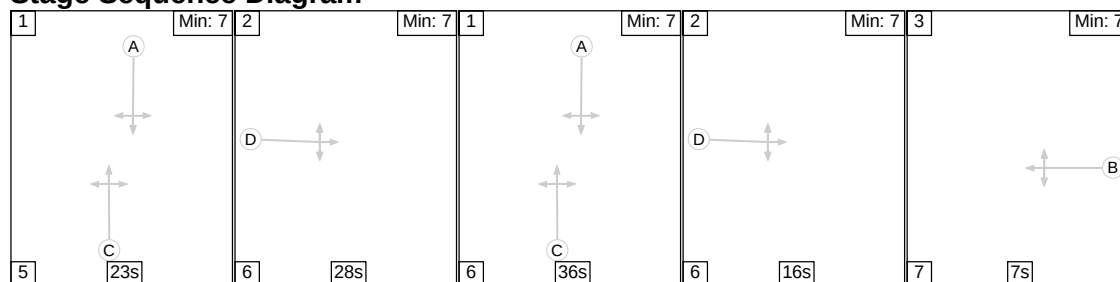
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Existing Layout Assessment	-	-	N/A	-	-		-	-	-	-	-	-	75.6%
A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road	-	-	N/A	-	-		-	-	-	-	-	-	75.6%
1/1	A671 Whalley Easterly Bypass Ahead Left	U	N/A	N/A	A		2	57	-	367	1985	837	43.9%
1/2+1/3	A671 Whalley Easterly Bypass Ahead Right	U+O	N/A	N/A	A		2	57	-	417	2115:1813	900	46.4%
2/1	Spring Wood Left Ahead Right	U	N/A	N/A	B		1	7	-	10	1729	99	10.1%
3/2+3/1	A671 Accrington Road Left Ahead	U	N/A	N/A	C		2	57	-	729	2125:1751	964	75.6%
3/3+3/4	A671 Accrington Road Right Ahead	U+O	N/A	N/A	C		2	57	-	574	2135:1897	893	64.3%
4/1	B6246 Accrington Road Right Ahead Left	U	N/A	N/A	D		2	46	-	484	1886	647	74.8%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Existing Layout Assessment	-	-	16	0	0	11.7	4.8	0.0	16.5	-	-	-	-
A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road	-	-	16	0	0	11.7	4.8	0.0	16.5	-	-	-	-
1/1	367	367	-	-	-	1.5	0.4	-	1.9	18.2	5.1	0.4	5.5
1/2+1/3	417	417	13	0	0	1.7	0.4	0.0	2.1	18.4	5.6	0.4	6.0
2/1	10	10	-	-	-	0.2	0.1	-	0.2	82.9	0.4	0.1	0.4
3/2+3/1	729	729	-	-	-	3.0	1.5	-	4.6	22.6	7.8	1.5	9.4
3/3+3/4	574	574	3	0	0	2.6	0.9	0.0	3.5	21.8	8.9	0.9	9.8
4/1	484	484	-	-	-	2.7	1.5	-	4.2	31.2	8.2	1.5	9.7

A671 Whalley Easterly Bypass/B6246 Accrington Road - Predicted 2017

C1	PRC for Signalled Lanes (%):	19.0	Total Delay for Signalled Lanes (pcuHr):	16.46	Cycle Time (s):	140
	PRC Over All Lanes (%):	19.0	Total Delay Over All Lanes(pcuHr):	16.46		

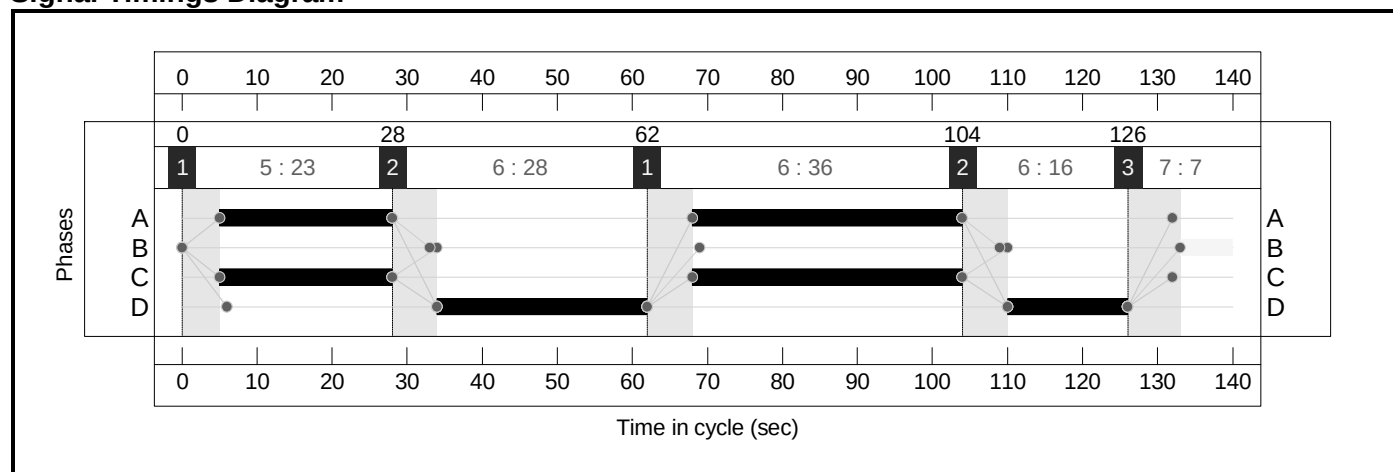
Stage Sequence Diagram



Stage Timings

Stage	1	2	1	2	3
Duration	23	28	36	16	7
Change Point	0	28	62	104	126

Signal Timings Diagram



A671 Whalley Easterly Bypass/B6246 Accrington Road - Predicted 2017

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Existing Layout Assessment	-	-	N/A	-	-		-	-	-	-	-	-	67.0%
A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road	-	-	N/A	-	-		-	-	-	-	-	-	67.0%
1/1	A671 Whalley Easterly Bypass Ahead Left	U	N/A	N/A	A		2	59	-	347	1985	865	40.1%
1/2+1/3	A671 Whalley Easterly Bypass Ahead Right	U+O	N/A	N/A	A		2	59	-	402	2115:1813	936	43.0%
2/1	Spring Wood Left Ahead Right	U	N/A	N/A	B		1	7	-	12	1714	98	12.3%
3/2+3/1	A671 Accrington Road Left Ahead	U	N/A	N/A	C		2	59	-	639	2125:1751	954	67.0%
3/3+3/4	A671 Accrington Road Right Ahead	U+O	N/A	N/A	C		2	59	-	478	2135:1897	923	51.8%
4/1	B6246 Accrington Road Right Ahead Left	U	N/A	N/A	D		2	44	-	410	1885	619	66.2%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Existing Layout Assessment	-	-	19	0	0	9.7	3.3	0.0	13.0	-	-	-	-
A671 Whalley Easterly Bypass / A671 Accrington Road / B6246 Accrington Road	-	-	19	0	0	9.7	3.3	0.0	13.0	-	-	-	-
1/1	347	347	-	-	-	1.3	0.3	-	1.6	17.0	4.6	0.3	5.0
1/2+1/3	402	402	17	0	0	1.5	0.4	0.0	1.9	17.2	5.1	0.4	5.5
2/1	12	12	-	-	-	0.2	0.1	-	0.3	83.6	0.4	0.1	0.5
3/2+3/1	639	639	-	-	-	2.5	1.0	-	3.5	19.6	6.3	1.0	7.4
3/3+3/4	478	478	2	0	0	1.9	0.5	0.0	2.5	18.5	6.8	0.5	7.3
4/1	410	410	-	-	-	2.3	1.0	-	3.3	28.7	6.8	1.0	7.8

