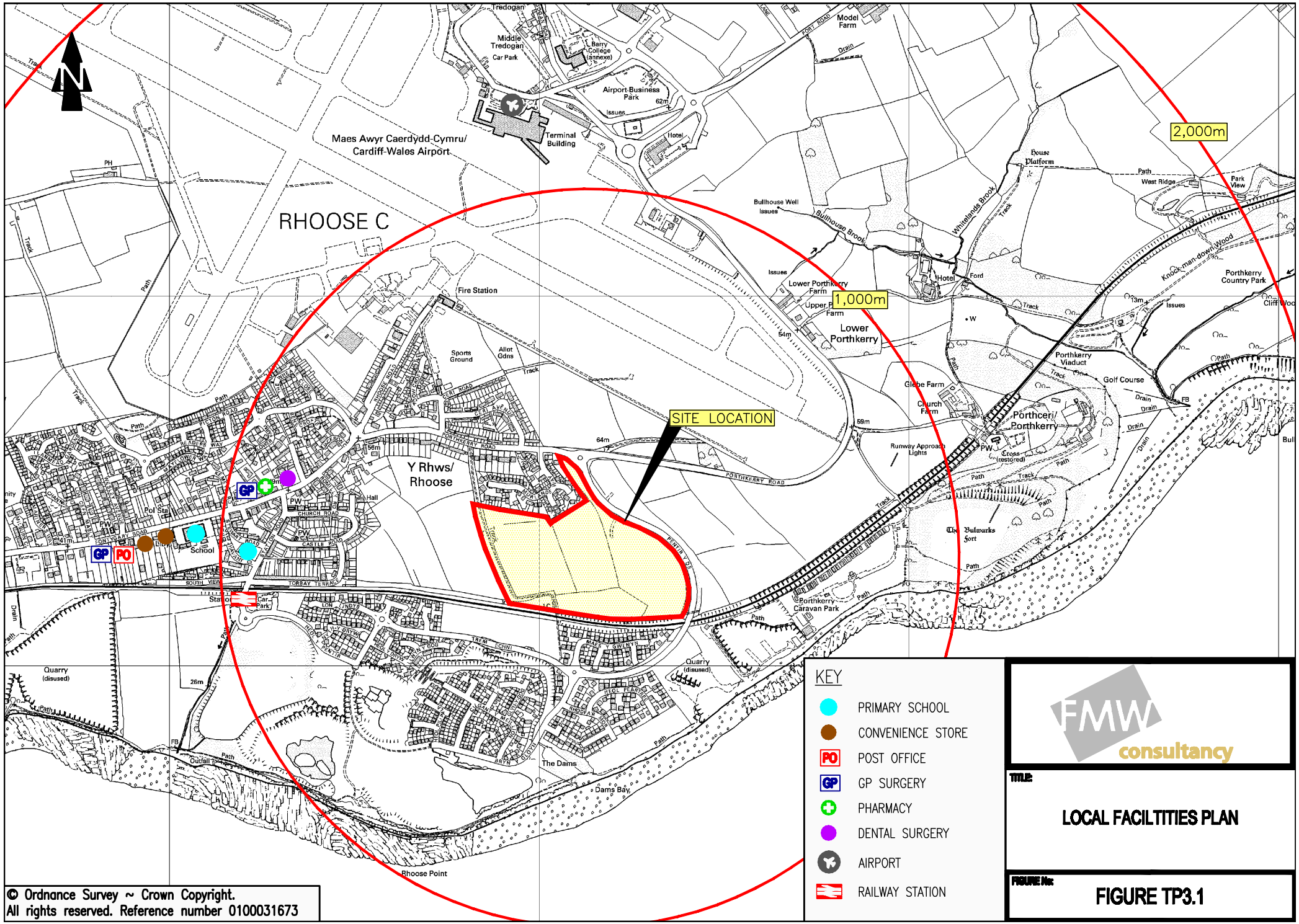

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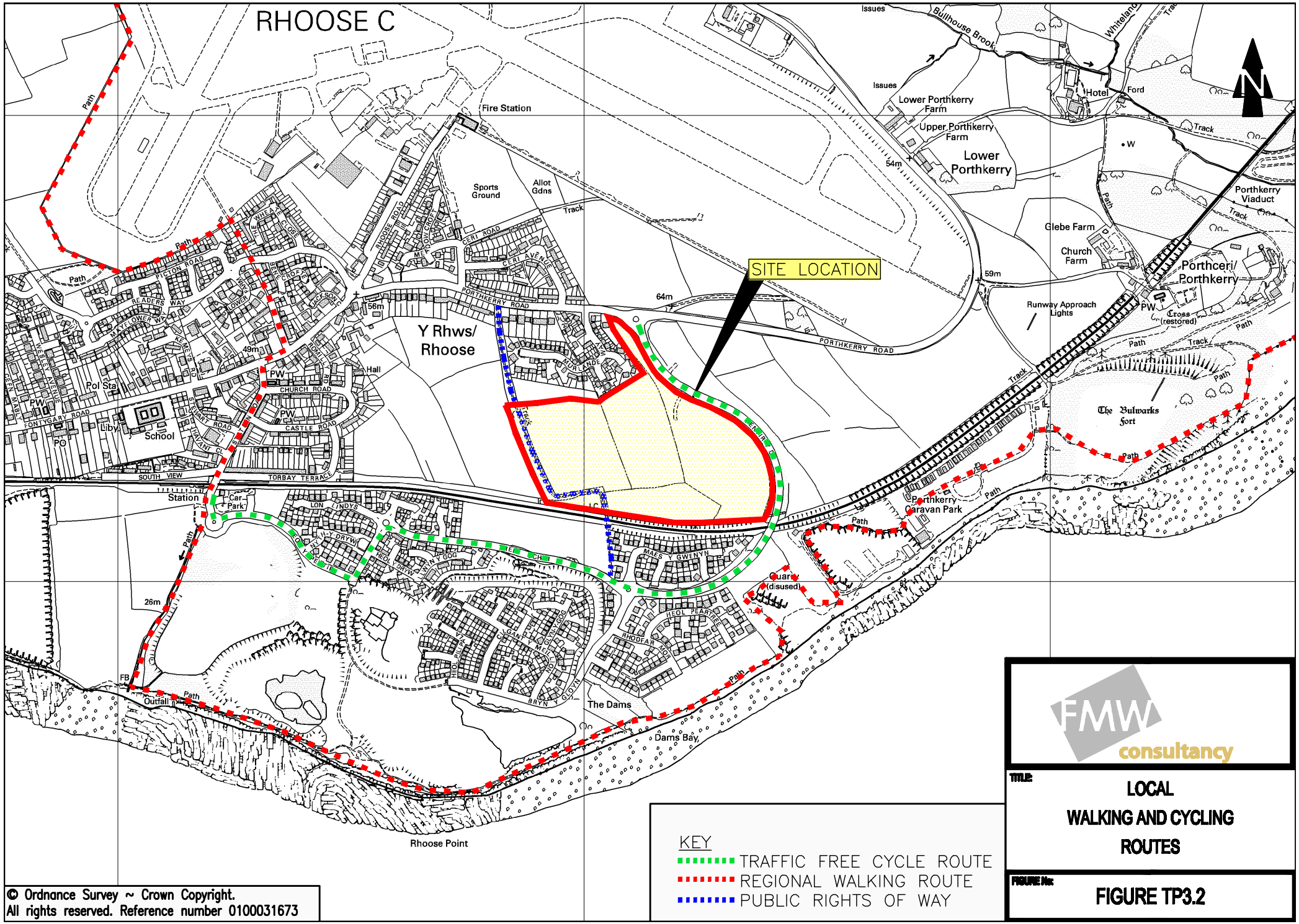

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KEY

- TRAFFIC FREE CYCLE ROUTE
- REGIONAL WALKING ROUTE
- PUBLIC RIGHTS OF WAY

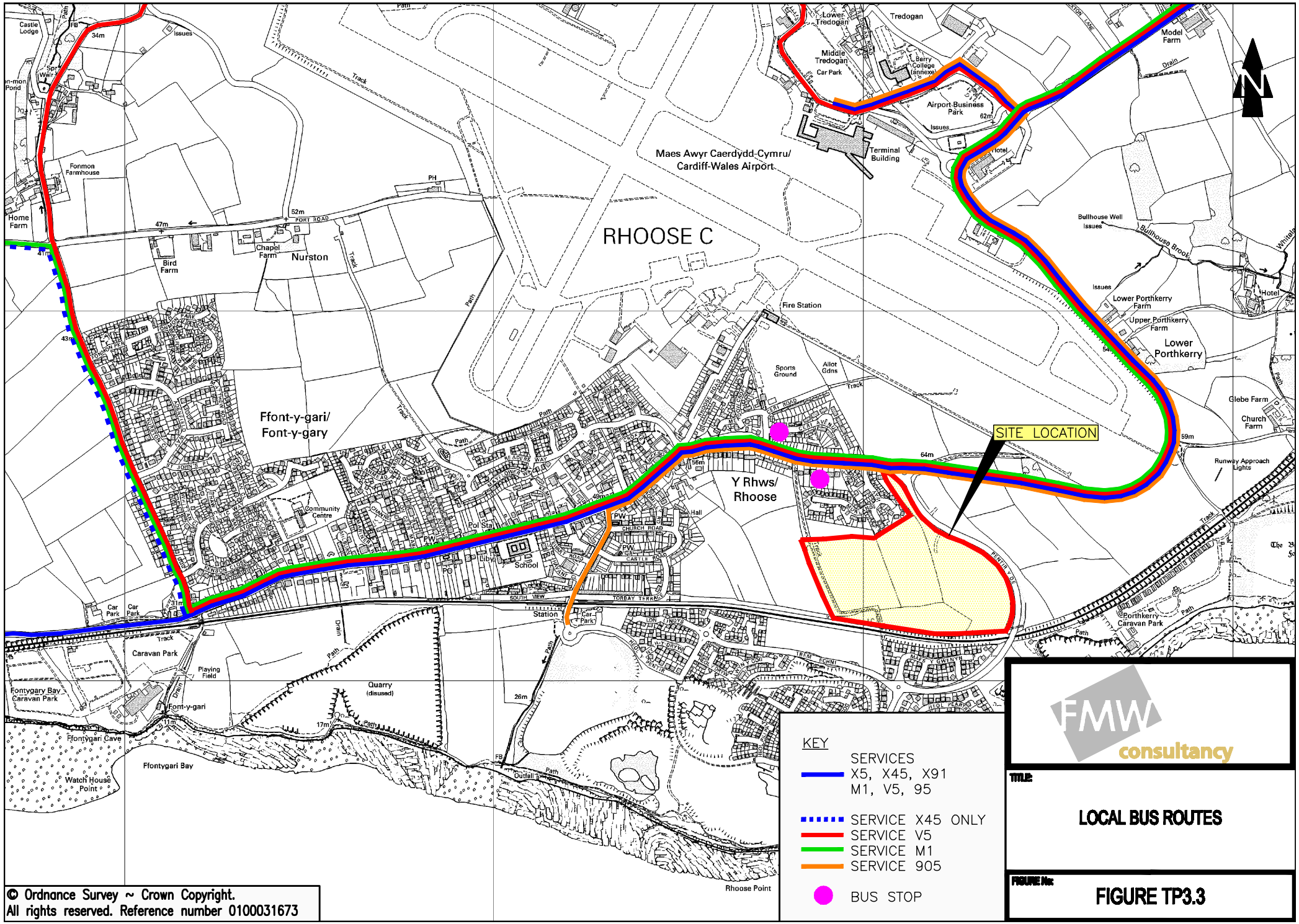
FMW consultancy

TITLE:

LOCAL
WALKING AND CYCLING
ROUTES

FIGURE No:

FIGURE TP3.2



KEY

SERVICES
X5, X45, X91
M1, V5, 95

SERVICE X45 ONLY
SERVICE V5
SERVICE M1
SERVICE 905

BUS STOP

FMW consultancy

TITLE:

LOCAL BUS ROUTES

FIGURE No:

FIGURE TP3.3

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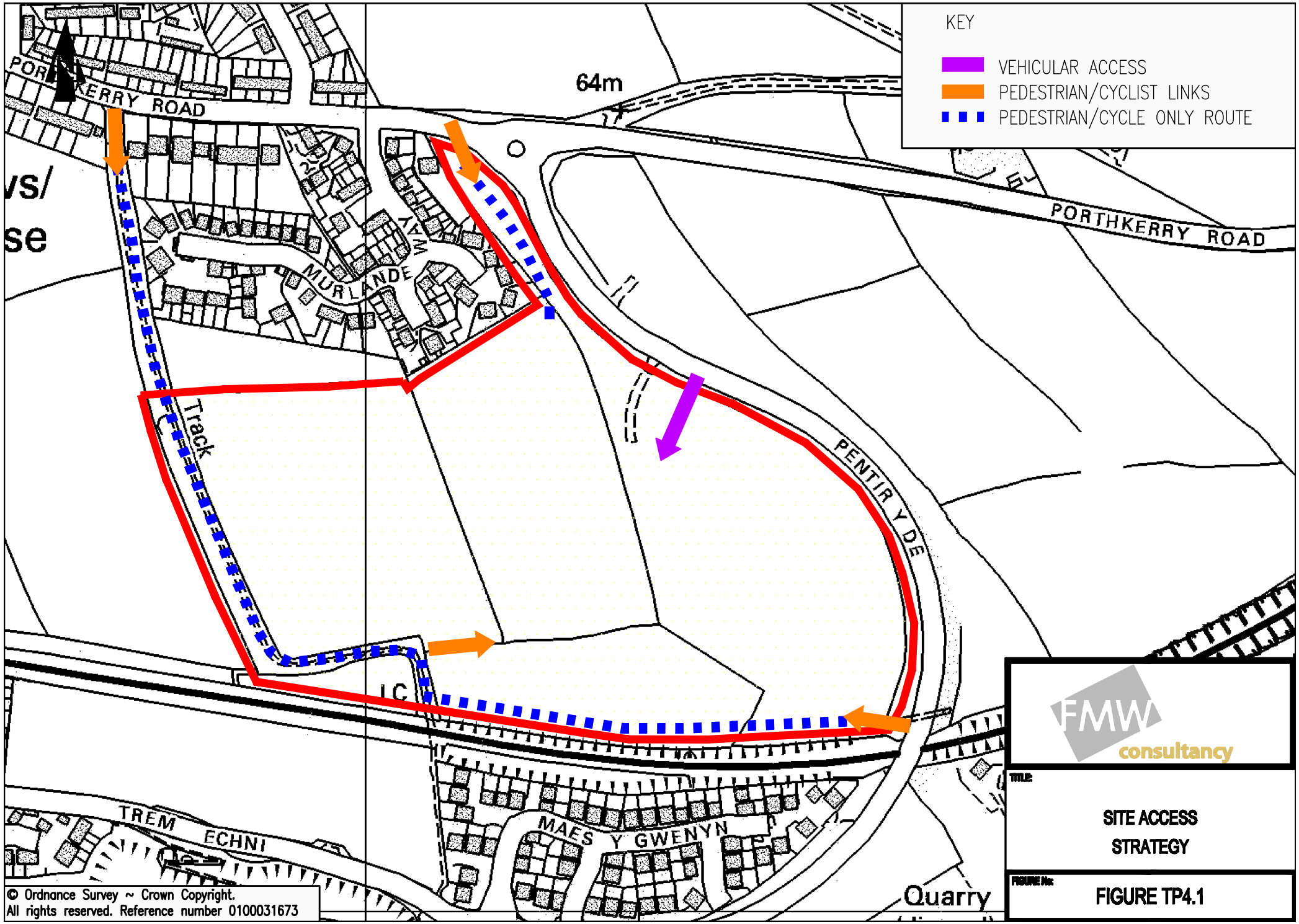
KEY
VEHICULAR ACCESS
PEDESTRIAN/CYCLIST LINKS
PEDESTRIAN/CYCLE ONLY ROUTE
64m
PORTHKERRY ROAD
MURLANDE
PENTIR Y DE
Track
TREM ECHNI
MAES Y GWENYN
Quarry
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FMW consultancy
TITLE:
SITE ACCESS STRATEGY
FIGURE No:
FIGURE TP4.1

APPENDIX K

ARCADY OUTPUTS

SCALING FACTORS

T13

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

TIME PERIOD BEGINS(17.00)AND ENDS(18.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base Flows + Comm Dev PM

DEMAND SET TITLE: 2015 Base Flows + Comm Dev PM

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
17.00 - 18.00	ARM A	0.000	0.264	0.609	0.127
		0.0	268.0	619.0	129.0
		(0.0)	(4.0)	(0.0)	(1.0)
	ARM B	0.240	0.000	0.610	0.150
		188.0	0.0	477.0	117.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.641	0.282	0.000	0.078
		578.0	254.0	0.0	70.0
		(3.0)	(1.0)	(0.0)	(0.0)
	ARM D	0.287	0.434	0.279	0.000
		145.0	219.0	141.0	0.0
		(0.0)	(1.0)	(2.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	16.93	21.36	0.793	- - -	0.0	3.6	47.6	-	0.205
ARM B	13.03	20.60	0.632	- - -	0.0	1.7	23.7	-	0.128
ARM C	15.43	35.03	0.440	- - -	0.0	0.8	11.5	-	0.051
ARM D	8.42	20.84	0.404	- - -	0.0	0.7	9.8	-	0.080

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	16.93	21.33	0.794	- - -	3.6	3.7	54.9	-	0.226
ARM B	13.03	20.50	0.636	- - -	1.7	1.7	25.6	-	0.134
ARM C	15.43	34.98	0.441	- - -	0.8	0.8	11.8	-	0.051
ARM D	8.42	20.81	0.405	- - -	0.7	0.7	10.1	-	0.081

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	16.93	21.33	0.794	- - -	3.7	3.8	56.0	-	0.227
ARM B	13.03	20.50	0.636	- - -	1.7	1.7	25.9	-	0.134
ARM C	15.43	34.98	0.441	- - -	0.8	0.8	11.8	-	0.051
ARM D	8.42	20.81	0.405	- - -	0.7	0.7	10.2	-	0.081

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	16.93	21.33	0.794	- - -	3.8	3.8	56.5	-	0.227
ARM B	13.03	20.50	0.636	- - -	1.7	1.7	26.0	-	0.134
ARM C	15.43	34.98	0.441	- - -	0.8	0.8	11.8	-	0.051
ARM D	8.42	20.81	0.405	- - -	0.7	0.7	10.2	-	0.081

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	3.6	****
17.30	3.7	****
17.45	3.8	****
18.00	3.8	****

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	1.7	**
17.30	1.7	**
17.45	1.7	**
18.00	1.7	**

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.8	*
17.30	0.8	*
17.45	0.8	*
18.00	0.8	*

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.7	*
17.30	0.7	*
17.45	0.7	*
18.00	0.7	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	QUEUEING * DELAY * (MIN)	QUEUEING * DELAY * (MIN/VEH)	INCLUSIVE QUEUEING * DELAY * (MIN)	INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	1015.8	1015.8	215.1	0.21	215.4	0.21
B	781.8	781.8	101.1	0.13	101.2	0.13
C	925.8	925.8	46.8	0.05	46.9	0.05
D	505.2	505.2	40.2	0.08	40.2	0.08
ALL	3228.6	3228.6	403.2	0.12	403.6	0.13

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

END OF JOB

========== end of file ==========

Printed at 09:18:26 on 01/06/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J1 Waycock Cross\J1 Waycock Cross AM Peak.vai"
(drive-on-the-left) at 08:40:29 on Tuesday, 1 June 2010

FILE PROPERTIES

RUN TITLE: J1 Waycock Cross Junction
LOCATION: Rhoose
DATE: 28/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road West (E)
ARM B - Pontypridd Road
ARM C - Port Road West (W)
ARM D - Waycock Road

GEOMETRIC DATA

T5

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.50	7.00	50.00	5.00	50.00	30.0	0.556	27.404
ARM B	4.00	7.50	50.00	5.00	50.00	35.0	0.569	28.958
ARM C	5.00	10.00	100.00	5.00	50.00	25.0	0.715	40.936
ARM D	3.50	7.00	50.00	5.00	500.00	20.0	0.424	28.518

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

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

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM D Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

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

TIME PERIOD BEGINS(08.00)AND ENDS(09.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base Flows AM

DEMAND SET TITLE: 2015 Base Flows AM

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
08.00 - 09.00	ARM A	0.000	0.310	0.552	0.138
		0.0	224.0	399.0	100.0
		(0.0)	(10.0)	(0.0)	(7.0)
	ARM B	0.415	0.000	0.326	0.259
		292.0	0.0	229.0	182.0
		(0.0)	(0.0)	(2.0)	(0.0)
	ARM C	0.415	0.452	0.000	0.133
		473.0	515.0	0.0	152.0
		(4.0)	(1.0)	(0.0)	(0.0)
	ARM D	0.305	0.472	0.222	0.000
		133.0	206.0	97.0	0.0
		(1.0)	(1.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	12.05	19.02	0.633	- - -	0.0	1.7	23.6	-	0.139
ARM B	11.72	23.14	0.506	- - -	0.0	1.0	14.6	-	0.086
ARM C	19.00	33.35	0.570	- - -	0.0	1.3	18.9	-	0.069
ARM D	7.27	19.21	0.379	- - -	0.0	0.6	8.8	-	0.083

