A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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

TRL Limited Tel: +44 (0) 1344 770758
Crowthorne House Fax: +44 (0) 1344 770356
Nine Mile Ride Email: software@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA,UK

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 17:34:59 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

T5

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.00	4.00	0.00	12.00	40.00	36.0	0.515	19.121
ARM B	3.66	8.00	73.00	12.00	40.00	31.0	0.718	35.566
ARM C	3.39	6.00	8.50	12.00	40.00	26.5	0.575	23.281

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

T13

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

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 + tourism

DEMAND SET TITLE: PM 2020 with Development + tourism

T33

TIME	FROM/TO	ARM A	ARM B	ARM C

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

16.30 - 17.30			
ARM A	0.000	0.000	1.000
	0.0	0.0	619.0
	(0.0)	(0.0)	(1.0)
ARM B	0.758	0.000	0.242
	956.0	0.0	305.0
	(2.0)	(0.0)	(2.0)
ARM C	0.744	0.256	0.000
	474.0	163.0	0.0
	(2.0)	(9.0)	(0.0)

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
ARM A	10.31	17.45	0.591	- -	-	0.0	1.4	19.9	-	0.137
ARM B	21.02	27.61	0.761	- -	-	0.0	3.1	42.1	-	0.143
ARM C	10.62	13.51	0.786	- -	-	0.0	3.3	43.2	-	0.303

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
ARM A	10.31	17.42	0.592	- -	-	1.4	1.4	21.4	-	0.141
ARM B	21.02	27.54	0.763	- -	-	3.1	3.1	46.7	-	0.153
ARM C	10.62	13.43	0.791	- -	-	3.3	3.6	52.2	-	0.350

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
ARM A	10.31	17.42	0.592	- -	-	1.4	1.4	21.5	-	0.141
ARM B	21.02	27.54	0.763	- -	-	3.1	3.2	47.4	-	0.153
ARM C	10.62	13.42	0.791	- -	-	3.6	3.6	54.1	-	0.354

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	10.31	17.42	0.592	- -	-	1.4	1.4	21.6	-	0.141
ARM B	21.02	27.54	0.763	- -	-	3.2	3.2	47.7	-	0.153
ARM C	10.62	13.42	0.791	- -	-	3.6	3.7	54.9	-	0.354

.QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.45	1.4	*
17.00	1.4	*
17.15	1.4	*
17.30	1.4	*

.QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.45	3.1	***
17.00	3.1	***
17.15	3.2	***
17.30	3.2	***

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.45	3.3	***
17.00	3.6	****
17.15	3.6	****
17.30	3.7	****

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
.---

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *		T75
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
A	618.6	618.6	84.4	0.14	84.5	0.14	
B	1261.2	1261.2	184.0	0.15	184.2	0.15	
C	637.2	637.2	204.4	0.32	204.9	0.32	
ALL	2517.0	2517.0	472.8	0.19	473.5	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