

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
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Run with file:-

"g:\Planning\Jobs 2005\2005-180 Hollingbourne - Outline Planning Appl\TA supplementary information 2008\
2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2007\AM\
2008-06-24 A20-M20 link AM peak 2007 base - Direct Input.vai"
(drive-on-the-left) at 10:30:42 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link AM peak 2007 base - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link AM peak 2007 base - CNN traffic

DEMAND SET TITLE: A20-M20 link AM peak 2007 base - CNN traffic

TIME	TURNING PROPORTIONS			TURNING COUNTS			
	FROM/TO	ARM A	ARM B	ARM C	ARM A	ARM B	ARM C
08.00 - 09.00		0.000	1.000	0.000	402.0	0.0	0.0
		(0.0)	(3.0)	(2.5)			
	ARM B	0.260	0.000	0.740	278.0	0.0	791.0
		(2.9)	(0.0)	(7.3)			
	ARM C	0.280	0.720	0.000	388.0	999.0	0.0
		(2.8)	(5.8)	(0.0)			

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	7.50	21.53	0.348		0.0	0.5	7.7		0.07
ARM B	18.53	53.98	0.343		0.0	0.5	7.7		0.03
ARM C	27.43	41.47	0.662		0.0	1.9	27.7		0.07

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	8.04	21.57	0.373		0.5	0.6	8.7		0.07
ARM B	15.49	53.98	0.287		0.5	0.4	6.1		0.03
ARM C	27.20	42.03	0.647		1.9	1.9	28.1		0.07

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	7.24	23.06	0.314		0.6	0.5	7.0		0.06
ARM B	19.61	53.98	0.363		0.4	0.6	8.4		0.03
ARM C	23.92	41.26	0.580		1.9	1.4	21.4		0.06

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	4.02	23.98	0.168		0.5	0.2	3.1		0.05
ARM B	17.63	53.98	0.327		0.6	0.5	7.4		0.03
ARM C	21.93	41.63	0.527		1.4	1.1	17.1		0.05

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.5 *
08.30	0.6 *
08.45	0.5
09.00	0.2

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	1.9 **
08.30	1.9 **
08.45	1.4 *
09.00	1.1 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN/VEH)	INCLUSIVE QUEUEING DELAY (MIN/VEH)
A	402.0	26.6	0.07	26.6	0.07	0.07
B	1068.9	29.6	0.03	29.6	0.03	0.03
C	1507.2	94.3	0.06	94.3	0.06	0.06
ALL	2978.1	150.5	0.05	150.5	0.05	0.05

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

END OF JOB

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

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Run with file:-

"g:\Planning\Jobs 2005\2005-180 Hollingbourne - Outline Planning Appl\TA supplementary information 2008\
2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2007\PM\
2008-06-24 A20-M20 link PM peak 2007 base - Direct Input.vai"
(drive-on-the-left) at 10:32:05 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link PM peak 2007 base - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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I ARM I FLOW SCALE(%) I
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I A I 100 I
I B I 100 I
I C I 100 I
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TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link PM peak 2007 base - CNN traffic

DEMAND SET TITLE: A20-M20 link PM peak 2007 base - CNN traffic

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I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I I
I I
I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 17.00 - 18.00 I I I I I
I I ARM A I 0.000 I 1.000 I 0.000 I
I I I 0.0 I 202.0 I 0.0 I
I I I ( 0.0)I ( 2.5)I ( 2.7)I
I I I I I I
I I ARM B I 0.176 I 0.000 I 0.824 I
I I I 210.0 I 0.0 I 981.0 I
I I I ( 5.2)I ( 0.0)I ( 3.8)I
I I I I I I
I I ARM C I 0.309 I 0.691 I 0.000 I
I I I 383.0 I 855.0 I 0.0 I
I I I ( 0.8)I ( 2.7)I ( 0.0)I
I I I I I I
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QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.00-17.15 I
I ARM A 3.50 25.14 0.139 0.0 0.2 2.4 0.05 I
I ARM B 21.72 55.08 0.394 0.0 0.6 9.6 0.03 I
I ARM C 21.20 43.30 0.490 0.0 1.0 14.0 0.05 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.15-17.30 I
I ARM A 3.64 24.79 0.147 0.2 0.2 2.6 0.05 I
I ARM B 15.60 55.08 0.283 0.6 0.4 6.0 0.03 I
I ARM C 21.97 44.11 0.498 1.0 1.0 14.7 0.05 I
I I
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-----
I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.30-17.45 I
I ARM A 4.04 25.87 0.156 0.2 0.2 2.7 0.05 I
I ARM B 21.58 55.08 0.392 0.4 0.6 9.5 0.03 I
I ARM C 19.42 43.31 0.448 1.0 0.8 12.4 0.04 I
I I
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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	2.29	25.65	0.089		0.2	0.1	1.5		0.04
ARM B	20.78	55.08	0.377		0.6	0.6	9.2		0.03
ARM C	19.94	43.42	0.459		0.8	0.8	12.6		0.04