A671 Whalley Easterly Bypass/B6246 Accrington Road - Predicted 2017

C1	PRC for Signalled Lanes (%):	34.3	Total Delay for Signalled Lanes (pcuHr):	13.04	Cycle Time (s): 140
	PRC Over All Lanes (%):	34.3	Total Delay Over All Lanes(pcuHr):	13.04	

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (60 Dwellings)
\\PICADY\A671-Wiswell Lane-Wiswell Shay

Report generation date: 28/03/2012 16:08:38

« Existing Layout - 2017 Predicted, AM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

AM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Stream B-CD	0.04	0.12	0.04	A	21% [Stream D-C]
Stream B-A	0.06	0.27	0.06	C	
Stream A-B	-	-	-	-	
Stream A-C	-	-	-	-	
Stream A-D	-	-	-	-	
Stream AB-C	-	-	-	-	
Stream AB-D	0.40	0.18	0.29	B	
Stream D-AB	0.48	0.19	0.33	B	
Stream D-C	0.33	0.32	0.25	C	
Stream C-D	-	-	-	-	
Stream C-A	-	-	-	-	
Stream C-B	-	-	-	-	
Stream CD-A	-	-	-	-	
Stream CD-B	0.03	0.12	0.03	A	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

"D1 - 2017 Predicted, AM Peak" model duration: 07:45 - 09:15

"D2 - 2017 Predicted, PM Peak" model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 28/03/2012 16:08:27

File summary

File Description

Title	2016 Predicted Assessment 'Through Route Scenario'
Location	A671 Whalley Easterly Bypass / Wiswell Lane / Wiswell Shay
Site Number	

Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	Staggered Major/Minor Priority Junction with two right turn holding lanes

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (min)	Queue Threshold (PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Existing Layout - 2017 Predicted, AM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, AM Peak	2017 Predicted	AM Peak		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (min)	Junction LOS
untitled	NS-OS Stagger (UK LR Stagger)	Two-way	A,B,C,D		0.20	B

Junction Network Options

Driving Side	Lighting	Road Surface	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	(Mini-roundabouts only)	21	Stream D-C

Arms

Arms

Arm	Name	Description	Arm Type
A	A671 Whalley Easterly Bypass North		Major
B	Wiswell Shay		Minor
C	A671Whalley Easterly Bypass South		Major
D	Wiswell Lane		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	11.80		0.00	✓	2.50	150.00		
C	12.00		0.00	✓	2.50	150.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	7.00	4.50	3.50	3.00	✓	1.00	25	25
D	One lane plus flare				10.00	10.00	5.00	3.30	3.00	✓	2.00	70	40

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
1	AB-D	682.406	-	-	-	-	-	0.198	0.198	0.198	-	-
1	B-A	509.146	0.069	0.173	0.173	-	-	0.109	0.247	-	0.109	0.247
1	B-CD	700.048	0.079	0.200	0.200	-	-	-	-	-	-	-
1	CD-B	682.406	0.195	0.195	0.195	-	-	-	-	-	-	-
1	D-AB	712.986	-	-	-	-	-	0.207	0.207	0.082	-	-
1	D-C	561.497	-	0.122	0.276	0.122	0.276	0.193	0.193	0.076	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	788.00	100.000
B	ONE HOUR	✓	32.00	100.000
C	ONE HOUR	✓	824.00	100.000
D	ONE HOUR	✓	198.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	7.000	659.000	122.000
	B	13.000	0.000	16.000	3.000
	C	755.000	10.000	0.000	59.000
	D	127.000	5.000	58.000	0.000

	D	137,000	5,000	56,000	0,000
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Turning Proportions (Veh) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.01	0.84	0.15
	B	0.41	0.00	0.50	0.09
	C	0.92	0.01	0.00	0.07
	D	0.69	0.03	0.28	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.090	1.041
	B	1.000	1.000	1.000	1.000
	C	1.036	1.000	1.000	1.000
	D	1.029	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	8.950	4.100
	B	0.000	0.000	0.000	0.000
	C	3.580	0.000	0.000	0.000
	D	2.920	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
B-CD	0.04	0.12	0.04	A	17.43	26.15	3.03	0.12	0.03	3.03	0.12
B-A	0.06	0.27	0.06	C	11.93	17.89	4.13	0.23	0.05	4.13	0.23
A-B	-	-	-	-	6.42	9.64	-	-	-	-	-
A-C	-	-	-	-	604.71	907.06	-	-	-	-	-
A-D	-	-	-	-	111.95	167.92	-	-	-	-	-
AB-C	-	-	-	-	619.38	929.07	-	-	-	-	-
AB-D	0.29	0.18	0.40	B	114.70	172.05	26.63	0.15	0.30	26.63	0.15
D-AB	0.33	0.19	0.48	B	130.30	195.45	30.94	0.16	0.34	30.94	0.16
D-C	0.25	0.32	0.33	C	51.39	77.08	19.52	0.25	0.22	19.52	0.25
C-D	-	-	-	-	54.14	81.21	-	-	-	-	-
C-A	-	-	-	-	692.80	1039.20	-	-	-	-	-
C-B	-	-	-	-	9.18	13.76	-	-	-	-	-
CD-A	-	-	-	-	818.36	1227.54	-	-	-	-	-
CD-B	0.03	0.12	0.03	A	13.76	20.64	2.41	0.12	0.03	2.41	0.12

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	14.30	3.58	14.20	0.00	567.73	0.025	0.00	0.03	0.108	A
B-A	9.79	2.45	9.66	0.00	320.07	0.031	0.00	0.03	0.193	B
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	496.13	124.03	496.13	0.00	-	-	-	-	-	-
A-D	91.85	22.96	91.85	0.00	-	-	-	-	-	-
AB-C	508.09	127.02	508.09	0.00	-	-	-	-	-	-
AB-D	94.09	23.52	93.25	0.00	534.37	0.176	0.00	0.21	0.136	A
D-AB	106.91	26.73	105.96	0.00	552.75	0.193	0.00	0.24	0.134	A
D-C	42.16	10.54	41.62	0.00	348.27	0.121	0.00	0.14	0.195	B
C-D	44.42	11.10	44.42	0.00	-	-	-	-	-	-
C-A	568.40	142.10	568.40	0.00	-	-	-	-	-	-
C-B	7.53	1.88	7.53	0.00	-	-	-	-	-	-
CD-A	670.63	167.66	670.63	0.00	-	-	-	-	-	-
CD-B	11.26	2.81	11.18	0.00	557.08	0.020	0.00	0.02	0.110	A

Main results: (08:00-08:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	17.08	4.27	17.05	0.00	541.34	0.032	0.03	0.03	0.114	A
B-A	11.69	2.92	11.64	0.00	283.36	0.041	0.03	0.04	0.221	B
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	592.43	148.11	592.43	0.00	-	-	-	-	-	-
A-D	109.68	27.42	109.68	0.00	-	-	-	-	-	-
AB-C	606.79	151.70	606.79	0.00	-	-	-	-	-	-
AB-D	112.37	28.09	112.10	0.00	510.73	0.220	0.21	0.28	0.150	A
D-AB	127.66	31.91	127.33	0.00	523.09	0.244	0.24	0.32	0.151	A
D-C	50.34	12.59	50.11	0.00	306.25	0.164	0.14	0.19	0.234	B
C-D	53.04	13.26	53.04	0.00	-	-	-	-	-	-
C-A	678.73	169.68	678.73	0.00	-	-	-	-	-	-
C-B	8.99	2.25	8.99	0.00	-	-	-	-	-	-
CD-A	801.57	200.39	801.57	0.00	-	-	-	-	-	-
CD-B	13.47	3.37	13.45	0.00	532.76	0.025	0.02	0.03	0.116	A