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	12.05	18.99	0.635	- - -	1.7	1.7	25.5	-	0.144
ARM B	11.72	23.09	0.508	- - -	1.0	1.0	15.3	-	0.088
ARM C	19.00	33.31	0.570	- - -	1.3	1.3	19.7	-	0.070
ARM D	7.27	19.16	0.379	- - -	0.6	0.6	9.1	-	0.084

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	12.05	18.99	0.635	- - -	1.7	1.7	25.8	-	0.144
ARM B	11.72	23.09	0.508	- - -	1.0	1.0	15.4	-	0.088
ARM C	19.00	33.31	0.570	- - -	1.3	1.3	19.8	-	0.070
ARM D	7.27	19.16	0.379	- - -	0.6	0.6	9.1	-	0.084

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	12.05	18.99	0.635	- - -	1.7	1.7	25.9	-	0.144
ARM B	11.72	23.09	0.508	- - -	1.0	1.0	15.4	-	0.088
ARM C	19.00	33.31	0.570	- - -	1.3	1.3	19.8	-	0.070
ARM D	7.27	19.16	0.379	- - -	0.6	0.6	9.1	-	0.084

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.7	**
08.30	1.7	**
08.45	1.7	**
09.00	1.7	**

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.0	*
08.30	1.0	*
08.45	1.0	*
09.00	1.0	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.3	*
08.30	1.3	*
08.45	1.3	*
09.00	1.3	*

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.6	*
08.30	0.6	*
08.45	0.6	*
09.00	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	723.0	723.0	100.8	0.14	100.9	0.14
B	703.2	703.2	60.7	0.09	60.7	0.09
C	1140.0	1140.0	78.3	0.07	78.4	0.07
D	436.2	436.2	36.1	0.08	36.2	0.08
ALL	3002.4	3002.4	276.0	0.09	276.1	0.09

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
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* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

Printed at 08:40:47 on 01/06/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J1 Waycock Cross\J1 Waycock Cross PM Peak.vai"
(drive-on-the-left) at 09:12:12 on Tuesday, 1 June 2010

FILE PROPERTIES

RUN TITLE: J1 Waycock Cross Junction PM Peak
LOCATION: Rhoose
DATE: 28/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road West (E)
ARM B - Pontypridd Road
ARM C - Port Road West (W)
ARM D - Waycock Road

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.50	7.00	50.00	5.00	50.00	30.0	0.556	27.404
ARM B	4.00	7.50	50.00	5.00	50.00	35.0	0.569	28.958
ARM C	5.00	10.00	100.00	5.00	50.00	25.0	0.715	40.936
ARM D	3.50	7.00	50.00	5.00	500.00	20.0	0.424	28.518

T5

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

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

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM D Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

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

TIME PERIOD BEGINS(17.00)AND ENDS(18.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base Flows PM

DEMAND SET TITLE: 2015 Base Flows PM

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
17.00 - 18.00	ARM A	0.000	0.281	0.596	0.123
		0.0	269.0	571.0	118.0
		(0.0)	(4.0)	(0.0)	(1.0)
	ARM B	0.242	0.000	0.599	0.158
		179.0	0.0	443.0	117.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.588	0.320	0.000	0.092
		466.0	254.0	0.0	73.0
		(3.0)	(1.0)	(0.0)	(0.0)
	ARM D	0.289	0.498	0.213	0.000
		136.0	234.0	100.0	0.0
		(0.0)	(1.0)	(2.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	15.96	21.65	0.737	- - -	0.0	2.7	36.8	-	0.166
ARM B	12.32	21.53	0.572	- - -	0.0	1.3	18.8	-	0.107
ARM C	13.22	35.30	0.375	- - -	0.0	0.6	8.8	-	0.045
ARM D	7.83	21.87	0.358	- - -	0.0	0.6	8.1	-	0.071

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	15.96	21.62	0.738	- - -	2.7	2.8	40.9	-	0.176
ARM B	12.32	21.46	0.574	- - -	1.3	1.3	19.9	-	0.109
ARM C	13.22	35.26	0.375	- - -	0.6	0.6	9.0	-	0.045
ARM D	7.83	21.85	0.358	- - -	0.6	0.6	8.3	-	0.071

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	15.96	21.62	0.738	- - -	2.8	2.8	41.5	-	0.176
ARM B	12.32	21.45	0.574	- - -	1.3	1.3	20.1	-	0.109
ARM C	13.22	35.26	0.375	- - -	0.6	0.6	9.0	-	0.045
ARM D	7.83	21.85	0.358	- - -	0.6	0.6	8.3	-	0.071

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	15.96	21.62	0.738	- - -	2.8	2.8	41.7	-	0.176
ARM B	12.32	21.45	0.574	- - -	1.3	1.3	20.1	-	0.109
ARM C	13.22	35.26	0.375	- - -	0.6	0.6	9.0	-	0.045
ARM D	7.83	21.85	0.358	- - -	0.6	0.6	8.4	-	0.071

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	2.7	***
17.30	2.8	***
17.45	2.8	***
18.00	2.8	***

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	1.3	*
17.30	1.3	*
17.45	1.3	*
18.00	1.3	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.6	*
17.30	0.6	*
17.45	0.6	*
18.00	0.6	*

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.6	*
17.30	0.6	*
17.45	0.6	*
18.00	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	QUEUEING * DELAY * (MIN)	QUEUEING * DELAY * (MIN/VEH)	INCLUSIVE QUEUEING * DELAY * (MIN)	INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	957.6	957.6	161.0	0.17	161.2	0.17
B	739.2	739.2	78.9	0.11	78.9	0.11
C	793.2	793.2	35.7	0.04	35.7	0.04
D	469.8	469.8	33.1	0.07	33.1	0.07
ALL	2959.8	2959.8	308.7	0.10	308.9	0.10

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

END OF JOB

========== end of file ==========

Printed at 09:12:26 on 01/06/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT AM Peak.vai"
(drive-on-the-left) at 13:51:38 on Thursday, 10 June 2010

FILE PROPERTIES

RUN TITLE: J3 -Wales Airport RBT - AM Peak
LOCATION: Rhoose
DATE: 27/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road
ARM B - A4226 (W)
ARM C - A4226 (E)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	7.00	16.00	30.00	36.00	50.0	0.638	28.667
ARM B	3.75	7.00	40.40	26.00	36.00	39.0	0.680	31.352
ARM C	3.40	7.00	38.00	60.00	36.00	20.0	0.730	33.215

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(08.00)AND ENDS(09.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base + Comm Dev + 350 units AM Peak

DEMAND SET TITLE: 2015 Base + Comm Dev + 350 units AM Peak

T33

TIME	FROM/TO	TURNING PROPORTIONS (TURNING COUNTS) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.00 - 09.00	ARM A	0.000	0.012	0.988
		0.0	11.0	935.0
		(0.0)	(10.0)	(1.0)
	ARM B	0.013	0.000	0.987
		7.0	0.0	535.0
		(5.0)	(0.0)	(0.0)
	ARM C	0.498	0.502	0.000
		475.0	478.0	0.0
		(2.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	15.77	23.05	0.684	- - -	0.0	2.1	29.4	-	0.132
ARM B	9.03	20.72	0.436	- - -	0.0	0.8	11.1	-	0.085
ARM C	15.88	31.85	0.499	- - -	0.0	1.0	14.4	-	0.062

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	15.77	23.03	0.685	- - -	2.1	2.1	31.9	-	0.138
ARM B	9.03	20.63	0.438	- - -	0.8	0.8	11.6	-	0.086
ARM C	15.88	31.85	0.499	- - -	1.0	1.0	14.8	-	0.063

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	15.77	23.03	0.685	- - -	2.1	2.2	32.2	-	0.138
ARM B	9.03	20.63	0.438	- - -	0.8	0.8	11.6	-	0.086
ARM C	15.88	31.85	0.499	- - -	1.0	1.0	14.9	-	0.063

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	15.77	23.03	0.685	- - -	2.2	2.2	32.3	-	0.138
ARM B	9.03	20.63	0.438	- - -	0.8	0.8	11.6	-	0.086
ARM C	15.88	31.85	0.499	- - -	1.0	1.0	14.9	-	0.063

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	2.1	**
08.30	2.1	**
08.45	2.2	**
09.00	2.2	**

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.8	*
08.30	0.8	*
08.45	0.8	*
09.00	0.8	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.0	*
08.30	1.0	*
08.45	1.0	*
09.00	1.0	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	946.2	946.2	125.9	0.13	126.0	0.13
B	541.8	541.8	45.9	0.08	45.9	0.08
C	952.8	952.8	58.9	0.06	58.9	0.06
ALL	2440.8	2440.8	230.7	0.09	230.8	0.09

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

END OF JOB

_____ A R C A D Y 6 _____

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT PM Peak.vai"
(drive-on-the-left) at 14:04:05 on Thursday, 10 June 2010

FILE PROPERTIES

RUN TITLE: J3 -Wales Airport RBT - PM Peak
LOCATION: Rhoose
DATE: 27/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road
ARM B - A4226 (W)
ARM C - A4226 (E)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	7.00	16.00	30.00	36.00	50.0	0.638	28.667
ARM B	3.75	7.00	40.40	26.00	36.00	39.0	0.680	31.352
ARM C	3.40	7.00	38.00	60.00	36.00	20.0	0.730	33.215

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(17.00)AND ENDS(18.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base + Comm Dev + 350 units PM Peak

DEMAND SET TITLE: 2015 Base + Comm Dev + 350 units PM Peak

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
17.00 - 18.00	ARM A	0.000	0.024	0.976
		0.0	15.0	620.0
		(0.0)	(0.0)	(2.0)
	ARM B	0.019	0.000	0.981
		11.0	0.0	555.0
		(0.0)	(0.0)	(1.0)
	ARM C	0.635	0.365	0.000
		862.0	496.0	0.0
		(1.0)	(2.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	10.58	22.50	0.470	- - -	0.0	0.9	12.7	-	0.083
ARM B	9.43	23.99	0.393	- - -	0.0	0.6	9.4	-	0.068
ARM C	24.30	32.64	0.745	- - -	0.0	2.8	39.4	-	0.115

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	10.58	22.46	0.471	- - -	0.9	0.9	13.2	-	0.084
ARM B	9.43	23.95	0.394	- - -	0.6	0.6	9.7	-	0.069
ARM C	24.30	32.64	0.745	- - -	2.8	2.9	42.8	-	0.120

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	10.58	22.46	0.471	- - -	0.9	0.9	13.3	-	0.084
ARM B	9.43	23.95	0.394	- - -	0.6	0.6	9.7	-	0.069
ARM C	24.30	32.64	0.745	- - -	2.9	2.9	43.2	-	0.120

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	10.58	22.46	0.471	- - -	0.9	0.9	13.3	-	0.084
ARM B	9.43	23.95	0.394	- - -	0.6	0.6	9.7	-	0.069
ARM C	24.30	32.64	0.745	- - -	2.9	2.9	43.3	-	0.120

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.9	*
17.30	0.9	*
17.45	0.9	*
18.00	0.9	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.6	*
17.30	0.6	*
17.45	0.6	*
18.00	0.6	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	2.8	***
17.30	2.9	***
17.45	2.9	***
18.00	2.9	***

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	634.8	634.8	52.6	0.08	52.6	0.08
B	565.8	565.8	38.5	0.07	38.5	0.07
C	1458.0	1458.0	168.8	0.12	168.9	0.12
ALL	2658.6	2658.6	259.8	0.10	260.0	0.10

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

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT AM Peak.vai"
(drive-on-the-left) at 14:00:46 on Thursday, 10 June 2010

FILE PROPERTIES

RUN TITLE: J3 -Wales Airport RBT - AM Peak
LOCATION: Rhoose
DATE: 27/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road
ARM B - A4226 (W)
ARM C - A4226 (E)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	7.00	16.00	30.00	36.00	50.0	0.638	28.667
ARM B	3.75	7.00	40.40	26.00	36.00	39.0	0.680	31.352
ARM C	3.40	7.00	38.00	60.00	36.00	20.0	0.730	33.215

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(08.00)AND ENDS(09.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base + Comm Dev + 700 units AM Peak

DEMAND SET TITLE: 2015 Base + Comm Dev + 700 units AM Peak

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.00 - 09.00	ARM A	0.000	0.011	0.989
		0.0	11.0	999.0
		(0.0)	(10.0)	(1.0)
	ARM B	0.013	0.000	0.987
		7.0	0.0	535.0
		(5.0)	(0.0)	(0.0)
	ARM C	0.498	0.502	0.000
		475.0	478.0	0.0
		(2.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	19.62	22.75	0.863	- - -	0.0	5.5	69.6	-	0.264
ARM B	9.03	18.25	0.495	- - -	0.0	1.0	13.8	-	0.107
ARM C	16.80	31.85	0.527	- - -	0.0	1.1	16.0	-	0.066

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	19.62	22.72	0.864	- - -	5.5	5.9	86.0	-	0.315
ARM B	9.03	18.02	0.501	- - -	1.0	1.0	14.8	-	0.111
ARM C	16.80	31.85	0.527	- - -	1.1	1.1	16.6	-	0.066

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	19.62	22.72	0.864	- - -	5.9	6.0	89.4	-	0.319
ARM B	9.03	18.01	0.501	- - -	1.0	1.0	14.9	-	0.111
ARM C	16.80	31.85	0.527	- - -	1.1	1.1	16.7	-	0.066

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	19.62	22.72	0.864	- - -	6.0	6.1	90.9	-	0.320
ARM B	9.03	18.01	0.501	- - -	1.0	1.0	15.0	-	0.111
ARM C	16.80	31.85	0.527	- - -	1.1	1.1	16.7	-	0.066

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	5.5	******
08.30	5.9	******
08.45	6.0	******
09.00	6.1	******

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.0	*
08.30	1.0	*
08.45	1.0	*
09.00	1.0	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.1	*
08.30	1.1	*
08.45	1.1	*
09.00	1.1	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	1177.2	1177.2	335.8	0.29	336.7	0.29
B	541.8	541.8	58.6	0.11	58.6	0.11
C	1008.0	1008.0	66.1	0.07	66.1	0.07
ALL	2727.0	2727.0	460.5	0.17	461.3	0.17

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

END OF JOB

_____ A R C A D Y 6 _____

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT PM Peak.vai"
(drive-on-the-left) at 14:05:25 on Thursday, 10 June 2010

FILE PROPERTIES

RUN TITLE: J3 -Wales Airport RBT - PM Peak
LOCATION: Rhoose
DATE: 27/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road
ARM B - A4226 (W)
ARM C - A4226 (E)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	7.00	16.00	30.00	36.00	50.0	0.638	28.667
ARM B	3.75	7.00	40.40	26.00	36.00	39.0	0.680	31.352
ARM C	3.40	7.00	38.00	60.00	36.00	20.0	0.730	33.215

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

IARM	I FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I

TIME PERIOD BEGINS(17.00)AND ENDS(18.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base + Comm Dev + 700 units PM Peak

DEMAND SET TITLE: 2015 Base + Comm Dev + 700 units PM Peak

T33

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
17.00 - 18.00	ARM A	0.000	0.020	0.980
		0.0	15.0	721.0
		(0.0)	(0.0)	(2.0)
	ARM B	0.019	0.000	0.981
		11.0	0.0	555.0
		(0.0)	(0.0)	(1.0)
	ARM C	0.668	0.332	0.000
		999.0	496.0	0.0
		(1.0)	(2.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	12.27	22.82	0.538	- - -	0.0	1.1	16.5	-	0.094
ARM B	9.43	22.84	0.413	- - -	0.0	0.7	10.1	-	0.074
ARM C	25.25	32.65	0.773	- - -	0.0	3.3	45.3	-	0.128

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	12.27	22.77	0.539	- - -	1.1	1.2	17.3	-	0.095
ARM B	9.43	22.79	0.414	- - -	0.7	0.7	10.5	-	0.075
ARM C	25.25	32.65	0.773	- - -	3.3	3.3	49.9	-	0.135

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	12.27	22.77	0.539	- - -	1.2	1.2	17.4	-	0.095
ARM B	9.43	22.79	0.414	- - -	0.7	0.7	10.5	-	0.075
ARM C	25.25	32.65	0.773	- - -	3.3	3.4	50.4	-	0.135

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	12.27	22.77	0.539	- - -	1.2	1.2	17.5	-	0.095
ARM B	9.43	22.79	0.414	- - -	0.7	0.7	10.6	-	0.075
ARM C	25.25	32.65	0.773	- - -	3.4	3.4	50.6	-	0.135

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	1.1	*
17.30	1.2	*
17.45	1.2	*
18.00	1.2	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.7	*
17.30	0.7	*
17.45	0.7	*
18.00	0.7	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	3.3	***
17.30	3.3	***
17.45	3.4	***
18.00	3.4	***

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	736.2	736.2	68.7	0.09	68.7	0.09
B	565.8	565.8	41.8	0.07	41.8	0.07
C	1515.0	1515.0	196.2	0.13	196.4	0.13
ALL	2817.0	2817.0	306.6	0.11	306.8	0.11

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END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT AM Peak.vai"
(drive-on-the-left) at 15:48:38 on Thursday, 27 May 2010

FILE PROPERTIES

RUN TITLE: J3 -Wales Airport RBT - AM Peak
LOCATION: Rhoose
DATE: 27/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road
ARM B - A4226 (W)
ARM C - A4226 (E)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	7.00	16.00	30.00	36.00	50.0	0.638	28.667
ARM B	3.75	7.00	40.40	26.00	36.00	39.0	0.680	31.352
ARM C	3.40	7.00	38.00	60.00	36.00	20.0	0.730	33.215

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(08.00)AND ENDS(09.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base + Comm Dev AM Peak

DEMAND SET TITLE: 2015 Base + Comm Dev AM Peak

T33

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.00 - 09.00	ARM A	0.000	0.015	0.985
		0.0	11.0	704.0
		(0.0)	(10.0)	(1.0)
	ARM B	0.013	0.000	0.987
		7.0	0.0	535.0
		(5.0)	(0.0)	(0.0)
	ARM C	0.468	0.532	0.000
		420.0	478.0	0.0
		(2.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	11.92	23.04	0.517	- - -	0.0	1.1	15.3	-	0.089
ARM B	9.03	23.32	0.387	- - -	0.0	0.6	9.1	-	0.070
ARM C	14.97	31.81	0.471	- - -	0.0	0.9	12.9	-	0.059

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	11.92	23.02	0.518	- - -	1.1	1.1	16.0	-	0.090
ARM B	9.03	23.27	0.388	- - -	0.6	0.6	9.4	-	0.070
ARM C	14.97	31.81	0.471	- - -	0.9	0.9	13.3	-	0.059

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	11.92	23.02	0.518	- - -	1.1	1.1	16.0	-	0.090
ARM B	9.03	23.27	0.388	- - -	0.6	0.6	9.5	-	0.070
ARM C	14.97	31.81	0.471	- - -	0.9	0.9	13.3	-	0.059

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	11.92	23.02	0.518	- - -	1.1	1.1	16.1	-	0.090
ARM B	9.03	23.27	0.388	- - -	0.6	0.6	9.5	-	0.070
ARM C	14.97	31.81	0.471	- - -	0.9	0.9	13.3	-	0.059

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	1.1	*
08.30	1.1	*
08.45	1.1	*
09.00	1.1	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.6	*
08.30	0.6	*
08.45	0.6	*
09.00	0.6	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.9	*
08.30	0.9	*
08.45	0.9	*
09.00	0.9	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	715.2	715.2	63.3	0.09	63.3	0.09
B	541.8	541.8	37.6	0.07	37.6	0.07
C	898.2	898.2	52.7	0.06	52.7	0.06
ALL	2155.2	2155.2	153.6	0.07	153.6	0.07

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

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT PM Peak.vai"
(drive-on-the-left) at 14:07:46 on Tuesday, 1 June 2010

FILE PROPERTIES

RUN TITLE: J3 -Wales Airport RBT - PM Peak
LOCATION: Rhoose
DATE: 27/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road
ARM B - A4226 (W)
ARM C - A4226 (E)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	7.00	16.00	30.00	36.00	50.0	0.638	28.667
ARM B	3.75	7.00	40.40	26.00	36.00	39.0	0.680	31.352
ARM C	3.40	7.00	38.00	60.00	36.00	20.0	0.730	33.215

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(17.00)AND ENDS(18.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base + Comm Dev PM Peak