QUEUE AT ARM A

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

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.0 *
17.30	1.0 *
17.45	0.8 *
18.00	0.8 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN/VEH)	INCLUSIVE QUEUEING DELAY (MIN/VEH)
A	202.1	9.2	0.05	9.2	0.05	0.05
B	1195.2	34.3	0.03	34.3	0.03	0.03
C	1237.9	53.7	0.04	53.7	0.04	0.04
ALL	2635.2	97.2	0.04	97.2	0.04	0.04

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

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

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Run with file:-

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2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2016\Base\AM\
2008-06-24 A20-M20 link AM peak 2016 base - Direct Input.vai"
(drive-on-the-left) at 10:33:07 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link AM peak 2016 base - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link AM peak 2016 base - CNN traffic

DEMAND SET TITLE: A20-M20 link AM peak 2016 base - CNN traffic

TIME	TURNING PROPORTIONS			TURNING COUNTS			
	FROM/TO	ARM A	ARM B	ARM C	ARM A	ARM B	ARM C
08.00 - 09.00		0.000	1.000	0.000	453.0	0.0	0.0
		(0.0)	(3.0)	(2.6)			
	ARM B	0.260	0.000	0.740	313.0	0.0	891.0
		(3.0)	(0.0)	(7.3)			
	ARM C	0.304	0.696	0.000	437.0	999.0	0.0
		(3.0)	(5.9)	(0.0)			

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15									
ARM A	8.46	20.43	0.414		0.0	0.7	10.2		0.08
ARM B	20.87	53.97	0.387		0.0	0.6	9.3		0.03
ARM C	30.92	41.00	0.754		0.0	3.0	41.9		0.10

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
ARM A	9.06	20.46	0.443		0.7	0.8	11.6		0.09
ARM B	17.45	53.97	0.323		0.6	0.5	7.3		0.03
ARM C	30.65	41.64	0.736		3.0	2.8	43.2		0.09

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
ARM A	8.15	22.07	0.369		0.8	0.6	9.0		0.07
ARM B	22.09	53.97	0.409		0.5	0.7	10.2		0.03
ARM C	26.96	40.76	0.661		2.8	2.0	30.7		0.07

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	4.53	23.07	0.196		0.6	0.2	3.8		0.05
ARM B	19.86	53.97	0.368		0.7	0.6	8.8		0.03
ARM C	24.72	41.18	0.600		2.0	1.5	23.3		0.06

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.7 *
08.30	0.8 *
08.45	0.6 *
09.00	0.2

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	3.0 ***
08.30	2.8 ***
08.45	2.0 **
09.00	1.5 **

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN/VEH)	INCLUSIVE QUEUEING DELAY (MIN/VEH)
A	453.0	34.6	0.08	34.6	0.08	0.08
B	1204.0	35.6	0.03	35.6	0.03	0.03
C	1698.7	139.2	0.08	139.2	0.08	0.08
ALL	3355.8	209.4	0.06	209.4	0.06	0.06

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

END OF JOB

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

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RG40 3GA,UK

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Run with file:-

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2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2016\Base\PM\
2008-06-24 A20-M20 link PM peak 2016 base - Direct Input.vai"
(drive-on-the-left) at 10:34:21 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link PM peak 2016 PM base - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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I ARM I FLOW SCALE(%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
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```

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link PM peak 2016 base - CNN traffic

