_____ A R C A D Y 6 _____

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 1\Proposed WSP Rnbt\
Site 1 - Prop Rnbt AM flows with Exemplar devt A.vai"
(drive-on-the-left) at 08:42:59 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Proposed A4095 Howes Lane / B4030 Middleton Stoney Rd Roundabout
LOCATION: Bicester
DATE: 02/11/10
CLIENT: P3 Eco Ltd
ENUMERATOR: msu02620 [HCL55810]
JOB NUMBER: UA01881
STATUS: Preliminary
DESCRIPTION: 2026 AM peak hour with Exemplar Development. Note from supplied traffic flows arming convention was in wrong format for Arcady and has been revised accordingly

INPUT DATA

ARM A - A4095 Howes Lane (north)
ARM B - B4030 Middleton Stoney Road (east)
ARM C - A4095 (south)
ARM D - B4030 Middleton Stoney Road (west)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.40	6.21	9.80	21.00	54.00	18.0	0.572	25.651
ARM B	3.65	6.90	7.70	20.00	54.00	40.0	0.538	24.533
ARM C	4.13	7.13	8.80	25.00	54.00	20.0	0.613	29.352
ARM D	3.50	7.10	5.90	20.00	54.00	26.5	0.547	24.122

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2026 AM peak with devt

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS IFALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.85	10.27	6.85
ARM B	15.00	45.00	75.00	4.91	7.37	4.91
ARM C	15.00	45.00	75.00	3.58	5.36	3.58
ARM D	15.00	45.00	75.00	4.57	6.86	4.57

DEMAND SET TITLE: 2026 AM peak with devt

TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.117	0.704	0.179
		0.0	64.0	386.0	98.0
		(0.0)	(0.0)	(2.1)	(3.1)
	ARM B	0.059	0.000	0.433	0.509
		23.0	0.0	170.0	200.0
		(0.0)	(0.0)	(1.8)	(9.5)
	ARM C	0.570	0.381	0.000	0.049
		163.0	109.0	0.0	14.0
		(4.5)	(6.4)	(0.0)	(0.0)
	ARM D	0.197	0.770	0.033	0.000
		72.0	282.0	12.0	0.0
		(9.7)	(10.6)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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)
07.45-08.00									
ARM A	6.85	22.07	0.310		0.0	0.4	6.5		0.07
ARM B	4.91	20.01	0.245		0.0	0.3	4.7		0.07
ARM C	3.58	25.46	0.140		0.0	0.2	2.4		0.05
ARM D	4.57	20.00	0.229		0.0	0.3	4.3		0.06

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	8.18	21.46	0.381		0.4	0.6	9.0		0.08
ARM B	5.87	19.38	0.303		0.3	0.4	6.3		0.07
ARM C	4.27	24.97	0.171		0.2	0.2	3.0		0.05
ARM D	5.46	19.62	0.278		0.3	0.4	5.7		0.07

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	10.02	20.64	0.485		0.6	0.9	13.6		0.09
ARM B	7.18	18.52	0.388		0.4	0.6	9.2		0.09
ARM C	5.23	24.30	0.215		0.2	0.3	4.0		0.05
ARM D	6.69	19.11	0.350		0.4	0.5	7.8		0.08

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	10.02	20.63	0.486		0.9	0.9	14.0		0.09
ARM B	7.18	18.51	0.388		0.6	0.6	9.5		0.09
ARM C	5.23	24.29	0.215		0.3	0.3	4.1		0.05
ARM D	6.69	19.11	0.350		0.5	0.5	8.0		0.08

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	8.18	21.45	0.381		0.9	0.6	9.6		0.08
ARM B	5.87	19.36	0.303		0.6	0.4	6.7		0.07
ARM C	4.27	24.96	0.171		0.3	0.2	3.1		0.05
ARM D	5.46	19.62	0.278		0.5	0.4	5.9		0.07

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
ARM A	6.85	22.05	0.311		0.6	0.5	6.9		0.07
ARM B	4.91	19.99	0.246		0.4	0.3	5.0		0.07
ARM C	3.58	25.45	0.140		0.2	0.2	2.5		0.05
ARM D	4.57	19.99	0.229		0.4	0.3	4.6		0.06

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.6	*
08.30	0.9	*
08.45	0.9	*
09.00	0.6	*
09.15	0.5	

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.4	
08.30	0.6	*
08.45	0.6	*
09.00	0.4	
09.15	0.3	

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.4	
08.30	0.5	*
08.45	0.5	*
09.00	0.4	
09.15	0.3	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	751.4	500.9	59.6	0.08	59.6	0.08
B	538.9	359.3	41.4	0.08	41.4	0.08
C	392.2	261.4	19.2	0.05	19.2	0.05
D	501.9	334.6	36.3	0.07	36.4	0.07
ALL	2184.3	1456.2	156.6	0.07	156.6	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

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

[Printed at 08:43:19 on 24/11/2010]

TRL LIMITED

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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

FOR SALES AND DISTRIBUTION INFORMATION,
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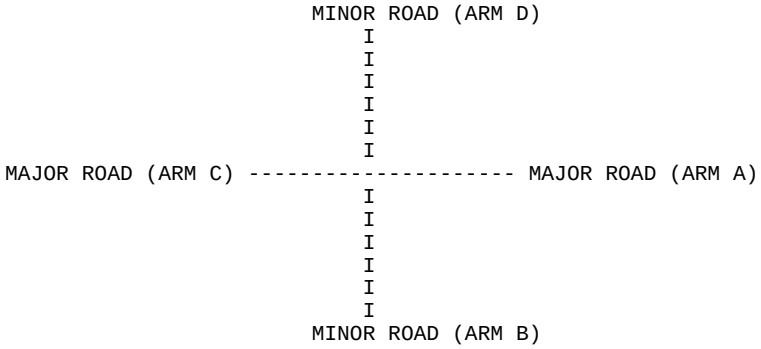
Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 5\Site 5.vpi"
(drive-on-the-left) at 08:10:12 on Wednesday, 24 November 2010

RUN INFORMATION

RUN TITLE: Site 5 - Ardley Rd/Bainton Rd/Bicester Rd/Middleton Rd
LOCATION: Bicester
DATE: 08/11/10
CLIENT:
ENUMERATOR: msu02620 [HCL55810]
JOB NUMBER: UA001881
STATUS: Preliminary
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Ardley Rd
ARM B IS Bainton Rd
ARM C IS Bicester Rd
ARM D IS Middleton Rd

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

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

ETC.

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B		MINOR ROAD D	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	6.00 M.	(W)	6.00 M.	
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	(WCR)	0.00 M.	
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	(WA-D)	2.20 M.	
- VISIBILITY	(VC-B)	90.0 M.	(VA-D)	90.0 M.	
- BLOCKS TRAFFIC		YES		YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	23.0 M.	(VD-A)	27.0 M.	
- VISIBILITY TO RIGHT	(VB-A)	20.0 M.	(VD-C)	16.0 M.	
- LANE 1 WIDTH	(WB-C)	2.50 M.	(WD-A)	2.20 M.	
- LANE 2 WIDTH	(WB-A)	0.00 M.	(WD-C)	0.00 M.	