Main results: (08:15-08:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	20.92	5.23	20.88	0.00	504.62	0.041	0.03	0.04	0.124	A
B-A	14.31	3.58	14.23	0.00	232.56	0.062	0.04	0.06	0.275	C
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	725.57	181.39	725.57	0.00	-	-	-	-	-	-
A-D	134.32	33.58	134.32	0.00	-	-	-	-	-	-
AB-C	743.16	185.79	743.16	0.00	-	-	-	-	-	-
AB-D	137.62	34.41	137.14	0.00	478.05	0.288	0.28	0.40	0.176	B
D-AB	156.35	39.09	155.72	0.00	479.10	0.326	0.32	0.48	0.185	B
D-C	61.66	15.41	61.14	0.00	247.68	0.249	0.19	0.32	0.321	C
C-D	64.96	16.24	64.96	0.00	-	-	-	-	-	-
C-A	831.27	207.82	831.27	0.00	-	-	-	-	-	-

C-B	11.01	2.75	11.01	0.00	-	-	-	-	-	-
CD-A	981.50	245.38	981.50	0.00	-	-	-	-	-	-
CD-B	16.49	4.12	16.46	0.00	499.13	0.033	0.03	0.03	0.124	A

Main results: (08:30-08:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	20.92	5.23	20.92	0.00	504.40	0.041	0.04	0.04	0.124	A
B-A	14.31	3.58	14.31	0.00	232.57	0.062	0.06	0.06	0.275	C
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	725.57	181.39	725.57	0.00	-	-	-	-	-	-
A-D	134.32	33.58	134.32	0.00	-	-	-	-	-	-
AB-C	743.19	185.80	743.19	0.00	-	-	-	-	-	-
AB-D	137.63	34.41	137.61	0.00	478.05	0.288	0.40	0.40	0.176	B
D-AB	156.35	39.09	156.33	0.00	478.72	0.327	0.48	0.48	0.186	B
D-C	61.66	15.41	61.64	0.00	247.52	0.249	0.32	0.33	0.323	C
C-D	64.96	16.24	64.96	0.00	-	-	-	-	-	-
C-A	831.27	207.82	831.27	0.00	-	-	-	-	-	-
C-B	11.01	2.75	11.01	0.00	-	-	-	-	-	-
CD-A	982.09	245.52	982.09	0.00	-	-	-	-	-	-
CD-B	16.51	4.13	16.51	0.00	499.13	0.033	0.03	0.03	0.124	A

Main results: (08:45-09:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	17.08	4.27	17.12	0.00	540.94	0.032	0.04	0.03	0.115	A
B-A	11.69	2.92	11.77	0.00	283.42	0.041	0.06	0.04	0.221	B
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	592.43	148.11	592.43	0.00	-	-	-	-	-	-
A-D	109.68	27.42	109.68	0.00	-	-	-	-	-	-
AB-C	606.85	151.71	606.85	0.00	-	-	-	-	-	-
AB-D	112.38	28.09	112.84	0.00	510.73	0.220	0.40	0.29	0.151	A
D-AB	127.66	31.91	128.27	0.00	522.64	0.244	0.48	0.33	0.152	A
D-C	50.34	12.59	50.85	0.00	306.06	0.164	0.33	0.20	0.236	B
C-D	53.04	13.26	53.04	0.00	-	-	-	-	-	-
C-A	678.73	169.68	678.73	0.00	-	-	-	-	-	-
C-B	8.99	2.25	8.99	0.00	-	-	-	-	-	-
CD-A	802.48	200.62	802.48	0.00	-	-	-	-	-	-
CD-B	13.51	3.38	13.54	0.00	532.76	0.025	0.03	0.03	0.116	A

Main results: (09:00-09:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	14.30	3.58	14.33	0.00	567.25	0.025	0.03	0.03	0.109	A
B-A	9.79	2.45	9.83	0.00	320.14	0.031	0.04	0.03	0.193	B
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	496.13	124.03	496.13	0.00	-	-	-	-	-	-
A-D	91.85	22.96	91.85	0.00	-	-	-	-	-	-
AB-C	508.20	127.05	508.20	0.00	-	-	-	-	-	-
AB-D	94.11	23.53	94.39	0.00	534.37	0.176	0.29	0.22	0.136	A
D-AB	106.91	26.73	107.24	0.00	552.33	0.194	0.33	0.24	0.135	A
D-C	42.16	10.54	42.40	0.00	347.97	0.121	0.20	0.14	0.196	B
C-D	44.42	11.10	44.42	0.00	-	-	-	-	-	-
C-A	568.40	142.10	568.40	0.00	-	-	-	-	-	-
C-B	7.53	1.88	7.53	0.00	-	-	-	-	-	-

CD-A	671.87	167.97	671.87	0.00	-	-	-	-	-	-
CD-B	11.30	2.83	11.33	0.00	557.08	0.020	0.03	0.02	0.110	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.37	0.02	0.108	A	A
B-A	0.45	0.03	0.193	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	3.05	0.20	0.136	A	A
D-AB	3.42	0.23	0.134	A	A
D-C	1.94	0.13	0.195	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.30	0.02	0.110	A	A

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.48	0.03	0.114	A	A
B-A	0.62	0.04	0.221	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	4.07	0.27	0.150	A	A
D-AB	4.65	0.31	0.151	A	A
D-C	2.79	0.19	0.234	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.38	0.03	0.116	A	A

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.63	0.04	0.124	A	A
B-A	0.93	0.06	0.275	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	5.77	0.38	0.176	B	B
D-AB	6.87	0.46	0.185	B	B
D-C	4.58	0.31	0.321	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-

C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.50	0.03	0.124	A	A

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.65	0.04	0.124	A	A
B-A	0.97	0.06	0.275	C	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	6.00	0.40	0.176	B	B
D-AB	7.18	0.48	0.186	B	B
D-C	4.88	0.33	0.323	C	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.51	0.03	0.124	A	A

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.50	0.03	0.115	A	A
B-A	0.68	0.05	0.221	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	4.42	0.29	0.151	A	A
D-AB	5.08	0.34	0.152	A	A
D-C	3.15	0.21	0.236	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.40	0.03	0.116	A	A

Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.40	0.03	0.109	A	A
B-A	0.49	0.03	0.193	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	3.33	0.22	0.136	A	A
D-AB	3.74	0.25	0.135	A	A
D-C	2.17	0.14	0.196	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-

C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.32	0.02	0.110	A	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (60 Dwellings)
\\PICADY\A671-Wiswell Lane-Wiswell Shay

Report generation date: 28/03/2012 16:12:32

Existing Layout - 2017 Predicted, PM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

PM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Stream B-CD	0.02	0.12	0.02	A	52% [Stream D-C]
Stream B-A	0.02	0.25	0.02	B	
Stream A-B	-	-	-	-	
Stream A-C	-	-	-	-	
Stream A-D	-	-	-	-	
Stream AB-C	-	-	-	-	
Stream AB-D	0.27	0.15	0.21	A	
Stream D-AB	0.23	0.13	0.19	A	
Stream D-C	0.09	0.23	0.09	B	
Stream C-D	-	-	-	-	
Stream C-A	-	-	-	-	
Stream C-B	-	-	-	-	
Stream CD-A	-	-	-	-	
Stream CD-B	0.05	0.13	0.05	A	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

'D1 - 2017 Predicted, AM Peak' model duration: 07:45 - 09:15

'D2 - 2017 Predicted, PM Peak' model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 28/03/2012 16:11:25

File summary

File Description

Title	2016 Predicted Assessment 'Through Route Scenario'
Location	A671 Whalley Easterly Bypass / Wiswell Lane / Wiswell Shay
Site Number	

Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	Staggered Major/Minor Priority Junction with two right turn holding lanes

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (min)	Queue Threshold (PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Existing Layout - 2017 Predicted, PM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, PM Peak	2017 Predicted	PM Peak		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (min)	Junction LOS
untitled	NS-OS Stagger (UK LR Stagger)	Two-way	A,B,C,D		0.15	A

Junction Network Options

Driving Side	Lighting	Road Surface	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	(Mini-roundabouts only)	52	Stream D-C

Arms

Arms

Arm	Name	Description	Arm Type
A	A671 Whalley Easterly Bypass North		Major
B	Wiswell Shay		Minor
C	A671Whalley Easterly Bypass South		Major
D	Wiswell Lane		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
A	11.80		0.00	✓	2.50	150.00		
C	12.00		0.00	✓	2.50	150.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				10.00	7.00	4.50	3.50	3.00	✓	1.00	25	25
D	One lane plus flare				10.00	10.00	5.00	3.30	3.00	✓	2.00	70	40

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None
D	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
1	AB-D	682.406	-	-	-	-	-	0.198	0.198	0.198	-	-
1	B-A	491.229	0.066	0.167	0.167	-	-	0.105	0.239	-	0.105	0.239
1	B-CD	723.064	0.082	0.207	0.207	-	-	-	-	-	-	-
1	CD-B	682.406	0.195	0.195	0.195	-	-	-	-	-	-	-
1	D-AB	718.461	-	-	-	-	-	0.208	0.208	0.082	-	-
1	D-C	554.186	-	0.120	0.273	0.120	0.273	0.191	0.191	0.075	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	811.00	100.000
B	ONE HOUR	✓	16.00	100.000
C	ONE HOUR	✓	707.00	100.000
D	ONE HOUR	✓	114.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

	To			
	A	B	C	D
From	A	0.000	26.000	683.000
	B	5.000	0.000	7.000
	C	648.000	15.000	0.000
	D	85.000	7.000	22.000

	D	65,000	7,000	22,000	0,000
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Turning Proportions (Veh) - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.00	0.03	0.85	0.12
	B	0.31	0.00	0.44	0.25
	C	0.92	0.02	0.00	0.06
	D	0.75	0.06	0.19	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	1.000	1.000	1.036	1.012
	B	1.000	1.000	1.000	1.000
	C	1.026	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		A	B	C	D
From	A	0.000	0.000	3.600	1.200
	B	0.000	0.000	0.000	0.000
	C	2.600	0.000	0.000	0.000
	D	0.000	0.000	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
B-CD	0.02	0.12	0.02	A	10.09	15.14	1.64	0.11	0.02	1.64	0.11
B-A	0.02	0.25	0.02	B	4.59	6.88	1.48	0.22	0.02	1.48	0.22
A-B	-	-	-	-	23.86	35.79	-	-	-	-	-
A-C	-	-	-	-	631.32	946.96	-	-	-	-	-
A-D	-	-	-	-	89.01	133.51	-	-	-	-	-
AB-C	-	-	-	-	637.74	956.61	-	-	-	-	-
AB-D	0.21	0.15	0.27	A	92.68	139.01	18.58	0.13	0.21	18.58	0.13
D-AB	0.19	0.13	0.23	A	84.42	126.63	15.57	0.12	0.17	15.57	0.12
D-C	0.09	0.23	0.09	B	20.19	30.28	6.05	0.20	0.07	6.05	0.20
C-D	-	-	-	-	40.38	60.56	-	-	-	-	-
C-A	-	-	-	-	594.62	891.92	-	-	-	-	-
C-B	-	-	-	-	13.76	20.65	-	-	-	-	-
CD-A	-	-	-	-	672.53	1008.80	-	-	-	-	-
CD-B	0.05	0.13	0.05	A	20.18	30.27	3.55	0.12	0.04	3.55	0.12

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	8.28	2.07	8.23	0.00	593.34	0.014	0.00	0.01	0.103	A
B-A	3.76	0.94	3.72	0.00	324.60	0.012	0.00	0.01	0.187	B
A-B	19.57	4.89	19.57	0.00	-	-	-	-	-	-
A-C	517.96	129.49	517.96	0.00	-	-	-	-	-	-
A-D	73.03	18.26	73.03	0.00	-	-	-	-	-	-
AB-C	523.20	130.80	523.20	0.00	-	-	-	-	-	-
AB-D	76.02	19.00	75.41	0.00	568.13	0.134	0.00	0.15	0.122	A
D-AB	69.26	17.32	68.75	0.00	602.35	0.115	0.00	0.13	0.112	A
D-C	16.56	4.14	16.38	0.00	368.02	0.045	0.00	0.05	0.171	B
C-D	33.13	8.28	33.13	0.00	-	-	-	-	-	-
C-A	487.85	121.96	487.85	0.00	-	-	-	-	-	-
C-B	11.29	2.82	11.29	0.00	-	-	-	-	-	-
CD-A	551.37	137.84	551.37	0.00	-	-	-	-	-	-
CD-B	16.52	4.13	16.40	0.00	559.30	0.030	0.00	0.03	0.110	A

Main results: (17:00-17:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	9.89	2.47	9.87	0.00	567.82	0.017	0.01	0.02	0.108	A
B-A	4.49	1.12	4.48	0.00	292.28	0.015	0.01	0.02	0.208	B
A-B	23.37	5.84	23.37	0.00	-	-	-	-	-	-
A-C	618.50	154.62	618.50	0.00	-	-	-	-	-	-
A-D	87.20	21.80	87.20	0.00	-	-	-	-	-	-
AB-C	624.78	156.20	624.78	0.00	-	-	-	-	-	-
AB-D	90.79	22.70	90.62	0.00	547.46	0.166	0.15	0.20	0.131	A
D-AB	82.71	20.68	82.56	0.00	579.12	0.143	0.13	0.17	0.121	A
D-C	19.78	4.94	19.71	0.00	331.69	0.060	0.05	0.06	0.192	B
C-D	39.56	9.89	39.56	0.00	-	-	-	-	-	-
C-A	582.54	145.63	582.54	0.00	-	-	-	-	-	-
C-B	13.48	3.37	13.48	0.00	-	-	-	-	-	-
CD-A	658.82	164.70	658.82	0.00	-	-	-	-	-	-
CD-B	19.77	4.94	19.74	0.00	535.40	0.037	0.03	0.04	0.116	A

Main results: (17:15-17:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	12.11	3.03	12.09	0.00	532.65	0.023	0.02	0.02	0.115	A
B-A	5.51	1.38	5.48	0.00	247.54	0.022	0.02	0.02	0.248	B
A-B	28.63	7.16	28.63	0.00	-	-	-	-	-	-
A-C	757.50	189.38	757.50	0.00	-	-	-	-	-	-
A-D	106.80	26.70	106.80	0.00	-	-	-	-	-	-
AB-C	765.19	191.30	765.19	0.00	-	-	-	-	-	-
AB-D	111.19	27.80	110.90	0.00	518.88	0.214	0.20	0.27	0.147	A
D-AB	101.29	25.32	101.05	0.00	546.48	0.185	0.17	0.23	0.135	A
D-C	24.22	6.06	24.10	0.00	281.55	0.086	0.06	0.09	0.233	B
C-D	48.44	12.11	48.44	0.00	-	-	-	-	-	-
C-A	713.46	178.37	713.46	0.00	-	-	-	-	-	-

C-B	16.52	4.13	16.52	0.00	-	-	-	-	-	-
CD-A	806.83	201.71	806.83	0.00	-	-	-	-	-	-
CD-B	24.20	6.05	24.16	0.00	502.37	0.048	0.04	0.05	0.125	A

