APPENDIX G

ARCADY OUTPUT

TRL LIMITED

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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

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

Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2011 Weekday AM Peak Base .vai"
(drive-on-the-left) at 10:24:50 on Monday, 24 October 2011

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

2011 Weekday AM Peak Base

INPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

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	2.44	3.66	2.44
ARM B	15.00	45.00	75.00	1.15	1.72	1.15
ARM C	15.00	45.00	75.00	2.92	4.39	2.92

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.005	0.221	0.774
		1.0	43.0	151.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.717	0.000	0.283
		66.0	0.0	26.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.893	0.107	0.000
		209.0	25.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00							
ARM A	2.44	12.21	0.200		0.0	0.2	3.6
ARM B	1.15	10.93	0.105		0.0	0.1	1.7
ARM C	2.92	13.77	0.212		0.0	0.3	3.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15							
ARM A	2.91	12.18	0.239		0.2	0.3	4.6
ARM B	1.37	10.73	0.128		0.1	0.1	2.1
ARM C	3.49	13.68	0.255		0.3	0.3	5.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30							
ARM A	3.56	12.14	0.294		0.3	0.4	6.0
ARM B	1.68	10.45	0.161		0.1	0.2	2.8
ARM C	4.28	13.55	0.316		0.3	0.5	6.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45							
ARM A	3.56	12.14	0.294		0.4	0.4	6.2
ARM B	1.68	10.45	0.161		0.2	0.2	2.9
ARM C	4.28	13.54	0.316		0.5	0.5	6.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00							
ARM A	2.91	12.18	0.239		0.4	0.3	4.9
ARM B	1.37	10.73	0.128		0.2	0.1	2.3
ARM C	3.49	13.67	0.255		0.5	0.3	5.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15							
ARM A	2.44	12.21	0.200		0.3	0.3	3.9
ARM B	1.15	10.92	0.105		0.1	0.1	1.8
ARM C	2.92	13.76	0.212		0.3	0.3	4.2

UEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.3

UEUE AT ARM B

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

UEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.3
08.15	0.3
08.30	0.5
08.45	0.5
09.00	0.3
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	267.4	178.3	29.1	0.11	29.1	0.11
B	126.2	84.1	13.6	0.11	13.6	0.11
C	320.9	213.9	31.9	0.10	31.9	0.10
ALL	714.4	476.3	74.6	0.10	74.6	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

****** ARCADY 5 run completed.

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

[Printed at 10:24:55 on 24/10/2011]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

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OUNDABOUT CAPACITY AND DELAY
****

UN TITLE
****
2011 Weekday PM Peak Base

INPUT DATA
****
RM A - Midland Road (West)
RM B - The Lane
RM C - Midland Road (East)

INI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

OAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

= approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

ENGTH OF TIME PERIOD - 90 MINUTES.
ENGTH 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	4.50	6.75	4.50
ARM B	15.00	45.00	75.00	2.50	3.75	2.50
ARM C	15.00	45.00	75.00	3.65	5.48	3.65

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.381	0.619
		0.0	137.0	223.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.610	0.000	0.390
		122.0	0.0	78.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.733	0.267	0.000
		214.0	78.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	4.50	11.87	0.379		0.0	0.6	8.6
ARM B	2.50	10.46	0.239		0.0	0.3	4.5
ARM C	3.65	13.38	0.273		0.0	0.4	5.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	5.37	11.76	0.457		0.6	0.8	11.9
ARM B	2.99	10.16	0.294		0.3	0.4	6.0
ARM C	4.36	13.20	0.330		0.4	0.5	7.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	6.58	11.63	0.566		0.8	1.3	18.1
ARM B	3.66	9.76	0.375		0.4	0.6	8.5
ARM C	5.34	12.97	0.412		0.5	0.7	10.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	6.58	11.62	0.566		1.3	1.3	19.2
ARM B	3.66	9.75	0.375		0.6	0.6	8.9
ARM C	5.34	12.96	0.412		0.7	0.7	10.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	5.37	11.76	0.457		1.3	0.9	13.4
ARM B	2.99	10.14	0.294		0.6	0.4	6.5
ARM C	4.36	13.19	0.330		0.7	0.5	7.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	4.50	11.86	0.379		0.9	0.6	9.6
ARM B	2.50	10.44	0.239		0.4	0.3	4.9
ARM C	3.65	13.37	0.273		0.5	0.4	5.8

UEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.8	*
17.30	1.3	*
17.45	1.3	*
18.00	0.9	*
18.15	0.6	*

UEUE AT ARM B

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	

JEUE AT ARM C

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

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	3.75	5.63	3.75
ARM B	15.00	45.00	75.00	2.14	3.21	2.14
ARM C	15.00	45.00	75.00	3.83	5.74	3.83

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

TIME	FROM/TO	ARM A	ARM B	ARM C
11.45 - 13.15	ARM A	0.000	0.357	0.643
		0.0	107.0	193.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.497	0.000	0.503
		85.0	0.0	86.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.765	0.235	0.000
		234.0	72.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
11.45-12.00							
ARM A	3.75	11.91	0.315		0.0	0.5	6.5
ARM B	2.14	10.66	0.201		0.0	0.2	3.6
ARM C	3.83	13.64	0.280		0.0	0.4	5.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.00-12.15							
ARM A	4.48	11.81	0.379		0.5	0.6	8.8
ARM B	2.55	10.40	0.245		0.2	0.3	4.7
ARM C	4.57	13.52	0.338		0.4	0.5	7.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.15-12.30							
ARM A	5.48	11.68	0.469		0.6	0.9	12.5
ARM B	3.13	10.05	0.311		0.3	0.4	6.5
ARM C	5.59	13.36	0.419		0.5	0.7	10.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.30-12.45							
ARM A	5.48	11.68	0.469		0.9	0.9	13.1
ARM B	3.13	10.04	0.311		0.4	0.4	6.7
ARM C	5.59	13.35	0.419		0.7	0.7	10.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.45-13.00							
ARM A	4.48	11.81	0.379		0.9	0.6	9.6
ARM B	2.55	10.39	0.246		0.4	0.3	5.1
ARM C	4.57	13.52	0.338		0.7	0.5	8.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
13.00-13.15							
ARM A	3.75	11.90	0.315		0.6	0.5	7.2
ARM B	2.14	10.65	0.201		0.3	0.3	3.9
ARM C	3.83	13.64	0.280		0.5	0.4	6.0

UEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.5	
12.15	0.6	*
12.30	0.9	*
12.45	0.9	*
13.00	0.6	*
13.15	0.5	

UEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.00	0.2
12.15	0.3
12.30	0.4
12.45	0.4
13.00	0.3
13.15	0.3

UEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.4	
12.15	0.5	*
12.30	0.7	*
12.45	0.7	*
13.00	0.5	*
13.15	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	411.4	274.2	57.7	0.14	57.7	0.14
B	234.5	156.3	30.5	0.13	30.5	0.13
C	419.6	279.7	48.0	0.11	48.0	0.11
ALL	1065.4	710.3	136.2	0.13	136.2	0.13

* 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

****** ARCADY 5 run completed.

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

[Printed at 10:35:16 on 24/10/2011]

TRL TRL VIEWER 2.0 AD p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday AM Peak Base.vac

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OUNDABOUT CAPACITY AND DELAY

UN TITLE

2013 Weekday AM Peak Base

NPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
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ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 07.45 AND ENDS 09.15

ENGTH 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	2.46	3.69	2.46
ARM B	15.00	45.00	75.00	1.15	1.72	1.15
ARM C	15.00	45.00	75.00	2.96	4.44	2.96

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.223	0.777
		0.0	44.0	153.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.728	0.000	0.272
		67.0	0.0	25.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.895	0.105	0.000
		212.0	25.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00							
ARM A	2.46	12.21	0.202		0.0	0.3	3.6
ARM B	1.15	10.92	0.105		0.0	0.1	1.7
ARM C	2.96	13.77	0.215		0.0	0.3	4.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15							
ARM A	2.94	12.18	0.241		0.3	0.3	4.6
ARM B	1.37	10.72	0.128		0.1	0.1	2.1
ARM C	3.54	13.68	0.259		0.3	0.3	5.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30							
ARM A	3.60	12.14	0.297		0.3	0.4	6.1
ARM B	1.68	10.44	0.161		0.1	0.2	2.8
ARM C	4.33	13.55	0.320		0.3	0.5	6.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45							
ARM A	3.60	12.14	0.297		0.4	0.4	6.3
ARM B	1.68	10.44	0.161		0.2	0.2	2.9
ARM C	4.33	13.54	0.320		0.5	0.5	7.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00							
ARM A	2.94	12.18	0.241		0.4	0.3	4.9
ARM B	1.37	10.72	0.128		0.2	0.1	2.3
ARM C	3.54	13.67	0.259		0.5	0.4	5.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15							
ARM A	2.46	12.21	0.202		0.3	0.3	3.9
ARM B	1.15	10.91	0.105		0.1	0.1	1.8
ARM C	2.96	13.76	0.215		0.4	0.3	4.2