.SLOPES AND INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
604.66	0.23	0.09

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
583.23	0.23	0.09

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
470.11	0.22	0.22	0.22	0.22

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.09	0.14	0.31	0.11

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
454.63	0.21	0.21	0.21	0.21

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.13	0.30	0.10

C-B Stream

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D
626.08	0.24	0.35

A-D Stream

Intercept For Slope For Opposing	Slope For Opposing

I Stream A-D	Stream C-A	Stream C-B	I
I 626.08	0.24	0.35	I

B-D Stream From Left Hand Lane

I Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B	I
I 470.11	0.22	0.22	0.09	0.31	I

I	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing	I
I	0.14	0.14			I

B-D Stream From Right Hand Lane

I Intercept For Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B	I
I 470.11	0.22	0.22	0.09	0.31	I

I	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing	I
I	0.14	0.14			I

D-B Stream From Left Hand Lane

I Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D	I
I 454.63	0.21	0.21	0.08	0.30	I

I	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing	I
I	0.13	0.13			I

D-B Stream From Right Hand Lane

I Intercept For Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D	I
I 454.63	0.21	0.21	0.08	0.30	I

I	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing	I
I	0.13	0.13			I

TRAFFIC DEMAND DATA

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

Demand set: 2026 AM - with Exem devt

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.73	2.59	1.73
ARM B	15.00	45.00	75.00	0.41	0.62	0.41
ARM C	15.00	45.00	75.00	2.36	3.54	2.36
ARM D	15.00	45.00	75.00	0.35	0.52	0.35

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.087	0.891	0.022
		0.0	12.0	123.0	3.0
		(0.0)	(16.7)	(0.8)	(0.0)
	ARM B	0.242	0.000	0.303	0.455
		8.0	0.0	10.0	15.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.937	0.042	0.000	0.021
		177.0	8.0	0.0	4.0
		(0.6)	(0.0)	(0.0)	(25.0)
	ARM D	0.214	0.500	0.286	0.000
		6.0	14.0	8.0	0.0
		(16.6)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-ACD	0.41	7.74	0.054		0.00	0.06	0.8		0.14
A-BCD	0.04	10.97	0.004		0.00	0.00	0.1		0.09
A-B	0.15								
A-C	1.54								
D-ABC	0.35	7.03	0.050		0.00	0.05	0.8		0.15
C-ABD	0.12	11.50	0.011		0.00	0.01	0.2		0.09
C-D	0.05								
C-A	2.20								

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									
B-ACD	0.49	7.60	0.065		0.06	0.07	1.0		0.14
A-BCD	0.05	11.07	0.005		0.00	0.01	0.1		0.09
A-B	0.18								
A-C	1.83								
D-ABC	0.42	6.89	0.061		0.05	0.06	0.9		0.15
C-ABD	0.15	11.71	0.013		0.01	0.01	0.2		0.09
C-D	0.06								
C-A	2.62								

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									
B-ACD	0.61	7.42	0.082		0.07	0.09	1.3		0.15
A-BCD	0.07	11.23	0.006		0.01	0.01	0.1		0.09
A-B	0.22								
A-C	2.24								
D-ABC	0.51	6.70	0.077		0.06	0.08	1.2		0.16
C-ABD	0.20	12.00	0.017		0.01	0.02	0.3		0.08
C-D	0.07								
C-A	3.20								

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									
B-ACD	0.61	7.42	0.082		0.09	0.09	1.3		0.15
A-BCD	0.07	11.23	0.006		0.01	0.01	0.1		0.09
A-B	0.22								
A-C	2.24								
D-ABC	0.51	6.70	0.077		0.08	0.08	1.2		0.16
C-ABD	0.20	12.00	0.017		0.02	0.02	0.3		0.08
C-D	0.07								
C-A	3.20								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-ACD	0.49	7.60	0.065		0.09	0.07	1.1		0.14
A-BCD	0.05	11.07	0.005		0.01	0.01	0.1		0.09
A-B	0.18								
A-C	1.83								
D-ABC	0.42	6.89	0.061		0.08	0.07	1.0		0.15
C-ABD	0.15	11.71	0.013		0.02	0.02	0.2		0.09
C-D	0.06								
C-A	2.62								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-ACD	0.41	7.73	0.054		0.07	0.06	0.9		0.14
A-BCD	0.04	10.97	0.004		0.01	0.00	0.1		0.09
A-B	0.15								
A-C	1.54								
D-ABC	0.35	7.03	0.050		0.07	0.05	0.8		0.15
C-ABD	0.12	11.50	0.011		0.02	0.01	0.2		0.09
C-D	0.05								
C-A	2.20								

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

QUEUE FOR STREAM B-ACD

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

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUE FOR STREAM D-ABC

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

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-ACD	45.4	30.3	6.4	0.14	6.4	0.14
A-BCD	5.1	3.4	0.5	0.09	0.5	0.09
A-B	16.4	11.0				
A-C	168.4	112.3				
D-ABC	38.5	25.7	6.0	0.15	6.0	0.15
C-ABD	14.4	9.6	1.4	0.10	1.4	0.10
C-D	5.4	3.6				
C-A	240.3	160.2				
ALL	534.1	356.0	14.2	0.03	14.2	0.03

* 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

.SLOPES AND INTERCPET

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

will be adjusted)

B-C Stream

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
604.66	0.23	0.09

D-A Stream

Intercept For Stream D-A	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D
583.23	0.23	0.09

B-A Stream

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream D-A	Slope For Opposing Stream D-B
470.11	0.22	0.22	0.22	0.22

Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C
0.09	0.14	0.31	0.11

D-C Stream

Intercept For Stream D-C	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream B-C	Slope For Opposing Stream B-D
454.63	0.21	0.21	0.21	0.21

Slope For Opposing Stream C-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream B-A
0.08	0.13	0.30	0.10

C-B Stream

I Intercept For I Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing I Stream A-D I
I 626.08	0.24	0.35 I

A-D Stream

I Intercept For I Stream A-D	Slope For Opposing Stream C-A	Slope For Opposing I Stream C-B I
I 626.08	0.24	0.35 I

B-D Stream From Left Hand Lane

I Intercept For I Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B I
I 470.11	0.22	0.22	0.09	0.31 I

I	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing I
I	0.14	0.14		I

B-D Stream From Right Hand Lane

I Intercept For I Stream B-D	Slope For Opposing Stream A-C	Slope For Opposing Stream A-D	Slope For Opposing Stream A-B	Slope For Opposing Stream C-B I
I 470.11	0.22	0.22	0.09	0.31 I

I	Slope For Opposing Stream C-A	Slope For Opposing Stream C-D	Slope For Opposing	Slope For Opposing I
I	0.14	0.14		I

D-B Stream From Left Hand Lane

I Intercept For I Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream D-C	Slope For Opposing Stream A-D I
I 454.63	0.21	0.21	0.08	0.30 I

I	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing I
I	0.13	0.13		I

D-B Stream From Right Hand Lane

I Intercept For I Stream D-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	Slope For Opposing Stream C-D	Slope For Opposing Stream A-D I
I 454.63	0.21	0.21	0.08	0.30 I

I	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing	Slope For Opposing I
I	0.13	0.13		I

TRAFFIC DEMAND DATA

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

Demand set: 2026 PM - with Exem devt

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.49	2.23	1.49
ARM B	15.00	45.00	75.00	0.38	0.56	0.38
ARM C	15.00	45.00	75.00	1.46	2.19	1.46
ARM D	15.00	45.00	75.00	0.22	0.34	0.22

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.000	0.042	0.933	0.025
		0.0	5.0	111.0	3.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.200	0.000	0.367	0.433
		6.0	0.0	11.0	13.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.915	0.026	0.000	0.060
		107.0	3.0	0.0	7.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.389	0.444	0.167	0.000
		7.0	8.0	3.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-ACD	0.38	8.04	0.047		0.00	0.05	0.7		0.13
A-BCD	0.04	11.04	0.004		0.00	0.00	0.1		0.09
A-B	0.06								
A-C	1.39								
D-ABC	0.23	7.82	0.029		0.00	0.03	0.4		0.13
C-ABD	0.04	11.02	0.004		0.00	0.00	0.1		0.09
C-D	0.09								
C-A	1.34								