DEMAND SET TITLE: A20-M20 link PM peak 2016 base - CNN traffic

```

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I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I I
I I
I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 17.00 - 18.00 I I I I I
I I ARM A I 0.000 I 1.000 I 0.000 I
I I I 0.0 I 228.0 I 0.0 I
I I I ( 0.0)I ( 2.3)I ( 2.8)I
I I I I I I
I I ARM B I 0.192 I 0.000 I 0.808 I
I I I 237.0 I 0.0 I 999.0 I
I I I ( 5.3)I ( 0.0)I ( 3.8)I
I I I I I I
I I ARM C I 0.309 I 0.691 I 0.000 I
I I I 432.0 I 965.0 I 0.0 I
I I I ( 0.7)I ( 2.7)I ( 0.0)I
I I I I I I
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QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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-----
I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.00-17.15 I
I ARM A 3.95 24.03 0.164 0.0 0.2 2.9 0.05 I
I ARM B 24.53 55.05 0.446 0.0 0.8 11.8 0.03 I
I ARM C 23.93 42.64 0.561 0.0 1.3 18.5 0.05 I
I I
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-----
I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.15-17.30 I
I ARM A 4.10 23.62 0.174 0.2 0.2 3.1 0.05 I
I ARM B 17.62 55.05 0.320 0.8 0.5 7.2 0.03 I
I ARM C 24.79 43.64 0.568 1.3 1.3 19.5 0.05 I
I I
-----
    
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-----
I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.30-17.45 I
I ARM A 4.56 24.85 0.183 0.2 0.2 3.3 0.05 I
I ARM B 24.37 55.05 0.443 0.5 0.8 11.7 0.03 I
I ARM C 21.91 42.66 0.514 1.3 1.1 16.2 0.05 I
I I
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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	2.58	24.60	0.105		0.2	0.1	1.8		0.05
ARM B	23.47	55.05	0.426		0.8	0.7	11.3		0.03
ARM C	22.51	42.79	0.526		1.1	1.1	16.4		0.05

QUEUE AT ARM A

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

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.3 *
17.30	1.3 *
17.45	1.1 *
18.00	1.1 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN)	INCLUSIVE QUEUEING DELAY (MIN)
A	227.8	11.1	0.05	11.1
B	1349.8	41.9	0.03	41.9
C	1397.1	70.6	0.05	70.6
ALL	2974.8	123.6	0.04	123.6

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

END OF JOB

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

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

Run with file:-

"g:\Planning\Jobs 2005\2005-180 Hollingbourne - Outline Planning Appl\TA supplementary information 2008\
2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2026\Base\AM\
2008-06-24 A20-M20 link AM peak 2026 base - Direct Input.vai"
(drive-on-the-left) at 10:43:23 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link AM peak 2026 base - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

```

-----
I ARM I FLOW SCALE(%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link AM peak 2026 base - CNN traffic

