



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__AMDELETE.vai" (drive-on-the-left) at 16:38:52 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 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 columns: I ARM, I FLOW SCALE(%), I T13. Rows for ARM A, B, and C.

.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: AM 2020 with Development

Table with 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 08.00 - 09.00 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 565.0 I
I I I ( 0.0)I ( 0.0)I ( 5.0)I
I I I I I I
I I ARM B I 0.847 I 0.000 I 0.153 I
I I I 877.0 I 0.0 I 159.0 I
I I I ( 9.0)I ( 0.0)I ( 7.0)I
I I I I I I
I I ARM C I 0.675 I 0.325 I 0.000 I
I I I 446.0 I 215.0 I 0.0 I
I I I ( 4.0)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

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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 9.42 16.34 0.576 - - - 0.0 1.3 18.8 - 0.141 I
I ARM B 17.27 26.25 0.658 - - - 0.0 1.9 26.6 - 0.108 I
I ARM C 11.02 13.43 0.821 - - - 0.0 4.0 50.6 - 0.346 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 9.42 16.30 0.578 - - - 1.3 1.4 20.2 - 0.145 I
I ARM B 17.27 26.19 0.659 - - - 1.9 1.9 28.5 - 0.112 I
I ARM C 11.02 13.37 0.825 - - - 4.0 4.3 63.2 - 0.415 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 9.42 16.29 0.578 - - - 1.4 1.4 20.3 - 0.146 I
I ARM B 17.27 26.19 0.659 - - - 1.9 1.9 28.8 - 0.112 I
I ARM C 11.02 13.36 0.825 - - - 4.3 4.5 66.1 - 0.420 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 08.45-09.00 I
I ARM A 9.42 16.29 0.578 - - - 1.4 1.4 20.4 - 0.146 I
I ARM B 17.27 26.19 0.659 - - - 1.9 1.9 28.8 - 0.112 I
I ARM C 11.02 13.36 0.825 - - - 4.5 4.5 67.3 - 0.424 I
I
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QUEUE AT ARM A

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TIME SEGMENT NO. OF
ENDING VEHICLES
IN QUEUE

08.15 1.3 *
08.30 1.4 *
08.45 1.4 *
09.00 1.4 *
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QUEUE AT ARM B

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TIME SEGMENT NO. OF
ENDING VEHICLES
IN QUEUE

08.15 1.9 **
08.30 1.9 **
08.45 1.9 **
09.00 1.9 **
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QUEUE AT ARM C

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TIME SEGMENT NO. OF
ENDING VEHICLES
IN QUEUE

08.15 4.0 ****
08.30 4.3 ****
08.45 4.5 ****
09.00 4.5 ****
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.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

T75

ARM	TOTAL DEMAND	QUEUEING * DELAY *	INCLUSIVE QUEUEING * DELAY *
(VEH)	(VEH/H)	(MIN) (MIN/VEH)	(MIN) (MIN/VEH)
A	565.2	79.7 0.14	79.8 0.14
B	1036.2	112.7 0.11	112.8 0.11
C	661.2	247.3 0.37	248.1 0.38
ALL	2262.6	439.7 0.19	440.6 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