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									
B-ACD	0.45	7.95	0.057		0.05	0.06	0.9		0.13
A-BCD	0.05	11.16	0.005		0.00	0.00	0.1		0.09
A-B	0.07								
A-C	1.66								
D-ABC	0.27	7.73	0.035		0.03	0.04	0.5		0.13
C-ABD	0.05	11.13	0.005		0.00	0.00	0.1		0.09
C-D	0.10								
C-A	1.60								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-ACD	0.55	7.81	0.070		0.06	0.08	1.1		0.14
A-BCD	0.07	11.33	0.006		0.00	0.01	0.1		0.09
A-B	0.09								
A-C	2.03								
D-ABC	0.33	7.60	0.043		0.04	0.05	0.7		0.14
C-ABD	0.07	11.29	0.006		0.00	0.01	0.1		0.09
C-D	0.13								
C-A	1.95								

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									
B-ACD	0.55	7.81	0.070		0.08	0.08	1.1		0.14
A-BCD	0.07	11.33	0.006		0.01	0.01	0.1		0.09
A-B	0.09								
A-C	2.02								
D-ABC	0.33	7.60	0.043		0.05	0.05	0.7		0.14
C-ABD	0.07	11.29	0.006		0.01	0.01	0.1		0.09
C-D	0.13								
C-A	1.95								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-ACD	0.45	7.95	0.057		0.08	0.06	0.9		0.13
A-BCD	0.05	11.16	0.005		0.01	0.01	0.1		0.09
A-B	0.07								
A-C	1.66								
D-ABC	0.27	7.73	0.035		0.05	0.04	0.6		0.13
C-ABD	0.05	11.13	0.005		0.01	0.01	0.1		0.09
C-D	0.10								
C-A	1.60								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-ACD	0.38	8.04	0.047		0.06	0.05	0.8		0.13
A-BCD	0.04	11.04	0.004		0.01	0.00	0.1		0.09
A-B	0.06								
A-C	1.39								
D-ABC	0.23	7.82	0.029		0.04	0.03	0.5		0.13
C-ABD	0.04	11.02	0.004		0.01	0.00	0.1		0.09
C-D	0.09								
C-A	1.34								

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

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.0

QUEUE FOR STREAM A-BCD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-ABD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	41.3	27.5	5.5	0.13	5.5	0.13
A-BCD	4.9	3.3	0.5	0.09	0.5	0.09
A-B	6.8	4.6				
A-C	152.0	101.4				
D-ABC	24.8	16.5	3.3	0.13	3.3	0.13
C-ABD	4.9	3.3	0.5	0.09	0.5	0.09
C-D	9.6	6.4				
C-A	146.6	97.7				
ALL	390.9	260.6	9.7	0.02	9.7	0.02

* 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 08:10:44 on 24/11/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 4\Existing Rnbt\
Site 4 Ex Rnbt.vai"
(drive-on-the-left) at 09:56:19 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Skimmingdish Lane Roundabout
LOCATION: Bicester
DATE: 09/11/10
CLIENT:
ENUMERATOR:
JOB NUMBER: UA001881
STATUS: Preliminary
DESCRIPTION:

INPUT DATA

ARM A - A4421 north
ARM B - A4095 Skimmingdish Lane
ARM C - A4421 Buckingham Road
ARM D - Southwold Lane A4095

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.50	7.60	18.00	42.50	50.00	15.0	0.672	31.962
ARM B	3.50	8.80	21.80	15.00	50.00	37.5	0.631	31.343
ARM C	3.35	7.67	30.00	21.00	50.00	32.5	0.644	31.650
ARM D	3.45	8.13	15.80	25.00	50.00	26.0	0.637	30.255

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2026 + Exempar PM

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS IFALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	8.86	13.29	8.86
ARM B	15.00	45.00	75.00	18.96	28.44	18.96
ARM C	15.00	45.00	75.00	8.32	12.49	8.32
ARM D	15.00	45.00	75.00	10.29	15.43	10.29

DEMAND SET TITLE: 2026 + Exempar PM

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15					
	ARM A	0.000	0.361	0.370	0.269
		0.0	256.0	262.0	191.0
		(0.0)	(8.2)	(2.7)	(3.7)
	ARM B	0.396	0.000	0.045	0.558
		601.0	0.0	69.0	847.0
		(6.5)	(0.0)	(0.0)	(1.9)
	ARM C	0.589	0.078	0.000	0.333
		392.0	52.0	0.0	222.0
		(0.3)	(0.0)	(0.0)	(0.0)
	ARM D	0.197	0.595	0.207	0.001
		162.0	490.0	170.0	1.0
		(4.3)	(4.9)	(0.0)	(0.0)

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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)
16.45-17.00									
ARM A	8.86	24.59	0.360		0.0	0.6	8.2		0.06
ARM B	18.96	25.41	0.746		0.0	2.8	38.9		0.15
ARM C	8.32	18.03	0.462		0.0	0.8	12.2		0.10
ARM D	10.29	20.90	0.492		0.0	1.0	13.8		0.09

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	23.44	0.451		0.6	0.8	11.9		0.08
ARM B	22.64	24.46	0.926		2.8	9.2	110.2		0.39
ARM C	9.94	15.53	0.640		0.8	1.7	24.3		0.18
ARM D	12.28	19.35	0.635		1.0	1.7	24.2		0.14

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	12.96	21.93	0.591		0.8	1.4	20.4		0.11
ARM B	27.73	23.19	1.196		9.2	79.0	668.3		2.07
ARM C	12.18	14.55	0.837		1.7	4.5	57.5		0.37
ARM D	15.05	18.26	0.824		1.7	4.2	55.8		0.28

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	12.96	21.84	0.593		1.4	1.4	21.5		0.11
ARM B	27.73	23.15	1.198		79.0	147.9	1702.6		4.94
ARM C	12.18	14.50	0.839		4.5	4.8	70.1		0.42
ARM D	15.05	18.17	0.828		4.2	4.5	66.1		0.31

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	23.31	0.454		1.4	0.8	13.0		0.08
ARM B	22.64	24.41	0.928		147.9	123.9	2038.5		5.58
ARM C	9.94	14.22	0.699		4.8	2.4	39.9		0.25
ARM D	12.28	18.73	0.656		4.5	2.0	31.9		0.16

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
ARM A	8.86	24.52	0.361		0.8	0.6	8.7		0.06
ARM B	18.96	25.38	0.747		123.9	30.7	1159.4		3.12
ARM C	8.32	13.95	0.597		2.4	1.5	24.2		0.18
ARM D	10.29	19.19	0.536		2.0	1.2	18.3		0.11

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.8	*
17.30	1.4	*
17.45	1.4	*
18.00	0.8	*
18.15	0.6	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	2.8	***
17.15	9.2	*********
17.30	79.0	**********
17.45	147.9	**********
18.00	123.9	**********
18.15	30.7	*******************************

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.8	*
17.15	1.7	**
17.30	4.5	****
17.45	4.8	*****
18.00	2.4	**
18.15	1.5	**

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.0	*
17.15	1.7	**
17.30	4.2	****
17.45	4.5	*****
18.00	2.0	**
18.15	1.2	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	972.2	648.1	83.8	0.09	83.8	0.09
B	2080.1	1386.8	5717.9	2.75	5736.5	2.76
C	913.2	608.8	228.1	0.25	228.2	0.25
D	1128.5	752.3	210.1	0.19	210.2	0.19
ALL	5094.0	3396.0	6239.9	1.22	6258.6	1.23

* 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 09:56:35 on 24/11/2010]