DEMAND SET TITLE: 2015 Base + Comm Dev PM Peak

T33

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
17.00 - 18.00	ARM A	0.000	0.028	0.972
		0.0	15.0	518.0
		(0.0)	(0.0)	(2.0)
	ARM B	0.019	0.000	0.981
		11.0	0.0	555.0
		(0.0)	(0.0)	(1.0)
	ARM C	0.587	0.413	0.000
		704.0	496.0	0.0
		(1.0)	(2.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	8.88	22.87	0.388	- - -	0.0	0.6	9.2	-	0.071
ARM B	9.43	25.14	0.375	- - -	0.0	0.6	8.7	-	0.063
ARM C	20.00	32.62	0.613	- - -	0.0	1.6	22.5	-	0.078

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	8.88	22.85	0.389	- - -	0.6	0.6	9.5	-	0.072
ARM B	9.43	25.12	0.375	- - -	0.6	0.6	9.0	-	0.064
ARM C	20.00	32.62	0.613	- - -	1.6	1.6	23.5	-	0.079

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	8.88	22.85	0.389	- - -	0.6	0.6	9.5	-	0.072
ARM B	9.43	25.12	0.375	- - -	0.6	0.6	9.0	-	0.064
ARM C	20.00	32.62	0.613	- - -	1.6	1.6	23.6	-	0.079

TRL TRL Viewer 3.2 AG Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT PM P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	8.88	22.85	0.389	- - -	0.6	0.6	9.5	-	0.072
ARM B	9.43	25.12	0.375	- - -	0.6	0.6	9.0	-	0.064
ARM C	20.00	32.62	0.613	- - -	1.6	1.6	23.7	-	0.079

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.6	*
17.30	0.6	*
17.45	0.6	*
18.00	0.6	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.6	*
17.30	0.6	*
17.45	0.6	*
18.00	0.6	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	1.6	**
17.30	1.6	**
17.45	1.6	**
18.00	1.6	**

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	532.8	532.8	37.7	0.07	37.7	0.07
B	565.8	565.8	35.7	0.06	35.7	0.06
C	1200.0	1200.0	93.3	0.08	93.4	0.08
ALL	2298.6	2298.6	166.7	0.07	166.7	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
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END OF JOB

========== end of file ==========

Printed at 14:07:53 on 01/06/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT AM Peak.vai"
(drive-on-the-left) at 15:47:56 on Thursday, 27 May 2010

FILE PROPERTIES

RUN TITLE: J3 -Wales Airport RBT - AM Peak
LOCATION: Rhoose
DATE: 27/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road
ARM B - A4226 (W)
ARM C - A4226 (E)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	7.00	16.00	30.00	36.00	50.0	0.638	28.667
ARM B	3.75	7.00	40.40	26.00	36.00	39.0	0.680	31.352
ARM C	3.40	7.00	38.00	60.00	36.00	20.0	0.730	33.215

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(08.00)AND ENDS(09.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base AM Peak

DEMAND SET TITLE: 2015 Base AM Peak

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.00 - 09.00	ARM A	0.000	0.017	0.983
		0.0	11.0	627.0
		(0.0)	(10.0)	(1.0)
	ARM B	0.013	0.000	0.987
		7.0	0.0	517.0
		(5.0)	(0.0)	(0.0)
	ARM C	0.529	0.471	0.000
		359.0	320.0	0.0
		(2.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	10.63	24.79	0.429	- - -	0.0	0.7	10.8	-	0.070
ARM B	8.73	24.19	0.361	- - -	0.0	0.6	8.2	-	0.064
ARM C	11.32	31.89	0.355	- - -	0.0	0.5	8.0	-	0.048

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	10.63	24.77	0.429	- - -	0.7	0.7	11.2	-	0.071
ARM B	8.73	24.16	0.361	- - -	0.6	0.6	8.4	-	0.065
ARM C	11.32	31.89	0.355	- - -	0.5	0.5	8.2	-	0.049

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	10.63	24.77	0.429	- - -	0.7	0.7	11.2	-	0.071
ARM B	8.73	24.16	0.361	- - -	0.6	0.6	8.5	-	0.065
ARM C	11.32	31.89	0.355	- - -	0.5	0.5	8.2	-	0.049

TRL TRL Viewer 3.2 AG Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT AM P

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	10.63	24.77	0.429	- - -	0.7	0.7	11.2	-	0.071
ARM B	8.73	24.16	0.361	- - -	0.6	0.6	8.5	-	0.065
ARM C	11.32	31.89	0.355	- - -	0.5	0.5	8.2	-	0.049

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.7	*
08.30	0.7	*
08.45	0.7	*
09.00	0.7	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.6	*
08.30	0.6	*
08.45	0.6	*
09.00	0.6	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.15	0.5	*
08.30	0.5	*
08.45	0.5	*
09.00	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	637.8	637.8	44.5	0.07	44.5	0.07
B	523.8	523.8	33.6	0.06	33.6	0.06
C	679.2	679.2	32.8	0.05	32.8	0.05
ALL	1840.8	1840.8	110.8	0.06	110.9	0.06

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

END OF JOB

Printed at 15:48:02 on 27/05/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

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Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J3 Wales Airport Hotel RBT\J3 Wales Airport RBT PM Peak.vai"
(drive-on-the-left) at 14:08:09 on Tuesday, 1 June 2010

FILE PROPERTIES

RUN TITLE: J3 -Wales Airport RBT - PM Peak
LOCATION: Rhoose
DATE: 27/05/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Port Road
ARM B - A4226 (W)
ARM C - A4226 (E)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	7.00	16.00	30.00	36.00	50.0	0.638	28.667
ARM B	3.75	7.00	40.40	26.00	36.00	39.0	0.680	31.352
ARM C	3.40	7.00	38.00	60.00	36.00	20.0	0.730	33.215

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM B Effective flare length is outside normal range.
Treat capacities with increasing caution.

WARNING ARM C Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(17.00)AND ENDS(18.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base PM Peak

DEMAND SET TITLE: 2015 Base PM Peak

T33

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
17.00 - 18.00	ARM A	0.000	0.031	0.969
		0.0	15.0	464.0
		(0.0)	(0.0)	(2.0)
	ARM B	0.022	0.000	0.978
		11.0	0.0	481.0
		(0.0)	(0.0)	(1.0)
	ARM C	0.587	0.413	0.000
		633.0	445.0	0.0
		(1.0)	(2.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	8.32	23.40	0.356	- - -	0.0	0.5	8.0	-	0.066
ARM B	8.20	25.53	0.321	- - -	0.0	0.5	6.9	-	0.057
ARM C	18.00	32.62	0.552	- - -	0.0	1.2	17.7	-	0.068

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	8.32	23.38	0.356	- - -	0.5	0.6	8.2	-	0.066
ARM B	8.20	25.51	0.321	- - -	0.5	0.5	7.1	-	0.058
ARM C	18.00	32.62	0.552	- - -	1.2	1.2	18.3	-	0.068

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	8.32	23.38	0.356	- - -	0.6	0.6	8.3	-	0.066
ARM B	8.20	25.51	0.321	- - -	0.5	0.5	7.1	-	0.058
ARM C	18.00	32.62	0.552	- - -	1.2	1.2	18.4	-	0.068

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	8.32	23.38	0.356	- - -	0.6	0.6	8.3	-	0.066
ARM B	8.20	25.51	0.321	- - -	0.5	0.5	7.1	-	0.058
ARM C	18.00	32.62	0.552	- - -	1.2	1.2	18.4	-	0.068

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	0.5	*
17.30	0.6	*
17.45	0.6	*
18.00	0.6	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.5
17.30	0.5
17.45	0.5
18.00	0.5

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.15	1.2	*
17.30	1.2	*
17.45	1.2	*
18.00	1.2	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	499.2	499.2	32.8	0.07	32.8	0.07
B	492.0	492.0	28.2	0.06	28.2	0.06
C	1080.0	1080.0	72.8	0.07	72.8	0.07
ALL	2071.2	2071.2	133.7	0.06	133.8	0.06

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

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

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Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J4 BAMC RBT\J4 BAMC RBT AM Peak.vai"
(drive-on-the-left) at 11:12:43 on Tuesday, 1 June 2010

FILE PROPERTIES

RUN TITLE: J4 BAMC RBT AM
LOCATION: Rhoose
DATE: 01/06/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A4226
ARM B - To Airport
ARM C - Dragonfly Drive
ARM D - B4265
ARM E - Tredogan Road

GEOMETRIC DATA

T5

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	9.50	15.00	30.00	90.00	43.0	0.456	29.077
ARM B	3.20	7.30	16.00	20.00	90.00	36.0	0.440	26.963
ARM C	3.60	7.20	14.50	14.00	90.00	26.0	0.453	28.111
ARM D	3.40	7.20	29.00	40.00	90.00	40.0	0.471	30.376
ARM E	2.00	8.00	43.00	68.00	90.00	15.0	0.521	33.735

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM E Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100
E	100

TIME PERIOD BEGINS(08.00)AND ENDS(09.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base Flows + Comm Dev AM

DEMAND SET TITLE: 2015 Base Flows + Comm Dev AM

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D	ARM E
08.00 - 09.00	ARM A	0.000	0.065	0.048	0.881	0.006
		0.0	33.0	24.0	445.0	3.0
		(0.0)	(0.0)	(0.0)	(13.0)	(0.0)
	ARM B	0.659	0.000	0.049	0.293	0.000
		54.0	0.0	4.0	24.0	0.0
		(5.0)	(0.0)	(0.0)	(21.0)	(0.0)
	ARM C	0.667	0.000	0.000	0.333	0.000
		4.0	0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.896	0.071	0.027	0.000	0.005
		502.0	40.0	15.0	0.0	3.0
		(5.0)	(0.0)	(0.0)	(0.0)	(0.0)
	ARM E	0.762	0.095	0.000	0.143	0.000
		16.0	2.0	0.0	3.0	0.0
		(7.0)	(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	8.42	25.68	0.328	- - -	0.0	0.5	7.1	-	0.058
ARM B	1.37	20.98	0.065	- - -	0.0	0.1	1.0	-	0.051
ARM C	0.10	23.64	0.004	- - -	0.0	0.0	0.1	-	0.042
ARM D	9.33	28.59	0.326	- - -	0.0	0.5	7.1	-	0.052
ARM E	0.35	26.75	0.013	- - -	0.0	0.0	0.2	-	0.038

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	8.42	25.68	0.328	- - -	0.5	0.5	7.3	-	0.058
ARM B	1.37	20.96	0.065	- - -	0.1	0.1	1.0	-	0.051
ARM C	0.10	23.62	0.004	- - -	0.0	0.0	0.1	-	0.043
ARM D	9.33	28.59	0.326	- - -	0.5	0.5	7.2	-	0.052
ARM E	0.35	26.73	0.013	- - -	0.0	0.0	0.2	-	0.038

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	8.42	25.68	0.328	- - -	0.5	0.5	7.3	-	0.058
ARM B	1.37	20.96	0.065	- - -	0.1	0.1	1.0	-	0.051
ARM C	0.10	23.62	0.004	- - -	0.0	0.0	0.1	-	0.043
ARM D	9.33	28.59	0.326	- - -	0.5	0.5	7.3	-	0.052
ARM E	0.35	26.73	0.013	- - -	0.0	0.0	0.2	-	0.038

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	8.42	25.68	0.328	- - -	0.5	0.5	7.3	-	0.058
ARM B	1.37	20.96	0.065	- - -	0.1	0.1	1.0	-	0.051
ARM C	0.10	23.62	0.004	- - -	0.0	0.0	0.1	-	0.043
ARM D	9.33	28.59	0.326	- - -	0.5	0.5	7.3	-	0.052
ARM E	0.35	26.73	0.013	- - -	0.0	0.0	0.2	-	0.038

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.5
08.30	0.5
08.45	0.5
09.00	0.5

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.5
08.30	0.5
08.45	0.5
09.00	0.5

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	505.2	505.2	29.0	0.06	29.0	0.06
B	82.2	82.2	4.2	0.05	4.2	0.05
C	6.0	6.0	0.3	0.04	0.3	0.04
D	559.8	559.8	28.8	0.05	28.8	0.05
E	21.0	21.0	0.8	0.04	0.8	0.04
ALL	1174.2	1174.2	63.0	0.05	63.0	0.05

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

END OF JOB

========== end of file ==========

Printed at 11:12:48 on 01/06/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Nine Mile Ride Email: software@trl.co.uk
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RG40 3GA,UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J4 BAMC RBT\J4 BAMC RBT PM Peak.vai"
(drive-on-the-left) at 11:24:49 on Tuesday, 1 June 2010

FILE PROPERTIES

RUN TITLE: J4 BAMC RBT PM
LOCATION: Rhoose
DATE: 01/06/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A4226
ARM B - To Airport
ARM C - Dragonfly Drive
ARM D - B4265
ARM E - Tredogan Road

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	9.50	15.00	30.00	90.00	43.0	0.456	29.077
ARM B	3.20	7.30	16.00	20.00	90.00	36.0	0.440	26.963
ARM C	3.60	7.20	14.50	14.00	90.00	26.0	0.453	28.111
ARM D	3.40	7.20	29.00	40.00	90.00	40.0	0.471	30.376
ARM E	2.00	8.00	43.00	68.00	90.00	15.0	0.521	33.735

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM E Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100
E	100

TIME PERIOD BEGINS(17.00)AND ENDS(18.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base Flows + Comm Dev PM

DEMAND SET TITLE: 2015 Base Flows + Comm Dev PM

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D	ARM E
17.00 - 18.00	ARM A	0.000	0.055	0.004	0.914	0.027
		0.0	28.0	2.0	467.0	14.0
		(0.0)	(0.0)	(17.0)	(2.0)	(0.0)
	ARM B	0.554	0.000	0.008	0.430	0.008
		67.0	0.0	1.0	52.0	1.0
		(6.0)	(0.0)	(0.0)	(3.0)	(0.0)
	ARM C	0.524	0.048	0.000	0.429	0.000
		11.0	1.0	0.0	9.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.946	0.045	0.005	0.000	0.005
		402.0	19.0	2.0	0.0	2.0
		(4.0)	(0.0)	(0.0)	(0.0)	(0.0)
	ARM E	0.545	0.364	0.000	0.091	0.000
		6.0	4.0	0.0	1.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	8.52	28.34	0.301	- -	-	0.0	0.4	6.3	-	0.050
ARM B	2.02	22.31	0.091	- -	-	0.0	0.1	1.5	-	0.049
ARM C	0.35	23.47	0.015	- -	-	0.0	0.0	0.2	-	0.043
ARM D	7.08	28.53	0.248	- -	-	0.0	0.3	4.8	-	0.047
ARM E	0.18	29.22	0.006	- -	-	0.0	0.0	0.1	-	0.034

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	8.52	28.34	0.301	- -	-	0.4	0.4	6.4	-	0.050
ARM B	2.02	22.30	0.091	- -	-	0.1	0.1	1.5	-	0.049
ARM C	0.35	23.45	0.015	- -	-	0.0	0.0	0.2	-	0.043
ARM D	7.08	28.53	0.248	- -	-	0.3	0.3	4.9	-	0.047
ARM E	0.18	29.20	0.006	- -	-	0.0	0.0	0.1	-	0.034

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	8.52	28.34	0.301	- -	-	0.4	0.4	6.4	-	0.050
ARM B	2.02	22.30	0.091	- -	-	0.1	0.1	1.5	-	0.049
ARM C	0.35	23.45	0.015	- -	-	0.0	0.0	0.2	-	0.043
ARM D	7.08	28.53	0.248	- -	-	0.3	0.3	4.9	-	0.047
ARM E	0.18	29.20	0.006	- -	-	0.0	0.0	0.1	-	0.034

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	8.52	28.34	0.301	- -	-	0.4	0.4	6.4	-	0.050
ARM B	2.02	22.30	0.091	- -	-	0.1	0.1	1.5	-	0.049
ARM C	0.35	23.45	0.015	- -	-	0.0	0.0	0.2	-	0.043
ARM D	7.08	28.53	0.248	- -	-	0.3	0.3	4.9	-	0.047
ARM E	0.18	29.20	0.006	- -	-	0.0	0.0	0.1	-	0.034

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.4
17.30	0.4
17.45	0.4
18.00	0.4

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0

QUEUE AT ARM D

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

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	511.2	511.2	25.6	0.05	25.6	0.05
B	121.2	121.2	5.9	0.05	5.9	0.05
C	21.0	21.0	0.9	0.04	0.9	0.04
D	424.8	424.8	19.7	0.05	19.7	0.05
E	10.8	10.8	0.4	0.03	0.4	0.03
ALL	1089.0	1089.0	52.5	0.05	52.5	0.05

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

END OF JOB

========== end of file ==========

Printed at 11:24:56 on 01/06/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J4 BAMC RBT\J4 BAMC RBT AM Peak.vai"
(drive-on-the-left) at 11:00:05 on Tuesday, 1 June 2010

FILE PROPERTIES

RUN TITLE: J4 BAMC RBT AM
LOCATION: Rhoose
DATE: 01/06/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A4226
ARM B - To Airport
ARM C - Dragonfly Drive
ARM D - B4265
ARM E - Tredogan Road

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	9.50	15.00	30.00	90.00	43.0	0.456	29.077
ARM B	3.20	7.30	16.00	20.00	90.00	36.0	0.440	26.963
ARM C	3.60	7.20	14.50	14.00	90.00	26.0	0.453	28.111
ARM D	3.40	7.20	29.00	40.00	90.00	40.0	0.471	30.376
ARM E	2.00	8.00	43.00	68.00	90.00	15.0	0.521	33.735

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM E Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100
E	100

TIME PERIOD BEGINS(08.00)AND ENDS(09.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base Flows AM

DEMAND SET TITLE: 2015 Base Flows AM

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D	ARM E
08.00 - 09.00	ARM A	0.000	0.084	0.055	0.855	0.006
		0.0	29.0	19.0	296.0	2.0
		(0.0)	(0.0)	(0.0)	(13.0)	(0.0)
	ARM B	0.662	0.000	0.044	0.294	0.000
		45.0	0.0	3.0	20.0	0.0
		(5.0)	(0.0)	(0.0)	(21.0)	(0.0)
	ARM C	0.667	0.000	0.000	0.333	0.000
		4.0	0.0	0.0	2.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.907	0.065	0.027	0.000	0.002
		478.0	34.0	14.0	0.0	1.0
		(5.0)	(0.0)	(0.0)	(0.0)	(0.0)
	ARM E	0.800	0.100	0.000	0.100	0.000
		16.0	2.0	0.0	2.0	0.0
		(7.0)	(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	5.77	25.81	0.224	- -	-	0.0	0.3	4.2	-	0.050
ARM B	1.13	22.15	0.051	- -	-	0.0	0.1	0.8	-	0.048
ARM C	0.10	25.03	0.004	- -	-	0.0	0.0	0.1	-	0.040
ARM D	8.78	28.66	0.306	- -	-	0.0	0.4	6.5	-	0.050
ARM E	0.33	27.02	0.012	- -	-	0.0	0.0	0.2	-	0.037

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	5.77	25.81	0.224	- -	-	0.3	0.3	4.3	-	0.050
ARM B	1.13	22.14	0.051	- -	-	0.1	0.1	0.8	-	0.048
ARM C	0.07	25.02	0.003	- -	-	0.0	0.0	0.0	-	0.040
ARM D	8.78	28.67	0.306	- -	-	0.4	0.4	6.6	-	0.050
ARM E	0.33	27.02	0.012	- -	-	0.0	0.0	0.2	-	0.037

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	5.77	25.81	0.224	- - -	0.3	0.3	4.3	-	0.050
ARM B	1.13	22.14	0.051	- - -	0.1	0.1	0.8	-	0.048
ARM C	0.07	25.02	0.003	- - -	0.0	0.0	0.0	-	0.040
ARM D	8.78	28.67	0.306	- - -	0.4	0.4	6.6	-	0.050
ARM E	0.33	27.02	0.012	- - -	0.0	0.0	0.2	-	0.037

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	5.77	25.81	0.224	- - -	0.3	0.3	4.3	-	0.050
ARM B	1.13	22.14	0.051	- - -	0.1	0.1	0.8	-	0.048
ARM C	0.07	25.02	0.003	- - -	0.0	0.0	0.0	-	0.040
ARM D	8.78	28.67	0.306	- - -	0.4	0.4	6.6	-	0.050
ARM E	0.33	27.02	0.012	- - -	0.0	0.0	0.2	-	0.037

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.3
08.30	0.3
08.45	0.3
09.00	0.3

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.4
08.30	0.4
08.45	0.4
09.00	0.4

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	346.2	346.2	17.1	0.05	17.2	0.05
B	67.8	67.8	3.2	0.05	3.2	0.05
C	4.7	4.7	0.2	0.04	0.2	0.04
D	526.8	526.8	26.3	0.05	26.3	0.05
E	19.8	19.8	0.7	0.04	0.7	0.04
ALL	965.2	965.2	47.6	0.05	47.6	0.05

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

END OF JOB

========== end of file ==========

Printed at 11:00:20 on 01/06/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA,UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"Z:\FMW0408 Rhoose\Analysis\ARCADY\J4 BAMC RBT\J4 BAMC RBT PM Peak.vai"
(drive-on-the-left) at 11:19:54 on Tuesday, 1 June 2010