Main results: (17:30-17:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	12.11	3.03	12.11	0.00	532.51	0.023	0.02	0.02	0.115	A
B-A	5.51	1.38	5.50	0.00	247.57	0.022	0.02	0.02	0.248	B
A-B	28.63	7.16	28.63	0.00	-	-	-	-	-	-
A-C	757.50	189.38	757.50	0.00	-	-	-	-	-	-
A-D	106.80	26.70	106.80	0.00	-	-	-	-	-	-
AB-C	765.21	191.30	765.21	0.00	-	-	-	-	-	-
AB-D	111.20	27.80	111.20	0.00	518.88	0.214	0.27	0.27	0.147	A
D-AB	101.29	25.32	101.29	0.00	546.39	0.185	0.23	0.23	0.135	A
D-C	24.22	6.06	24.22	0.00	281.48	0.086	0.09	0.09	0.233	B
C-D	48.44	12.11	48.44	0.00	-	-	-	-	-	-
C-A	713.46	178.37	713.46	0.00	-	-	-	-	-	-
C-B	16.52	4.13	16.52	0.00	-	-	-	-	-	-
CD-A	807.04	201.76	807.04	0.00	-	-	-	-	-	-
CD-B	24.22	6.06	24.22	0.00	502.37	0.048	0.05	0.05	0.125	A

Main results: (17:45-18:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	9.89	2.47	9.91	0.00	567.55	0.017	0.02	0.02	0.108	A
B-A	4.49	1.12	4.52	0.00	292.37	0.015	0.02	0.02	0.208	B
A-B	23.37	5.84	23.37	0.00	-	-	-	-	-	-
A-C	618.50	154.62	618.50	0.00	-	-	-	-	-	-
A-D	87.20	21.80	87.20	0.00	-	-	-	-	-	-
AB-C	624.80	156.20	624.80	0.00	-	-	-	-	-	-
AB-D	90.81	22.70	91.09	0.00	547.46	0.166	0.27	0.20	0.132	A
D-AB	82.71	20.68	82.94	0.00	578.99	0.143	0.23	0.17	0.121	A
D-C	19.78	4.94	19.89	0.00	331.58	0.060	0.09	0.06	0.193	B
C-D	39.56	9.89	39.56	0.00	-	-	-	-	-	-
C-A	582.54	145.63	582.54	0.00	-	-	-	-	-	-
C-B	13.48	3.37	13.48	0.00	-	-	-	-	-	-
CD-A	659.17	164.79	659.17	0.00	-	-	-	-	-	-
CD-B	19.80	4.95	19.84	0.00	535.40	0.037	0.05	0.04	0.116	A

Main results: (18:00-18:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-CD	8.28	2.07	8.30	0.00	592.96	0.014	0.02	0.01	0.103	A
B-A	3.76	0.94	3.78	0.00	324.71	0.012	0.02	0.01	0.187	B
A-B	19.57	4.89	19.57	0.00	-	-	-	-	-	-
A-C	517.96	129.49	517.96	0.00	-	-	-	-	-	-
A-D	73.03	18.26	73.03	0.00	-	-	-	-	-	-
AB-C	523.24	130.81	523.24	0.00	-	-	-	-	-	-
AB-D	76.04	19.01	76.22	0.00	568.13	0.134	0.20	0.16	0.122	A
D-AB	69.26	17.32	69.41	0.00	602.19	0.115	0.17	0.13	0.113	A
D-C	16.56	4.14	16.63	0.00	367.83	0.045	0.06	0.05	0.171	B
C-D	33.13	8.28	33.13	0.00	-	-	-	-	-	-
C-A	487.85	121.96	487.85	0.00	-	-	-	-	-	-
C-B	11.29	2.82	11.29	0.00	-	-	-	-	-	-

CD-A	551.98	137.99	551.98	0.00	-	-	-	-	-	-
CD-B	16.57	4.14	16.61	0.00	559.30	0.030	0.04	0.03	0.111	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.21	0.01	0.103	A	A
B-A	0.17	0.01	0.187	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	2.22	0.15	0.122	A	A
D-AB	1.87	0.12	0.112	A	A
D-C	0.67	0.04	0.171	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.44	0.03	0.110	A	A

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.26	0.02	0.108	A	A
B-A	0.22	0.01	0.208	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	2.88	0.19	0.131	A	A
D-AB	2.42	0.16	0.121	A	A
D-C	0.91	0.06	0.192	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.56	0.04	0.116	A	A

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.34	0.02	0.115	A	A
B-A	0.32	0.02	0.248	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	3.93	0.26	0.147	A	A
D-AB	3.29	0.22	0.135	A	A
D-C	1.34	0.09	0.233	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-

C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.74	0.05	0.125	A	A

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.35	0.02	0.115	A	A
B-A	0.34	0.02	0.248	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	4.06	0.27	0.147	A	A
D-AB	3.39	0.23	0.135	A	A
D-C	1.40	0.09	0.233	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.76	0.05	0.125	A	A

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.27	0.02	0.108	A	A
B-A	0.25	0.02	0.208	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	3.09	0.21	0.132	A	A
D-AB	2.59	0.17	0.121	A	A
D-C	1.00	0.07	0.193	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-
C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.59	0.04	0.116	A	A

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-CD	0.22	0.01	0.103	A	A
B-A	0.18	0.01	0.187	B	B
A-B	-	-	-	-	-
A-C	-	-	-	-	-
A-D	-	-	-	-	-
AB-C	-	-	-	-	-
AB-D	2.39	0.16	0.122	A	A
D-AB	2.01	0.13	0.113	A	A
D-C	0.74	0.05	0.171	B	B
C-D	-	-	-	-	-
C-A	-	-	-	-	-

C-B	-	-	-	-	-
CD-A	-	-	-	-	-
CD-B	0.47	0.03	0.111	A	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted AM Peak Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (60 Dwellings)
ARCADYA59-A671 Whalley Easterly Bypass\AM PEAK ASSESSMENT

Report generation date: 28/03/2012 16:19:56

Existing Layout - 2017 Predicted, AM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

AM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Arm A	1.58	0.07	0.61	A	25% [Arm B]
Arm B	2.42	0.15	0.71	A	
Arm C	0.88	0.07	0.47	A	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

"D1 - 2017 Predicted, AM Peak" model duration: 07:45 - 09:15

Run using ARCADY 8.0.0.296 at 28/03/2012 16:19:54

File summary

File Description

Title	2016 Predicted AM Peak Assessment Through Route Scenario*
Location	A59/A671 Whalley Easterly Bypass - Roundabout Junction
Site Number	
Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	A59/A671 Whalley Easterly Bypass - Roundabout Junction

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
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(m)	Variations	Capacity	Type	Threshold	(min)	(PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Existing Layout - 2017 Predicted, AM Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing	ARCADY		✓				100.000	100.000	

Layout	ARCADY		✓			100.000	100.000	
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Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, AM Peak	2017 Predicted	AM Peak		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (min)	Junction LOS
untitled	Roundabout	A,B,C				0.09	A

Junction Network Options

Driving Side	Lighting	Road Surface	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	(Mini-roundabouts only)	25	Arm B

Arms

Arms

Arm	Name	Description
A	A59 North	
B	A671 Whalley Easterly Bypass	
C	A59 South	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	f - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.60	7.60	0.00	35.00	93.00	18.00	
B	3.50	6.30	40.00	55.00	93.00	20.00	
C	3.80	7.30	140.00	90.00	93.00	20.00	

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

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used to model

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.572	2446.949
B		(calculated)	(calculated)	0.491	1869.058
C		(calculated)	(calculated)	0.552	2288.510

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1200.00	100.000
B	ONE HOUR	✓	918.00	100.000
C	ONE HOUR	✓	723.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