DEMAND SET TITLE: A20-M20 link AM peak 2026 base - CNN traffic

```

-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I I
I I
I I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 08.00 - 09.00 I I I I I
I I ARM A I 0.000 I 1.000 I 0.000 I
I I I 0.0 I 503.0 I 0.0 I
I I I ( 0.0)I ( 3.1)I ( 2.6)I
I I I I I I
I I ARM B I 0.260 I 0.000 I 0.740 I
I I I 348.0 I 0.0 I 989.0 I
I I I ( 2.9)I ( 0.0)I ( 7.3)I
I I I I I I
I I ARM C I 0.327 I 0.673 I 0.000 I
I I I 485.0 I 999.0 I 0.0 I
I I I ( 3.0)I ( 6.1)I ( 0.0)I
I I I I I I
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QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.00-08.15 I
I ARM A 9.39 19.44 0.483 0.0 0.9 13.3 0.10 I
I ARM B 23.17 53.98 0.429 0.0 0.7 11.1 0.03 I
I ARM C 34.29 40.54 0.846 0.0 5.2 68.8 0.15 I
I I
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-----
I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.15-08.30 I
I ARM A 10.06 19.41 0.518 0.9 1.1 15.6 0.11 I
I ARM B 19.38 53.98 0.359 0.7 0.6 8.5 0.03 I
I ARM C 34.00 41.24 0.824 5.2 4.9 74.3 0.14 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.30-08.45 I
I ARM A 9.05 21.12 0.428 1.1 0.8 11.7 0.08 I
I ARM B 24.53 53.98 0.454 0.6 0.8 12.3 0.03 I
I ARM C 29.90 40.27 0.742 4.9 3.0 46.7 0.10 I
I I
-----
    
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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	5.03	22.22	0.226		0.8	0.3	4.5		0.06
ARM B	22.05	53.98	0.408		0.8	0.7	10.5		0.03
ARM C	27.42	40.74	0.673		3.0	2.1	32.5		0.08

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	0.9 *
08.30	1.1 *
08.45	0.8 *
09.00	0.3

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	5.2 *****
08.30	4.9 *****
08.45	3.0 ***
09.00	2.1 **

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN/VEH)	INCLUSIVE QUEUEING DELAY (MIN/VEH)
A	503.0	45.0	0.09	45.0	0.09	0.09
B	1336.9	42.3	0.03	42.3	0.03	0.03
C	1884.1	222.2	0.12	222.3	0.12	0.12
ALL	3724.0	309.6	0.08	309.7	0.08	0.08

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

END OF JOB

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

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

Run with file:-

"g:\Planning\Jobs 2005\2005-180 Hollingbourne - Outline Planning Appl\TA supplementary information 2008\
2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2026\Base\PM\
2008-06-24 A20-M20 link PM peak 2026 base - Direct Input.vai"
(drive-on-the-left) at 10:44:20 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link PM peak 2026 PM base - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link PM peak 2026 base - CNN traffic

DEMAND SET TITLE: A20-M20 link PM peak 2026 base - CNN traffic

TIME	TURNING PROPORTIONS			
	FROM/TO	ARM A	ARM B	ARM C
17.00 - 18.00	ARM A	0.000	1.000	0.000
		0.0	254.0	0.0
		(0.0)	(2.6)	(2.6)
	ARM B	0.209	0.000	0.791
		264.0	0.0	999.0
		(5.1)	(0.0)	(3.8)
	ARM C	0.325	0.675	0.000
		481.0	999.0	0.0
		(0.7)	(2.7)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	4.40	23.07	0.191		0.0	0.2	3.5		0.05
ARM B	27.28	55.06	0.495		0.0	1.0	14.4		0.04
ARM C	26.63	41.90	0.636		0.0	1.7	24.9		0.06

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
ARM A	4.57	22.63	0.202		0.2	0.3	3.7		0.06
ARM B	19.59	55.06	0.356		1.0	0.6	8.4		0.03
ARM C	27.59	43.11	0.640		1.7	1.8	26.3		0.06

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
ARM A	5.08	23.95	0.212		0.3	0.3	4.0		0.05
ARM B	27.10	55.06	0.492		0.6	1.0	14.2		0.04
ARM C	24.39	41.92	0.582		1.8	1.4	21.5		0.06

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	2.88	23.69	0.122		0.3	0.1	2.1		0.05
ARM B	26.11	55.06	0.474		1.0	0.9	13.7		0.03
ARM C	25.05	42.08	0.595		1.4	1.5	21.7		0.06

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.1

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.0 *
17.30	0.6 *
17.45	1.0 *
18.00	0.9 *

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.7 **
17.30	1.8 **
17.45	1.4 *
18.00	1.5 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN)
A	253.9	253.9	13.3	13.3
B	1501.2	1501.2	50.7	50.7
C	1554.9	1554.9	94.3	94.4
ALL	3310.0	3310.0	158.4	158.4

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

END OF JOB

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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RG40 3GA,UK

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

Run with file:-

"g:\Planning\Jobs 2005\2005-180 Hollingbourne - Outline Planning Appl\TA supplementary information 2008\
2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2016\Base + dev\AM\
2008-06-24 A20-M20 link AM peak 2016 base + dev - Direct Input.vai"
(drive-on-the-left) at 10:35:21 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link AM peak 2016 base+Dev - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

```

-----
I ARM I FLOW SCALE(%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link AM peak 2016 base+Dev - CNN traffic