QUEUE AT ARM A

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

QUEUE AT ARM B

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

QUEUE AT ARM C

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

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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	270.1	180.1	29.5	0.11	29.5	0.11
B	126.2	84.1	13.6	0.11	13.6	0.11
C	325.0	216.7	32.5	0.10	32.5	0.10
ALL	721.3	480.8	75.6	0.10	75.6	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

****** ARCADY 5 run completed.

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

[Printed at 11:50:59 AM on 1/11/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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in with file:-
p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday PM Peak Base.vai"
(drive-on-the-left) at 11:56:11 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY
****

UN TITLE
****
2013 Weekday PM Peak Base

NPUT DATA
****
ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 16.45 AND ENDS 18.15

ENGTH 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	4.56	6.84	4.56
ARM B	15.00	45.00	75.00	2.54	3.81	2.54
ARM C	15.00	45.00	75.00	3.70	5.55	3.70

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	0.381	0.619
		0.0	139.0	226.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.611	0.000	0.389
		124.0	0.0	79.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.733	0.267	0.000
		217.0	79.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	4.56	11.86	0.385		0.0	0.6	8.8
ARM B	2.54	10.44	0.243		0.0	0.3	4.6
ARM C	3.70	13.36	0.277		0.0	0.4	5.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	5.45	11.76	0.463		0.6	0.8	12.3
ARM B	3.03	10.13	0.299		0.3	0.4	6.1
ARM C	4.42	13.18	0.335		0.4	0.5	7.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	6.67	11.62	0.574		0.8	1.3	18.6
ARM B	3.71	9.73	0.382		0.4	0.6	8.8
ARM C	5.41	12.94	0.418		0.5	0.7	10.3

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	6.67	11.61	0.574		1.3	1.3	19.8
ARM B	3.71	9.72	0.382		0.6	0.6	9.2
ARM C	5.41	12.94	0.418		0.7	0.7	10.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	5.45	11.75	0.464		1.3	0.9	13.8
ARM B	3.03	10.12	0.299		0.6	0.4	6.7
ARM C	4.42	13.18	0.335		0.7	0.5	7.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	4.56	11.85	0.385		0.9	0.6	9.8
ARM B	2.54	10.42	0.244		0.4	0.3	5.0
ARM C	3.70	13.35	0.277		0.5	0.4	5.9

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.8	*
17.30	1.3	*
17.45	1.3	*
18.00	0.9	*
18.15	0.6	*

QUEUE AT ARM B

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 C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	
17.30	0.7	*
17.45	0.7	*
18.00	0.5	*
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	500.5	333.7	83.2	0.17	83.2	0.17
B	278.4	185.6	40.4	0.15	40.4	0.15
C	405.9	270.6	47.6	0.12	47.6	0.12
ALL	1184.7	789.8	171.1	0.14	171.1	0.14

* 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

****** ARCADY 5 run completed.

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

[Printed at 11:56:19 AM on 1/11/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Saturday Inter-peak Base.vai"
(drive-on-the-left) at 12:00:25 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY
****

UN TITLE
****
2013 Saturday Inter-peak Base

NPUT DATA
****
ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 11.45 AND ENDS 13.15

ENGTH 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	3.80	5.70	3.80
ARM B	15.00	45.00	75.00	2.16	3.24	2.16
ARM C	15.00	45.00	75.00	3.88	5.81	3.88

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
11.45 - 13.15	ARM A	0.000	0.355	0.645
		0.0	108.0	196.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.497	0.000	0.503
		86.0	0.0	87.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.765	0.235	0.000
		237.0	73.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
11.45-12.00							
ARM A	3.80	11.90	0.319		0.0	0.5	6.7
ARM B	2.16	10.64	0.203		0.0	0.3	3.7
ARM C	3.88	13.64	0.284		0.0	0.4	5.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.00-12.15							
ARM A	4.54	11.80	0.384		0.5	0.6	9.0
ARM B	2.58	10.37	0.249		0.3	0.3	4.8
ARM C	4.63	13.51	0.342		0.4	0.5	7.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.15-12.30							
ARM A	5.56	11.67	0.476		0.6	0.9	12.8
ARM B	3.16	10.02	0.316		0.3	0.5	6.6
ARM C	5.67	13.35	0.425		0.5	0.7	10.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.30-12.45							
ARM A	5.56	11.67	0.476		0.9	0.9	13.4
ARM B	3.16	10.01	0.316		0.5	0.5	6.9
ARM C	5.67	13.34	0.425		0.7	0.7	11.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.45-13.00							
ARM A	4.54	11.80	0.385		0.9	0.6	9.8
ARM B	2.58	10.37	0.249		0.5	0.3	5.2
ARM C	4.63	13.51	0.343		0.7	0.5	8.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
13.00-13.15							
ARM A	3.80	11.89	0.319		0.6	0.5	7.3
ARM B	2.16	10.63	0.204		0.3	0.3	4.0
ARM C	3.88	13.63	0.284		0.5	0.4	6.2

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.5	
12.15	0.6	*
12.30	0.9	*
12.45	0.9	*
13.00	0.6	*
13.15	0.5	

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.00	0.3
12.15	0.3
12.30	0.5
12.45	0.5
13.00	0.3
13.15	0.3

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.4	
12.15	0.5	*
12.30	0.7	*
12.45	0.7	*
13.00	0.5	*
13.15	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	416.8	277.9	59.1	0.14	59.1	0.14
B	237.2	158.1	31.1	0.13	31.1	0.13
C	425.1	283.4	49.1	0.12	49.1	0.12
ALL	1079.1	719.4	139.2	0.13	139.2	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

****** ARCADY 5 run completed.

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

[Printed at 12:00:59 PM on 1/11/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

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(drive-on-the-left) at 12:04:00 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY
****

UN TITLE
****
2017 Weekday AM Peak Base

NPUT DATA
****
ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 07.45 AND ENDS 09.15

ENGTH 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	2.59	3.88	2.59
ARM B	15.00	45.00	75.00	1.24	1.86	1.24
ARM C	15.00	45.00	75.00	3.13	4.69	3.13

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.222	0.778
		0.0	46.0	161.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.717	0.000	0.283
		71.0	0.0	28.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.892	0.108	0.000
		223.0	27.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00							
ARM A	2.59	12.20	0.212		0.0	0.3	3.9
ARM B	1.24	10.87	0.114		0.0	0.1	1.9
ARM C	3.13	13.74	0.227		0.0	0.3	4.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15							
ARM A	3.09	12.17	0.254		0.3	0.3	4.9
ARM B	1.48	10.66	0.139		0.1	0.2	2.3
ARM C	3.73	13.64	0.274		0.3	0.4	5.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30							
ARM A	3.78	12.12	0.312		0.3	0.4	6.6
ARM B	1.81	10.36	0.175		0.2	0.2	3.1
ARM C	4.57	13.50	0.338		0.4	0.5	7.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45							
ARM A	3.78	12.12	0.312		0.4	0.5	6.8
ARM B	1.81	10.36	0.175		0.2	0.2	3.2
ARM C	4.57	13.50	0.338		0.5	0.5	7.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00							
ARM A	3.09	12.16	0.254		0.5	0.3	5.3
ARM B	1.48	10.65	0.139		0.2	0.2	2.5
ARM C	3.73	13.64	0.274		0.5	0.4	5.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15							
ARM A	2.59	12.20	0.212		0.3	0.3	4.2
ARM B	1.24	10.86	0.114		0.2	0.1	2.0
ARM C	3.13	13.74	0.228		0.4	0.3	4.5

