



A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file:-

"j:\122000\122374-00\4 Internal Project Data\4-40 Calculations\Transport\Junction Assessments\13.Gladstone Rd_Ffordd y Mileniwm\With Improvements\GladstoneRd_Ffordd y Mileniwm Rndbt.vai" (drive-on-the-left) at 17:34:32 on Thursday, 16 July 2009

.FILE PROPERTIES

RUN TITLE: Gladstone Rd_Ffordd Mileniwm Road Roundabout
LOCATION:
DATE: 26/06/09
CLIENT:
ENUMERATOR: Ryan.Hopkins [WACCMSJQ2J]
JOB NUMBER:
STATUS:
DESCRIPTION:

.INPUT DATA

ARM A - Cardiff Rd (E)
ARM B - Ffordd Mileniwm Rd (W)
ARM C - Cardiff Rd (N)

.GEOMETRIC DATA

Table with 14 columns: 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 T5. Rows for ARM A, B, and C.

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

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

.TRAFFIC DEMAND DATA

Only sets included in the current run are shown

.SCALING FACTORS

Table with 4 columns: I ARM, I FLOW SCALE(%), I T13. Rows for ARM A, B, and C.

TIME PERIOD BEGINS(16.30)AND ENDS(17.30)
.LENGTH OF TIME PERIOD -(60) MINUTES
.LENGTH OF TIME SEGMENT - (15) MINUTES

.DEMAND FLOW PROFILES ARE INPUT DIRECTLY.
.DEMAND SET TITLE: PM 2020 with Development

Table with 6 columns: I TIME, I FROM/TO, I ARM A, I ARM B, I ARM C, I T33. Rows for TURNING PROPORTIONS, TURNING COUNTS, and (PERCENTAGE OF H.V.S).

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-----
I 16.30 - 17.30 I I I I I I
I I ARM A I 0.000 I 0.000 I 1.000 I
I I I 0.0 I 0.0 I 619.0 I
I I I ( 0.0)I ( 0.0)I ( 1.0)I
I I I I I I
I I I ARM B I 0.735 I 0.000 I 0.265 I
I I I 847.0 I 0.0 I 305.0 I
I I I ( 2.0)I ( 0.0)I ( 2.0)I
I I I I I I
I I I ARM C I 0.744 I 0.256 I 0.000 I
I I I 474.0 I 163.0 I 0.0 I
I I I ( 2.0)I ( 9.0)I ( 0.0)I
I I I I I I
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QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

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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 16.30-16.45 I
I ARM A 10.31 17.44 0.591 - - - 0.0 1.4 19.9 - 0.137 I
I ARM B 19.20 27.61 0.695 - - - 0.0 2.2 31.3 - 0.115 I
I ARM C 10.62 14.51 0.732 - - - 0.0 2.6 34.4 - 0.237 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 16.45-17.00 I
I ARM A 10.31 17.42 0.592 - - - 1.4 1.4 21.4 - 0.141 I
I ARM B 19.28 27.54 0.700 - - - 2.2 2.3 34.1 - 0.121 I
I ARM C 10.62 14.42 0.736 - - - 2.6 2.7 39.7 - 0.261 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 17.00-17.15 I
I ARM A 10.31 17.42 0.592 - - - 1.4 1.4 21.5 - 0.141 I
I ARM B 19.28 27.54 0.700 - - - 2.3 2.3 34.5 - 0.121 I
I ARM C 10.62 14.42 0.737 - - - 2.7 2.7 40.7 - 0.263 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 10.31 17.42 0.592 - - - 1.4 1.4 21.6 - 0.141 I
I ARM B 19.28 27.54 0.700 - - - 2.3 2.3 34.7 - 0.121 I
I ARM C 10.62 14.42 0.737 - - - 2.7 2.7 41.1 - 0.263 I
I
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QUEUE AT ARM A

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TIME SEGMENT NO. OF
ENDING VEHICLES
IN QUEUE

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16.45 1.4 *
17.00 1.4 *
17.15 1.4 *
17.30 1.4 *

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QUEUE AT ARM B

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-----
TIME SEGMENT NO. OF
ENDING VEHICLES
IN QUEUE

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16.45 2.2 **
17.00 2.3 **
17.15 2.3 **
17.30 2.3 **

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QUEUE AT ARM C

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TIME SEGMENT NO. OF
ENDING VEHICLES
IN QUEUE

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16.45 2.6 ***
17.00 2.7 ***
17.15 2.7 ***
17.30 2.7 ***

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.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

										T75
I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I	I	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I	I	I
I	I	I	I	I	I	I	I	I	I	I
I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	A	I	618.6	I	618.6	I	84.4	I	0.14	I
I	B	I	1155.6	I	1155.6	I	134.6	I	0.12	I
I	C	I	637.2	I	637.2	I	155.9	I	0.24	I
I	ALL	I	2411.4	I	2411.4	I	374.9	I	0.16	I

* 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