	To		
	A	B	C
From	A	0.000	653.000
	B	662.000	0.000
	C	579.000	144.000

Turning Proportions (Veh) - Junction 1 (for whole period)

	To		
	A	B	C
From	A	0.00	0.54
	B	0.72	0.00
	C	0.80	0.20

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To		
	A	B	C
From	A	1.000	1.090
	B	1.097	1.000
	C	1.098	1.042

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.000	9.040	9.500
	B	9.670	0.000	6.250
From	C	9.840	4.170	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
A	0.61	0.07	1.58	A	1101.14	1651.71	97.35	0.06	1.08	97.36	0.06
B	0.71	0.15	2.42	A	842.37	1263.56	133.06	0.11	1.48	133.07	0.11
C	0.47	0.07	0.88	A	663.44	995.15	56.01	0.06	0.62	56.01	0.06

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	903.42	225.86	900.61	930.55	108.07	0.00	2180.79	2065.69	0.414	0.00	0.70	0.047	A
B	691.12	172.78	687.80	598.16	410.53	0.00	1515.99	1253.08	0.456	0.00	0.83	0.072	A
C	544.31	136.08	542.62	602.33	495.99	0.00	1628.86	1601.80	0.298	0.00	0.42	0.047	A

Main results: (08:00-08:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	1078.77	269.69	1077.66	1113.93	129.33	0.00	2169.19	2065.68	0.497	0.70	0.98	0.055	A
B	825.27	206.32	823.58	715.76	491.23	0.00	1476.03	1253.08	0.559	0.83	1.25	0.092	A
C	649.96	162.49	649.35	720.90	593.91	0.00	1774.32	1601.80	0.366	0.42	0.57	0.053	A

Main results: (08:15-08:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	1321.22	330.31	1318.88	1362.15	158.31	0.00	2153.38	2065.68	0.614	0.98	1.57	0.072	A
B	1010.74	252.68	1006.21	876.00	601.19	0.00	1421.60	1253.08	0.711	1.25	2.38	0.143	A
C	796.04	199.01	794.85	881.79	725.61	0.00	1700.96	1601.80	0.468	0.57	0.87	0.066	A

Main results: (08:30-08:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	1321.22	330.31	1321.18	1366.24	158.54	0.00	2153.25	2065.68	0.614	1.57	1.58	0.072	A
B	1010.74	252.68	1010.58	877.49	602.24	0.00	1421.08	1253.08	0.711	2.38	2.42	0.146	A
C	796.04	199.01	796.02	884.06	728.76	0.00	1699.20	1601.80	0.468	0.87	0.88	0.066	A

Main results: (08:45-09:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	1078.77	269.69	1081.10	1119.85	129.69	0.00	2169.00	2065.68	0.497	1.58	1.00	0.055	A
B	825.27	206.32	829.81	717.99	492.80	0.00	1475.26	1253.08	0.559	2.42	1.29	0.094	A
C	649.96	162.49	651.14	724.20	598.40	0.00	1771.82	1601.80	0.367	0.88	0.58	0.054	A

Main results: (09:00-09:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	903.42	225.86	904.56	936.06	108.54	0.00	2180.54	2065.69	0.414	1.00	0.71	0.047	A
B	691.12	172.78	692.88	600.77	412.33	0.00	1515.09	1253.08	0.456	1.29	0.85	0.073	A
C	544.31	136.08	544.94	605.55	499.66	0.00	1826.82	1601.80	0.298	0.58	0.43	0.047	A

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.32	0.69	0.047	A	A
B	12.06	0.80	0.072	A	A
C	6.21	0.41	0.047	A	A

Queueing Delay results: (08:00-08:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	14.44	0.96	0.055	A	A
B	18.17	1.21	0.092	A	A
C	8.48	0.57	0.053	A	A

Queueing Delay results: (08:15-08:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	22.80	1.52	0.072	A	A
B	33.58	2.24	0.143	A	A
C	12.79	0.85	0.066	A	A

Queueing Delay results: (08:30-08:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	23.62	1.57	0.072	A	A
B	36.11	2.41	0.146	A	A
C	13.13	0.88	0.066	A	A

Queueing Delay results: (08:45-09:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	15.31	1.02	0.055	A	A
B	20.10	1.34	0.094	A	A
C	8.91	0.59	0.054	A	A

Queueing Delay results: (09:00-09:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	10.86	0.72	0.047	A	A
B	12.04	0.87	0.073	A	A

B	15.04	0.07	0.075	A	A
C	6.49	0.43	0.047	A	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: 2017 Predicted PM Peak Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (60 Dwellings)
ARCADY\A59-A671 Whalley Easterly Bypass\PM PEAK ASSESSMENT

Report generation date: 28/03/2012 16:21:08

Existing Layout - 2017 Predicted, AM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

AM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Existing Layout - 2017 Predicted					
Arm A	1.30	0.06	0.57	A	57% [Arm B]
Arm B	1.15	0.08	0.54	A	
Arm C	0.83	0.06	0.45	A	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

"D1 - 2017 Predicted, AM Peak" model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 28/03/2012 16:21:06

File summary

File Description

Title	2016 Predicted PM Peak Assessment 'Through Route Scenario'
Location	A59/A671 Whalley Easterly Bypass - Roundabout Junction
Site Number	
Date	21/10/2011
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	A59/A671 Whalley Easterly Bypass - Roundabout Junction

Analysis Options

Vehicle Length	Do Queue	Calculate Residual	Residual Capacity Criteria	RFC	Average Delay Threshold	Queue Threshold
----------------	----------	--------------------	----------------------------	-----	-------------------------	-----------------

(m)	Variations	Capacity	Type	Threshold	(min)	(PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Existing Layout - 2017 Predicted, AM Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm B - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm C - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Existing	ARCADY		✓				100.000	100.000	

Layout	ARCADY		✓			100.000	100.000	
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Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, AM Peak	2017 Predicted	AM Peak		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (min)	Junction LOS
untitled	Roundabout	A,B,C				0.07	A

Junction Network Options

Driving Side	Lighting	Road Surface	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	(Mini-roundabouts only)	57	Arm B

Arms

Arms

Arm	Name	Description
A	A59 North	
B	A671 Whalley Easterly Bypass	
C	A59 South	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	99999.00		0.00
B	0.00	99999.00		0.00
C	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	F - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	7.60	7.60	0.00	35.00	93.00	18.00	
B	3.50	6.30	40.00	55.00	93.00	20.00	
C	3.80	7.30	140.00	90.00	93.00	20.00	

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

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Roundabout Slope and Intercept used to model

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
A		(calculated)	(calculated)	0.572	2446.949
B		(calculated)	(calculated)	0.491	1869.058
C		(calculated)	(calculated)	0.552	2288.510

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1163.00	100.000
B	ONE HOUR	✓	745.00	100.000
C	ONE HOUR	✓	755.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	659.000	504.000
	B	617.000	0.000	128.000
	C	611.000	144.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.57	0.43
	B	0.83	0.00	0.17
	C	0.81	0.19	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
From		A	B	C
	A	1.000	1.026	1.062
	B	1.029	1.000	1.039
	C	1.038	1.044	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.000	2.580	6.150
	B	2.920	0.000	3.900
From	C	3.760	4.350	0.000

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
A	0.57	0.06	1.30	A	1067.19	1600.79	82.57	0.05	0.92	82.57	0.05
B	0.54	0.08	1.15	A	683.63	1025.44	71.57	0.07	0.80	71.57	0.07
C	0.45	0.06	0.83	A	692.80	1039.20	53.54	0.05	0.59	53.54	0.05