QUEUE AT ARM A

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

QUEUE AT ARM B

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

QUEUE AT ARM C

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	

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	283.8	189.2	31.6	0.11	31.6	0.11
B	135.7	90.5	14.9	0.11	14.9	0.11
C	342.8	228.5	35.1	0.10	35.1	0.10
ALL	762.4	508.3	81.6	0.11	81.6	0.11

* 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

****** ARCADY 5 run completed.

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

[Printed at 12:04:48 PM on 1/11/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

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un with file:-
p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2017 Weekday PM Peak Base.vai"
(drive-on-the-left) at 12:09:16 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY
****

UN TITLE
****
2017 Weekday PM Peak Base

NPUT DATA
****
ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 16.45 AND ENDS 18.15

ENGTH 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	4.80	7.20	4.80
ARM B	15.00	45.00	75.00	2.66	3.99	2.66
ARM C	15.00	45.00	75.00	3.90	5.85	3.90

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	0.380	0.620
		0.0	146.0	238.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.610	0.000	0.390
		130.0	0.0	83.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.734	0.266	0.000
		229.0	83.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	4.80	11.83	0.406		0.0	0.7	9.6
ARM B	2.66	10.36	0.257		0.0	0.3	4.9
ARM C	3.90	13.32	0.293		0.0	0.4	5.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	5.73	11.72	0.489		0.7	0.9	13.5
ARM B	3.18	10.04	0.317		0.3	0.5	6.7
ARM C	4.66	13.13	0.355		0.4	0.5	7.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	7.02	11.58	0.606		0.9	1.5	21.0
ARM B	3.89	9.61	0.405		0.5	0.7	9.6
ARM C	5.70	12.88	0.443		0.5	0.8	11.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	7.02	11.58	0.606		1.5	1.5	22.6
ARM B	3.89	9.60	0.406		0.7	0.7	10.1
ARM C	5.70	12.88	0.443		0.8	0.8	11.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	5.73	11.72	0.489		1.5	1.0	15.4
ARM B	3.18	10.02	0.317		0.7	0.5	7.3
ARM C	4.66	13.12	0.355		0.8	0.6	8.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	4.80	11.83	0.406		1.0	0.7	10.8
ARM B	2.66	10.34	0.258		0.5	0.4	5.4
ARM C	3.90	13.31	0.293		0.6	0.4	6.4

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	0.9	*
17.30	1.5	*
17.45	1.5	**
18.00	1.0	*
18.15	0.7	*

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	0.4	
17.15	0.5	*
17.30	0.8	*
17.45	0.8	*
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	526.5	351.0	92.8	0.18	92.9	0.18
B	292.1	194.7	44.1	0.15	44.1	0.15
C	427.8	285.2	52.0	0.12	52.0	0.12
ALL	1246.4	831.0	188.9	0.15	189.0	0.15

* 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

****** ARCADY 5 run completed.

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

[Printed at 12:09:29 PM on 1/11/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

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p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2017 Saturday Inter-peak Base.vai"
(drive-on-the-left) at 12:13:20 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY

UN TITLE

2017 Saturday Inter-peak Base

NPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 11.45 AND ENDS 13.15

ENGTH 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 TOP OF PEAK	FLOW STOPS IS REACHED IFALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.00	6.00	4.00
ARM B	15.00	45.00	75.00	2.29	3.43	2.29
ARM C	15.00	45.00	75.00	4.09	6.13	4.09

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
11.45 - 13.15	ARM A	0.000	0.356	0.644
		0.0	114.0	206.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.497	0.000	0.503
		91.0	0.0	92.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.765	0.235	0.000
		250.0	77.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
11.45-12.00							
ARM A	4.00	11.87	0.337		0.0	0.5	7.2
ARM B	2.29	10.57	0.216		0.0	0.3	4.0
ARM C	4.09	13.60	0.301		0.0	0.4	6.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.00-12.15							
ARM A	4.78	11.77	0.406		0.5	0.7	9.8
ARM B	2.73	10.29	0.265		0.3	0.4	5.2
ARM C	4.88	13.47	0.362		0.4	0.6	8.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.15-12.30							
ARM A	5.85	11.64	0.503		0.7	1.0	14.2
ARM B	3.35	9.92	0.337		0.4	0.5	7.3
ARM C	5.98	13.29	0.450		0.6	0.8	11.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.30-12.45							
ARM A	5.85	11.63	0.503		1.0	1.0	14.9
ARM B	3.35	9.91	0.337		0.5	0.5	7.6
ARM C	5.98	13.29	0.450		0.8	0.8	12.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.45-13.00							
ARM A	4.78	11.77	0.406		1.0	0.7	10.8
ARM B	2.73	10.28	0.266		0.5	0.4	5.7
ARM C	4.88	13.46	0.363		0.8	0.6	8.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
13.00-13.15							
ARM A	4.00	11.87	0.337		0.7	0.5	8.0
ARM B	2.29	10.56	0.217		0.4	0.3	4.3
ARM C	4.09	13.59	0.301		0.6	0.4	6.7

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.5	*
12.15	0.7	*
12.30	1.0	*
12.45	1.0	*
13.00	0.7	*
13.15	0.5	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.3	
12.15	0.4	
12.30	0.5	*
12.45	0.5	*
13.00	0.4	
13.15	0.3	

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.4	
12.15	0.6	*
12.30	0.8	*
12.45	0.8	*
13.00	0.6	*
13.15	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	438.8	292.5	64.9	0.15	64.9	0.15
B	250.9	167.3	34.0	0.14	34.0	0.14
C	448.4	298.9	53.7	0.12	53.7	0.12
ALL	1138.1	758.7	152.6	0.13	152.6	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

****** ARCADY 5 run completed.

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

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Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday AM Peak with Development .vai"
(drive-on-the-left) at 11:31:54 on Tuesday, 17 January 2012

ROUNDABOUT CAPACITY AND DELAY

****

RUN TITLE

****

2013 Weekday AM Peak with Development

INPUT DATA

****

ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

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	2.10	3.15	2.10
ARM B	15.00	45.00	75.00	2.96	4.44	2.96
ARM C	15.00	45.00	75.00	3.36	5.04	3.36

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	0.292	0.708
		0.0	49.0	119.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.684	0.000	0.316
		162.0	0.0	75.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.885	0.115	0.000
		238.0	31.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00							
ARM A	2.10	12.17	0.172		0.0	0.2	3.0
ARM B	2.96	11.16	0.265		0.0	0.4	5.2
ARM C	3.36	13.09	0.257		0.0	0.3	5.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15							
ARM A	2.51	12.13	0.207		0.2	0.3	3.8
ARM B	3.54	11.00	0.322		0.4	0.5	6.8
ARM C	4.02	12.86	0.312		0.3	0.4	6.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30							
ARM A	3.07	12.08	0.254		0.3	0.3	5.0
ARM B	4.33	10.78	0.402		0.5	0.7	9.6
ARM C	4.92	12.54	0.392		0.4	0.6	9.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45							
ARM A	3.07	12.08	0.254		0.3	0.3	5.1
ARM B	4.33	10.78	0.402		0.7	0.7	10.0
ARM C	4.92	12.54	0.392		0.6	0.6	9.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00							
ARM A	2.51	12.13	0.207		0.3	0.3	4.0
ARM B	3.54	10.99	0.322		0.7	0.5	7.4
ARM C	4.02	12.85	0.313		0.6	0.5	7.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15							
ARM A	2.10	12.17	0.173		0.3	0.2	3.2
ARM B	2.96	11.15	0.266		0.5	0.4	5.6
ARM C	3.36	13.08	0.257		0.5	0.3	5.4

QUEUE AT ARM A

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

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.5	
08.30	0.7	*
08.45	0.7	*
09.00	0.5	
09.15	0.4	

QUEUE AT ARM C

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	0.5	
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	230.4	153.6	24.1	0.10	24.1	0.10
B	325.0	216.7	44.6	0.14	44.6	0.14
C	368.9	245.9	42.8	0.12	42.8	0.12
ALL	924.2	616.1	111.5	0.12	111.5	0.12

* 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

****** ARCADY 5 run completed.

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

[Printed at 11:32:01 on 17/01/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday PM Peak with Development.vai"
(drive-on-the-left) at 11:33:41 on Tuesday, 17 January 2012

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

2013 Weekday PM Peak with Development

INPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

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	3.79	5.68	3.79
ARM B	15.00	45.00	75.00	5.88	8.81	5.88
ARM C	15.00	45.00	75.00	4.31	6.47	4.31