FILE PROPERTIES

RUN TITLE: J4 BAMC RBT PM
LOCATION: Rhoose
DATE: 01/06/10
CLIENT:
ENUMERATOR: NH
JOB NUMBER: FMW0408
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A4226
ARM B - To Airport
ARM C - Dragonfly Drive
ARM D - B4265
ARM E - Tredogan Road

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	9.50	15.00	30.00	90.00	43.0	0.456	29.077
ARM B	3.20	7.30	16.00	20.00	90.00	36.0	0.440	26.963
ARM C	3.60	7.20	14.50	14.00	90.00	26.0	0.453	28.111
ARM D	3.40	7.20	29.00	40.00	90.00	40.0	0.471	30.376
ARM E	2.00	8.00	43.00	68.00	90.00	15.0	0.521	33.735

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

WARNING ARM E Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

Only sets included in the current run are shown

SCALING FACTORS

T13

IARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100
E	100

TIME PERIOD BEGINS(17.00)AND ENDS(18.00)

LENGTH OF TIME PERIOD -(60) MINUTES

LENGTH OF TIME SEGMENT - (15) MINUTES

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

DEMAND SET TITLE: 2015 Base Flows PM

DEMAND SET TITLE: 2015 Base Flows PM

T33

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D	ARM E
17.00 - 18.00	ARM A	0.000	0.048	0.013	0.909	0.030
		0.0	22.0	6.0	418.0	14.0
		(0.0)	(0.0)	(17.0)	(2.0)	(0.0)
	ARM B	0.550	0.000	0.010	0.430	0.010
		55.0	0.0	1.0	43.0	1.0
		(6.0)	(0.0)	(0.0)	(3.0)	(0.0)
	ARM C	0.524	0.048	0.000	0.429	0.000
		11.0	1.0	0.0	9.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.937	0.052	0.006	0.000	0.006
		326.0	18.0	2.0	0.0	2.0
		(4.0)	(0.0)	(0.0)	(0.0)	(0.0)
	ARM E	0.556	0.333	0.000	0.111	0.000
		5.0	3.0	0.0	1.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	7.67	28.31	0.271	- -	-	0.0	0.4	5.4	-	0.048
ARM B	1.67	22.63	0.074	- -	-	0.0	0.1	1.2	-	0.048
ARM C	0.35	24.01	0.015	- -	-	0.0	0.0	0.2	-	0.042
ARM D	5.80	28.63	0.203	- -	-	0.0	0.3	3.7	-	0.044
ARM E	0.15	30.02	0.005	- -	-	0.0	0.0	0.1	-	0.033

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	7.67	28.31	0.271	- -	-	0.4	0.4	5.6	-	0.048
ARM B	1.67	22.62	0.074	- -	-	0.1	0.1	1.2	-	0.048
ARM C	0.35	24.00	0.015	- -	-	0.0	0.0	0.2	-	0.042
ARM D	5.80	28.63	0.203	- -	-	0.3	0.3	3.8	-	0.044
ARM E	0.15	30.01	0.005	- -	-	0.0	0.0	0.1	-	0.033

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	7.67	28.31	0.271	- -	-	0.4	0.4	5.6	-	0.048
ARM B	1.67	22.62	0.074	- -	-	0.1	0.1	1.2	-	0.048
ARM C	0.35	24.00	0.015	- -	-	0.0	0.0	0.2	-	0.042
ARM D	5.80	28.63	0.203	- -	-	0.3	0.3	3.8	-	0.044
ARM E	0.15	30.01	0.005	- -	-	0.0	0.0	0.1	-	0.033

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	7.67	28.31	0.271	- -	-	0.4	0.4	5.6	-	0.048
ARM B	1.67	22.62	0.074	- -	-	0.1	0.1	1.2	-	0.048
ARM C	0.35	24.00	0.015	- -	-	0.0	0.0	0.2	-	0.042
ARM D	5.80	28.63	0.203	- -	-	0.3	0.3	3.8	-	0.044
ARM E	0.15	30.01	0.005	- -	-	0.0	0.0	0.1	-	0.033

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.4
17.30	0.4
17.45	0.4
18.00	0.4

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0

QUEUE AT ARM D

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

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
A	460.2	460.2	22.1	0.05	22.1	0.05
B	100.2	100.2	4.8	0.05	4.8	0.05
C	21.0	21.0	0.9	0.04	0.9	0.04
D	348.0	348.0	15.1	0.04	15.1	0.04
E	9.0	9.0	0.3	0.03	0.3	0.03
ALL	938.4	938.4	43.2	0.05	43.2	0.05

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

END OF JOB

========== end of file ==========

Printed at 11:20:07 on 01/06/2010]

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J6 Barry Docks Link RBT\Import of J6 Barry Docks Link RBT AM Peak.arc7
Report generation date: 10/06/2010 13:34:56

Summary of roundabout performance

	AM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Barry Docks Link Roundabout - 2015 Base Flows + Comm + 350 units Dev AM			
Arm A	2.09	0.13	0.68	A
Arm B	5.10	0.22	0.84	B
Arm C	3.47	0.17	0.78	A

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

2015 Base Flows AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm Dev AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm + 350 units Dev AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm + 700 units Dev AM - AM runs from 08:00:00 to 09:00:00

File summary

File Description

Title	J6 Barry Docks Link RBT
Location	Rhoose
Site Number	
Date	28/05/2010
Version	
Status	
Identifier	
Client	
Jobnumber	FMW0408
Enumerator	NH
Description	
Results Upto Date	True

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin

A1 - Barry Docks Link Roundabout - D1 - 2015

Base Flows AM, AM

Data Errors and Warnings

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

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Barry Docks Link Roundabout		Yes	Yes	D3		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base Flows AM, AM	2015 Base Flows AM	AM			Yes			08:00	09:00	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	A4231	
B	Port Road East	
C	Port Road	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.40	7.00	6.00	41.00	35.00	32.00	
B	4.80	7.80	32.00	55.00	35.00	28.00	
C	4.80	9.30	11.00	62.00	35.00	34.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.741	35.242
B		((calculated))	((calculated))	0.772	37.260
C		((calculated))	((calculated))	0.735	34.737

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF
A	DIRECT			100.000	1.00
B	DIRECT			100.000	1.00
C	DIRECT			100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
08:00-08:15	A	15.32	16.36	N/A	N/A
08:00-08:15	B	19.53	20.05	N/A	N/A
08:00-08:15	C	19.18	20.45	N/A	N/A
08:15-08:30	A	15.32	16.36	N/A	N/A
08:15-08:30	B	19.53	20.05	N/A	N/A
08:15-08:30	C	19.18	20.45	N/A	N/A
08:30-08:45	A	15.32	16.36	N/A	N/A
08:30-08:45	B	19.53	20.05	N/A	N/A
08:30-08:45	C	19.18	20.45	N/A	N/A
08:45-09:00	A	15.32	16.36	N/A	N/A
08:45-09:00	B	19.53	20.05	N/A	N/A
08:45-09:00	C	19.18	20.45	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

	To		
	A	B	C

From	A	0.00	280.00	639.00
	B	390.00	0.00	782.00
	C	532.00	619.00	0.00

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

		To		
		A	B	C
From	A	0.00	0.30	0.70
	B	0.33	0.00	0.67
	C	0.46	0.54	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.00	1.04	1.08
	B	1.02	1.00	1.03
	C	1.05	1.08	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	4.00	8.00
	B	2.00	0.00	3.00
	C	5.00	8.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.61	0.10	1.53	A	15.32	919.20	90.13	0.10	1.50	90.18	0.10	0.741	35.242
B	0.71	0.12	2.39	A	19.53	1171.80	139.38	0.12	2.32	139.49	0.12	0.772	37.260
C	0.68	0.11	2.16	A	19.18	1150.80	126.38	0.11	2.11	126.47	0.11	0.735	34.737

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.32	229.80	15.22	15.25	10.24	0.00	25.33	22.12	0.605	0.00	1.51
B	19.53	292.95	19.37	14.88	10.58	0.00	27.70	23.81	0.705	0.00	2.33
C	19.18	287.70	19.04	23.51	6.45	0.00	28.05	27.01	0.684	0.00	2.11

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.32	229.80	15.32	15.36	10.31	0.00	25.27	22.12	0.606	1.51	1.52
B	19.53	292.95	19.53	14.98	10.65	0.00	27.64	23.81	0.706	2.33	2.37
C	19.18	287.70	19.18	23.68	6.50	0.00	28.01	27.01	0.685	2.11	2.14

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow	Pedestrian Demand	Capacity (Veh/min)	Saturation Capacity	RFC	Start Queue	End Queue

					(Veh/min)	(Ped/min)		(Veh/min)		(Veh)	(Veh)
A	15.32	229.80	15.32	15.36	10.31	0.00	25.27	22.12	0.606	1.52	1.53
B	19.53	292.95	19.53	14.98	10.65	0.00	27.64	23.81	0.706	2.37	2.38
C	19.18	287.70	19.18	23.68	6.50	0.00	28.01	27.01	0.685	2.14	2.15

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.32	229.80	15.32	15.36	10.31	0.00	25.27	22.12	0.606	1.53	1.53
B	19.53	292.95	19.53	14.98	10.65	0.00	27.64	23.81	0.706	2.38	2.39
C	19.18	287.70	19.18	23.68	6.50	0.00	28.01	27.01	0.685	2.15	2.16

Queueing Delay Results

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	21.49	1.43	0.098	A	A
B	32.60	2.17	0.118	A	A
C	29.80	1.99	0.109	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	22.76	1.52	0.100	A	A
B	35.31	2.35	0.123	A	A
C	31.99	2.13	0.113	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	22.91	1.53	0.100	A	A
B	35.67	2.38	0.123	A	A
C	32.25	2.15	0.113	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	22.97	1.53	0.100	A	A
B	35.80	2.39	0.123	A	A
C	32.35	2.16	0.113	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/min)
A	6.40	7.00	6.00	41.00	35.00	32.00		0.741	35.242
B	4.80	7.80	32.00	55.00	35.00	28.00		0.772	37.260
C	4.80	9.30	11.00	62.00	35.00	34.00		0.735	34.737

Overview: Time Segment Results

Time Segment Results

Time Segment	Arm	Demand (Veh/min)	Capacity (Veh/min)	RFC	Pedestrian Demand (Ped/min)	Start Queue (Veh)	End Queue (Veh)	Queueing Total Delay (Veh-min)	Geometric Total Delay (Veh-min)	Average Delay Per Arriving Vehicle (min)

08:00-08:15	**A**	15.32	25.33	0.605	0.00	0.00	1.51	21.49	(0.00)	0.098
08:00-08:15	**B**	19.53	27.70	0.705	0.00	0.00	2.33	32.60	(0.00)	0.118
08:00-08:15	**C**	19.18	28.05	0.684	0.00	0.00	2.11	29.80	(0.00)	0.109
08:15-08:30	**A**	15.32	25.27	0.606	0.00	1.51	1.52	22.76	(0.00)	0.100
08:15-08:30	**B**	19.53	27.64	0.706	0.00	2.33	2.37	35.31	(0.00)	0.123
08:15-08:30	**C**	19.18	28.01	0.685	0.00	2.11	2.14	31.99	(0.00)	0.113
08:30-08:45	**A**	15.32	25.27	0.606	0.00	1.52	1.53	22.91	(0.00)	0.100
08:30-08:45	**B**	19.53	27.64	0.706	0.00	2.37	2.38	35.67	(0.00)	0.123
08:30-08:45	**C**	19.18	28.01	0.685	0.00	2.14	2.15	32.25	(0.00)	0.113
08:45-09:00	**A**	15.32	25.27	0.606	0.00	1.53	1.53	22.97	(0.00)	0.100
08:45-09:00	**B**	19.53	27.64	0.706	0.00	2.38	2.39	35.80	(0.00)	0.123
08:45-09:00	**C**	19.18	28.01	0.685	0.00	2.15	2.16	32.35	(0.00)	0.113

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J6 Barry Docks Link RBT\Import of J6 Barry Docks Link RBT AM Peak.arc7
Report generation date: 10/06/2010 13:37:46

Summary of roundabout performance

	AM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Barry Docks Link Roundabout - 2015 Base Flows + Comm + 350 units Dev AM			
Arm A	2.09	0.13	0.68	A
Arm B	5.10	0.22	0.84	B
Arm C	3.47	0.17	0.78	A

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

2015 Base Flows AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm Dev AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm + 350 units Dev AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm + 700 units Dev AM - AM runs from 08:00:00 to 09:00:00

File summary

File Description

Title	J6 Barry Docks Link RBT
Location	Rhoose
Site Number	
Date	28/05/2010
Version	
Status	
Identifier	
Client	
Jobnumber	FMW0408
Enumerator	NH
Description	
Results Upto Date	True

Analysis Options

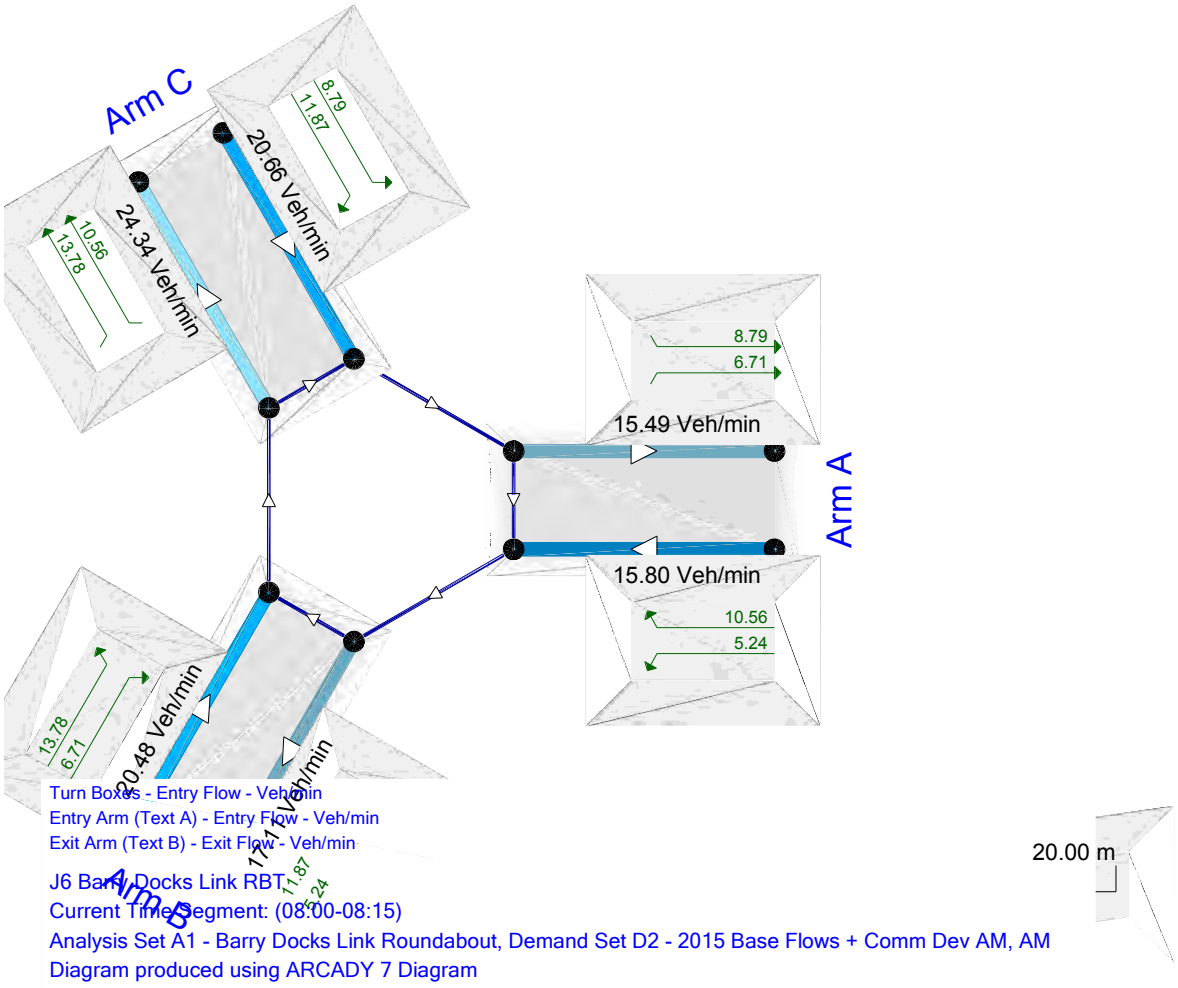
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Barry Docks Link Roundabout - D2 - 2015 Base Flows + Comm Dev AM, AM

Data Errors and Warnings

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

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Barry Docks Link Roundabout		Yes	Yes	D3		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base Flows + Comm Dev AM, AM	2015 Base Flows + Comm Dev AM	AM			Yes			08:00	09:00	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	A4231	
B	Port Road East	
C	Port Road	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.40	7.00	6.00	41.00	35.00	32.00	
B	4.80	7.80	32.00	55.00	35.00	28.00	
C	4.80	9.30	11.00	62.00	35.00	34.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.741	35.242
B		((calculated))	((calculated))	0.772	37.260
C		((calculated))	((calculated))	0.735	34.737

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF

A	DIRECT			100.000	1.00
B	DIRECT			100.000	0.98
C	DIRECT			100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
08:00-08:15	A	15.93	16.99	N/A	N/A
08:00-08:15	B	20.67	21.22	N/A	N/A
08:00-08:15	C	20.85	22.25	N/A	N/A
08:15-08:30	A	15.93	16.99	N/A	N/A
08:15-08:30	B	22.33	22.93	N/A	N/A
08:15-08:30	C	20.85	22.25	N/A	N/A
08:30-08:45	A	15.93	16.99	N/A	N/A
08:30-08:45	B	22.33	22.93	N/A	N/A
08:30-08:45	C	20.85	22.25	N/A	N/A
08:45-09:00	A	15.93	16.99	N/A	N/A
08:45-09:00	B	22.33	22.93	N/A	N/A
08:45-09:00	C	20.85	22.25	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	317.00	639.00
	B	406.00	0.00	834.00
	C	532.00	719.00	0.00

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

		To		
		A	B	C
From	A	0.00	0.33	0.67
	B	0.33	0.00	0.67
	C	0.43	0.57	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.00	1.04	1.08
	B	1.02	1.00	1.03
	C	1.05	1.08	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	4.00	8.00
	B	2.00	0.00	3.00
	C	5.00	8.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.66	0.12	1.95	A	15.93	955.80	113.88	0.12	1.90	113.96	0.12	0.741	35.242

B	0.81	0.19	4.12	B	21.91	1314.89	216.90	0.16	3.61	217.20	0.17	0.772	37.260
C	0.76	0.15	3.14	A	20.85	1251.00	178.45	0.14	2.97	178.63	0.14	0.735	34.737

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.93	238.95	15.80	15.49	11.87	0.00	24.13	21.45	0.660	0.00	1.90
B	20.67	310.05	20.48	17.11	10.56	0.00	27.71	24.65	0.746	0.00	2.83
C	20.85	312.75	20.66	24.34	6.71	0.00	27.84	26.88	0.749	0.00	2.88

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.93	238.95	15.93	16.15	11.98	0.00	24.05	21.45	0.662	1.90	1.93
B	22.33	334.95	22.25	17.26	10.65	0.00	27.65	24.65	0.808	2.83	3.97
C	20.85	312.75	20.84	25.61	7.29	0.00	27.43	26.88	0.760	2.88	3.08

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.93	238.95	15.93	16.17	11.98	0.00	24.05	21.45	0.662	1.93	1.94
B	22.33	334.95	22.32	17.26	10.65	0.00	27.65	24.65	0.808	3.97	4.08
C	20.85	312.75	20.85	25.66	7.31	0.00	27.41	26.88	0.761	3.08	3.12

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.93	238.95	15.93	16.18	11.98	0.00	24.05	21.45	0.662	1.94	1.95
B	22.33	334.95	22.33	17.26	10.65	0.00	27.65	24.65	0.808	4.08	4.12
C	20.85	312.75	20.85	25.66	7.31	0.00	27.41	26.88	0.761	3.12	3.14

Queueing Delay Results

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	26.75	1.78	0.118	A	A
B	39.13	2.61	0.135	A	A
C	39.73	2.65	0.136	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	28.82	1.92	0.123	A	A
B	55.76	3.72	0.183	B	B
C	45.23	3.02	0.151	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	29.11	1.94	0.123	A	A
B	60.53	4.04	0.187	B	B
C	46.54	3.10	0.152	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	29.21	1.95	0.123	A	A
B	61.47	4.10	0.188	B	B
C	46.95	3.13	0.152	A	A

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J6 Barry Docks Link RBT\Import of J6 Barry Docks Link RBT AM Peak.arc7
Report generation date: 10/06/2010 13:38:18

Summary of roundabout performance

	AM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Barry Docks Link Roundabout - 2015 Base Flows + Comm + 350 units Dev AM			
Arm A	2.09	0.13	0.68	A
Arm B	5.10	0.22	0.84	B
Arm C	3.47	0.17	0.78	A