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 4\Existing Rnbt\
Site 4 Ex Rnbt.vai"
(drive-on-the-left) at 09:53:33 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Skimmingdish Lane Roundabout
LOCATION: Bicester
DATE: 09/11/10
CLIENT:
ENUMERATOR:
JOB NUMBER: UA001881
STATUS: Preliminary
DESCRIPTION:

INPUT DATA

ARM A - A4421 north
ARM B - A4095 Skimmingdish Lane
ARM C - A4421 Buckingham Road
ARM D - Southwold Lane A4095

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.50	7.60	18.00	42.50	50.00	15.0	0.672	31.962
ARM B	3.50	8.80	21.80	15.00	50.00	37.5	0.631	31.343
ARM C	3.35	7.67	30.00	21.00	50.00	32.5	0.644	31.650
ARM D	3.45	8.13	15.80	25.00	50.00	26.0	0.637	30.255

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2026 + Exemplar AM

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS IFALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	12.71	19.07	12.71
ARM B	15.00	45.00	75.00	7.93	11.89	7.93
ARM C	15.00	45.00	75.00	7.14	10.71	7.14
ARM D	15.00	45.00	75.00	15.31	22.97	15.31

DEMAND SET TITLE: 2026 + Exemplar AM

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.501	0.360	0.139
		0.0	510.0	366.0	141.0
		(0.0)	(6.9)	(1.9)	(5.7)
	ARM B	0.355	0.000	0.035	0.610
		225.0	0.0	22.0	387.0
		(14.2)	(0.0)	(4.5)	(6.2)
	ARM C	0.508	0.154	0.000	0.338
		290.0	88.0	0.0	193.0
		(2.4)	(0.0)	(0.0)	(0.0)
	ARM D	0.118	0.757	0.125	0.000
		145.0	927.0	153.0	0.0
		(2.1)	(4.7)	(1.3)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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)
07.45-08.00									
ARM A	12.71	20.81	0.611		0.0	1.5	21.8		0.12
ARM B	7.93	23.90	0.332		0.0	0.5	7.2		0.06
ARM C	7.14	24.80	0.288		0.0	0.4	5.9		0.06
ARM D	15.31	24.20	0.633		0.0	1.7	23.9		0.11

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	15.18	18.93	0.802		1.5	3.7	50.1		0.25
ARM B	9.46	22.97	0.412		0.5	0.7	10.2		0.07
ARM C	8.52	23.53	0.362		0.4	0.6	8.3		0.07
ARM D	18.28	23.24	0.787		1.7	3.5	47.8		0.19

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	18.59	16.98	1.095		3.7	33.1	292.8		1.33
ARM B	11.59	22.27	0.520		0.7	1.1	15.6		0.09
ARM C	10.44	21.96	0.475		0.6	0.9	13.1		0.09
ARM D	22.39	21.92	1.021		3.5	22.2	216.3		0.79

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	18.59	16.71	1.113		33.1	62.2	715.9		3.01
ARM B	11.59	22.23	0.521		1.1	1.1	16.2		0.09
ARM C	10.44	21.94	0.476		0.9	0.9	13.5		0.09
ARM D	22.39	21.91	1.022		22.2	33.9	423.4		1.45

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	15.18	17.68	0.858		62.2	28.8	682.9		2.65
ARM B	9.46	22.11	0.428		1.1	0.8	11.6		0.08
ARM C	8.52	23.28	0.366		0.9	0.6	8.9		0.07
ARM D	18.28	23.21	0.788		33.9	4.0	168.0		0.53

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
ARM A	12.71	20.65	0.616		28.8	1.6	76.8		0.22
ARM B	7.93	23.31	0.340		0.8	0.5	7.9		0.07
ARM C	7.14	24.59	0.290		0.6	0.4	6.3		0.06
ARM D	15.31	24.17	0.633		4.0	1.8	28.1		0.12

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.5	**
08.15	3.7	****
08.30	33.1	**********
08.45	62.2	**********
09.00	28.8	**********
09.15	1.6	**

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.6	*
08.30	0.9	*
08.45	0.9	*
09.00	0.6	*
09.15	0.4	

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.7	**
08.15	3.5	***
08.30	22.2	**********
08.45	33.9	**********
09.00	4.0	****
09.15	1.8	**

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1394.5	929.7	1840.2	1.32	1840.2	1.32
B	869.3	579.6	68.7	0.08	68.7	0.08
C	783.0	522.0	56.0	0.07	56.0	0.07
D	1679.7	1119.8	907.6	0.54	907.6	0.54
ALL	4726.6	3151.0	2872.4	0.61	2872.6	0.61

* 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 09:53:55 on 24/11/2010]

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 3\Existing Rnbt\
Site 3 Banbury Road Lords Lane.vai"
(drive-on-the-left) at 09:45:16 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Banbury Road Roundabout
LOCATION: Bicester
DATE: 05/07/10
CLIENT:
ENUMERATOR: mba24773 [HCL56181]
JOB NUMBER: UA001881
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Arm Southwold Lane A4095
ARM B - Banbury Road B4100 (South)
ARM C - Lords Lane A4095
ARM D - B4100 (North)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.70	7.80	15.80	13.30	40.00	17.0	0.675	30.611
ARM B	3.65	7.40	20.40	14.50	40.00	24.0	0.668	30.425
ARM C	4.30	6.30	10.40	34.40	40.00	16.0	0.682	29.899
ARM D	3.30	7.10	19.30	21.20	40.00	10.0	0.690	30.490

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2026 + Exempar PM

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS IFALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	14.86	22.29	14.86
ARM B	15.00	45.00	75.00	6.71	10.07	6.71
ARM C	15.00	45.00	75.00	10.52	15.79	10.52
ARM D	15.00	45.00	75.00	9.94	14.91	9.94

DEMAND SET TITLE: 2026 + Exempar PM

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.017	0.144	0.402	0.437
		20.0	171.0	478.0	520.0
		(0.0)	(2.0)	(1.0)	(5.0)
	ARM B	0.369	0.000	0.177	0.454
		198.0	0.0	95.0	244.0
		(1.0)	(0.0)	(0.0)	(1.0)
	ARM C	0.729	0.115	0.000	0.156
		614.0	97.0	0.0	131.0
		(1.0)	(0.0)	(0.0)	(2.0)
	ARM D	0.486	0.291	0.219	0.005
		386.0	231.0	174.0	4.0
		(6.0)	(1.0)	(2.0)	(25.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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)
16.45-17.00									
ARM A	14.86	25.57	0.581		0.0	1.4	19.6		0.09
ARM B	6.71	20.05	0.335		0.0	0.5	7.3		0.07
ARM C	10.52	21.06	0.500		0.0	1.0	14.2		0.09
ARM D	9.94	21.65	0.459		0.0	0.8	12.2		0.08

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	17.75	24.75	0.717		1.4	2.5	34.7		0.14
ARM B	8.02	18.06	0.444		0.5	0.8	11.5		0.10
ARM C	12.57	19.38	0.648		1.0	1.8	25.5		0.14
ARM D	11.87	20.12	0.590		0.8	1.4	20.3		0.12

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	21.74	23.68	0.918		2.5	8.5	102.8		0.38
ARM B	9.82	15.53	0.632		0.8	1.7	23.5		0.17
ARM C	15.39	17.21	0.895		1.8	6.7	81.0		0.42
ARM D	14.53	18.20	0.799		1.4	3.7	48.9		0.25

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	21.74	23.61	0.921		8.5	9.7	137.9		0.48
ARM B	9.82	15.32	0.641		1.7	1.7	25.8		0.18
ARM C	15.39	17.07	0.902		6.7	7.7	109.1		0.54
ARM D	14.53	18.04	0.806		3.7	3.9	57.4		0.28