DEMAND SET TITLE: A20-M20 link AM peak 2016 base+Dev - CNN traffic

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-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I I
I I
I I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 08.00 - 09.00 I I I I I
I I ARM A I 0.000 I 1.000 I 0.000 I
I I I 0.0 I 526.0 I 0.0 I
I I I ( 0.0)I ( 17.1)I ( 4.0)I
I I I I I I
I I ARM B I 0.434 I 0.000 I 0.566 I
I I I 683.0 I 0.0 I 891.0 I
I I I ( 11.4)I ( 0.0)I ( 7.3)I
I I I I I I
I I ARM C I 0.371 I 0.629 I 0.000 I
I I I 589.0 I 999.0 I 0.0 I
I I I ( 3.1)I ( 5.9)I ( 0.0)I
I I I I I I
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QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.00-08.15 I
I ARM A 9.82 18.41 0.533 0.0 1.1 16.0 0.11 I
I ARM B 27.28 52.53 0.519 0.0 1.1 15.8 0.04 I
I ARM C 33.45 35.70 0.937 0.0 11.0 128.3 0.29 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.15-08.30 I
I ARM A 10.52 18.14 0.580 1.1 1.4 19.7 0.13 I
I ARM B 22.63 52.53 0.431 1.1 0.8 11.6 0.03 I
I ARM C 33.39 37.26 0.896 11.0 9.5 150.0 0.27 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.30-08.45 I
I ARM A 9.47 19.52 0.485 1.4 1.0 14.8 0.10 I
I ARM B 29.24 52.53 0.557 0.8 1.2 18.3 0.04 I
I ARM C 29.29 35.02 0.836 9.5 5.4 89.3 0.19 I
I I
-----
    
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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	5.26	20.32	0.259		1.0	0.4	5.4		0.07
ARM B	25.78	52.53	0.491		1.2	1.0	14.7		0.04
ARM C	27.15	36.18	0.750		5.4	3.1	49.2		0.11

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	1.1 *
08.30	1.4 *
08.45	1.0 *
09.00	0.4

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	1.1 *
08.30	0.8 *
08.45	1.2 *
09.00	1.0 *

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	11.0 *****
08.30	9.5 *****
08.45	5.4 *****
09.00	3.1 ***

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	INCLUSIVE QUEUEING DELAY (MIN/VEH)	QUEUEING DELAY (MIN)	INCLUSIVE QUEUEING DELAY (MIN/VEH)
A	526.0	55.9	0.11	55.9
B	1574.0	60.4	0.04	60.4
C	1849.2	416.9	0.23	417.0
ALL	3949.2	533.2	0.14	533.4

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

END OF JOB

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

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

Run with file:-

"g:\Planning\Jobs 2005\2005-180 Hollingbourne - Outline Planning Appl\TA supplementary information 2008\
2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2016\Base + dev\PM\
2008-06-24 A20-M20 link PM peak 2016 base + dev - Direct Input.vai"
(drive-on-the-left) at 10:42:20 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link PM peak 2016 PM base+Dev - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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-----
I ARM I FLOW SCALE(%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link PM peak 2016 base+Dev - CNN traffic

DEMAND SET TITLE: A20-M20 link PM peak 2016 base+Dev - CNN traffic

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-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I I
I I
I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 17.00 - 18.00 I I I I I
I I ARM A I 0.000 I 1.000 I 0.000 I
I I I 0.0 I 619.0 I 0.0 I
I I I ( 0.0)I ( 3.8)I ( 2.9)I
I I I I I I
I I ARM B I 0.249 I 0.000 I 0.751 I
I I I 332.0 I 0.0 I 999.0 I
I I I ( 27.5)I ( 0.0)I ( 3.8)I
I I I I I I
I I ARM C I 0.317 I 0.683 I 0.000 I
I I I 447.0 I 965.0 I 0.0 I
I I I ( 2.1)I ( 2.7)I ( 0.0)I
I I I I I I
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QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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-----
I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.00-17.15 I
I ARM A 10.73 23.69 0.453 0.0 0.8 11.9 0.08 I
I ARM B 26.36 52.23 0.505 0.0 1.0 14.9 0.04 I
I ARM C 24.18 39.99 0.605 0.0 1.5 21.9 0.06 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.15-17.30 I
I ARM A 11.14 23.28 0.479 0.8 0.9 13.4 0.08 I
I ARM B 18.76 52.23 0.359 1.0 0.6 8.5 0.03 I
I ARM C 25.07 41.71 0.601 1.5 1.5 22.7 0.06 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.30-17.45 I
I ARM A 12.28 24.51 0.501 0.9 1.0 14.7 0.08 I
I ARM B 26.14 52.23 0.500 0.6 1.0 14.7 0.04 I
I ARM C 22.09 40.03 0.552 1.5 1.2 19.0 0.06 I
I I
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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	7.02	24.23	0.290		1.0	0.4	6.3		0.06
ARM B	25.18	52.23	0.482		1.0	0.9	14.1		0.04
ARM C	22.80	40.24	0.567		1.2	1.3	19.3		0.06

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.8 *
17.30	0.9 *
17.45	1.0 *
18.00	0.4