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

2015 Base Flows AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm Dev AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm + 350 units Dev AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm + 700 units Dev AM - AM runs from 08:00:00 to 09:00:00

File summary

File Description

Title	J6 Barry Docks Link RBT
Location	Rhoose
Site Number	
Date	28/05/2010
Version	
Status	
Identifier	
Client	
Jobnumber	FMW0408
Enumerator	NH
Description	
Results Upto Date	True

Analysis Options

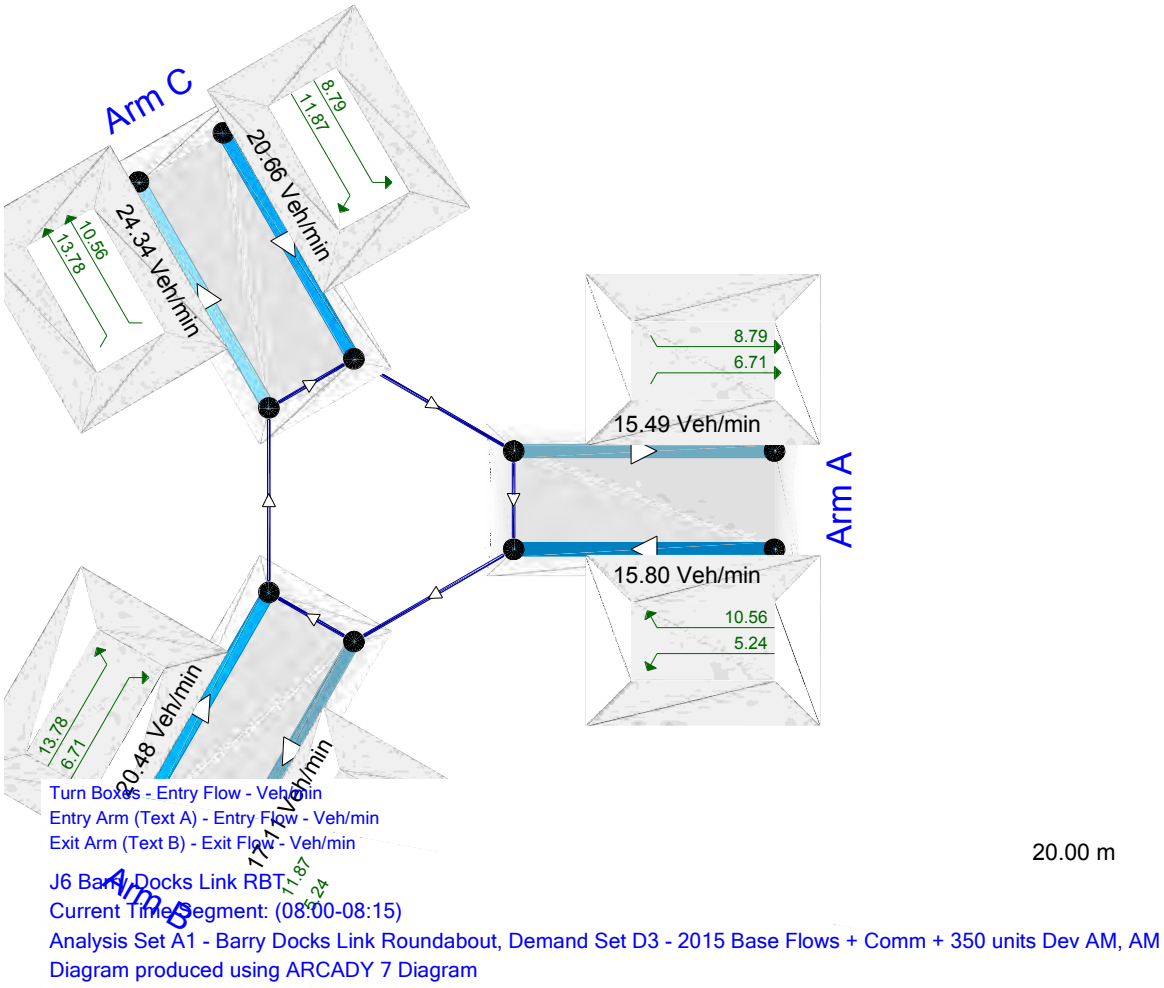
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Barry Docks Link Roundabout - D3 - 2015 Base Flows + Comm + 350 units Dev AM, AM

Data Errors and Warnings

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

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Barry Docks Link Roundabout		Yes	Yes	D3		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base Flows + Comm + 350 units Dev AM, AM	2015 Base Flows + Comm + 350 units Dev AM	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	A4231	
B	Port Road East	
C	Port Road	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.40	7.00	6.00	41.00	35.00	32.00	
B	4.80	7.80	32.00	55.00	35.00	28.00	
C	4.80	9.30	11.00	62.00	35.00	34.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.741	35.242
B		((calculated))	((calculated))	0.772	37.260
C		((calculated))	((calculated))	0.735	34.737

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF

A	FLAT		16.08	100.000	1.00
B	FLAT		23.20	100.000	1.00
C	FLAT		21.30	100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
08:00-08:15	A	16.08	17.15	N/A	N/A
08:00-08:15	B	23.20	23.82	N/A	N/A
08:00-08:15	C	21.30	22.74	N/A	N/A
08:15-08:30	A	16.08	17.15	N/A	N/A
08:15-08:30	B	23.20	23.82	N/A	N/A
08:15-08:30	C	21.30	22.74	N/A	N/A
08:30-08:45	A	16.08	17.15	N/A	N/A
08:30-08:45	B	23.20	23.82	N/A	N/A
08:30-08:45	C	21.30	22.74	N/A	N/A
08:45-09:00	A	16.08	17.15	N/A	N/A
08:45-09:00	B	23.20	23.82	N/A	N/A
08:45-09:00	C	21.30	22.74	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	326.00	639.00
	B	443.00	0.00	949.00
	C	532.00	748.00	0.00

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

		To		
		A	B	C
From	A	0.00	0.34	0.66
	B	0.32	0.00	0.68
	C	0.42	0.58	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.00	1.04	1.08
	B	1.02	1.00	1.03
	C	1.05	1.08	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	4.00	8.00
	B	2.00	0.00	3.00
	C	5.00	8.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.68	0.13	2.09	A	16.08	964.80	121.96	0.13	2.03	122.05	0.13	0.741	35.242

B	0.84	0.22	5.10	B	23.20	1392.00	286.99	0.21	4.78	287.46	0.21	0.772	37.260
C	0.78	0.17	3.47	A	21.30	1278.00	199.72	0.16	3.33	199.94	0.16	0.735	34.737

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.08	241.20	15.94	16.04	12.32	0.00	23.80	21.21	0.676	0.00	2.03
B	23.20	348.00	22.88	17.70	10.56	0.00	27.72	24.88	0.837	0.00	4.74
C	21.30	319.50	21.08	26.16	7.28	0.00	27.42	26.98	0.777	0.00	3.32

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.08	241.20	16.08	16.23	12.44	0.00	23.71	21.21	0.678	2.03	2.08
B	23.20	348.00	23.18	17.87	10.65	0.00	27.64	24.88	0.839	4.74	4.98
C	21.30	319.50	21.29	26.45	7.38	0.00	27.36	26.98	0.779	3.32	3.43

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.08	241.20	16.08	16.23	12.45	0.00	23.70	21.21	0.678	2.08	2.09
B	23.20	348.00	23.19	17.88	10.65	0.00	27.64	24.88	0.839	4.98	5.06
C	21.30	319.50	21.30	26.46	7.38	0.00	27.35	26.98	0.779	3.43	3.46

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.08	241.20	16.08	16.23	12.45	0.00	23.70	21.21	0.678	2.09	2.09
B	23.20	348.00	23.20	17.88	10.65	0.00	27.64	24.88	0.839	5.06	5.10
C	21.30	319.50	21.30	26.46	7.38	0.00	27.35	26.98	0.779	3.46	3.47

Queueing Delay Results

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	28.47	1.90	0.125	A	A
B	62.16	4.14	0.196	B	B
C	45.27	3.02	0.153	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	30.88	2.06	0.131	A	A
B	73.26	4.88	0.222	B	B
C	50.79	3.39	0.164	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	31.24	2.08	0.131	A	A
B	75.35	5.02	0.224	B	B
C	51.65	3.44	0.165	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	31.37	2.09	0.131	A	A
B	76.21	5.08	0.224	B	B
C	51.99	3.47	0.165	A	A

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J6 Barry Docks Link RBT\Import of J6 Barry Docks Link RBT AM Peak.arc7
Report generation date: 10/06/2010 13:38:51

Summary of roundabout performance

	AM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Barry Docks Link Roundabout - 2015 Base Flows + Comm + 350 units Dev AM			
Arm A	2.09	0.13	0.68	A
Arm B	5.10	0.22	0.84	B
Arm C	3.47	0.17	0.78	A

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

2015 Base Flows AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm Dev AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm + 350 units Dev AM - AM runs from 08:00:00 to 09:00:00
2015 Base Flows + Comm + 700 units Dev AM - AM runs from 08:00:00 to 09:00:00

File summary

File Description

Title	J6 Barry Docks Link RBT
Location	Rhoose
Site Number	
Date	28/05/2010
Version	
Status	
Identifier	
Client	
Jobnumber	FMW0408
Enumerator	NH
Description	
Results Upto Date	True

Analysis Options

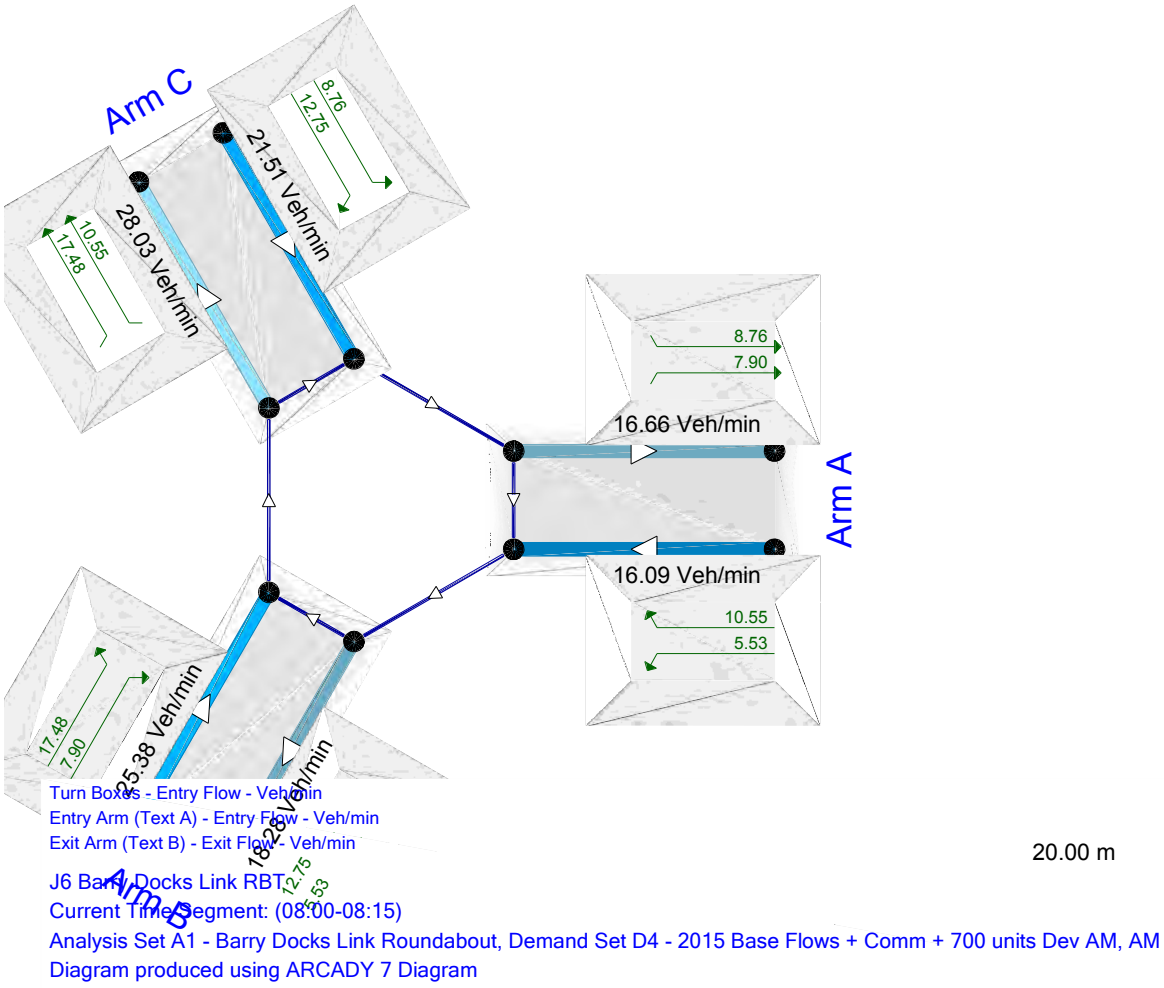
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Barry Docks Link Roundabout - D4 - 2015 Base Flows + Comm + 700 units Dev AM, AM

Data Errors and Warnings

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

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Barry Docks Link Roundabout		Yes	Yes	D3		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base Flows + Comm + 700 units Dev AM, AM	2015 Base Flows + Comm + 700 units Dev AM	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	A4231	
B	Port Road East	
C	Port Road	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.40	7.00	6.00	41.00	35.00	32.00	
B	4.80	7.80	32.00	55.00	35.00	28.00	
C	4.80	9.30	11.00	62.00	35.00	34.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.741	35.242
B		((calculated))	((calculated))	0.772	37.260
C		((calculated))	((calculated))	0.735	34.737

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF

A	FLAT		16.23	100.000	1.00
B	FLAT		26.10	100.000	1.00
C	FLAT		21.77	100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
08:00-08:15	**A**	16.23	17.31	N/A	N/A
08:00-08:15	**B**	26.10	26.80	N/A	N/A
08:00-08:15	**C**	21.77	23.25	N/A	N/A
08:15-08:30	**A**	16.23	17.31	N/A	N/A
08:15-08:30	**B**	26.10	26.80	N/A	N/A
08:15-08:30	**C**	21.77	23.25	N/A	N/A
08:30-08:45	**A**	16.23	17.31	N/A	N/A
08:30-08:45	**B**	26.10	26.80	N/A	N/A
08:30-08:45	**C**	21.77	23.25	N/A	N/A
08:45-09:00	**A**	16.23	17.31	N/A	N/A
08:45-09:00	**B**	26.10	26.80	N/A	N/A
08:45-09:00	**C**	21.77	23.25	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.00	335.00	639.00
	B	481.00	0.00	1065.00
	C	532.00	774.00	0.00

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

		To		
		A	**B**	**C**
From	**A**	0.00	0.34	0.66
	B	0.31	0.00	0.69
	C	0.41	0.59	0.00

Vehicle Mix

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

		To		
		A	**B**	**C**
From	**A**	1.00	1.04	1.08
	B	1.02	1.00	1.03
	C	1.05	1.08	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.00	4.00	8.00
	B	2.00	0.00	3.00
	C	5.00	8.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.69	0.14	2.25	A	16.23	973.80	130.89	0.13	2.18	131.00	0.13	0.741	35.242

B	0.94	0.58	14.46	E	26.10	1566.00	717.38	0.46	11.96	721.16	0.46	0.772	37.260
C	0.81	0.20	4.21	B	21.77	1306.20	238.58	0.18	3.98	238.91	0.18	0.735	34.737

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.23	243.45	16.09	16.66	12.75	0.00	23.48	21.02	0.691	0.00	2.17
B	26.10	391.50	25.38	18.28	10.55	0.00	27.72	25.09	0.942	0.00	10.84
C	21.77	326.55	21.51	28.03	7.90	0.00	26.99	27.05	0.807	0.00	3.93

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.23	243.45	16.23	16.94	12.89	0.00	23.37	21.02	0.694	2.17	2.23
B	26.10	391.50	25.96	18.48	10.65	0.00	27.64	25.09	0.944	10.84	12.88
C	21.77	326.55	21.76	28.53	8.08	0.00	26.86	27.05	0.811	3.93	4.12

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.23	243.45	16.23	16.97	12.90	0.00	23.37	21.02	0.695	2.23	2.25
B	26.10	391.50	26.03	18.48	10.65	0.00	27.64	25.09	0.944	12.88	13.86
C	21.77	326.55	21.77	28.58	8.10	0.00	26.84	27.05	0.811	4.12	4.18

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.23	243.45	16.23	16.98	12.90	0.00	23.37	21.02	0.695	2.25	2.25
B	26.10	391.50	26.06	18.48	10.65	0.00	27.64	25.09	0.944	13.86	14.46
C	21.77	326.55	21.77	28.60	8.11	0.00	26.84	27.05	0.811	4.18	4.21

Queueing Delay Results

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	30.35	2.02	0.133	A	A
B	123.28	8.22	0.357	C	C
C	52.57	3.50	0.175	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	33.17	2.21	0.140	A	A
B	180.12	12.01	0.526	D	C
C	60.70	4.05	0.195	B	B

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	33.61	2.24	0.140	A	A
B	201.26	13.42	0.564	D	C
C	62.32	4.15	0.196	B	B

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	33.77	2.25	0.140	A	A
B	212.72	14.18	0.584	E	D
C	62.99	4.20	0.197	B	B

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J6 Barry Docks Link RBT\Import of J6 Barry Docks Link RBT PM Peak.arc7
Report generation date: 10/06/2010 13:51:42

Summary of roundabout performance

	PM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows			
Arm A	2.09	0.13	0.68	A
Arm B	1.92	0.12	0.66	A
Arm C	6.58	0.26	0.87	C
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev			
Arm A	2.31	0.15	0.70	A
Arm B	2.57	0.15	0.72	A
Arm C	8.41	0.32	0.90	C
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev + 350 units			
Arm A	2.95	0.18	0.75	B
Arm B	3.23	0.18	0.77	B
Arm C	15.42	0.57	0.95	D
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev + 700 units			
Arm A	3.79	0.23	0.80	B
Arm B	7.18	0.35	0.88	C
Arm C	51.04	1.71	1.01	F

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

2015 Base Flows - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev + 350 units - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev + 700 units - PM runs from 17:00:00 to 18:00:00

File summary

File Description

Title	J6 Barry Docks Link RBT PM Peak
Location	Rhoose
Site Number	
Date	28/05/2010
Version	
Status	
Identifier	
Client	
Jobnumber	FMW0408
Enumerator	NH
Description	
Results Upto Date	True

Analysis Options

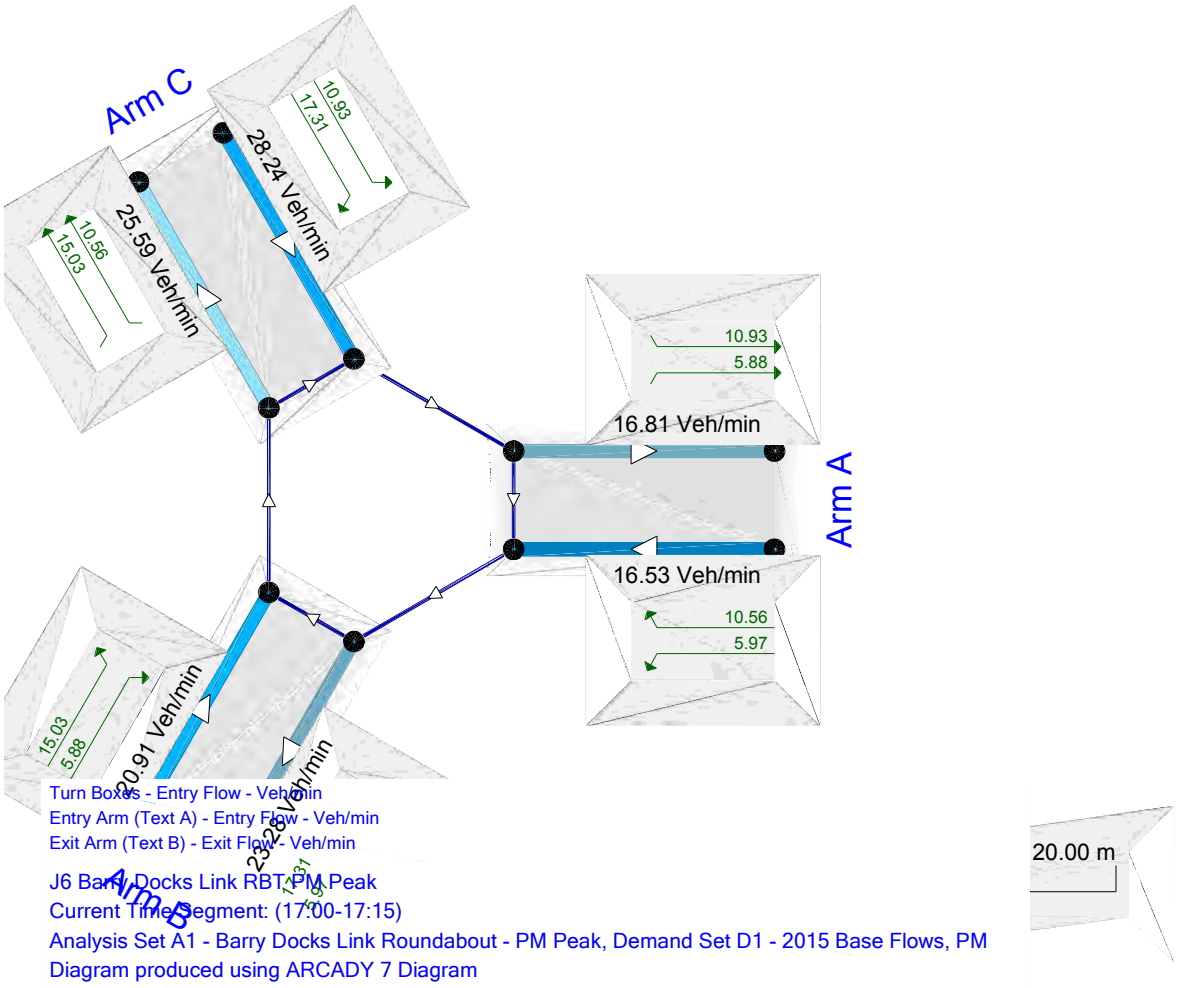
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Barry Docks Link Roundabout - PM Peak - D1 - 2015 Base Flows, PM