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	17.75	24.65	0.720		9.7	2.7	47.4		0.17
ARM B	8.02	17.71	0.453		1.7	0.8	13.1		0.10
ARM C	12.57	19.16	0.656		7.7	2.0	34.7		0.17
ARM D	11.87	19.85	0.598		3.9	1.5	24.4		0.13

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
ARM A	14.86	25.53	0.582		2.7	1.4	22.1		0.10
ARM B	6.71	19.93	0.337		0.8	0.5	7.9		0.08
ARM C	10.52	20.97	0.502		2.0	1.0	15.9		0.10
ARM D	9.94	21.56	0.461		1.5	0.9	13.4		0.09

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.4	*
17.15	2.5	**
17.30	8.5	*********
17.45	9.7	**********
18.00	2.7	***
18.15	1.4	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.8	*
17.30	1.7	**
17.45	1.7	**
18.00	0.8	*
18.15	0.5	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.0	*
17.15	1.8	**
17.30	6.7	*******
17.45	7.7	********
18.00	2.0	**
18.15	1.0	*

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.8	*
17.15	1.4	*
17.30	3.7	****
17.45	3.9	****
18.00	1.5	**
18.15	0.9	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1630.4	1086.9	364.5	0.22	364.6	0.22
B	736.3	490.9	89.0	0.12	89.0	0.12
C	1154.6	769.7	280.4	0.24	280.4	0.24
D	1090.1	726.7	176.5	0.16	176.6	0.16
ALL	4611.4	3074.3	910.5	0.20	910.5	0.20

* 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 09:45:42 on 24/11/2010]

_____ A R C A D Y 6 _____

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 3\Existing Rnbt\
Site 3 Banbury Road Lords Lane.vai"
(drive-on-the-left) at 09:40:31 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Banbury Road Roundabout
LOCATION: Bicester
DATE: 05/07/10
CLIENT:
ENUMERATOR: mba24773 [HCL56181]
JOB NUMBER: UA001881
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Arm Southwold Lane A4095
ARM B - Banbury Road B4100 (South)
ARM C - Lords Lane A4095
ARM D - B4100 (North)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.70	7.80	15.80	13.30	40.00	17.0	0.675	30.611
ARM B	3.65	7.40	20.40	14.50	40.00	24.0	0.668	30.425
ARM C	4.30	6.30	10.40	34.40	40.00	16.0	0.682	29.899
ARM D	3.30	7.10	19.30	21.20	40.00	10.0	0.690	30.490

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2026 + Exemplar AM

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS IFALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	11.09	16.63	11.09
ARM B	15.00	45.00	75.00	4.74	7.11	4.74
ARM C	15.00	45.00	75.00	8.99	13.48	8.99
ARM D	15.00	45.00	75.00	14.38	21.56	14.38

DEMAND SET TITLE: 2026 + Exemplar AM

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15					
	ARM A	0.032	0.147	0.454	0.368
		28.0	130.0	403.0	326.0
		(0.0)	(0.0)	(3.0)	(4.0)
	ARM B	0.332	0.000	0.222	0.446
		126.0	0.0	84.0	169.0
		(0.0)	(0.0)	(0.0)	(1.0)
	ARM C	0.622	0.122	0.000	0.256
		447.0	88.0	0.0	184.0
		(2.0)	(1.0)	(0.0)	(5.0)
	ARM D	0.523	0.323	0.152	0.003
		601.0	371.0	175.0	3.0
		(7.0)	(2.0)	(3.0)	(33.0)

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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)
07.45-08.00									
ARM A	11.09	24.46	0.453		0.0	0.8	11.9		0.07
ARM B	4.74	22.30	0.212		0.0	0.3	3.9		0.06
ARM C	8.99	23.61	0.381		0.0	0.6	8.9		0.07
ARM D	14.38	23.36	0.615		0.0	1.6	22.3		0.11

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	13.24	23.42	0.565		0.8	1.3	18.6		0.10
ARM B	5.66	20.73	0.273		0.3	0.4	5.5		0.07
ARM C	10.73	22.52	0.476		0.6	0.9	13.1		0.08
ARM D	17.17	22.23	0.772		1.6	3.2	44.2		0.19

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	16.22	22.31	0.727		1.3	2.6	35.8		0.16
ARM B	6.93	18.72	0.370		0.4	0.6	8.5		0.08
ARM C	13.14	21.06	0.624		0.9	1.6	23.2		0.12
ARM D	21.02	20.71	1.015		3.2	20.2	199.3		0.78

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	16.22	22.16	0.732		2.6	2.7	39.4		0.17
ARM B	6.93	18.62	0.372		0.6	0.6	8.8		0.09
ARM C	13.14	21.03	0.625		1.6	1.6	24.6		0.13
ARM D	21.02	20.68	1.017		20.2	30.4	382.1		1.40

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	13.24	22.81	0.581		2.7	1.4	22.1		0.11
ARM B	5.66	20.46	0.276		0.6	0.4	5.9		0.07
ARM C	10.73	22.48	0.477		1.6	0.9	14.3		0.09
ARM D	17.17	22.19	0.773		30.4	3.7	140.4		0.46

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
ARM A	11.09	24.37	0.455		1.4	0.8	13.0		0.08
ARM B	4.74	22.22	0.213		0.4	0.3	4.2		0.06
ARM C	8.99	23.57	0.381		0.9	0.6	9.5		0.07
ARM D	14.38	23.32	0.616		3.7	1.6	26.0		0.12

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.8	*
08.15	1.3	*
08.30	2.6	***
08.45	2.7	***
09.00	1.4	*
09.15	0.8	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.4	
08.30	0.6	*
08.45	0.6	*
09.00	0.4	
09.15	0.3	

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	0.9	*
08.30	1.6	**
08.45	1.6	**
09.00	0.9	*
09.15	0.6	*

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.6	**
08.15	3.2	***
08.30	20.2	********************
08.45	30.4	******************************
09.00	3.7	****
09.15	1.6	**

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1216.3	810.8	140.8	0.12	140.8	0.12
B	519.7	346.5	36.8	0.07	36.8	0.07
C	985.9	657.3	93.7	0.10	93.7	0.10
D	1576.9	1051.3	814.4	0.52	814.5	0.52
ALL	4298.7	2865.8	1085.8	0.25	1085.8	0.25

* 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 09:40:54 on 24/11/2010]

TRL LIMITED

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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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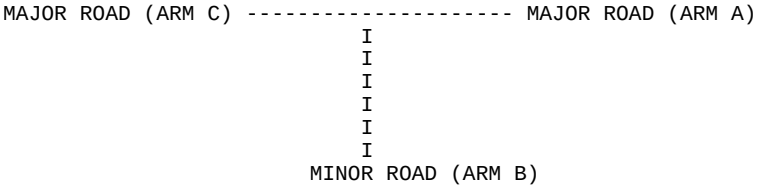
Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 2b\Existing Junction\
Site 2b Howes Lane rev1 ms edit.vpi"
(drive-on-the-left) at 08:28:41 on Wednesday, 24 November 2010

RUN INFORMATION

RUN TITLE: Howes Lane
LOCATION:
DATE: 06/07/10
CLIENT:
ENUMERATOR: mba24773 [HCL56181]
JOB NUMBER:
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS (S) Bucknell Road A4095 (South)
ARM B IS Howes Lane
ARM C IS (N) Bucknell Road A4095 (North)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

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

ETC.