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.531	0.469
		0.0	161.0	142.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.577	0.000	0.423
		271.0	0.0	199.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.716	0.284	0.000
		247.0	98.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	3.79	11.74	0.323		0.0	0.5	6.8
ARM B	5.88	11.00	0.534		0.0	1.1	15.6
ARM C	4.31	12.31	0.350		0.0	0.5	7.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	4.52	11.61	0.390		0.5	0.6	9.2
ARM B	7.02	10.81	0.649		1.1	1.8	24.7
ARM C	5.15	11.92	0.432		0.5	0.7	10.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	5.54	11.44	0.484		0.6	0.9	13.2
ARM B	8.59	10.56	0.814		1.8	3.8	49.3
ARM C	6.31	11.43	0.552		0.7	1.2	17.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	5.54	11.43	0.485		0.9	0.9	13.9
ARM B	8.59	10.55	0.814		3.8	4.0	59.2
ARM C	6.31	11.39	0.554		1.2	1.2	18.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	4.52	11.60	0.390		0.9	0.6	10.1
ARM B	7.02	10.80	0.649		4.0	1.9	32.0
ARM C	5.15	11.86	0.434		1.2	0.8	12.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	3.79	11.73	0.323		0.6	0.5	7.5
ARM B	5.88	10.99	0.534		1.9	1.2	18.7
ARM C	4.31	12.27	0.351		0.8	0.5	8.5

UEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.6	*
17.30	0.9	*
17.45	0.9	*
18.00	0.6	*
18.15	0.5	

UEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.1	*
17.15	1.8	**
17.30	3.8	****
17.45	4.0	****
18.00	1.9	**
18.15	1.2	*

UEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.7	*
17.30	1.2	*
17.45	1.2	*
18.00	0.8	*
18.15	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	415.5	277.0	60.6	0.15	60.6	0.15
B	644.5	429.6	199.5	0.31	199.5	0.31
C	473.1	315.4	74.4	0.16	74.5	0.16
ALL	1533.0	1022.0	334.5	0.22	334.6	0.22

* 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

****** ARCADY 5 run completed.

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

[Printed at 11:33:53 on 17/01/2012]

TRL TRL VIEWER 2.0 AE p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Saturday Peak with D

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
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un with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Saturday Peak with Development .vai"
(drive-on-the-left) at 11:34:46 on Tuesday, 17 January 2012

OUNDABOUT CAPACITY AND DELAY
****

UN TITLE
****
2013 Saturday Peak with Development

INPUT DATA
****
RM A - Midland Road (West)
RM B - The Lane
RM C - Midland Road (East)

INI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

OAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

= approach half-width Lm = effective flare length A = distance between arms
E = entry width Vm = minimum approach half-width K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 11.45 AND ENDS 13.15

ENGTH OF TIME PERIOD - 90 MINUTES.
ENGTH 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	3.19	4.78	3.19
ARM B	15.00	45.00	75.00	5.89	8.83	5.89
ARM C	15.00	45.00	75.00	4.68	7.01	4.68

TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C
11.45 - 13.15	ARM A	0.000	0.490	0.510
		0.0	125.0	130.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.594	0.000	0.406
		280.0	0.0	191.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.770	0.230	0.000
		288.0	86.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
11.45-12.00							
ARM A	3.19	11.81	0.270		0.0	0.4	5.3
ARM B	5.89	11.09	0.531		0.0	1.1	15.4
ARM C	4.68	12.25	0.382		0.0	0.6	8.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.00-12.15							
ARM A	3.81	11.70	0.325		0.4	0.5	7.0
ARM B	7.03	10.91	0.644		1.1	1.7	24.3
ARM C	5.58	11.85	0.471		0.6	0.9	12.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.15-12.30							
ARM A	4.66	11.55	0.404		0.5	0.7	9.7
ARM B	8.61	10.67	0.807		1.7	3.7	47.8
ARM C	6.84	11.33	0.603		0.9	1.5	20.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.30-12.45							
ARM A	4.66	11.55	0.404		0.7	0.7	10.0
ARM B	8.61	10.67	0.807		3.7	3.9	56.8
ARM C	6.84	11.29	0.606		1.5	1.5	22.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.45-13.00							
ARM A	3.81	11.69	0.325		0.7	0.5	7.6
ARM B	7.03	10.90	0.645		3.9	1.9	31.2
ARM C	5.58	11.79	0.474		1.5	0.9	14.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
13.00-13.15							
ARM A	3.19	11.81	0.270		0.5	0.4	5.7
ARM B	5.89	11.08	0.532		1.9	1.2	18.5
ARM C	4.68	12.21	0.383		0.9	0.6	9.8

UEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.4	
12.15	0.5	
12.30	0.7	*
12.45	0.7	*
13.00	0.5	
13.15	0.4	

UEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	1.1	*
12.15	1.7	**
12.30	3.7	****
12.45	3.9	****
13.00	1.9	**
13.15	1.2	*

UEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.6	*
12.15	0.9	*
12.30	1.5	*
12.45	1.5	**
13.00	0.9	*
13.15	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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	349.7	233.1	45.2	0.13	45.3	0.13
B	645.8	430.6	194.0	0.30	194.1	0.30
C	512.8	341.9	88.6	0.17	88.7	0.17
ALL	1508.3	1005.6	327.9	0.22	328.0	0.22

* 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

****** ARCADY 5 run completed.

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

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

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TEL: CROWTHORNE (01344) 770758, FAX: 770864
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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2017 Weekday AM Peak with Development .val"
(drive-on-the-left) at 14:45:19 on Tuesday, 17 January 2012

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

2017 Weekday AM Peak with Development

INPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

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	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	2.22	3.34	2.22
ARM B	15.00	45.00	75.00	3.04	4.56	3.04
ARM C	15.00	45.00	75.00	3.53	5.29	3.53

TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.287	0.713
		0.0	51.0	127.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.683	0.000	0.317
		166.0	0.0	77.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.887	0.113	0.000
		250.0	32.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00							
ARM A	2.22	12.17	0.183		0.0	0.2	3.2
ARM B	3.04	11.10	0.274		0.0	0.4	5.4
ARM C	3.53	13.06	0.270		0.0	0.4	5.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15							
ARM A	2.66	12.13	0.219		0.2	0.3	4.1
ARM B	3.63	10.93	0.332		0.4	0.5	7.1
ARM C	4.21	12.82	0.328		0.4	0.5	7.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30							
ARM A	3.25	12.07	0.270		0.3	0.4	5.4
ARM B	4.44	10.70	0.415		0.5	0.7	10.1
ARM C	5.16	12.50	0.412		0.5	0.7	10.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45							
ARM A	3.25	12.07	0.270		0.4	0.4	5.5
ARM B	4.44	10.70	0.415		0.7	0.7	10.5
ARM C	5.16	12.49	0.413		0.7	0.7	10.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00							
ARM A	2.66	12.13	0.219		0.4	0.3	4.3
ARM B	3.63	10.93	0.332		0.7	0.5	7.8
ARM C	4.21	12.81	0.329		0.7	0.5	7.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15							
ARM A	2.22	12.17	0.183		0.3	0.2	3.5
ARM B	3.04	11.10	0.274		0.5	0.4	5.9
ARM C	3.53	13.05	0.270		0.5	0.4	5.7

UEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.2	
08.15	0.3	
08.30	0.4	
08.45	0.4	
09.00	0.3	
09.15	0.2	

UEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.5	
08.30	0.7	*
08.45	0.7	*
09.00	0.5	*
09.15	0.4	

UEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.5	
08.30	0.7	*
08.45	0.7	*
09.00	0.5	
09.15	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	244.1	162.7	26.0	0.11	26.0	0.11
B	333.2	222.1	46.8	0.14	46.8	0.14
C	386.7	257.8	46.2	0.12	46.2	0.12
ALL	964.0	642.6	119.0	0.12	119.0	0.12

* 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

****** ARCADY 5 run completed.

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

[Printed at 14:45:25 on 17/01/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2017 Weekday PM Peak with Development .vai"
(drive-on-the-left) at 14:46:19 on Tuesday, 17 January 2012

ROUNDABOUT CAPACITY AND DELAY
****

RUN TITLE
****
2017 Weekday PM Peak with Development

INPUT DATA
****
ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

UNI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

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	4.04	6.06	4.04
ARM B	15.00	45.00	75.00	6.03	9.04	6.03
ARM C	15.00	45.00	75.00	4.51	6.77	4.51