Data Errors and Warnings

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

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Barry Docks Link Roundabout - PM Peak		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base Flows, PM	2015 Base Flows	PM			Yes			17:00	18:00	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	A4231	
B	Port Road East	
C	Port Road	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.40	7.00	6.00	41.00	35.00	32.00	
B	4.60	6.50	32.00	55.00	35.00	28.00	
C	4.80	9.30	11.00	62.00	35.00	34.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.741	35.242
B		((calculated))	((calculated))	0.714	32.484
C		((calculated))	((calculated))	0.735	34.737

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF

A	DIRECT			100.000	1.00
B	DIRECT			100.000	1.00
C	DIRECT			100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
17:00-17:15	A	15.70	16.24	N/A	N/A
17:00-17:15	B	15.92	16.13	N/A	N/A
17:00-17:15	C	26.43	27.19	N/A	N/A
17:15-17:30	A	15.70	16.24	N/A	N/A
17:15-17:30	B	15.92	16.13	N/A	N/A
17:15-17:30	C	26.43	27.19	N/A	N/A
17:30-17:45	A	15.70	16.24	N/A	N/A
17:30-17:45	B	15.92	16.13	N/A	N/A
17:30-17:45	C	26.43	27.19	N/A	N/A
17:45-18:00	A	15.70	16.24	N/A	N/A
17:45-18:00	B	15.92	16.13	N/A	N/A
17:45-18:00	C	26.43	27.19	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	300.00	642.00
	B	284.00	0.00	671.00
	C	690.00	896.00	0.00

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

		To		
		A	B	C
From	A	0.00	0.32	0.68
	B	0.30	0.00	0.70
	C	0.44	0.56	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.00	1.00	1.05
	B	1.02	1.00	1.01
	C	1.04	1.02	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	5.00
	B	2.00	0.00	1.00
	C	4.00	2.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.68	0.13	2.09	A	15.70	942.00	121.11	0.13	2.02	121.20	0.13	0.741	35.242

B	0.66	0.12	1.92	A	15.92	955.20	112.37	0.12	1.87	112.44	0.12	0.714	32.484
C	0.87	0.26	6.58	C	26.43	1585.80	365.97	0.23	6.10	366.68	0.23	0.735	34.737

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.70	235.50	15.57	16.02	14.70	0.00	23.33	22.01	0.673	0.00	2.00
B	15.92	238.80	15.80	19.66	10.61	0.00	24.22	20.97	0.657	0.00	1.87
C	26.43	396.45	26.03	21.71	4.70	0.00	30.34	29.22	0.871	0.00	6.03

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.70	235.50	15.70	16.22	14.92	0.00	23.18	22.01	0.677	2.00	2.06
B	15.92	238.80	15.92	19.92	10.70	0.00	24.15	20.97	0.659	1.87	1.91
C	26.43	396.45	26.41	21.88	4.73	0.00	30.32	29.22	0.872	6.03	6.38

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.70	235.50	15.70	16.23	14.93	0.00	23.17	22.01	0.678	2.06	2.08
B	15.92	238.80	15.92	19.93	10.70	0.00	24.15	20.97	0.659	1.91	1.92
C	26.43	396.45	26.42	21.88	4.73	0.00	30.32	29.22	0.872	6.38	6.52

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.70	235.50	15.70	16.23	14.93	0.00	23.17	22.01	0.678	2.08	2.09
B	15.92	238.80	15.92	19.93	10.70	0.00	24.15	20.97	0.659	1.92	1.92
C	26.43	396.45	26.43	21.89	4.73	0.00	30.32	29.22	0.872	6.52	6.58

Queueing Delay Results

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	28.11	1.87	0.127	A	A
B	26.44	1.76	0.117	A	A
C	77.16	5.14	0.215	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	30.66	2.04	0.134	A	A
B	28.44	1.90	0.121	A	A
C	93.66	6.24	0.252	C	B

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	31.09	2.07	0.134	A	A
B	28.70	1.91	0.121	A	A
C	96.87	6.46	0.254	C	B

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	31.24	2.08	0.134	A	A
B	28.79	1.92	0.121	A	A
C	98.29	6.55	0.255	C	B

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J6 Barry Docks Link RBT\Import of J6 Barry Docks Link RBT PM Peak.arc7
Report generation date: 10/06/2010 13:52:11

Summary of roundabout performance

	PM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows			
Arm A	2.09	0.13	0.68	A
Arm B	1.92	0.12	0.66	A
Arm C	6.58	0.26	0.87	C
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev			
Arm A	2.31	0.15	0.70	A
Arm B	2.57	0.15	0.72	A
Arm C	8.41	0.32	0.90	C
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev + 350 units			
Arm A	2.95	0.18	0.75	B
Arm B	3.23	0.18	0.77	B
Arm C	15.42	0.57	0.95	D
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev + 700 units			
Arm A	3.79	0.23	0.80	B
Arm B	7.18	0.35	0.88	C
Arm C	51.04	1.71	1.01	F

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

2015 Base Flows - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev + 350 units - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev + 700 units - PM runs from 17:00:00 to 18:00:00

File summary

File Description

Title	J6 Barry Docks Link RBT PM Peak
Location	Rhoose
Site Number	
Date	28/05/2010
Version	
Status	
Identifier	
Client	
Jobnumber	FMW0408
Enumerator	NH
Description	
Results Upto Date	True

Analysis Options

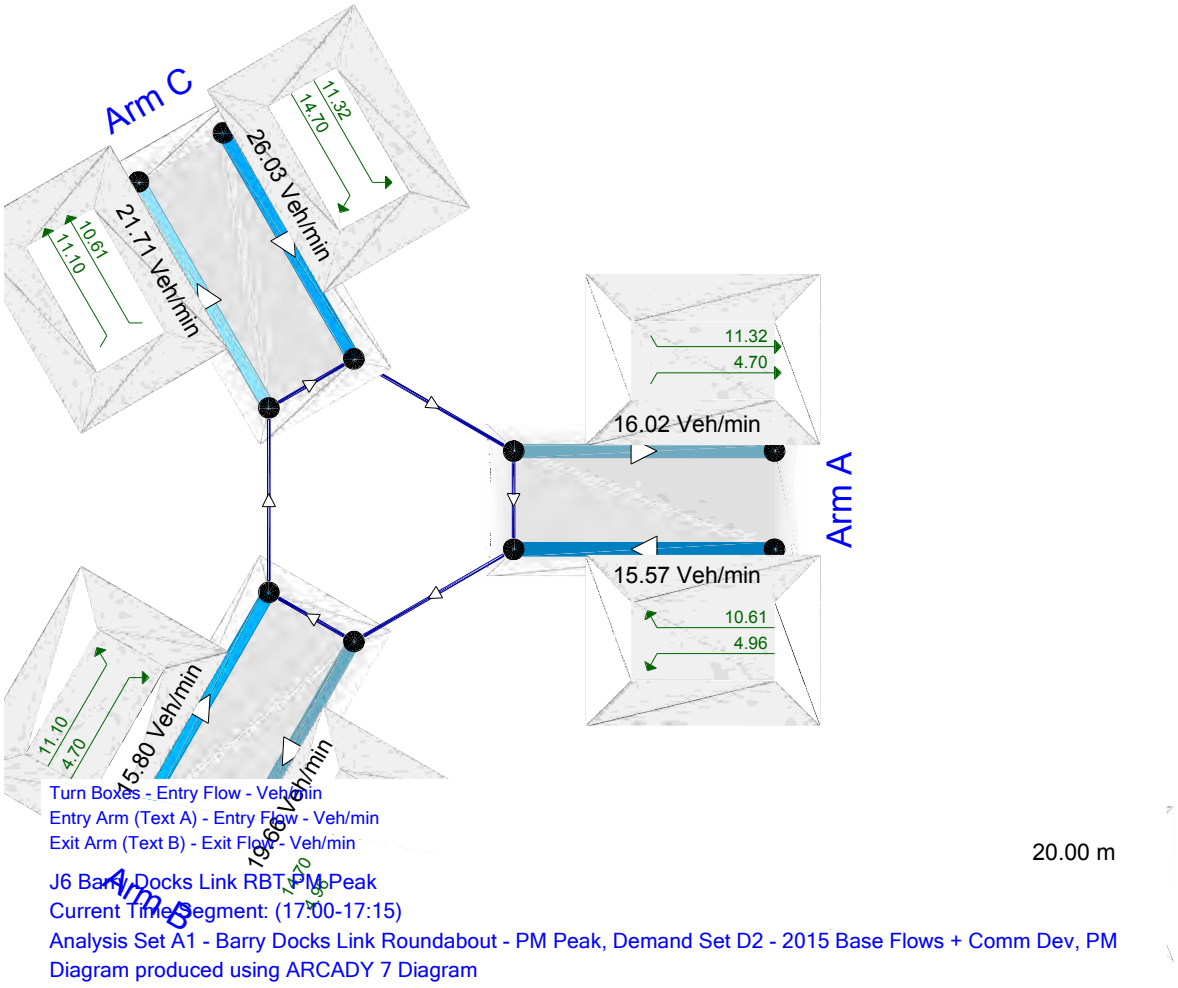
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Barry Docks Link Roundabout - PM Peak - D2 - 2015 Base Flows + Comm Dev, PM

Data Errors and Warnings

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

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Barry Docks Link Roundabout - PM Peak		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base Flows + Comm Dev, PM	2015 Base Flows + Comm Dev	PM			Yes			17:00	18:00	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	A4231	
B	Port Road East	
C	Port Road	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.40	7.00	6.00	41.00	35.00	32.00	
B	4.60	6.50	32.00	55.00	35.00	28.00	
C	4.80	9.30	11.00	62.00	35.00	34.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.741	35.242
B		((calculated))	((calculated))	0.714	32.484
C		((calculated))	((calculated))	0.735	34.737

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF

A	DIRECT			100.000	1.00
B	DIRECT			100.000	1.00
C	DIRECT			100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
17:00-17:15	A	15.90	16.44	N/A	N/A
17:00-17:15	B	17.43	17.65	N/A	N/A
17:00-17:15	C	27.08	27.85	N/A	N/A
17:15-17:30	A	15.90	16.44	N/A	N/A
17:15-17:30	B	17.43	17.65	N/A	N/A
17:15-17:30	C	27.08	27.85	N/A	N/A
17:30-17:45	A	15.90	16.44	N/A	N/A
17:30-17:45	B	17.43	17.65	N/A	N/A
17:30-17:45	C	27.08	27.85	N/A	N/A
17:45-18:00	A	15.90	16.44	N/A	N/A
17:45-18:00	B	17.43	17.65	N/A	N/A
17:45-18:00	C	27.08	27.85	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	312.00	642.00
	B	299.00	0.00	747.00
	C	690.00	935.00	0.00

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

		To		
		A	B	C
From	A	0.00	0.33	0.67
	B	0.29	0.00	0.71
	C	0.42	0.58	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.00	1.00	1.05
	B	1.02	1.00	1.01
	C	1.04	1.02	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	5.00
	B	2.00	0.00	1.00
	C	4.00	2.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.70	0.15	2.31	A	15.90	954.00	133.63	0.14	2.23	133.75	0.14	0.741	35.242

B	0.72	0.15	2.57	A	17.43	1045.80	148.84	0.14	2.48	148.98	0.14	0.714	32.484
C	0.90	0.32	8.41	C	27.08	1624.80	456.01	0.28	7.60	457.18	0.28	0.735	34.737

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.90	238.50	15.75	16.22	15.30	0.00	22.91	21.75	0.694	0.00	2.20
B	17.43	261.45	17.26	20.45	10.60	0.00	24.23	21.24	0.719	0.00	2.48
C	27.08	406.20	26.59	22.93	4.94	0.00	30.18	29.35	0.897	0.00	7.41

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.90	238.50	15.89	16.46	15.56	0.00	22.72	21.75	0.700	2.20	2.28
B	17.43	261.45	17.43	20.76	10.70	0.00	24.16	21.24	0.722	2.48	2.54
C	27.08	406.20	27.04	23.14	4.98	0.00	30.14	29.35	0.898	7.41	8.03

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.90	238.50	15.90	16.47	15.57	0.00	22.71	21.75	0.700	2.28	2.31
B	17.43	261.45	17.43	20.77	10.70	0.00	24.16	21.24	0.722	2.54	2.56
C	27.08	406.20	27.06	23.15	4.98	0.00	30.14	29.35	0.898	8.03	8.28

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	15.90	238.50	15.90	16.48	15.58	0.00	22.70	21.75	0.700	2.31	2.31
B	17.43	261.45	17.43	20.78	10.70	0.00	24.16	21.24	0.722	2.56	2.57
C	27.08	406.20	27.07	23.15	4.98	0.00	30.14	29.35	0.898	8.28	8.41

Queueing Delay Results

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	30.68	2.05	0.137	A	A
B	34.36	2.29	0.140	A	A
C	91.62	6.11	0.252	C	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	33.85	2.26	0.146	A	A
B	37.77	2.52	0.148	A	A
C	116.66	7.78	0.313	C	B

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	34.45	2.30	0.147	A	A
B	38.26	2.55	0.149	A	A
C	122.51	8.17	0.319	C	B

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	34.66	2.31	0.147	A	A
B	38.45	2.56	0.149	A	A
C	125.21	8.35	0.321	C	B

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J6 Barry Docks Link RBT\Import of J6 Barry Docks Link RBT PM Peak.arc7
Report generation date: 10/06/2010 13:52:42

Summary of roundabout performance

	PM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows			
Arm A	2.09	0.13	0.68	A
Arm B	1.92	0.12	0.66	A
Arm C	6.58	0.26	0.87	C
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev			
Arm A	2.31	0.15	0.70	A
Arm B	2.57	0.15	0.72	A
Arm C	8.41	0.32	0.90	C
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev + 350 units			
Arm A	2.95	0.18	0.75	B
Arm B	3.23	0.18	0.77	B
Arm C	15.42	0.57	0.95	D
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev + 700 units			
Arm A	3.79	0.23	0.80	B
Arm B	7.18	0.35	0.88	C
Arm C	51.04	1.71	1.01	F

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

2015 Base Flows - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev + 350 units - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev + 700 units - PM runs from 17:00:00 to 18:00:00

File summary

File Description

Title	J6 Barry Docks Link RBT PM Peak
Location	Rhoose
Site Number	
Date	28/05/2010
Version	
Status	
Identifier	
Client	
Jobnumber	FMW0408
Enumerator	NH
Description	
Results Upto Date	True

Analysis Options

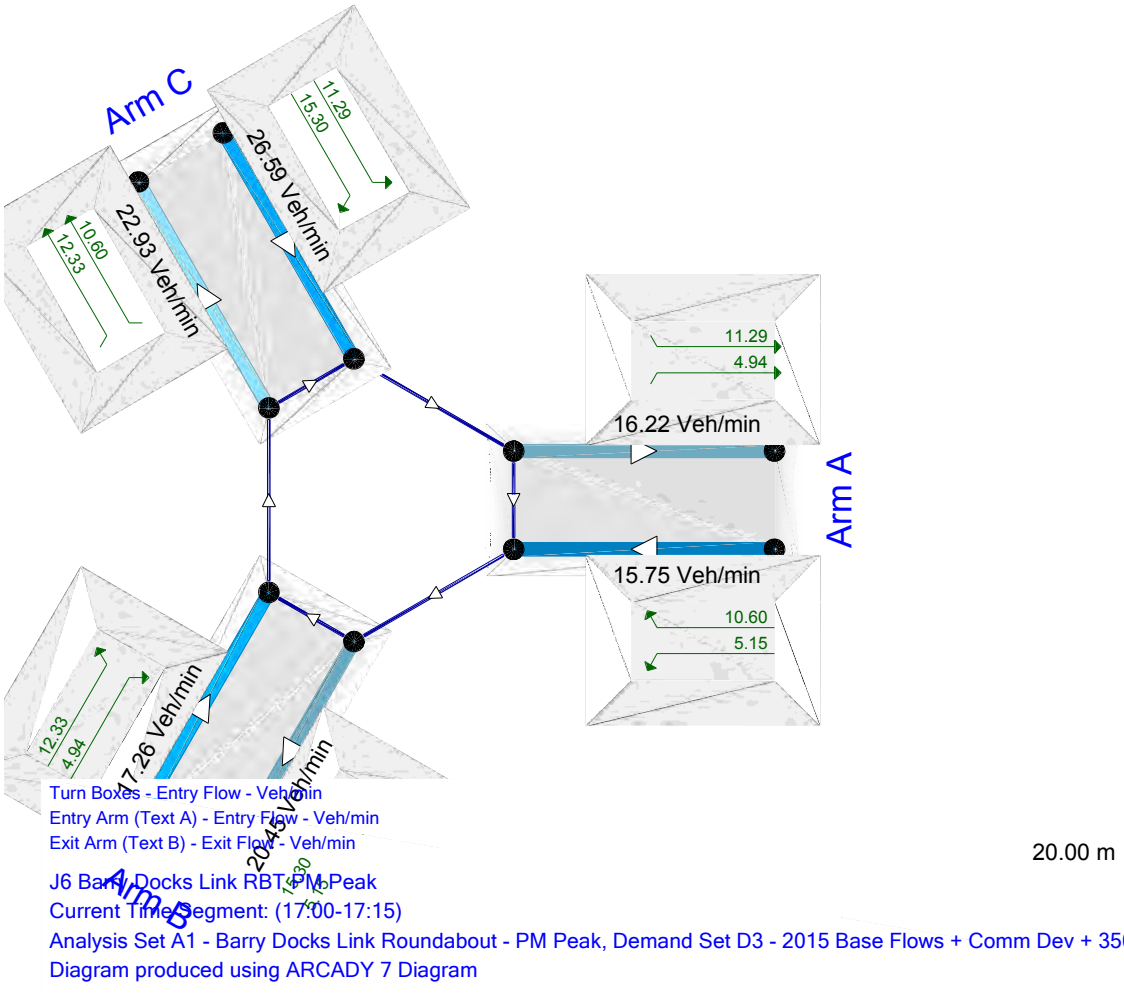
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Barry Docks Link Roundabout - PM Peak - D3 - 2015 Base Flows + Comm Dev + 350 units, PM

Data Errors and Warnings

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

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Barry Docks Link Roundabout - PM Peak		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base Flows + Comm Dev + 350 units, PM	2015 Base Flows + Comm Dev + 350 units	PM			Yes			17:00	18:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	A4231	
B	Port Road East	
C	Port Road	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.40	7.00	6.00	41.00	35.00	32.00	
B	4.60	6.50	32.00	55.00	35.00	28.00	
C	4.80	9.30	11.00	62.00	35.00	34.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.741	35.242
B		((calculated))	((calculated))	0.714	32.484
C		((calculated))	((calculated))	0.735	34.737

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF

A	FLAT		16.33	100.000	1.00
B	FLAT		18.50	100.000	1.00
C	FLAT		28.40	100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
17:00-17:15	**A**	16.33	16.86	N/A	N/A
17:00-17:15	**B**	18.50	18.74	N/A	N/A
17:00-17:15	**C**	28.40	29.20	N/A	N/A
17:15-17:30	**A**	16.33	16.86	N/A	N/A
17:15-17:30	**B**	18.50	18.74	N/A	N/A
17:15-17:30	**C**	28.40	29.20	N/A	N/A
17:30-17:45	**A**	16.33	16.86	N/A	N/A
17:30-17:45	**B**	18.50	18.74	N/A	N/A
17:30-17:45	**C**	28.40	29.20	N/A	N/A
17:45-18:00	**A**	16.33	16.86	N/A	N/A
17:45-18:00	**B**	18.50	18.74	N/A	N/A
17:45-18:00	**C**	28.40	29.20	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.00	338.00	642.00
	B	315.00	0.00	797.00
	C	690.00	1014.00	0.00