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.80 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	250.0 M.
- BLOCKS TRAFFIC		YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	19.0 M.
- VISIBILITY TO RIGHT	(VB-A)	97.0 M.
- LANE 1 WIDTH	(WB-C)	3.50 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
719.29	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
557.78	0.24	0.09	0.15	0.34

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
718.74	0.26	0.26

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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

Demand set: 2026 + Exemplar AM

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.55	5.32	3.55
ARM B	15.00	45.00	75.00	4.88	7.31	4.88
ARM C	15.00	45.00	75.00	10.14	15.21	10.14

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.194	0.806
		0.0	55.0	229.0
		(0.0)	(5.0)	(3.0)
	ARM B	0.054	0.000	0.946
		21.0	0.0	369.0
		(0.0)	(0.0)	(3.0)
	ARM C	0.268	0.732	0.000
		217.0	594.0	0.0
		(1.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	4.89	10.30	0.475		0.00	0.88	12.4		0.18
C-AB	7.45	10.82	0.689		0.00	2.31	32.9		0.28
A-B	0.69								
A-C	2.87								

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									
B-AC	5.84	10.01	0.584		0.88	1.36	19.2		0.24
C-AB	8.90	10.64	0.837		2.31	5.16	71.7		0.50
A-B	0.82								
A-C	3.43								

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									
B-AC	7.16	9.52	0.752		1.36	2.75	36.7		0.39
C-AB	10.90	10.39	1.049		5.16	23.51	240.5		0.00
A-B	1.01								
A-C	4.20								

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									
B-AC	7.16	9.35	0.765		2.75	3.03	43.9		0.44
C-AB	10.90	10.39	1.049		23.51	37.05	473.6		0.00
A-B	1.01								
A-C	4.20								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	5.84	9.78	0.597		3.03	1.54	25.1		0.27
C-AB	8.90	10.64	0.837		37.05	8.57	555.4		2.62
A-B	0.82								
A-C	3.43								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	4.89	10.26	0.477		1.54	0.93	14.7		0.19
C-AB	7.45	10.82	0.689		8.57	2.66	47.7		0.38
A-B	0.69								
A-C	2.87								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.9	*
08.15	1.4	*
08.30	2.8	***
08.45	3.0	***
09.00	1.5	**
09.15	0.9	*

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	2.3	**
08.15	5.2	*****
08.30	23.5	**********
08.45	37.0	**********
09.00	8.6	*********
09.15	2.7	***

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	536.8	357.9	152.1	0.28	152.1	0.28
C-AB	817.6	545.1	1421.7	1.74	1422.0	1.74
A-B	75.7	50.5				
A-C	315.2	210.1				
ALL	2044.0	1362.7	1573.8	0.77	1574.2	0.77

* 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

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
719.29	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
557.78	0.24	0.09	0.15	0.34

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
718.74	0.26	0.26

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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

Demand set: 2026 Exemplar PM

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	3.44	5.16	3.44
ARM B	15.00	45.00	75.00	10.21	15.32	10.21
ARM C	15.00	45.00	75.00	9.20	13.80	9.20

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.156	0.844
		0.0	43.0	232.0
		(0.0)	(0.0)	(1.0)
	ARM B	0.099	0.000	0.901
		81.0	0.0	736.0
		(1.0)	(0.0)	(1.0)
	ARM C	0.323	0.677	0.000
		238.0	498.0	0.0
		(1.0)	(1.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	10.25	10.19	1.006		0.00	12.39	120.4		
C-AB	6.25	10.98	0.569		0.00	1.38	20.1		0.20
A-B	0.54								
A-C	2.91								

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									
B-AC	12.24	9.85	1.242		12.39	49.03	462.9		
C-AB	7.46	10.80	0.691		1.38	2.41	35.5		0.29
A-B	0.64								
A-C	3.48								

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									
B-AC	14.99	9.34	1.606		49.03	133.94	1372.4		
C-AB	9.14	10.57	0.865		2.41	6.48	87.2		0.57
A-B	0.79								
A-C	4.26								

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									
B-AC	14.99	9.29	1.613		133.94	219.45	2650.4		
C-AB	9.14	10.57	0.865		6.48	7.21	111.9		0.70
A-B	0.79								
A-C	4.26								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	12.24	9.81	1.248		219.45	255.98	3565.8		
C-AB	7.46	10.80	0.691		7.21	2.77	45.7		0.36
A-B	0.64								
A-C	3.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	10.25	10.17	1.008		255.98	257.39	3850.3		
C-AB	6.25	10.98	0.569		2.77	1.49	23.0		0.22
A-B	0.54								
A-C	2.91								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	12.4	**********
17.15	49.0	**********
17.30	133.9	**********
17.45	219.4	**********
18.00	256.0	**********
18.15	257.4	**********

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.4	*
17.15	2.4	**
17.30	6.5	******
17.45	7.2	*******
18.00	2.8	***
18.15	1.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	1124.5	749.7	12022.2	10.69	15280.3	13.59
C-AB	685.5	457.0	323.5	0.47	323.6	0.47
A-B	59.2	39.5				
A-C	319.3	212.9				
ALL	2516.1	1677.4	12345.7	4.91	15604.0	6.20

* 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 08:29:02 on 24/11/2010]

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 2a\Existing\Site 2a Bucknell Road rev2 Exemplar ms edit.vai"
(drive-on-the-left) at 09:23:58 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Bucknell Road Roundabout
LOCATION:
DATE: 06/07/10
CLIENT:
ENUMERATOR: mba24773 [HCL56181]
JOB NUMBER:
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Lords Lane (east) A4095
ARM B - Bucknell Road (south) A4095
ARM C - Bucknell Road (north)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	6.00	13.30	22.20	31.00	25.0	0.662	28.165
ARM B	3.00	7.34	9.80	41.10	31.00	19.0	0.645	25.750
ARM C	2.80	9.10	10.80	66.60	31.00	18.0	0.666	27.153

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2026 Exemplar PM

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	8.81	13.22	8.81
ARM B	15.00	45.00	75.00	10.05	15.08	10.05
ARM C	15.00	45.00	75.00	1.67	2.51	1.67

DEMAND SET TITLE: 2026 Exemplar PM

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15				
	ARM A	0.000	0.932	0.068
		0.0	657.0	48.0
		(0.0)	(6.0)	(0.0)
	ARM B	0.915	0.000	0.085
		736.0	0.0	68.0
		(12.0)	(0.0)	(1.0)
	ARM C	0.410	0.590	0.000
		55.0	79.0	0.0
		(1.0)	(0.0)	(0.0)

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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)
16.45-17.00									
ARM A	8.81	26.06	0.338		0.0	0.5	7.4		0.06
ARM B	10.05	22.84	0.440		0.0	0.8	11.3		0.08
ARM C	1.67	20.24	0.083		0.0	0.1	1.3		0.05

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	10.52	25.93	0.406		0.5	0.7	10.0		0.06
ARM B	12.00	22.77	0.527		0.8	1.1	16.0		0.09
ARM C	2.00	18.90	0.106		0.1	0.1	1.7		0.06

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	12.89	25.77	0.500		0.7	1.0	14.5		0.08
ARM B	14.70	22.67	0.648		1.1	1.8	25.8		0.12
ARM C	2.45	17.08	0.143		0.1	0.2	2.5		0.07

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	12.89	25.77	0.500		1.0	1.0	14.9		0.08
ARM B	14.70	22.67	0.648		1.8	1.8	27.2		0.13
ARM C	2.45	17.05	0.144		0.2	0.2	2.5		0.07

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	10.52	25.93	0.406		1.0	0.7	10.5		0.07
ARM B	12.00	22.77	0.527		1.8	1.1	17.6		0.09
ARM C	2.00	18.85	0.106		0.2	0.1	1.8		0.06

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
ARM A	8.81	26.05	0.338		0.7	0.5	7.8		0.06
ARM B	10.05	22.83	0.440		1.1	0.8	12.2		0.08
ARM C	1.67	20.19	0.083		0.1	0.1	1.4		0.05