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	0.523	0.477
		0.0	169.0	154.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.577	0.000	0.423
		278.0	0.0	204.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.717	0.283	0.000
		259.0	102.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	4.04	11.71	0.345		0.0	0.5	7.5
ARM B	6.03	10.92	0.552		0.0	1.2	16.6
ARM C	4.51	12.27	0.368		0.0	0.6	8.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	4.82	11.58	0.416		0.5	0.7	10.2
ARM B	7.19	10.72	0.671		1.2	1.9	27.0
ARM C	5.39	11.86	0.454		0.6	0.8	11.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	5.90	11.40	0.518		0.7	1.0	15.0
ARM B	8.81	10.44	0.844		1.9	4.5	56.8
ARM C	6.60	11.36	0.581		0.8	1.3	19.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	5.90	11.39	0.518		1.0	1.1	15.9
ARM B	8.81	10.43	0.845		4.5	4.9	70.6
ARM C	6.60	11.32	0.583		1.3	1.4	20.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	4.82	11.57	0.417		1.1	0.7	11.3
ARM B	7.19	10.71	0.672		4.9	2.2	36.4
ARM C	5.39	11.79	0.457		1.4	0.9	13.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	4.04	11.70	0.345		0.7	0.5	8.3
ARM B	6.03	10.91	0.552		2.2	1.3	20.2
ARM C	4.51	12.22	0.369		0.9	0.6	9.2

UEUE 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	1.1	*
18.00	0.7	*
18.15	0.5	*

UEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.2	*
17.15	1.9	**
17.30	4.5	****
17.45	4.9	*****
18.00	2.2	**
18.15	1.3	*

UEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.8	*
17.30	1.3	*
17.45	1.4	*
18.00	0.9	*
18.15	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	442.9	295.3	68.1	0.15	68.2	0.15
B	660.9	440.6	227.7	0.34	227.7	0.34
C	495.0	330.0	82.2	0.17	82.2	0.17
ALL	1598.8	1065.9	378.0	0.24	378.1	0.24

* 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

****** ARCADY 5 run completed.

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

[Printed at 14:46:24 on 17/01/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2017 Saturday Peak with Development .vai"
(drive-on-the-left) at 11:38:35 on Tuesday, 17 January 2012

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

2017 Saturday Peak with Development

INPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 11.45 AND ENDS 13.15

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	3.39	5.08	3.39
ARM B	15.00	45.00	75.00	6.01	9.02	6.01
ARM C	15.00	45.00	75.00	4.90	7.35	4.90

TIME	FROM/TO	ARM A	ARM B	ARM C
11.45 - 13.15		TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S)		
	ARM A	0.000 0.0 (10.0)	0.483 131.0 (10.0)	0.517 140.0 (10.0)
	ARM B	0.593 285.0 (10.0)	0.000 0.0 (10.0)	0.407 196.0 (10.0)
	ARM C	0.770 302.0 (10.0)	0.230 90.0 (10.0)	0.000 0.0 (10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
11.45-12.00							
ARM A	3.39	11.79	0.287		0.0	0.4	5.8
ARM B	6.01	11.02	0.546		0.0	1.2	16.3
ARM C	4.90	12.22	0.401		0.0	0.7	9.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.00-12.15							
ARM A	4.05	11.67	0.347		0.4	0.5	7.6
ARM B	7.18	10.83	0.663		1.2	1.9	26.2
ARM C	5.85	11.80	0.496		0.7	1.0	13.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.15-12.30							
ARM A	4.95	11.51	0.430		0.5	0.7	10.7
ARM B	8.79	10.57	0.832		1.9	4.2	53.6
ARM C	7.17	11.29	0.635		1.0	1.7	23.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.30-12.45							
ARM A	4.95	11.51	0.430		0.7	0.7	11.2
ARM B	8.79	10.57	0.832		4.2	4.5	65.5
ARM C	7.17	11.24	0.638		1.7	1.7	25.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.45-13.00							
ARM A	4.05	11.66	0.347		0.7	0.5	8.3
ARM B	7.18	10.82	0.663		4.5	2.1	34.6
ARM C	5.85	11.73	0.499		1.7	1.0	16.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
13.00-13.15							
ARM A	3.39	11.78	0.288		0.5	0.4	6.3
ARM B	6.01	11.01	0.546		2.1	1.2	19.7
ARM C	4.90	12.17	0.403		1.0	0.7	10.7

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.4	
12.15	0.5	*
12.30	0.7	*
12.45	0.7	*
13.00	0.5	*
13.15	0.4	

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	1.2	*
12.15	1.9	**
12.30	4.2	****
12.45	4.5	****
13.00	2.1	**
13.15	1.2	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.7	*
12.15	1.0	*
12.30	1.7	**
12.45	1.7	**
13.00	1.0	*
13.15	0.7	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	371.6	247.7	50.0	0.13	50.0	0.13
B	659.6	439.7	215.7	0.33	215.8	0.33
C	537.5	358.3	98.9	0.18	98.9	0.18
ALL	1568.7	1045.8	364.6	0.23	364.7	0.23

* 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

****** ARCADY 5 run completed.

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

[Printed at 11:38:40 on 17/01/2012]

TRL TRL VIEWER 2.0 AE p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2011 Weekday PM Peak Base

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2011 Weekday PM Peak Base .vai"
(drive-on-the-left) at 10:27:26 on Monday, 24 October 2011

ROUNDABOUT CAPACITY AND DELAY
****

RUN TITLE
****
2011 Weekday PM Peak Base

INPUT DATA
****
ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width Lm = effective flare length A = distance between arms
E = entry width Vm = minimum approach half-width K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

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	4.50	6.75	4.50
ARM B	15.00	45.00	75.00	2.50	3.75	2.50
ARM C	15.00	45.00	75.00	3.65	5.48	3.65

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	0.381	0.619
		0.0	137.0	223.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.610	0.000	0.390
		122.0	0.0	78.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.733	0.267	0.000
		214.0	78.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	4.60	11.87	0.379		0.0	0.6	8.6
ARM B	2.60	10.46	0.239		0.0	0.3	4.5
ARM C	3.65	13.38	0.273		0.0	0.4	5.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	5.37	11.76	0.457		0.6	0.8	11.9
ARM B	2.99	10.16	0.294		0.3	0.4	6.0
ARM C	4.36	13.20	0.330		0.4	0.5	7.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	6.58	11.63	0.566		0.8	1.3	18.1
ARM B	3.66	9.76	0.375		0.4	0.6	8.5
ARM C	5.34	12.97	0.412		0.5	0.7	10.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	6.58	11.62	0.566		1.3	1.3	19.2
ARM B	3.66	9.75	0.375		0.6	0.6	8.9
ARM C	5.34	12.96	0.412		0.7	0.7	10.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	5.37	11.76	0.457		1.3	0.9	13.4
ARM B	2.99	10.14	0.294		0.6	0.4	6.5
ARM C	4.36	13.19	0.330		0.7	0.5	7.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	4.50	11.86	0.379		0.9	0.6	9.6
ARM B	2.50	10.44	0.239		0.4	0.3	4.9
ARM C	3.65	13.37	0.273		0.5	0.4	5.8

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.8	*
17.30	1.3	*
17.45	1.3	*
18.00	0.9	*
18.15	0.6	*

QUEUE AT ARM B

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 C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	
17.30	0.7	*
17.45	0.7	*
18.00	0.5	
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	493.6	329.1	80.8	0.16	80.9	0.16
B	274.2	182.8	39.4	0.14	39.4	0.14
C	400.4	266.9	46.5	0.12	46.5	0.12
ALL	1168.3	778.8	166.7	0.14	166.7	0.14

* 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

****** ARCADY 5 run completed.

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

[Printed at 10:28:49 on 24/10/2011]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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un with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2011 Saturday Inter-peak Base .vai"
(drive-on-the-left) at 10:35:04 on Monday, 24 October 2011

OUNDABOUT CAPACITY AND DELAY
****

UN TITLE
****
2011 Saturday Inter-peak Base

INPUT DATA
****
RM A - Midland Road (West)
RM B - The Lane
RM C - Midland Road (East)

ENI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

OAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

= approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 11.45 AND ENDS 13.15