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.0 *
17.30	0.6 *
17.45	1.0 *
18.00	0.9 *

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.5 **
17.30	1.5 **
17.45	1.2 *
18.00	1.3 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	(VEH/H)	* QUEUEING * DELAY * (MIN)	(MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	(MIN/VEH)
A	617.5	617.5	46.3	0.07	46.3	0.07
B	1446.6	1446.6	52.3	0.04	52.3	0.04
C	1412.1	1412.1	82.9	0.06	82.9	0.06
ALL	3476.3	3476.3	181.4	0.05	181.5	0.05

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

END OF JOB

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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RG40 3GA,UK

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

Run with file:-

"g:\Planning\Jobs 2005\2005-180 Hollingbourne - Outline Planning Appl\TA supplementary information 2008\
2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2026\Base + dev\AM\
2008-06-24 A20-M20 link AM peak 2026 base + dev - Direct Input.vai"
(drive-on-the-left) at 10:45:17 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link AM peak 2026 base+Dev - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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-----
I ARM I FLOW SCALE(%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
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```

TIME PERIOD BEGINS 08.00 AND ENDS 09.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link AM peak 2026 base+Dev - CNN traffic

DEMAND SET TITLE: A20-M20 link AM peak 2026 base+Dev - CNN traffic

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-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I I
I I
I I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 08.00 - 09.00 I I I I I
I I ARM A I 0.000 I 1.000 I 0.000 I
I I I 0.0 I 575.0 I 0.0 I
I I I ( 0.0)I ( 6.4)I ( 3.8)I
I I I I I I
I I ARM B I 0.420 I 0.000 I 0.580 I
I I I 717.0 I 0.0 I 989.0 I
I I I ( 11.3)I ( 0.0)I ( 7.3)I
I I I I I I
I I ARM C I 0.389 I 0.611 I 0.000 I
I I I 637.0 I 999.0 I 0.0 I
I I I ( 3.1)I ( 6.1)I ( 0.0)I
I I I I I I
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```

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

```

-----
I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.00-08.15 I
I ARM A 10.73 20.01 0.536 0.0 1.1 16.3 0.11 I
I ARM B 29.57 52.58 0.562 0.0 1.3 18.7 0.04 I
I ARM C 36.82 35.22 1.045 0.0 37.6 332.7 0.68 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.15-08.30 I
I ARM A 11.50 19.24 0.598 1.1 1.5 21.1 0.13 I
I ARM B 24.54 52.58 0.467 1.3 0.9 13.4 0.04 I
I ARM C 36.74 36.85 0.997 37.6 43.2 607.1 1.20 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 08.30-08.45 I
I ARM A 10.35 20.22 0.512 1.5 1.1 16.5 0.10 I
I ARM B 31.66 52.58 0.602 0.9 1.5 22.0 0.05 I
I ARM C 32.23 34.52 0.934 43.2 20.2 468.1 1.00 I
I I
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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
ARM A	5.75	21.32	0.270		1.1	0.4	5.7		0.06
ARM B	27.96	52.58	0.532		1.5	1.1	17.4		0.04
ARM C	29.85	35.72	0.836		20.2	5.5	112.3		0.24

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	1.1 *
08.30	1.5 *
08.45	1.1 *
09.00	0.4

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	1.3 *
08.30	0.9 *
08.45	1.5 **
09.00	1.1 *

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.15	37.6 *****
08.30	43.2 *****
08.45	20.2 *****
09.00	5.5 *****

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN)	INCLUSIVE QUEUEING DELAY (MIN)	QUEUEING DELAY (MIN/VEH)	INCLUSIVE QUEUEING DELAY (MIN/VEH)
A	575.0	59.6	0.10	59.6	0.10	0.10
B	1705.9	71.5	0.04	71.5	0.04	0.04
C	2034.6	1520.2	0.75	1520.6	0.75	0.75
ALL	4315.5	1651.3	0.38	1651.7	0.38	0.38

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

END OF JOB

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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RG40 3GA,UK

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

Run with file:-

"g:\Planning\Jobs 2005\2005-180 Hollingbourne - Outline Planning Appl\TA supplementary information 2008\
2008 07 17 TempromNRTF adjusted analysis\A20 M20 Link\2026\Base + dev\PM\
2008-06-24 A20-M20 link PM peak 2026 base + dev - Direct Input.vai"
(drive-on-the-left) at 10:46:07 on Wednesday, 23 July 2008

FILE PROPERTIES

RUN TITLE: A20-M20 link PM peak 2026 PM base+Dev - Direct Input
LOCATION: Kent
DATE: 24/06/08
CLIENT: KIG
ENUMERATOR: csmith
JOB NUMBER: 2005-180
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - A20 west
ARM B - M20 link
ARM C - A20 east

GEOMETRIC DATA

I	ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	5.00	I	8.00	I	25.00	I	34.00	I	60.00	I	45.0	I	0.618	I	35.041	I
I	ARM B	I	10.00	I	12.00	I	10.00	I	32.00	I	60.00	I	32.0	I	0.861	I	57.304	I
I	ARM C	I	9.00	I	10.00	I	10.00	I	45.00	I	60.00	I	50.0	I	0.742	I	47.195	I

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

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