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.7	*
17.30	1.0	*
17.45	1.0	*
18.00	0.7	*
18.15	0.5	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.8	*
17.15	1.1	*
17.30	1.8	**
17.45	1.8	**
18.00	1.1	*
18.15	0.8	*

QUEUE AT ARM C

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	966.7	644.5	65.2	0.07	65.2	0.07
B	1102.5	735.0	110.1	0.10	110.1	0.10
C	183.7	122.5	11.2	0.06	11.2	0.06
ALL	2252.9	1501.9	186.5	0.08	186.5	0.08

* 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 09:24:17 on 24/11/2010]

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 2a\Existing\Site 2a Bucknell Road rev2 Exemplar ms edit.vai"
(drive-on-the-left) at 09:15:39 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Bucknell Road Roundabout
LOCATION:
DATE: 06/07/10
CLIENT:
ENUMERATOR: mba24773 [HCL56181]
JOB NUMBER:
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Lords Lane (east) A4095
ARM B - Bucknell Road (south) A4095
ARM C - Bucknell Road (north)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.20	6.00	13.30	22.20	31.00	25.0	0.662	28.165
ARM B	3.00	7.34	9.80	41.10	31.00	19.0	0.645	25.750
ARM C	2.80	9.10	10.80	66.60	31.00	18.0	0.666	27.153

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2026 Exemplar AM

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS IFALLING TO RISE	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	10.16	15.24	10.16
ARM B	15.00	45.00	75.00	7.47	11.21	7.47
ARM C	15.00	45.00	75.00	1.77	2.66	1.77

DEMAND SET TITLE: 2026 Exemplar AM

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.881	0.119
		0.0	716.0	97.0
		(0.0)	(2.0)	(1.0)
	ARM B	0.871	0.000	0.129
		521.0	0.0	77.0
		(3.0)	(0.0)	(0.0)
	ARM C	0.338	0.662	0.000
		48.0	94.0	0.0
		(2.0)	(1.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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)
07.45-08.00									
ARM A	10.16	26.88	0.378		0.0	0.6	8.8		0.06
ARM B	7.47	24.33	0.307		0.0	0.4	6.5		0.06
ARM C	1.77	22.40	0.079		0.0	0.1	1.3		0.05

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	12.14	26.72	0.454		0.6	0.8	12.1		0.07
ARM B	8.93	24.18	0.369		0.4	0.6	8.6		0.07
ARM C	2.12	21.54	0.098		0.1	0.1	1.6		0.05

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	14.86	26.52	0.560		0.8	1.3	18.3		0.09
ARM B	10.93	23.97	0.456		0.6	0.8	12.2		0.08
ARM C	2.60	20.36	0.128		0.1	0.1	2.2		0.06

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	14.86	26.52	0.560		1.3	1.3	19.0		0.09
ARM B	10.93	23.97	0.456		0.8	0.8	12.5		0.08
ARM C	2.60	20.35	0.128		0.1	0.1	2.2		0.06

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	12.14	26.72	0.454		1.3	0.8	12.9		0.07
ARM B	8.93	24.17	0.369		0.8	0.6	9.0		0.07
ARM C	2.12	21.52	0.098		0.1	0.1	1.7		0.05

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
ARM A	10.16	26.87	0.378		0.8	0.6	9.4		0.06
ARM B	7.47	24.32	0.307		0.6	0.4	6.8		0.06
ARM C	1.77	22.38	0.079		0.1	0.1	1.3		0.05

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	0.8	*
08.30	1.3	*
08.45	1.3	*
09.00	0.8	*
09.15	0.6	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.6	*
08.30	0.8	*
08.45	0.8	*
09.00	0.6	*
09.15	0.4	

QUEUE AT ARM C

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1114.8	743.2	80.5	0.07	80.5	0.07
B	820.0	546.7	55.5	0.07	55.5	0.07
C	194.7	129.8	10.2	0.05	10.2	0.05
ALL	2129.5	1419.7	146.2	0.07	146.2	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

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

[Printed at 09:16:54 on 24/11/2010]

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

For sales and distribution information,
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Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 1\Proposed WSP Rnbt\
Site 1 - Prop Rnbt PM flows with Exemplar devt A.vai"
(drive-on-the-left) at 08:48:53 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Proposed A4095 Howes Lane / B4030 Middleton Stoney Rd Roundabout - 2026 PM Flows
LOCATION: Bicester
DATE: 02/11/10
CLIENT: P3 Eco Ltd
ENUMERATOR: msu02620 [HCL55810]
JOB NUMBER: UA01881
STATUS: Preliminary
DESCRIPTION: 2026 PM peak hours with Exemplar Development. Note from supplied traffic flows arming convention was in wrong format for Arcady and has been revised accordingly

INPUT DATA

ARM A - A4095 Howes Lane (north)
ARM B - B4030 Middleton Stoney Road (east)
ARM C - A4095 (south)
ARM D - B4030 Middleton Stoney Road (west)

GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.40	6.21	9.80	21.00	54.00	18.0	0.572	25.651
ARM B	3.65	6.90	7.70	20.00	54.00	40.0	0.538	24.533
ARM C	4.13	7.13	8.80	25.00	54.00	20.0	0.613	29.352
ARM D	3.50	7.10	5.90	20.00	54.00	26.5	0.547	24.122

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2026 PM peak with Exem Devt

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS IFALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.24	6.36	4.24
ARM B	15.00	45.00	75.00	5.76	8.64	5.76
ARM C	15.00	45.00	75.00	6.44	9.66	6.44
ARM D	15.00	45.00	75.00	5.85	8.77	5.85

DEMAND SET TITLE: 2026 PM peak with Exem Devt

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.000	0.097	0.634	0.268
		0.0	33.0	215.0	91.0
		(0.0)	(0.0)	(0.9)	(0.0)
	ARM B	0.208	0.000	0.280	0.512
		96.0	0.0	129.0	236.0
		(3.1)	(0.0)	(0.8)	(0.4)
	ARM C	0.678	0.291	0.000	0.031
		349.0	150.0	0.0	16.0
		(1.9)	(0.7)	(0.0)	(0.0)
	ARM D	0.447	0.538	0.015	0.000
		209.0	252.0	7.0	0.0
		(0.5)	(2.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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)
16.45-17.00									
ARM A	4.24	22.57	0.188		0.0	0.2	3.4		0.05
ARM B	5.76	22.18	0.260		0.0	0.3	5.1		0.06
ARM C	6.44	25.71	0.250		0.0	0.3	4.9		0.05
ARM D	5.85	19.74	0.296		0.0	0.4	6.1		0.07

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	5.06	21.98	0.230		0.2	0.3	4.4		0.06
ARM B	6.88	21.77	0.316		0.3	0.5	6.8		0.07
ARM C	7.69	25.08	0.307		0.3	0.4	6.5		0.06
ARM D	6.99	18.94	0.369		0.4	0.6	8.5		0.08

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	6.20	21.20	0.292		0.3	0.4	6.0		0.07
ARM B	8.43	21.21	0.397		0.5	0.7	9.6		0.08
ARM C	9.41	24.21	0.389		0.4	0.6	9.3		0.07
ARM D	8.56	17.85	0.479		0.6	0.9	13.2		0.11

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	6.20	21.19	0.292		0.4	0.4	6.2		0.07
ARM B	8.43	21.21	0.397		0.7	0.7	9.8		0.08
ARM C	9.41	24.21	0.389		0.6	0.6	9.5		0.07
ARM D	8.56	17.84	0.480		0.9	0.9	13.7		0.11