ENGTH OF TIME PERIOD - 90 MINUTES.
ENGTH 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	3.75	5.63	3.75
ARM B	15.00	45.00	75.00	2.14	3.21	2.14
ARM C	15.00	45.00	75.00	3.83	5.74	3.83

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

TIME	FROM/TO	ARM A	ARM B	ARM C
11.45 - 13.15	ARM A	0.000	0.357	0.643
		0.0	107.0	193.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.497	0.000	0.503
		85.0	0.0	86.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.765	0.235	0.000
		234.0	72.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
11.45-12.00							
ARM A	3.75	11.91	0.315		0.0	0.5	6.5
ARM B	2.14	10.66	0.201		0.0	0.2	3.6
ARM C	3.83	13.64	0.280		0.0	0.4	5.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.00-12.15							
ARM A	4.48	11.81	0.379		0.5	0.6	8.8
ARM B	2.55	10.40	0.245		0.2	0.3	4.7
ARM C	4.57	13.52	0.338		0.4	0.5	7.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.15-12.30							
ARM A	5.48	11.68	0.469		0.6	0.9	12.5
ARM B	3.13	10.05	0.311		0.3	0.4	6.5
ARM C	5.59	13.36	0.419		0.5	0.7	10.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.30-12.45							
ARM A	5.48	11.68	0.469		0.9	0.9	13.1
ARM B	3.13	10.04	0.311		0.4	0.4	6.7
ARM C	5.59	13.35	0.419		0.7	0.7	10.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.45-13.00							
ARM A	4.48	11.81	0.379		0.9	0.6	9.6
ARM B	2.55	10.39	0.246		0.4	0.3	5.1
ARM C	4.57	13.52	0.338		0.7	0.5	8.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
13.00-13.15							
ARM A	3.75	11.90	0.315		0.6	0.5	7.2
ARM B	2.14	10.65	0.201		0.3	0.3	3.9
ARM C	3.83	13.64	0.280		0.5	0.4	6.0

UEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.5	
12.15	0.6	*
12.30	0.9	*
12.45	0.9	*
13.00	0.6	*
13.15	0.5	

UEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.00	0.2
12.15	0.3
12.30	0.4
12.45	0.4
13.00	0.3
13.15	0.3

UEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.4	
12.15	0.5	*
12.30	0.7	*
12.45	0.7	*
13.00	0.5	*
13.15	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	411.4	274.2	57.7	0.14	57.7	0.14
B	234.5	156.3	30.5	0.13	30.5	0.13
C	419.6	279.7	48.0	0.11	48.0	0.11
ALL	1065.4	710.3	136.2	0.13	136.2	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

****** ARCADY 5 run completed.

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

[Printed at 10:35:16 on 24/10/2011]

TRL TRL VIEWER 2.0 AD p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday AM Peak Base.vac

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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in with file:-
p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday AM Peak Base.vai"
(drive-on-the-left) at 11:50:09 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY

UN TITLE

2013 Weekday AM Peak Base

NPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK FLOW STOPS IS REACHED BEFORE FALLING	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	2.46	3.69	2.46
ARM B	15.00	45.00	75.00	1.15	1.72	1.15
ARM C	15.00	45.00	75.00	2.96	4.44	2.96

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	0.223	0.777
		0.0	44.0	153.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.728	0.000	0.272
		67.0	0.0	25.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.895	0.105	0.000
		212.0	25.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00							
ARM A	2.46	12.21	0.202		0.0	0.3	3.6
ARM B	1.15	10.92	0.105		0.0	0.1	1.7
ARM C	2.96	13.77	0.215		0.0	0.3	4.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15							
ARM A	2.94	12.18	0.241		0.3	0.3	4.6
ARM B	1.37	10.72	0.128		0.1	0.1	2.1
ARM C	3.54	13.68	0.259		0.3	0.3	5.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30							
ARM A	3.60	12.14	0.297		0.3	0.4	6.1
ARM B	1.68	10.44	0.161		0.1	0.2	2.8
ARM C	4.33	13.55	0.320		0.3	0.5	6.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45							
ARM A	3.60	12.14	0.297		0.4	0.4	6.3
ARM B	1.68	10.44	0.161		0.2	0.2	2.9
ARM C	4.33	13.54	0.320		0.5	0.5	7.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00							
ARM A	2.94	12.18	0.241		0.4	0.3	4.9
ARM B	1.37	10.72	0.128		0.2	0.1	2.3
ARM C	3.54	13.67	0.259		0.5	0.4	5.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15							
ARM A	2.46	12.21	0.202		0.3	0.3	3.9
ARM B	1.15	10.91	0.105		0.1	0.1	1.8
ARM C	2.96	13.76	0.215		0.4	0.3	4.2

QUEUE AT ARM A

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

QUEUE AT ARM B

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

QUEUE AT ARM C

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

TRL TRL VIEWER 2.0 AD p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday AM Peak Base.vac

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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	270.1	180.1	29.5	0.11	29.5	0.11
B	126.2	84.1	13.6	0.11	13.6	0.11
C	325.0	216.7	32.5	0.10	32.5	0.10
ALL	721.3	480.8	75.6	0.10	75.6	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

****** ARCADY 5 run completed.

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

[Printed at 11:50:59 AM on 1/11/2012]

TRL TRL VIEWER 2.0 AD p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday PM Peak Base.vac

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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un with file:-
p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday PM Peak Base.vai"
(drive-on-the-left) at 11:56:11 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY

UN TITLE

2013 Weekday PM Peak Base

NPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width

Lm = effective flare length
Vm = minimum approach half-width

A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 16.45 AND ENDS 18.15

ENGTH 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	4.56	6.84	4.56
ARM B	15.00	45.00	75.00	2.54	3.81	2.54
ARM C	15.00	45.00	75.00	3.70	5.55	3.70

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	0.381	0.619
		0.0	139.0	226.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.611	0.000	0.389
		124.0	0.0	79.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.733	0.267	0.000
		217.0	79.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	4.56	11.86	0.385		0.0	0.6	8.8
ARM B	2.54	10.44	0.243		0.0	0.3	4.6
ARM C	3.70	13.36	0.277		0.0	0.4	5.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	5.45	11.76	0.463		0.6	0.8	12.3
ARM B	3.03	10.13	0.299		0.3	0.4	6.1
ARM C	4.42	13.18	0.335		0.4	0.5	7.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	6.67	11.62	0.574		0.8	1.3	18.6
ARM B	3.71	9.73	0.382		0.4	0.6	8.8
ARM C	5.41	12.94	0.418		0.5	0.7	10.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	6.67	11.61	0.574		1.3	1.3	19.8
ARM B	3.71	9.72	0.382		0.6	0.6	9.2
ARM C	5.41	12.94	0.418		0.7	0.7	10.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	5.45	11.75	0.464		1.3	0.9	13.8
ARM B	3.03	10.12	0.299		0.6	0.4	6.7
ARM C	4.42	13.18	0.335		0.7	0.5	7.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	4.56	11.85	0.385		0.9	0.6	9.8
ARM B	2.54	10.42	0.244		0.4	0.3	5.0
ARM C	3.70	13.35	0.277		0.5	0.4	5.9

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.8	*
17.30	1.3	*
17.45	1.3	*
18.00	0.9	*
18.15	0.6	*

QUEUE AT ARM B

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 C

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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	500.5	333.7	83.2	0.17	83.2	0.17
B	278.4	185.6	40.4	0.15	40.4	0.15
C	405.9	270.6	47.6	0.12	47.6	0.12
ALL	1184.7	789.8	171.1	0.14	171.1	0.14

* 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

****** ARCADY 5 run completed.

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

[Printed at 11:56:19 AM on 1/11/2012]

TRL TRL VIEWER 2.0 AD p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Saturday Inter-peak Base

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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un with file:-
:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Saturday Inter-peak Base.vai"
(drive-on-the-left) at 12:00:25 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY
****

JN TITLE
****
2013 Saturday Inter-peak Base

NPUT DATA
****
ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 11.45 AND ENDS 13.15

ENGTH 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	3.80	5.70	3.80
ARM B	15.00	45.00	75.00	2.16	3.24	2.16
ARM C	15.00	45.00	75.00	3.88	5.81	3.88