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

		To		
		A	**B**	**C**
From	**A**	0.00	0.34	0.66
	B	0.28	0.00	0.72
	C	0.40	0.60	0.00

Vehicle Mix

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

		To		
		A	**B**	**C**
From	**A**	1.00	1.00	1.05
	B	1.02	1.00	1.01
	C	1.04	1.02	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.00	0.00	5.00
	B	2.00	0.00	1.00
	C	4.00	2.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.75	0.18	2.95	B	16.33	979.80	167.47	0.17	2.79	167.67	0.17	0.741	35.242

B	0.77	0.18	3.23	B	18.50	1110.00	185.23	0.17	3.09	185.44	0.17	0.714	32.484
C	0.95	0.57	15.42	D	28.40	1704.00	764.86	0.45	12.75	768.83	0.45	0.735	34.737

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.33	244.95	16.15	16.37	16.44	0.00	22.09	21.36	0.739	0.00	2.72
B	18.50	277.50	18.30	22.01	10.58	0.00	24.24	21.72	0.763	0.00	3.07
C	28.40	426.00	27.63	23.69	5.18	0.00	30.01	29.30	0.946	0.00	11.60

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.33	244.95	16.32	16.68	16.82	0.00	21.82	21.36	0.749	2.72	2.88
B	18.50	277.50	18.49	22.44	10.69	0.00	24.16	21.72	0.766	3.07	3.18
C	28.40	426.00	28.26	23.94	5.24	0.00	29.97	29.30	0.948	11.60	13.73

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.33	244.95	16.33	16.71	16.86	0.00	21.78	21.36	0.750	2.88	2.93
B	18.50	277.50	18.50	22.49	10.70	0.00	24.16	21.72	0.766	3.18	3.21
C	28.40	426.00	28.33	23.95	5.24	0.00	29.97	29.30	0.948	13.73	14.78

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.33	244.95	16.33	16.72	16.87	0.00	21.77	21.36	0.750	2.93	2.95
B	18.50	277.50	18.50	22.51	10.70	0.00	24.16	21.72	0.766	3.21	3.23
C	28.40	426.00	28.36	23.96	5.24	0.00	29.97	29.30	0.948	14.78	15.42

Queueing Delay Results

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	37.20	2.48	0.164	A	A
B	41.88	2.79	0.163	A	A
C	131.29	8.75	0.349	C	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	42.43	2.83	0.181	B	B
B	47.10	3.14	0.176	B	B
C	192.25	12.82	0.515	D	C

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	43.68	2.91	0.183	B	B
B	47.96	3.20	0.176	B	B
C	214.53	14.30	0.553	D	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	44.16	2.94	0.183	B	B
B	48.29	3.22	0.177	B	B
C	226.79	15.12	0.572	D	C

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J6 Barry Docks Link RBT\Import of J6 Barry Docks Link RBT PM Peak.arc7
Report generation date: 10/06/2010 13:53:04

Summary of roundabout performance

	PM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows			
Arm A	2.09	0.13	0.68	A
Arm B	1.92	0.12	0.66	A
Arm C	6.58	0.26	0.87	C
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev			
Arm A	2.31	0.15	0.70	A
Arm B	2.57	0.15	0.72	A
Arm C	8.41	0.32	0.90	C
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev + 350 units			
Arm A	2.95	0.18	0.75	B
Arm B	3.23	0.18	0.77	B
Arm C	15.42	0.57	0.95	D
	Barry Docks Link Roundabout - PM Peak - 2015 Base Flows + Comm Dev + 700 units			
Arm A	3.79	0.23	0.80	B
Arm B	7.18	0.35	0.88	C
Arm C	51.04	1.71	1.01	F

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

2015 Base Flows - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev + 350 units - PM runs from 17:00:00 to 18:00:00
2015 Base Flows + Comm Dev + 700 units - PM runs from 17:00:00 to 18:00:00

File summary

File Description

Title	J6 Barry Docks Link RBT PM Peak
Location	Rhoose
Site Number	
Date	28/05/2010
Version	
Status	
Identifier	
Client	
Jobnumber	FMW0408
Enumerator	NH
Description	
Results Upto Date	True

Analysis Options

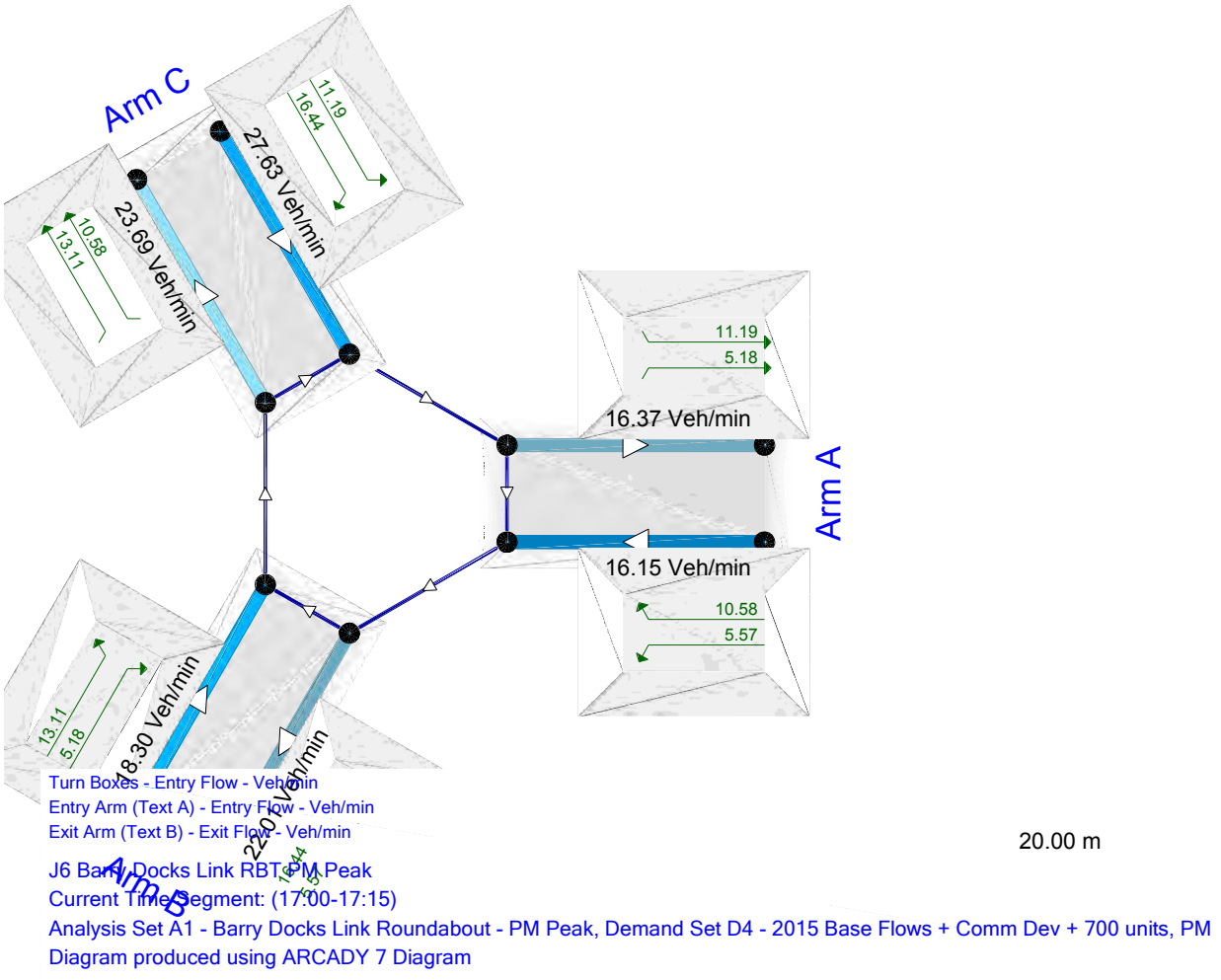
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Barry Docks Link Roundabout - PM Peak - D4 - 2015 Base Flows + Comm Dev + 700 units, PM

Data Errors and Warnings

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

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Barry Docks Link Roundabout - PM Peak		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base Flows + Comm Dev + 700 units, PM	2015 Base Flows + Comm Dev + 700 units	PM			Yes			17:00	18:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	A4231	
B	Port Road East	
C	Port Road	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.40	7.00	6.00	41.00	35.00	32.00	
B	4.60	6.50	32.00	55.00	35.00	28.00	
C	4.80	9.30	11.00	62.00	35.00	34.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.741	35.242
B		((calculated))	((calculated))	0.714	32.484
C		((calculated))	((calculated))	0.735	34.737

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF

A	FLAT		16.75	100.000	1.00
B	FLAT		21.33	100.000	1.00
C	FLAT		29.72	100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
17:00-17:15	**A**	16.75	17.29	N/A	N/A
17:00-17:15	**B**	21.33	21.60	N/A	N/A
17:00-17:15	**C**	29.72	30.54	N/A	N/A
17:15-17:30	**A**	16.75	17.29	N/A	N/A
17:15-17:30	**B**	21.33	21.60	N/A	N/A
17:15-17:30	**C**	29.72	30.54	N/A	N/A
17:30-17:45	**A**	16.75	17.29	N/A	N/A
17:30-17:45	**B**	21.33	21.60	N/A	N/A
17:30-17:45	**C**	29.72	30.54	N/A	N/A
17:45-18:00	**A**	16.75	17.29	N/A	N/A
17:45-18:00	**B**	21.33	21.60	N/A	N/A
17:45-18:00	**C**	29.72	30.54	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.00	363.00	642.00
	B	332.00	0.00	848.00
	C	690.00	1093.00	0.00

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

		To		
		A	**B**	**C**
From	**A**	0.00	0.36	0.64
	B	0.28	0.00	0.72
	C	0.39	0.61	0.00

Vehicle Mix

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

		To		
		A	**B**	**C**
From	**A**	1.00	1.00	1.05
	B	1.02	1.00	1.01
	C	1.04	1.02	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	**B**	**C**
From	**A**	0.00	0.00	5.00
	B	2.00	0.00	1.00
	C	4.00	2.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.80	0.23	3.79	B	16.75	1005.00	209.89	0.21	3.50	210.23	0.21	0.741	35.242

B	0.88	0.35	7.18	C	21.33	1279.80	388.17	0.30	6.47	389.24	0.30	0.714	32.484
C	1.01	1.71	51.04	F	29.72	1783.20	1916.59	1.07	31.94	1960.87	1.10	0.735	34.737

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.75	251.25	16.53	16.81	17.31	0.00	21.47	21.01	0.780	0.00	3.34
B	21.33	319.95	20.91	23.28	10.56	0.00	24.26	22.14	0.879	0.00	6.25
C	29.72	445.80	28.24	25.59	5.88	0.00	29.51	29.25	1.007	0.00	22.25

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.75	251.25	16.73	17.20	17.76	0.00	21.14	21.01	0.792	3.34	3.64
B	21.33	319.95	21.29	23.80	10.69	0.00	24.17	22.14	0.883	6.25	6.84
C	29.72	445.80	28.97	25.99	5.99	0.00	29.43	29.25	1.010	22.25	33.52

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.75	251.25	16.74	17.26	17.84	0.00	21.08	21.01	0.794	3.64	3.74
B	21.33	319.95	21.32	23.89	10.70	0.00	24.16	22.14	0.883	6.84	7.06
C	29.72	445.80	29.10	26.01	6.00	0.00	29.42	29.25	1.010	33.52	42.79

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	16.75	251.25	16.75	17.29	17.88	0.00	21.05	21.01	0.796	3.74	3.79
B	21.33	319.95	21.32	23.93	10.70	0.00	24.16	22.14	0.883	7.06	7.18
C	29.72	445.80	29.17	26.02	6.00	0.00	29.42	29.25	1.010	42.79	51.04

Queueing Delay Results

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	44.80	2.99	0.194	B	B
B	77.83	5.19	0.272	C	B
C	215.86	14.39	0.550	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	53.08	3.54	0.225	B	B
B	99.04	6.60	0.338	C	C
C	422.10	28.14	1.098	F	E

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	55.48	3.70	0.229	B	B
B	104.44	6.96	0.345	C	C
C	573.95	38.26	1.428	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	56.54	3.77	0.231	B	B
B	106.86	7.12	0.348	C	C
C	704.68	46.98	1.713	F	F

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J7 Colcot Cross RBT\Import of J7 Colcot Cross RBT AM Peak.arc7
Report generation date: 10/06/2010 14:11:28

Summary of roundabout performance

	AM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Colcot Cross AM Peak - 2015 Base			
Arm A	0.85	0.09	0.46	A
Arm B	7.64	0.39	0.89	C
Arm C	1.51	0.09	0.60	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev			
Arm A	1.10	0.10	0.53	A
Arm B	15.62	0.76	0.95	E
Arm C	2.15	0.11	0.68	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev + 350 units			
Arm A	1.13	0.11	0.53	A
Arm B	131.59	5.19	1.09	F
Arm C	2.33	0.12	0.70	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev + 700 units			
Arm A	1.31	0.12	0.57	A
Arm B	246.46	9.56	1.18	F
Arm C	3.34	0.15	0.77	A

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

2015 Base - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev + 350 units - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev + 700 units - AM runs from 08:00:00 to 09:00:00

File summary

File Description

Title	J7 Colcot Cross RBT
Location	Rhoose
Date	27/05/2010
Jobnumber	FMW0408
Enumerator	NH
Results Upto Date	False

Analysis Options

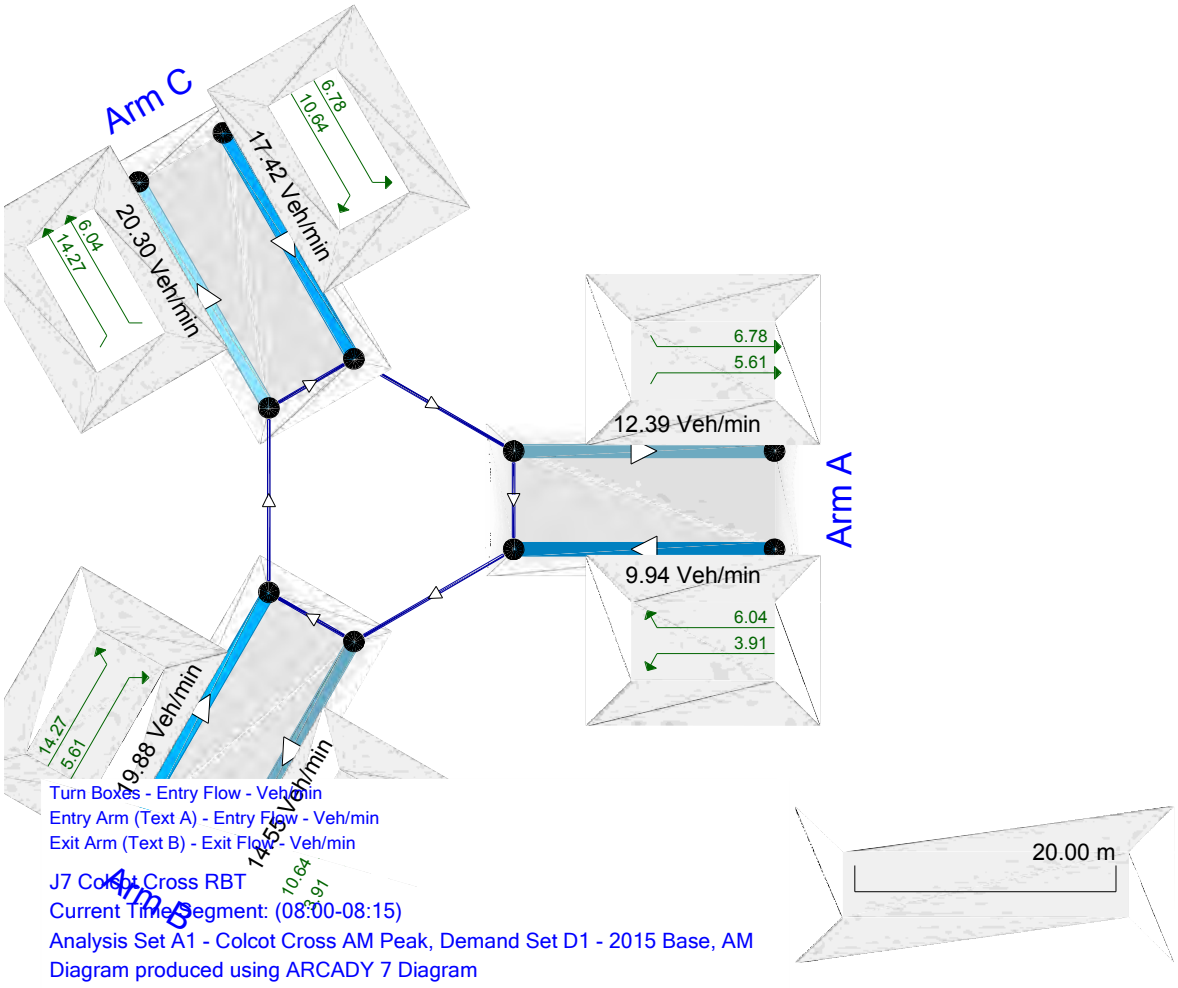
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Colcot Cross AM Peak - D1 - 2015 Base, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Colcot Cross AM Peak		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base, AM	2015 Base	AM			Yes			08:00	09:00	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	Colcot Road	
B	Port Road West	
C	Port Road East	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.00	7.30	2.00	15.00	45.00	59.00	
B	3.85	7.40	9.00	25.00	45.00	36.00	
C	4.50	10.30	17.50	15.00	45.00	45.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.597	28.639
B		((calculated))	((calculated))	0.610	27.065
C		((calculated))	((calculated))	0.679	34.415

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF
A	DIRECT			100.000	1.00
B	DIRECT			100.000	1.00
C	DIRECT			100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
08:00-08:15	A	10.00	10.06	N/A	N/A
08:00-08:15	B	20.32	20.76	N/A	N/A
08:00-08:15	C	17.52	18.41	N/A	N/A
08:15-08:30	A	10.00	10.06	N/A	N/A
08:15-08:30	B	20.32	20.76	N/A	N/A
08:15-08:30	C	17.52	18.41	N/A	N/A
08:30-08:45	A	10.00	10.06	N/A	N/A
08:30-08:45	B	20.32	20.76	N/A	N/A
08:30-08:45	C	17.52	18.41	N/A	N/A
08:45-09:00	A	10.00	10.06	N/A	N/A
08:45-09:00	B	20.32	20.76	N/A	N/A
08:45-09:00	C	17.52	18.41	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	235.00	363.00
	B	344.00	0.00	875.00
	C	409.00	642.00	0.00

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

		To		
		A	B	C
From	A	0.00	0.39	0.61
	B	0.28	0.00	0.72
	C	0.39	0.61	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.00	1.00	1.01
	B	1.00	1.00	1.03
	C	1.02	1.07	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	3.00
	C	2.00	7.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.46	0.09	0.85	A	10.00	600.00	50.55	0.08	0.84	50.57	0.08	0.597	28.639
B	0.89	0.39	7.64	C	20.32	1219.20	411.66	0.34	6.86	412.94	0.34	0.610	27.065
C	0.60	0.09	1.51	A	17.52	1051.20	89.11	0.08	1.49	89.15	0.08	0.679	34.415

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.00	150.00	9.94	12.39	10.64	0.00	21.71	17.19	0.461	0.00	0.84
B	20.32	304.80	19.88	14.55	6.04	0.00	22.86	20.20	0.889	0.00	6.67
C	17.52	262.80	17.42	20.30	5.61	0.00	29.13	29.07	0.601	0.00	1.49

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.00	150.00	10.00	12.54	10.70	0.00	21.67	17.19	0.461	0.84	0.85
B	20.32	304.80	20.28	14.63	6.07	0.00	22.84	20.20	0.890	6.67	7.27
C	17.52	262.80	17.52	20.63	5.72	0.00	29.06	29.07	0.603	1.49	1.51

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.00	150.00	10.00	12.55	10.70	0.00	21.67	17.19	0.461	0.85	0.85
B	20.32	304.80	20.30	14.63	6.07	0.00	22.84	20.20	0.890	7.27	7.51
C	17.52	262.80	17.52	20.64	5.73	0.00	29.06	29.07	0.603	1.51	1.51

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.00	150.00	10.00	12.55	10.70	0.00	21.67	17.19	0.461	0.85	0.85
B	20.32	304.80	20.31	14.63	6.07	0.00	22.84	20.20	0.890	7.51	7.64
C	17.52	262.80	17.52	20.65	5.73	0.00	29.06	29.07	0.603	1.51	1.51