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	5.06	21.97	0.230		0.4	0.3	4.6		0.06
ARM B	6.88	21.77	0.316		0.7	0.5	7.1		0.07
ARM C	7.69	25.06	0.307		0.6	0.4	6.8		0.06
ARM D	6.99	18.93	0.369		0.9	0.6	9.1		0.08

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
ARM A	4.24	22.55	0.188		0.3	0.2	3.5		0.05
ARM B	5.76	22.17	0.260		0.5	0.4	5.4		0.06
ARM C	6.44	25.69	0.251		0.4	0.3	5.1		0.05
ARM D	5.85	19.72	0.297		0.6	0.4	6.5		0.07

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.3
17.30	0.4
17.45	0.4
18.00	0.3
18.15	0.2

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.3	
17.15	0.5	
17.30	0.7	*
17.45	0.7	*
18.00	0.5	
18.15	0.4	

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.3	
17.15	0.4	
17.30	0.6	*
17.45	0.6	*
18.00	0.4	
18.15	0.3	

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.6	*
17.30	0.9	*
17.45	0.9	*
18.00	0.6	*
18.15	0.4	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	464.8	309.9	28.1	0.06	28.1	0.06
B	632.1	421.4	43.8	0.07	43.8	0.07
C	706.2	470.8	42.1	0.06	42.1	0.06
D	641.7	427.8	57.1	0.09	57.1	0.09
ALL	2444.9	1629.9	171.1	0.07	171.1	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

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

[Printed at 08:49:14 on 24/11/2010]

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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

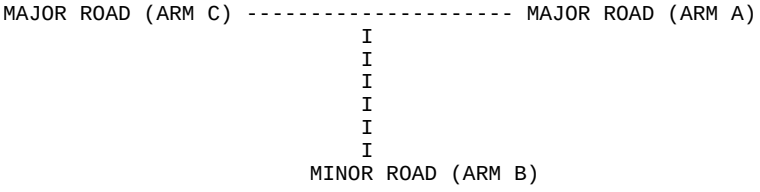
Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 6\Site 6.vpi"
(drive-on-the-left) at 08:16:01 on Wednesday, 24 November 2010

RUN INFORMATION

RUN TITLE: Site 6 - B4100 Banbury Rd / Bainton Rd
LOCATION: Bicester
DATE: 10/11/10
CLIENT:
ENUMERATOR: msu02620 [HCL55810]
JOB NUMBER: UA001881
STATUS: Preliminary
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS B4100 Banbury Rd (s)
ARM B IS Bainton Rd
ARM C IS B4100 Banbury Rd (n)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

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

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 215.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 215.0 M.
- VISIBILITY TO RIGHT	(VB-A) 215.0 M.
- LANE 1 WIDTH	(WB-C) 2.20 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
698.47	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
610.77	0.27	0.11	0.17	0.38

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
698.47	0.26	0.26

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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

Demand set: 2026 AM - with Exem devt

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK	NUMBER OF MINUTES FROM START WHEN FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE TO RISE	RATE OF FLOW (VEH/MIN) AT TOP IS REACHED	RATE OF FLOW (VEH/MIN) AFTER FALLING
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	7.39	11.08	7.39
ARM B	15.00	45.00	75.00	0.25	0.38	0.25
ARM C	15.00	45.00	75.00	11.77	17.66	11.77

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.034	0.966
		0.0	20.0	571.0
		(0.0)	(3.0)	(0.0)
	ARM B	0.450	0.000	0.550
		9.0	0.0	11.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.989	0.011	0.000
		932.0	10.0	0.0
		(5.2)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00									
B-AC	0.25	7.68	0.033		0.00	0.03	0.5		0.13
C-AB	0.30	16.64	0.018		0.00	0.02	0.3		0.06
C-A	11.52								
A-B	0.25								
A-C	7.16								

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									
B-AC	0.30	6.97	0.043		0.03	0.04	0.7		0.15
C-AB	0.42	17.48	0.024		0.02	0.03	0.4		0.06
C-A	13.70								
A-B	0.30								
A-C	8.56								

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									
B-AC	0.37	5.92	0.062		0.04	0.07	0.9		0.18
C-AB	0.80	19.49	0.041		0.03	0.06	0.9		0.05
C-A	16.49								
A-B	0.37								
A-C	10.48								

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									
B-AC	0.37	5.92	0.062		0.07	0.07	1.0		0.18
C-AB	0.80	19.49	0.041		0.06	0.06	0.9		0.05
C-A	16.49								
A-B	0.37								
A-C	10.48								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	0.30	6.97	0.043		0.07	0.05	0.7		0.15
C-AB	0.42	17.48	0.024		0.06	0.03	0.5		0.06
C-A	13.70								
A-B	0.30								
A-C	8.56								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	0.25	7.68	0.033		0.05	0.03	0.5		0.13
C-AB	0.30	16.64	0.018		0.03	0.02	0.3		0.06
C-A	11.52								
A-B	0.25								
A-C	7.16								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.0
09.15	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.1
08.45	0.1
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	27.5	18.4	4.3	0.16	4.3	0.16
C-AB	45.5	30.4	3.3	0.07	3.3	0.07
C-A	1251.0	834.0				
A-B	27.5	18.4				
A-C	785.9	524.0				
ALL	2137.6	1425.1	7.6	0.00	7.6	0.00

* 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

.SLOPES AND INTERCEPT

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

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
698.47	0.26	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
610.77	0.27	0.11	0.17	0.38

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
698.47	0.26	0.26

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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

Demand set: 2026 PM - With Exem Devt

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN) BEFORE	AT TOP OF PEAK	AFTER
	TO RISE	IS REACHED	FALLING	PEAK		PEAK
ARM A	15.00	45.00	75.00	10.32	15.49	10.32
ARM B	15.00	45.00	75.00	0.17	0.26	0.17
ARM C	15.00	45.00	75.00	8.55	12.83	8.55

TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.017	0.983
		0.0	14.0	812.0
		(0.0)	(0.0)	(3.1)
	ARM B	0.429	0.000	0.571
		6.0	0.0	8.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.984	0.016	0.000
		673.0	11.0	0.0
		(3.6)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.18	7.24	0.024		0.00	0.02	0.4		0.14
C-AB	0.29	14.39	0.020		0.00	0.02	0.4		0.07
C-A	8.29								
A-B	0.18								
A-C	10.19								

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									
B-AC	0.21	6.46	0.032		0.02	0.03	0.5		0.16
C-AB	0.40	14.95	0.027		0.02	0.03	0.5		0.07
C-A	9.85								
A-B	0.21								
A-C	12.17								

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									
B-AC	0.26	5.31	0.048		0.03	0.05	0.7		0.20
C-AB	0.70	16.30	0.043		0.03	0.06	0.9		0.06
C-A	11.85								
A-B	0.26								
A-C	14.90								

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									
B-AC	0.26	5.31	0.048		0.05	0.05	0.8		0.20
C-AB	0.70	16.30	0.043		0.06	0.06	0.9		0.06
C-A	11.85								
A-B	0.26								
A-C	14.90								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.21	6.46	0.032		0.05	0.03	0.5		0.16
C-AB	0.40	14.95	0.027		0.06	0.03	0.5		0.07
C-A	9.85								
A-B	0.21								
A-C	12.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.18	7.24	0.024		0.03	0.03	0.4		0.14
C-AB	0.29	14.39	0.020		0.03	0.02	0.4		0.07
C-A	8.29								
A-B	0.18								
A-C	10.19								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	19.3	12.8	3.2	0.17	3.2	0.17
C-AB	41.6	27.8	3.6	0.09	3.6	0.09
C-A	899.8	599.9				
A-B	19.3	12.8				
A-C	1117.7	745.1				
ALL	2097.7	1398.4	6.8	0.00	6.8	0.00

* 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 ==========

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