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
11.45 - 13.15	ARM A	0.000	0.355	0.645
		0.0	108.0	196.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.497	0.000	0.503
		86.0	0.0	87.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.765	0.235	0.000
		237.0	73.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
11.45-12.00							
ARM A	3.80	11.90	0.319		0.0	0.5	6.7
ARM B	2.16	10.64	0.203		0.0	0.3	3.7
ARM C	3.88	13.64	0.284		0.0	0.4	5.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.00-12.15							
ARM A	4.54	11.80	0.384		0.5	0.6	9.0
ARM B	2.58	10.37	0.249		0.3	0.3	4.8
ARM C	4.63	13.51	0.342		0.4	0.5	7.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.15-12.30							
ARM A	5.56	11.67	0.476		0.6	0.9	12.8
ARM B	3.16	10.02	0.316		0.3	0.5	6.6
ARM C	5.67	13.35	0.425		0.5	0.7	10.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.30-12.45							
ARM A	5.56	11.67	0.476		0.9	0.9	13.4
ARM B	3.16	10.01	0.316		0.5	0.5	6.9
ARM C	5.67	13.34	0.425		0.7	0.7	11.0

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.45-13.00							
ARM A	4.54	11.80	0.385		0.9	0.6	9.8
ARM B	2.58	10.37	0.249		0.5	0.3	5.2
ARM C	4.63	13.51	0.343		0.7	0.5	8.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
13.00-13.15							
ARM A	3.80	11.89	0.319		0.6	0.5	7.3
ARM B	2.16	10.63	0.204		0.3	0.3	4.0
ARM C	3.88	13.63	0.284		0.5	0.4	6.2

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.5	
12.15	0.6	*
12.30	0.9	*
12.45	0.9	*
13.00	0.6	*
13.15	0.5	

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.00	0.3
12.15	0.3
12.30	0.5
12.45	0.5
13.00	0.3
13.15	0.3

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.4	
12.15	0.5	*
12.30	0.7	*
12.45	0.7	*
13.00	0.5	*
13.15	0.4	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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	416.8	277.9	59.1	0.14	59.1	0.14
B	237.2	158.1	31.1	0.13	31.1	0.13
C	425.1	283.4	49.1	0.12	49.1	0.12
ALL	1079.1	719.4	139.2	0.13	139.2	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

****** ARCADY 5 run completed.

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

[Printed at 12:00:59 PM on 1/11/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday AM Peak with Development .vai"
(drive-on-the-left) at 14:46:44 on Wednesday, 26 September 2012

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

2013 Weekday AM Peak with Development

INPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

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	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	2.04	3.06	2.04
ARM B	15.00	45.00	75.00	2.84	4.26	2.84
ARM C	15.00	45.00	75.00	3.42	5.14	3.42

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.245	0.755
		0.0	40.0	123.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.683	0.000	0.317
		155.0	0.0	72.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.912	0.088	0.000
		250.0	24.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00							
ARM A	2.04	12.22	0.167		0.0	0.2	2.9
ARM B	2.84	11.13	0.255		0.0	0.3	4.9
ARM C	3.42	13.14	0.261		0.0	0.3	5.1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15							
ARM A	2.43	12.19	0.200		0.2	0.2	3.6
ARM B	3.39	10.97	0.309		0.3	0.4	6.5
ARM C	4.09	12.92	0.317		0.3	0.5	6.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30							
ARM A	2.98	12.15	0.245		0.2	0.3	4.7
ARM B	4.15	10.74	0.386		0.4	0.6	9.0
ARM C	5.01	12.62	0.397		0.5	0.6	9.4

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45							
ARM A	2.98	12.15	0.245		0.3	0.3	4.8
ARM B	4.15	10.74	0.386		0.6	0.6	9.3
ARM C	5.01	12.61	0.397		0.6	0.7	9.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00							
ARM A	2.43	12.19	0.200		0.3	0.3	3.9
ARM B	3.39	10.96	0.309		0.6	0.5	7.0
ARM C	4.09	12.91	0.317		0.7	0.5	7.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15							
ARM A	2.04	12.22	0.167		0.3	0.2	3.1
ARM B	2.84	11.12	0.255		0.5	0.3	5.3
ARM C	3.42	13.13	0.261		0.5	0.4	5.5

QUEUE AT ARM A

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	0.3	
09.15	0.2	

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	0.5	
09.15	0.3	

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.5	
08.30	0.6	*
08.45	0.7	*
09.00	0.5	
09.15	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	223.5	149.0	23.0	0.10	23.0	0.10
B	311.3	207.5	42.0	0.13	42.0	0.13
C	375.7	250.5	43.7	0.12	43.7	0.12
ALL	910.5	607.0	108.7	0.12	108.7	0.12

* 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

****** ARCADY 5 run completed.

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

[Printed at 14:46:49 on 26/09/2012]

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Weekday PM Peak with Development.vai"
(drive-on-the-left) at 12:49:01 on Thursday, 27 September 2012

ROUNDABOUT CAPACITY AND DELAY
****

RUN TITLE
****
2013 Weekday PM Peak with Development

INPUT DATA
****
ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

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	3.74	5.61	3.74
ARM B	15.00	45.00	75.00	5.43	8.14	5.43
ARM C	15.00	45.00	75.00	4.24	6.36	4.24

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.492	0.508
		0.0	147.0	152.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.578	0.000	0.422
		251.0	0.0	183.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.758	0.242	0.000
		257.0	82.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	3.74	11.84	0.316		0.0	0.5	6.6
ARM B	5.43	10.94	0.496		0.0	1.0	13.5
ARM C	4.24	12.46	0.340		0.0	0.5	7.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	4.46	11.73	0.380		0.5	0.6	8.8
ARM B	6.48	10.73	0.604		1.0	1.5	20.8
ARM C	5.06	12.09	0.418		0.5	0.7	10.3

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	5.47	11.59	0.472		0.6	0.9	12.6
ARM B	7.93	10.46	0.759		1.5	2.9	38.4
ARM C	6.20	11.63	0.533		0.7	1.1	15.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	5.47	11.59	0.472		0.9	0.9	13.2
ARM B	7.93	10.45	0.759		2.9	3.0	44.2
ARM C	6.20	11.60	0.534		1.1	1.1	16.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	4.46	11.73	0.381		0.9	0.6	9.7
ARM B	6.48	10.72	0.604		3.0	1.6	25.6
ARM C	5.06	12.05	0.420		1.1	0.7	11.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	3.74	11.83	0.316		0.6	0.5	7.2
ARM B	5.43	10.93	0.497		1.6	1.0	15.9
ARM C	4.24	12.42	0.341		0.7	0.5	8.1

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.6	*
17.30	0.9	*
17.45	0.9	*
18.00	0.6	*
18.15	0.5	

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.0	*
17.15	1.5	*
17.30	2.9	***
17.45	3.0	***
18.00	1.6	**
18.15	1.0	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.7	*
17.30	1.1	*
17.45	1.1	*
18.00	0.7	*
18.15	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	410.0	273.3	58.1	0.14	58.1	0.14
B	595.1	396.7	158.4	0.27	158.4	0.27
C	464.8	309.9	70.0	0.15	70.0	0.15
ALL	1469.9	980.0	286.5	0.19	286.5	0.19

* 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

****** ARCADY 5 run completed.
========== end of file ==========

[Printed at 12:49:09 on 27/09/2012]

TRL TRL VIEWER 2.0 AD p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Saturday Peak with D

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2013 Saturday Peak with Development .vai"
(drive-on-the-left) at 13:19:10 on Wednesday, 26 September 2012

ROUNDABOUT CAPACITY AND DELAY

RUN TITLE

2013 Saturday Peak with Development

INPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
ARM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
E = entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 11.45 AND ENDS 13.15

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	2.97	4.46	2.97
ARM B	15.00	45.00	75.00	5.44	8.16	5.44
ARM C	15.00	45.00	75.00	4.55	6.83	4.55

TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C
11.45 - 13.15	ARM A	0.000	0.416	0.584
		0.0	99.0	139.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.589	0.000	0.411
		256.0	0.0	179.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.810	0.190	0.000
		295.0	69.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
11.45-12.00							
ARM A	2.97	11.93	0.249		0.0	0.3	4.8
ARM B	5.44	11.02	0.493		0.0	1.0	13.4
ARM C	4.55	12.42	0.366		0.0	0.6	8.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.00-12.15							
ARM A	3.55	11.84	0.300		0.3	0.4	6.2
ARM B	6.49	10.84	0.599		1.0	1.4	20.4
ARM C	5.43	12.05	0.451		0.6	0.8	11.7