Queueing Delay Results

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	12.22	0.81	0.085	A	A
B	81.66	5.44	0.301	C	B
C	21.34	1.42	0.085	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	12.74	0.85	0.086	A	A
B	105.34	7.02	0.378	C	C
C	22.48	1.50	0.087	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	12.79	0.85	0.086	A	A
B	111.01	7.40	0.386	C	C
C	22.62	1.51	0.087	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	12.81	0.85	0.086	A	A
B	113.66	7.58	0.390	C	C
C	22.67	1.51	0.087	A	A

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J7 Colcot Cross RBT\Import of J7 Colcot Cross RBT AM Peak.arc7
Report generation date: 10/06/2010 14:12:58

Summary of roundabout performance

	AM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Colcot Cross AM Peak - 2015 Base			
Arm A	0.85	0.09	0.46	A
Arm B	7.64	0.39	0.89	C
Arm C	1.51	0.09	0.60	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev			
Arm A	1.10	0.10	0.53	A
Arm B	15.62	0.76	0.95	E
Arm C	2.15	0.11	0.68	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev + 350 units			
Arm A	1.13	0.11	0.53	A
Arm B	131.59	5.19	1.09	F
Arm C	2.33	0.12	0.70	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev + 700 units			
Arm A	1.31	0.12	0.57	A
Arm B	246.46	9.56	1.18	F
Arm C	3.34	0.15	0.77	A

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

2015 Base - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev + 350 units - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev + 700 units - AM runs from 08:00:00 to 09:00:00

File summary

File Description

Title	J7 Colcot Cross RBT
Location	Rhoose
Date	27/05/2010
Jobnumber	FMW0408
Enumerator	NH
Results Upto Date	False

Analysis Options

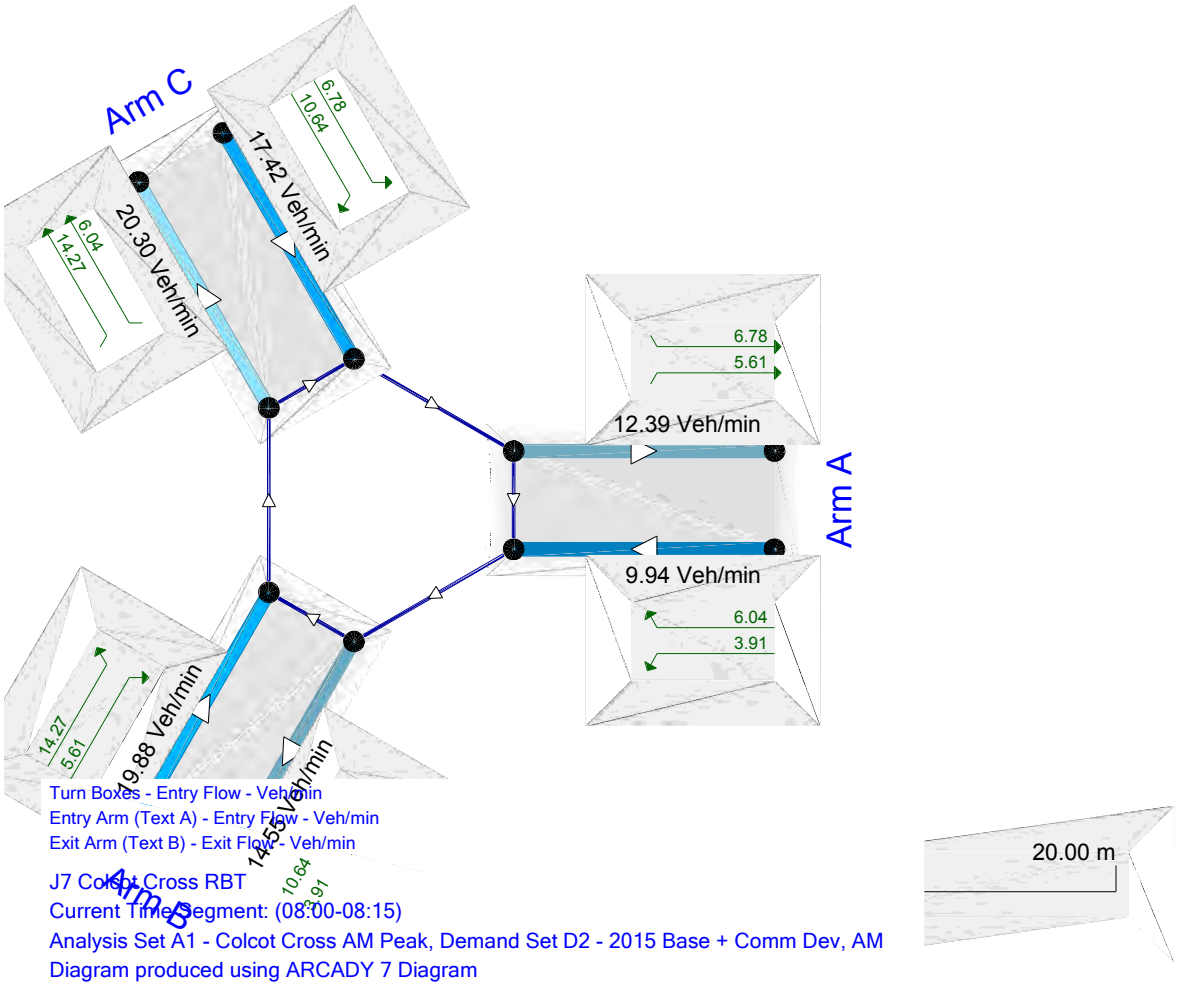
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Colcot Cross AM Peak - D2 - 2015 Base + Comm Dev, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Colcot Cross AM Peak		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base + Comm Dev, AM	2015 Base + Comm Dev	AM			Yes			08:00	09:00	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	Colcot Road	
B	Port Road West	
C	Port Road East	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.00	7.30	2.00	15.00	45.00	59.00	
B	3.85	7.40	9.00	25.00	45.00	36.00	
C	4.50	10.30	17.50	15.00	45.00	45.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.597	28.639
B		((calculated))	((calculated))	0.610	27.065
C		((calculated))	((calculated))	0.679	34.415

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF
A	DIRECT			100.000	1.00
B	DIRECT			100.000	1.00
C	DIRECT			100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
08:00-08:15	A	10.65	10.71	N/A	N/A
08:00-08:15	B	21.73	22.20	N/A	N/A
08:00-08:15	C	19.75	20.79	N/A	N/A
08:15-08:30	A	10.65	10.71	N/A	N/A
08:15-08:30	B	21.73	22.20	N/A	N/A
08:15-08:30	C	19.75	20.79	N/A	N/A
08:30-08:45	A	10.65	10.71	N/A	N/A
08:30-08:45	B	21.73	22.20	N/A	N/A
08:30-08:45	C	19.75	20.79	N/A	N/A
08:45-09:00	A	10.65	10.71	N/A	N/A
08:45-09:00	B	21.73	22.20	N/A	N/A
08:45-09:00	C	19.75	20.79	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	276.00	363.00
	B	358.00	0.00	946.00
	C	409.00	778.00	0.00

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

		To		
		A	B	C
From	A	0.00	0.43	0.57
	B	0.27	0.00	0.73
	C	0.34	0.66	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.00	1.00	1.01
	B	1.00	1.00	1.03
	C	1.02	1.07	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	3.00
	C	2.00	7.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.53	0.10	1.10	A	10.65	639.00	65.05	0.10	1.08	65.08	0.10	0.597	28.639
B	0.95	0.76	15.62	E	21.73	1303.80	752.65	0.58	12.54	757.99	0.58	0.610	27.065
C	0.68	0.11	2.15	A	19.75	1185.00	125.83	0.11	2.10	125.91	0.11	0.679	34.415

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.65	159.75	10.58	12.52	12.85	0.00	20.32	16.41	0.524	0.00	1.09
B	21.73	325.95	20.99	17.42	6.01	0.00	22.87	20.87	0.950	0.00	11.16
C	19.75	296.25	19.61	21.23	5.76	0.00	28.97	28.99	0.682	0.00	2.09

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.65	159.75	10.65	12.73	12.94	0.00	20.26	16.41	0.526	1.09	1.10
B	21.73	325.95	21.57	17.54	6.05	0.00	22.84	20.87	0.951	11.16	13.54
C	19.75	296.25	19.75	21.70	5.92	0.00	28.87	28.99	0.684	2.09	2.14

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.65	159.75	10.65	12.75	12.94	0.00	20.26	16.41	0.526	1.10	1.10
B	21.73	325.95	21.65	17.54	6.05	0.00	22.84	20.87	0.951	13.54	14.81
C	19.75	296.25	19.75	21.75	5.94	0.00	28.86	28.99	0.684	2.14	2.15

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.65	159.75	10.65	12.76	12.94	0.00	20.26	16.41	0.526	1.10	1.10
B	21.73	325.95	21.68	17.54	6.05	0.00	22.84	20.87	0.951	14.81	15.62
C	19.75	296.25	19.75	21.78	5.95	0.00	28.85	28.99	0.685	2.15	2.15

Queueing Delay Results

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	15.57	1.04	0.102	A	A
B	123.12	8.21	0.431	D	C
C	29.58	1.97	0.105	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	16.42	1.09	0.104	A	A
B	187.52	12.50	0.662	E	D
C	31.82	2.12	0.110	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	16.51	1.10	0.104	A	A
B	213.44	14.23	0.724	E	D
C	32.15	2.14	0.110	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	16.55	1.10	0.104	A	A
B	228.58	15.24	0.759	E	D
C	32.28	2.15	0.110	A	A

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J7 Colcot Cross RBT\Import of J7 Colcot Cross RBT AM Peak.arc7
Report generation date: 10/06/2010 14:13:21

Summary of roundabout performance

	AM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Colcot Cross AM Peak - 2015 Base			
Arm A	0.85	0.09	0.46	A
Arm B	7.64	0.39	0.89	C
Arm C	1.51	0.09	0.60	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev			
Arm A	1.10	0.10	0.53	A
Arm B	15.62	0.76	0.95	E
Arm C	2.15	0.11	0.68	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev + 350 units			
Arm A	1.13	0.11	0.53	A
Arm B	131.59	5.19	1.09	F
Arm C	2.33	0.12	0.70	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev + 700 units			
Arm A	1.31	0.12	0.57	A
Arm B	246.46	9.56	1.18	F
Arm C	3.34	0.15	0.77	A

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

2015 Base - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev + 350 units - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev + 700 units - AM runs from 08:00:00 to 09:00:00

File summary

File Description

Title	J7 Colcot Cross RBT
Location	Rhoose
Date	27/05/2010
Jobnumber	FMW0408
Enumerator	NH
Results Upto Date	False

Analysis Options

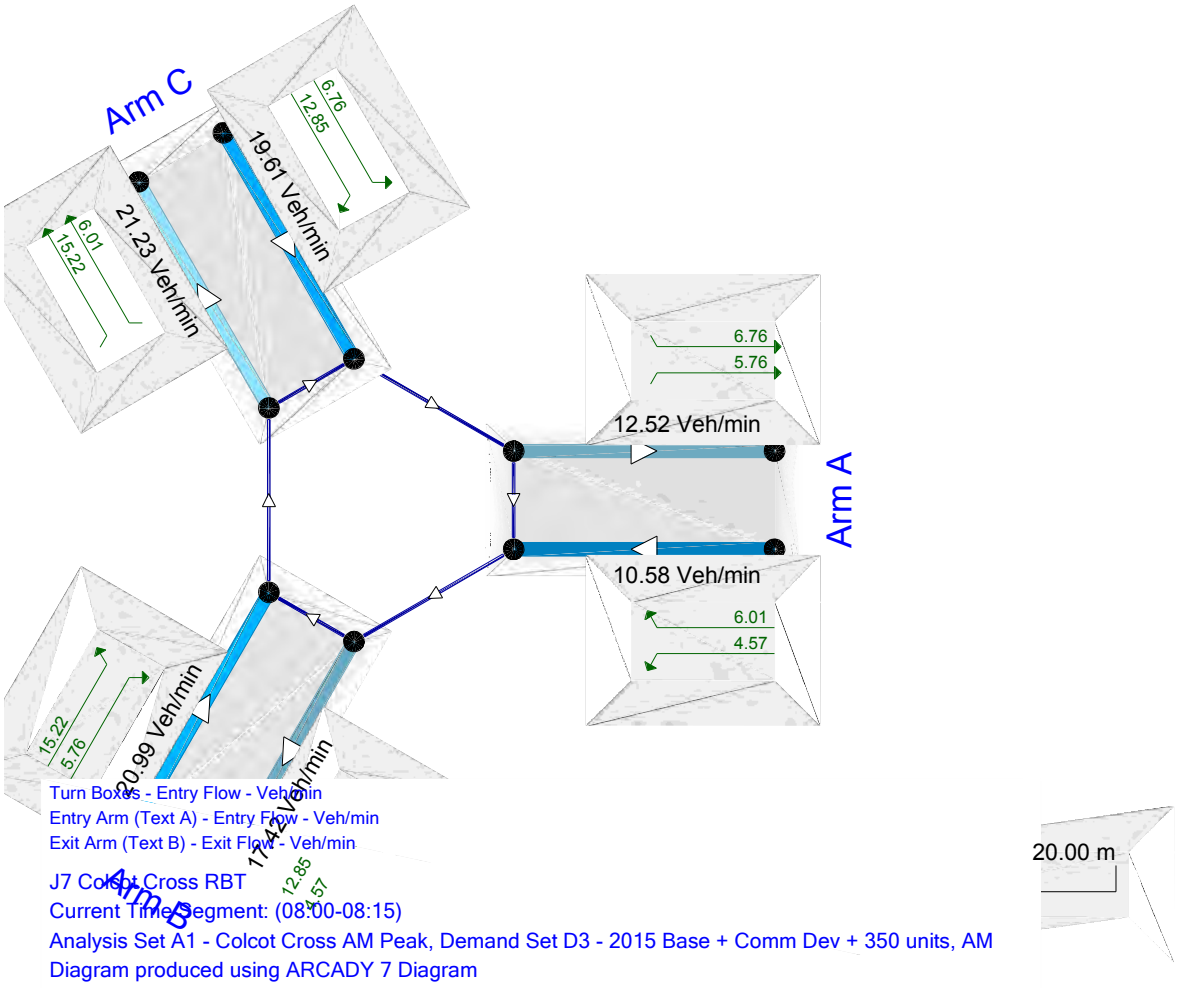
RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin



The junction diagram reflects the last run of ARCADY.

A1 - Colcot Cross AM Peak - D3 - 2015 Base + Comm Dev + 350 units, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
Colcot Cross AM Peak		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
2015 Base + Comm Dev + 350 units, AM	2015 Base + Comm Dev + 350 units	AM			Yes			08:00	09:00	60	15	FLAT

Roundabout Network

Roundabout Type(s)

ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	(untitled)	A,B,C	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
A	Colcot Road	
B	Port Road West	
C	Port Road East	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00

Standard Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
A	6.00	7.30	2.00	15.00	45.00	59.00	
B	3.85	7.40	9.00	25.00	45.00	36.00	
C	4.50	10.30	17.50	15.00	45.00	45.00	

Pedestrian Crossings

Arm	Crossing Type
A	None
B	None
C	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Arm	Enter Directly	Slope	Intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		((calculated))	((calculated))	0.597	28.639
B		((calculated))	((calculated))	0.610	27.065
C		((calculated))	((calculated))	0.679	34.415

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)	PHF
A	FLAT		10.56	100.000	1.00
B	FLAT		24.88	100.000	1.00
C	FLAT		20.38	100.000	1.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (Veh/min)	DirectDemandEntryFlowInPCU (PCU/min)	Direct Demand Exit Flow (Veh/min)	Direct Demand Pedestrian Flow (Ped/min)
08:00-08:15	A	10.56	10.62	N/A	N/A
08:00-08:15	B	24.88	25.44	N/A	N/A
08:00-08:15	C	20.38	21.47	N/A	N/A
08:15-08:30	A	10.56	10.62	N/A	N/A
08:15-08:30	B	24.88	25.44	N/A	N/A
08:15-08:30	C	20.38	21.47	N/A	N/A
08:30-08:45	A	10.56	10.62	N/A	N/A
08:30-08:45	B	24.88	25.44	N/A	N/A
08:30-08:45	C	20.38	21.47	N/A	N/A
08:45-09:00	A	10.56	10.62	N/A	N/A
08:45-09:00	B	24.88	25.44	N/A	N/A
08:45-09:00	C	20.38	21.47	N/A	N/A

Turning Proportions

Turning Counts or Proportions (Veh/min) - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	276.00	363.00
	B	358.00	0.00	1099.00
	C	409.00	814.00	0.00

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

		To		
		A	B	C
From	A	0.00	0.43	0.57
	B	0.25	0.00	0.75
	C	0.33	0.67	0.00

Vehicle Mix

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

		To		
		A	B	C
From	A	1.00	1.00	1.01
	B	1.00	1.00	1.03
	C	1.02	1.07	1.00

Heavy Vehicle Percentages - Roundabout 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.00	1.00
	B	0.00	0.00	3.00
	C	2.00	7.00	0.00

Results

Results Summary

Arm	Max RFC	Max Delay (min)	Max Queue (Veh)	Max LOS	Total Demand (Veh/min)	Total Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Queueing Total Delay (Veh-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/min)
A	0.53	0.11	1.13	A	10.56	633.60	66.54	0.11	1.11	66.57	0.11	0.597	28.639
B	1.09	5.19	131.59	F	24.88	1492.80	4170.96	2.79	69.52	4549.78	3.05	0.610	27.065
C	0.70	0.12	2.33	A	20.38	1222.80	136.11	0.11	2.27	136.20	0.11	0.679	34.415

Main Results

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.56	158.40	10.49	12.24	13.46	0.00	19.93	16.07	0.530	0.00	1.11
B	24.88	373.20	22.30	17.99	5.96	0.00	22.88	20.97	1.087	0.00	38.66
C	20.38	305.70	20.23	22.78	5.48	0.00	29.14	29.35	0.699	0.00	2.27

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.56	158.40	10.56	12.41	13.56	0.00	19.87	16.07	0.532	1.11	1.12
B	24.88	373.20	22.79	18.12	6.00	0.00	22.85	20.97	1.089	38.66	70.09
C	20.38	305.70	20.38	23.18	5.60	0.00	29.07	29.35	0.701	2.27	2.31

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.56	158.40	10.56	12.42	13.56	0.00	19.86	16.07	0.532	1.12	1.13
B	24.88	373.20	22.82	18.12	6.00	0.00	22.85	20.97	1.089	70.09	100.94
C	20.38	305.70	20.38	23.21	5.61	0.00	29.06	29.35	0.701	2.31	2.33

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

Arm	Demand (Veh/min)	Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)
A	10.56	158.40	10.56	12.43	13.56	0.00	19.86	16.07	0.532	1.13	1.13
B	24.88	373.20	22.84	18.13	6.00	0.00	22.85	20.97	1.089	100.94	131.59
C	20.38	305.70	20.38	23.22	5.61	0.00	29.06	29.35	0.701	2.33	2.33

Queueing Delay Results

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	15.90	1.06	0.105	A	A
B	326.91	21.79	1.021	F	E
C	31.91	2.13	0.110	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	16.79	1.12	0.107	A	A
B	816.92	54.46	2.530	F	F
C	34.45	2.30	0.115	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	16.90	1.13	0.107	A	A
B	1283.05	85.54	3.860	F	F
C	34.80	2.32	0.115	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	16.94	1.13	0.107	A	A
B	1744.08	116.27	5.188	F	F
C	34.94	2.33	0.115	A	A

ARCADY 7

Version: 7.0.1.130 [12 March 2010]
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File: \\Fmw-server\data\FMW Project Files\FMW0408 Rhoose\Analysis\ARCADY\J7 Colcot Cross RBT\Import of J7 Colcot Cross RBT AM Peak.arc7
Report generation date: 10/06/2010 14:13:48

Summary of roundabout performance

	AM			
	Queue (Veh)	Delay (min)	RFC	LOS
	Colcot Cross AM Peak - 2015 Base			
Arm A	0.85	0.09	0.46	A
Arm B	7.64	0.39	0.89	C
Arm C	1.51	0.09	0.60	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev			
Arm A	1.10	0.10	0.53	A
Arm B	15.62	0.76	0.95	E
Arm C	2.15	0.11	0.68	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev + 350 units			
Arm A	1.13	0.11	0.53	A
Arm B	131.59	5.19	1.09	F
Arm C	2.33	0.12	0.70	A
	Colcot Cross AM Peak - 2015 Base + Comm Dev + 700 units			
Arm A	1.31	0.12	0.57	A
Arm B	246.46	9.56	1.18	F
Arm C	3.34	0.15	0.77	A

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

2015 Base - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev + 350 units - AM runs from 08:00:00 to 09:00:00
2015 Base + Comm Dev + 700 units - AM runs from 08:00:00 to 09:00:00

File summary

File Description

Title	J7 Colcot Cross RBT
Location	Rhoose
Date	27/05/2010
Jobnumber	FMW0408
Enumerator	NH
Results Upto Date	False

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
	Order	Ascending	Numerical	By Destination	Absolute Time

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	perMin	min	-Min	perMin