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	875.57	218.89	873.10	921.44	108.10	0.00	2287.97	2175.18	0.383	0.00	0.62	0.042	A
B	560.88	140.22	558.77	602.83	378.37	0.00	1621.58	1336.01	0.346	0.00	0.53	0.056	A
C	568.40	142.10	566.76	474.37	462.77	0.00	1950.01	1597.87	0.291	0.00	0.41	0.043	A

Main results: (17:00-17:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	1045.51	261.38	1044.60	1102.82	129.34	0.00	2275.78	2175.18	0.459	0.62	0.84	0.049	A
B	669.74	167.44	668.94	721.26	452.69	0.00	1583.97	1336.01	0.423	0.53	0.73	0.066	A
C	678.73	169.68	678.15	567.62	554.00	0.00	1900.10	1597.86	0.357	0.41	0.55	0.049	A

Main results: (17:15-17:30)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	1280.49	320.12	1278.68	1349.81	158.34	0.00	2259.15	2175.18	0.567	0.84	1.30	0.061	A
B	820.26	205.07	818.62	882.89	554.13	0.00	1532.63	1336.01	0.535	0.73	1.14	0.084	A
C	831.27	207.82	830.18	694.78	677.97	0.00	1832.28	1597.87	0.454	0.55	0.82	0.060	A

Main results: (17:30-17:45)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	1280.49	320.12	1280.46	1352.02	158.54	0.00	2259.03	2175.18	0.567	1.30	1.30	0.061	A
B	820.26	205.07	820.23	884.11	554.90	0.00	1532.24	1336.01	0.535	1.14	1.15	0.084	A
C	831.27	207.82	831.25	695.83	679.31	0.00	1831.55	1597.87	0.454	0.82	0.83	0.060	A

Main results: (17:45-18:00)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	1045.51	261.38	1047.30	1106.16	129.66	0.00	2275.60	2175.18	0.459	1.30	0.86	0.049	A
B	669.74	167.44	671.37	723.10	453.86	0.00	1583.38	1336.01	0.423	1.15	0.74	0.066	A
C	678.73	169.68	679.80	569.21	556.02	0.00	1899.00	1597.86	0.357	0.83	0.56	0.049	A

Main results: (18:00-18:15)

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Exit Flow (Veh/hr)	Circulating Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	Saturation Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
A	875.57	218.89	876.50	925.66	108.52	0.00	2287.72	2175.18	0.383	0.86	0.62	0.043	A
B	560.88	140.22	561.70	605.18	379.84	0.00	1620.84	1336.01	0.346	0.74	0.53	0.057	A
C	568.40	142.10	568.98	476.35	465.19	0.00	1948.69	1597.87	0.292	0.56	0.41	0.043	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.08	0.61	0.042	A	A
B	7.70	0.51	0.056	A	A
C	6.04	0.40	0.043	A	A

Queueing Delay results: (17:00-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	12.45	0.83	0.049	A	A
B	10.69	0.71	0.066	A	A
C	8.17	0.54	0.049	A	A

Queueing Delay results: (17:15-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	18.96	1.26	0.061	A	A
B	16.56	1.10	0.084	A	A
C	12.11	0.81	0.060	A	A

Queueing Delay results: (17:30-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	19.50	1.30	0.061	A	A
B	17.14	1.14	0.084	A	A
C	12.40	0.83	0.060	A	A

Queueing Delay results: (17:45-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	13.09	0.87	0.049	A	A
B	11.35	0.76	0.066	A	A
C	8.54	0.57	0.049	A	A

Queueing Delay results: (18:00-18:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
A	9.49	0.63	0.043	A	A
B	8.13	0.54	0.057	A	A

D	0.15	0.34	0.937	A	A
C	6.29	0.42	0.043	A	A

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: Clitheroe Road-Site Access 2017 Predicted Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (55 Dwellings)
\PICADY\Clitheroe Road-Site Access\Clitheroe Road Site Access

Report generation date: 30/03/2012 15:08:18

« Proposed Layout - 2017 Predicted, AM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

AM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Proposed Layout - 2017 Predicted					
Stream B-AC	0.07	0.16	0.07	A	153% [Stream B-AC]
Stream C-AB	0.02	0.08	0.02	A	
Stream C-A	-	-	-	-	
Stream A-B	-	-	-	-	
Stream A-C	-	-	-	-	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met

'D1 - 2017 Predicted, AM Peak' model duration: 07:45 - 09:15

'D2 - 2017 Predicted, PM Peak' model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 30/03/2012 15:08:16

File summary

File Description

Title	2016 Predicted Assessment - AM and PM Peak
Location	Clitheroe Road/Site Access
Site Number	
Date	08/12/2010
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (min)	Queue Threshold (PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Proposed Layout - 2017 Predicted, AM Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, AM Peak	2017 Predicted	AM Peak		ONE HOUR	07:45	09:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (min)	Junction LOS
untitled	T-Junction	Two-way	A,B,C		0.13	A

Junction Network Options

Driving Side	Lighting	Road Surface	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	(Mini-roundabouts only)	153	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm Type
A	Clitheroe Road (North)		Major
B	Site Access		Minor
C	Clitheroe Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.40		0.00		2.20	100.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.00										9	9

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
----------	--------	--------------------	---------------	---------------	---------------	---------------

			PCU	PCU	PCU	PCU
1	B-A	485.052	0.083	0.210	0.132	0.300
1	B-C	629.602	0.091	0.229	-	-
1	C-B	631.874	0.230	0.230	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	384.00	100.000
B	ONE HOUR	✓	25.00	100.000
C	ONE HOUR	✓	343.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

	To			
From		A	B	C
	A	0.000	7.000	377.000
	B	12.000	0.000	13.000
	C	336.000	7.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.00	0.02	0.98
	B	0.48	0.00	0.52
	C	0.98	0.02	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To			
From		A	B	C
	A	1.000	1.000	1.066
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

	C	1.082	1.000	1.000
--	---	-------	-------	-------

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.000	0.000	6.630
	B	0.000	0.000	0.000
From	C	9.230	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
B-AC	0.07	0.16	0.07	A	22.94	34.41	4.99	0.14	0.06	4.99	0.14
C-AB	0.02	0.08	0.02	A	10.61	15.92	1.46	0.09	0.02	1.46	0.09
C-A	-	-	-	-	304.13	456.20	-	-	-	-	-
A-B	-	-	-	-	6.42	9.64	-	-	-	-	-
A-C	-	-	-	-	345.94	518.91	-	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	18.82	4.71	18.65	0.00	458.34	0.041	0.00	0.04	0.136	A
C-AB	7.86	1.96	7.81	0.00	725.39	0.011	0.00	0.01	0.084	A
C-A	250.37	62.59	250.37	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	283.83	70.96	283.83	0.00	-	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	22.47	5.62	22.43	0.00	439.93	0.051	0.04	0.05	0.144	A
C-AB	10.15	2.54	10.13	0.00	744.53	0.014	0.01	0.02	0.082	A
C-A	298.20	74.55	298.20	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	338.92	84.73	338.92	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	27.53	6.88	27.46	0.00	414.17	0.066	0.05	0.07	0.155	A
C-AB	13.80	3.45	13.78	0.00	771.14	0.018	0.02	0.02	0.079	A
C-A	363.85	90.96	363.85	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	415.08	103.77	415.08	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	27.53	6.88	27.52	0.00	414.16	0.066	0.07	0.07	0.155	A
C-AB	13.81	3.45	13.81	0.00	771.11	0.018	0.02	0.02	0.079	A
C-A	363.84	90.96	363.84	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	415.08	103.77	415.08	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	22.47	5.62	22.54	0.00	439.92	0.051	0.07	0.05	0.144	A
C-AB	10.16	2.54	10.18	0.00	744.46	0.014	0.02	0.02	0.082	A
C-A	298.19	74.55	298.19	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	338.92	84.73	338.92	0.00	-	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	18.82	4.71	18.87	0.00	458.33	0.041	0.05	0.04	0.137	A
C-AB	7.88	1.97	7.89	0.00	725.28	0.011	0.02	0.01	0.084	A
C-A	250.35	62.59	250.35	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	283.83	70.96	283.83	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.61	0.04	0.136	A	A
C-AB	0.18	0.01	0.084	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.78	0.05	0.144	A	A
C-AB	0.23	0.02	0.082	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.03	0.07	0.155	A	A
C-AB	0.32	0.02	0.079	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	1.06	0.07	0.155	A	A
C-AB	0.32	0.02	0.079	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.84	0.06	0.144	A	A
C-AB	0.23	0.02	0.082	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.66	0.04	0.137	A	A
C-AB	0.18	0.01	0.084	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