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.15-12.30							
ARM A	4.35	11.71	0.371		0.4	0.6	8.5
ARM B	7.95	10.58	0.751		1.4	2.8	37.3
ARM C	6.65	11.57	0.575		0.8	1.3	18.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.30-12.45							
ARM A	4.35	11.71	0.372		0.6	0.6	8.8
ARM B	7.95	10.58	0.752		2.8	2.9	42.6
ARM C	6.65	11.54	0.576		1.3	1.3	19.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
12.45-13.00							
ARM A	3.55	11.83	0.300		0.6	0.4	6.7
ARM B	6.49	10.83	0.599		2.9	1.6	25.0
ARM C	5.43	12.01	0.452		1.3	0.8	13.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
13.00-13.15							
ARM A	2.97	11.92	0.250		0.4	0.3	5.2
ARM B	5.44	11.02	0.494		1.6	1.0	15.7
ARM C	4.55	12.39	0.367		0.8	0.6	9.1

EUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.3	
12.15	0.4	
12.30	0.6	*
12.45	0.6	*
13.00	0.4	
13.15	0.3	

UEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	1.0	*
12.15	1.4	*
12.30	2.8	***
12.45	2.9	***
13.00	1.6	**
13.15	1.0	*

UEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
12.00	0.6	*
12.15	0.8	*
12.30	1.3	*
12.45	1.3	*
13.00	0.8	*
13.15	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	326.3	217.6	40.1	0.12	40.1	0.12
B	596.5	397.7	154.5	0.26	154.5	0.26
C	499.1	332.7	80.7	0.16	80.8	0.16
ALL	1421.9	948.0	275.3	0.19	275.3	0.19

* 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

****** ARCADY 5 run completed.

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

[Printed at 13:19:32 on 26/09/2012]

TRL TRL VIEWER 2.0 AD p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2017 Weekday AM Peak Base.vac

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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un with file:-
:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2017 Weekday AM Peak Base.vai"
(drive-on-the-left) at 12:04:00 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY

UN TITLE

2017 Weekday AM Peak Base

NPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width Lm = effective flare length A = distance between arms
= entry width Vm = minimum approach half-width K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 07.45 AND ENDS 09.15

ENGTH 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 FLOW STOPS IS REACHED IFALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	2.59	3.88	2.59
ARM B	15.00	45.00	75.00	1.24	1.86	1.24
ARM C	15.00	45.00	75.00	3.13	4.69	3.13

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.222	0.778
		0.0	46.0	161.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.717	0.000	0.283
		71.0	0.0	28.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.892	0.108	0.000
		223.0	27.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
07.45-08.00							
ARM A	2.59	12.20	0.212		0.0	0.3	3.9
ARM B	1.24	10.87	0.114		0.0	0.1	1.9
ARM C	3.13	13.74	0.227		0.0	0.3	4.2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15							
ARM A	3.09	12.17	0.254		0.3	0.3	4.9
ARM B	1.48	10.66	0.139		0.1	0.2	2.3
ARM C	3.73	13.64	0.274		0.3	0.4	5.5

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30							
ARM A	3.78	12.12	0.312		0.3	0.4	6.6
ARM B	1.81	10.36	0.175		0.2	0.2	3.1
ARM C	4.57	13.50	0.338		0.4	0.5	7.4

TRL TRL VIEWER 2.0 AD p:\data\W50---\W50709 - Royston Development, Barnsley\ARCADY\2017 Weekday AM Peak Base.vac

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45							
ARM A	3.78	12.12	0.312		0.4	0.5	6.8
ARM B	1.81	10.36	0.175		0.2	0.2	3.2
ARM C	4.57	13.50	0.338		0.5	0.5	7.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00							
ARM A	3.09	12.16	0.254		0.5	0.3	5.3
ARM B	1.48	10.65	0.139		0.2	0.2	2.5
ARM C	3.73	13.64	0.274		0.5	0.4	5.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
09.00-09.15							
ARM A	2.59	12.20	0.212		0.3	0.3	4.2
ARM B	1.24	10.86	0.114		0.2	0.1	2.0
ARM C	3.13	13.74	0.228		0.4	0.3	4.5

QUEUE AT ARM A

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

QUEUE AT ARM B

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

QUEUE AT ARM C

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	283.8	189.2	31.6	0.11	31.6	0.11
B	135.7	90.5	14.9	0.11	14.9	0.11
C	342.8	228.5	35.1	0.10	35.1	0.10
ALL	762.4	508.3	81.6	0.11	81.6	0.11

* 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

****** ARCADY 5 run completed.

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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(drive-on-the-left) at 12:09:16 on Wednesday, 11 January 2012

OUNDABOUT CAPACITY AND DELAY

UN TITLE

2017 Weekday PM Peak Base

NPUT DATA

ARM A - Midland Road (West)
ARM B - The Lane
RM C - Midland Road (East)

MINI-ROUNDABOUT GEOMETRIC DATA

IGHTING CONDITIONS : NORMAL

ROAD SURFACE CONDITION: NORMAL

ARM	V (m)	E (m)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.25	4.10	1.00	3.25	11.30	7.40	0.00	0.529	13.616
ARM B	3.65	4.10	0.50	3.65	10.70	8.00	0.00	0.544	13.158
ARM C	3.25	4.00	0.00	3.25	13.40	13.80	0.00	0.580	15.680

V = approach half-width
= entry width
Lm = effective flare length
Vm = minimum approach half-width
A = distance between arms
K = entry corner kerb line
G = gradient over 50m

RAFFIC DEMAND DATA

IME PERIOD BEGINS 16.45 AND ENDS 18.15

ENGTH 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	4.80	7.20	4.80
ARM B	15.00	45.00	75.00	2.66	3.99	2.66
ARM C	15.00	45.00	75.00	3.90	5.85	3.90

TIME	FROM/TO	ARM A	ARM B	ARM C
		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
16.45 - 18.15	ARM A	0.000	0.380	0.620
		0.0	146.0	238.0
		(10.0)	(10.0)	(10.0)
	ARM B	0.610	0.000	0.390
		130.0	0.0	83.0
		(10.0)	(10.0)	(10.0)
	ARM C	0.734	0.266	0.000
		229.0	83.0	0.0
		(10.0)	(10.0)	(10.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
16.45-17.00							
ARM A	4.80	11.83	0.406		0.0	0.7	9.6
ARM B	2.66	10.36	0.257		0.0	0.3	4.9
ARM C	3.90	13.32	0.293		0.0	0.4	5.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15							
ARM A	5.73	11.72	0.489		0.7	0.9	13.5
ARM B	3.18	10.04	0.317		0.3	0.5	6.7
ARM C	4.66	13.13	0.355		0.4	0.5	7.9

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30							
ARM A	7.02	11.58	0.606		0.9	1.5	21.0
ARM B	3.89	9.61	0.405		0.5	0.7	9.6
ARM C	5.70	12.88	0.443		0.5	0.8	11.3

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45							
ARM A	7.02	11.58	0.606		1.5	1.5	22.6
ARM B	3.89	9.60	0.406		0.7	0.7	10.1
ARM C	5.70	12.88	0.443		0.8	0.8	11.8

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00							
ARM A	5.73	11.72	0.489		1.5	1.0	15.4
ARM B	3.18	10.02	0.317		0.7	0.5	7.3
ARM C	4.66	13.12	0.355		0.8	0.6	8.6

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	CROSSING USE PER MIN	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)
18.00-18.15							
ARM A	4.80	11.83	0.406		1.0	0.7	10.8
ARM B	2.66	10.34	0.258		0.5	0.4	5.4
ARM C	3.90	13.31	0.293		0.6	0.4	6.4

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	0.9	*
17.30	1.5	*
17.45	1.5	*
18.00	1.0	*
18.15	0.7	*

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	0.4	
17.15	0.5	*
17.30	0.8	*
17.45	0.8	*
18.00	0.6	*
18.15	0.4	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

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	526.5	351.0	92.8	0.18	92.9	0.18
B	292.1	194.7	44.1	0.15	44.1	0.15
C	427.8	285.2	52.0	0.12	52.0	0.12
ALL	1246.4	831.0	188.9	0.15	189.0	0.15

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END OF JOB

****** ARCADY 5 run completed.

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