```

-----
I ARM I FLOW SCALE(%) I
-----
I A I 100 I
I B I 100 I
I C I 100 I
-----
    
```

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
 DEMAND SET TITLE: A20-M20 link PM peak 2026 base+Dev - CNN traffic

DEMAND SET TITLE: A20-M20 link PM peak 2026 base+Dev - CNN traffic

```

-----
I I TURNING PROPORTIONS I
I I TURNING COUNTS I
I I (PERCENTAGE OF H.V.S) I
I I
I I
I I TIME I FROM/TO I ARM A I ARM B I ARM C I
-----
I 17.00 - 18.00 I I I I I
I I ARM A I 0.000 I 1.000 I 0.000 I
I I I 0.0 I 645.0 I 0.0 I
I I I ( 0.0)I ( 13.6)I ( 3.0)I
I I I I I I
I I I ARM B I 0.264 I 0.000 I 0.736 I
I I I 359.0 I 0.0 I 999.0 I
I I I ( 26.8)I ( 0.0)I ( 3.8)I
I I I I I I
I I I ARM C I 0.331 I 0.669 I 0.000 I
I I I 495.0 I 999.0 I 0.0 I
I I I ( 2.0)I ( 2.7)I ( 0.0)I
I I I I I I
-----
    
```

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

```

-----
I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.00-17.15 I
I ARM A 11.18 20.86 0.536 0.0 1.1 16.3 0.10 I
I ARM B 29.12 52.15 0.558 0.0 1.3 18.4 0.04 I
I ARM C 26.87 39.01 0.689 0.0 2.2 31.0 0.08 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.15-17.30 I
I ARM A 11.61 20.43 0.568 1.1 1.3 19.0 0.11 I
I ARM B 20.73 52.15 0.397 1.3 0.7 10.1 0.03 I
I ARM C 27.86 41.02 0.679 2.2 2.1 32.3 0.08 I
I I
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I TIME DEMAND CAPACITY DEMAND/ PEDESTRIAN START END DELAY GEOMETRIC DELAY AVERAGE DELAY I
I (VEH/MIN) (VEH/MIN) CAPACITY FLOW QUEUE QUEUE (VEH.MIN/ (VEH.MIN/ PER ARRIVING I
I (RFC) (PEDS/MIN) (VEHS) (VEHS) TIME SEGMENT) TIME SEGMENT) VEHICLE (MIN) I
I 17.30-17.45 I
I ARM A 12.90 21.65 0.596 1.3 1.4 21.3 0.11 I
I ARM B 28.88 52.15 0.554 0.7 1.2 18.1 0.04 I
I ARM C 24.56 39.06 0.629 2.1 1.7 26.4 0.07 I
I I
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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
ARM A	7.31	21.38	0.342		1.4	0.5	8.1		0.07
ARM B	27.82	52.15	0.533		1.2	1.1	17.4		0.04
ARM C	25.32	39.30	0.644		1.7	1.8	26.6		0.07

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.1 *
17.30	1.3 *
17.45	1.4 *
18.00	0.5 *

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.3 *
17.30	0.7 *
17.45	1.2 *
18.00	1.1 *

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	2.2 **
17.30	2.1 **
17.45	1.7 **
18.00	1.8 **

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	DEMAND (VEH/H)	* QUEUEING * (MIN)	* INCLUSIVE QUEUEING * (MIN/VEH)
A	645.0	645.0	64.7	0.10
B	1598.3	1598.3	64.0	0.04
C	1569.2	1569.2	116.2	0.07
ALL	3812.4	3812.4	244.9	0.06

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

END OF JOB

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