ARCADY 8

Version: 8.0.0.296 [27 Feb 2012]

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Filename: Clitheroe Road-Site Access 2017 Predicted Assessment.arc8

Path: Y:\2010\10-226 to 10-250\10-228 CEG, Whalley\Technical\Technical 'Single Access Clitheroe Rd Scenario' (55 Dwellings)
\\PICADY\Clitheroe Road-Site Access\Clitheroe Road Site Access

Report generation date: 30/03/2012 15:09:13

« Proposed Layout - 2017 Predicted, PM Peak

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

PM Peak					
	Queue (Veh)	Delay (min)	RFC	LOS	Network Residual Capacity
Proposed Layout - 2017 Predicted					
Stream B-AC	0.06	0.16	0.06	A	124% [Stream B-AC]
Stream C-AB	0.04	0.08	0.03	A	
Stream C-A	-	-	-	-	
Stream A-B	-	-	-	-	
Stream A-C	-	-	-	-	

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met

'D1 - 2017 Predicted, AM Peak' model duration: 07:45 - 09:15

'D2 - 2017 Predicted, PM Peak' model duration: 16:45 - 18:15

Run using ARCADY 8.0.0.296 at 30/03/2012 15:09:12

File summary

File Description

Title	2016 Predicted Assessment - AM and PM Peak
Location	Clitheroe Road/Site Access
Site Number	
Date	08/12/2010
Version	
Status	Completed
Identifier	
Client	CEG
Jobnumber	10/228
Enumerator	rspencer [BGH19]
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (min)	Queue Threshold (PCU)
5.75		✓	Delay	0.85	0.60	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perHour	min	-Min	perMin

The junction diagram reflects the last run of ARCADY.

Proposed Layout - 2017 Predicted, PM Peak

Data Errors and Warnings

No errors or warnings.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Proposed Layout	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
2017 Predicted, PM Peak	2017 Predicted	PM Peak		ONE HOUR	16:45	18:15	90	15				✓		

Junction Network

Junctions

Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (min)	Junction LOS
untitled	T-Junction	Two-way	A,B,C		0.12	A

Junction Network Options

Driving Side	Lighting	Road Surface	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	(Mini-roundabouts only)	124	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm Type
A	Clitheroe Road (North)		Major
B	Site Access		Minor
C	Clitheroe Road (South)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.40		0.00		2.20	100.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	3.00										9	9

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
----------	--------	--------------------	---------------	---------------	---------------	---------------

			PCU	PCU	PCU	PCU
1	B-A	485.052	0.083	0.210	0.132	0.300
1	B-C	629.602	0.091	0.229	-	-
1	C-B	631.874	0.230	0.230	-	-

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

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

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	453.00	100.000
B	ONE HOUR	✓	20.00	100.000
C	ONE HOUR	✓	433.00	100.000

Turning Proportions

Turning Counts or Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.000	13.000	440.000
	B	10.000	0.000	10.000
	C	421.000	12.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

	To			
From		A	B	C
	A	0.00	0.03	0.97
	B	0.50	0.00	0.50
	C	0.97	0.03	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To			
From		A	B	C
	A	1.000	1.000	1.041
	B	1.000	1.000	1.000

	C	1.025	1.000	1.000
--	---	-------	-------	-------

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
	A	0.000	0.000	4.090
	B	0.000	0.000	0.000
From	C	2.850	0.000	0.000

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (min)
B-AC	0.06	0.16	0.06	A	18.35	27.53	4.18	0.15	0.05	4.18	0.15
C-AB	0.03	0.08	0.04	A	20.38	30.57	2.93	0.10	0.03	2.93	0.10
C-A	-	-	-	-	376.95	565.43	-	-	-	-	-
A-B	-	-	-	-	11.93	17.89	-	-	-	-	-
A-C	-	-	-	-	403.75	605.63	-	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	15.06	3.76	14.92	0.00	439.59	0.034	0.00	0.04	0.141	A
C-AB	14.78	3.69	14.68	0.00	762.11	0.019	0.00	0.02	0.080	A
C-A	311.21	77.80	311.21	0.00	-	-	-	-	-	-
A-B	9.79	2.45	9.79	0.00	-	-	-	-	-	-
A-C	331.26	82.81	331.26	0.00	-	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	17.98	4.49	17.94	0.00	417.87	0.043	0.04	0.04	0.150	A
C-AB	19.39	4.85	19.36	0.00	788.12	0.025	0.02	0.03	0.078	A
C-A	369.87	92.47	369.87	0.00	-	-	-	-	-	-
A-B	11.69	2.92	11.69	0.00	-	-	-	-	-	-
A-C	395.55	98.89	395.55	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	22.02	5.51	21.96	0.00	387.36	0.057	0.04	0.06	0.164	A
C-AB	26.92	6.73	26.87	0.00	823.78	0.033	0.03	0.04	0.075	A
C-A	449.82	112.45	449.82	0.00	-	-	-	-	-	-
A-B	14.31	3.58	14.31	0.00	-	-	-	-	-	-
A-C	484.45	121.11	484.45	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	22.02	5.51	22.02	0.00	387.36	0.057	0.06	0.06	0.164	A
C-AB	26.94	6.74	26.94	0.00	823.79	0.033	0.04	0.04	0.075	A
C-A	449.80	112.45	449.80	0.00	-	-	-	-	-	-
A-B	14.31	3.58	14.31	0.00	-	-	-	-	-	-
A-C	484.45	121.11	484.45	0.00	-	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	17.98	4.49	18.04	0.00	417.86	0.043	0.06	0.05	0.150	A
C-AB	19.41	4.85	19.46	0.00	788.12	0.025	0.04	0.03	0.078	A
C-A	369.84	92.46	369.84	0.00	-	-	-	-	-	-
A-B	11.69	2.92	11.69	0.00	-	-	-	-	-	-
A-C	395.55	98.89	395.55	0.00	-	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Entry Flow (Veh/hr)	Pedestrian Demand (Ped/hr)	Capacity (Veh/hr)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (min)	LOS
B-AC	15.06	3.76	15.10	0.00	439.57	0.034	0.05	0.04	0.141	A
C-AB	14.82	3.70	14.85	0.00	762.10	0.019	0.03	0.02	0.080	A
C-A	311.17	77.79	311.17	0.00	-	-	-	-	-	-
A-B	9.79	2.45	9.79	0.00	-	-	-	-	-	-
A-C	331.26	82.81	331.26	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.51	0.03	0.141	A	A
C-AB	0.34	0.02	0.080	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.65	0.04	0.150	A	A
C-AB	0.46	0.03	0.078	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.87	0.06	0.164	A	A
C-AB	0.65	0.04	0.075	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.90	0.06	0.164	A	A
C-AB	0.66	0.04	0.075	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:45-18:00)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.70	0.05	0.150	A	A
C-AB	0.47	0.03	0.078	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (18:00-18:15)

Stream	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
B-AC	0.55	0.04	0.141	A	A
C-AB	0.35	0.02	0.080	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-