

A R C A D Y 6

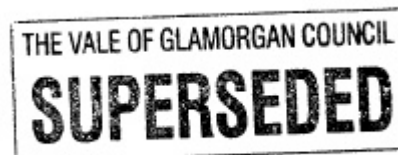
ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

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\
 16.Wimbourne_Rd_Ffordd y Mileniwm\With Improvements\Ffordd y Mileniwm_Wimbourne Rd RBT.vai"
 (drive-on-the-left) at 16:45:11 on Thursday, 16 July 2009

.FILE PROPERTIES

RUN TITLE: Wimbourne Road / Ffordd y Mileniwm
 LOCATION:
 DATE: 16/07/09
 CLIENT:
 ENUMERATOR: Ryan.Hopkins [WACCMSJQ2J]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

.INPUT DATA

ARM A - Ffordd y Mileniwm (E)
 ARM B - Wimbourne Road
 ARM C - Ffordd y Mileniwm (W)

.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	T5
I	ARM A	I	3.50	I	7.00	I	22.30	I	20.00	I	30.00	I	20.0	I	0.695	I	30.462	I	
I	ARM B	I	4.45	I	6.76	I	15.10	I	20.00	I	40.00	I	25.5	I	0.676	I	30.777	I	
I	ARM C	I	3.60	I	7.19	I	100.00	I	30.00	I	40.00	I	28.0	I	0.732	I	35.242	I	

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

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

TIME PERIOD BEGINS(08.15)AND ENDS(09.45)
 .LENGTH OF TIME PERIOD - (90) MINUTES
 .LENGTH OF TIME SEGMENT - (15) MINUTES

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

.DEMAND SET TITLE: AM 2020 with Development

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I	T15
I	I	I	I FLOW STARTS I TOP OF PEAK I FLOW STOPS	I	I BEFORE I AT TOP I AFTER	I	I
I	I	I	I TO RISE I IS REACHED I FALLING	I	I PEAK I OF PEAK I PEAK	I	I
I	ARM A	I	15.00 I 45.00 I 75.00	I	12.00 I 18.00 I 12.00	I	I
I	ARM B	I	15.00 I 45.00 I 75.00	I	2.49 I 3.73 I 2.49	I	I
I	ARM C	I	15.00 I 45.00 I 75.00	I	14.30 I 21.45 I 14.30	I	I

DEMAND SET TITLE: AM 2020 with Development

I	I	I	TURNING PROPORTIONS	I	T33
I	I	I	TURNING COUNTS	I	I

AM 2020 with development.vao									
(PERCENTAGE OF H.V.S)									
TIME	FROM/TO	ARM A	ARM B	ARM C					
08.15 - 09.45	ARM A	0.000	0.161	0.839					
		0.0	155.0	805.0					
		(0.0)	(13.0)	(7.0)					
	ARM B	0.452	0.000	0.548					
		90.0	0.0	109.0					
		(30.0)	(0.0)	(11.0)					
	ARM C	0.824	0.176	0.000					
		943.0	201.0	0.0					
		(2.0)	(4.0)	(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)	T70
08.15-08.30										
ARM A	12.05	26.53	0.454	-	0.0	0.8	12.0	-	0.069	
ARM B	2.50	19.65	0.127	-	0.0	0.1	2.1	-	0.058	
ARM C	14.35	33.39	0.430	-	0.0	0.7	11.0	-	0.052	
08.30-08.45										
ARM A	14.38	26.20	0.549	-	0.8	1.2	17.5	-	0.084	
ARM B	2.98	18.45	0.162	-	0.1	0.2	2.8	-	0.065	
ARM C	17.14	33.18	0.517	-	0.7	1.1	15.5	-	0.062	
08.45-09.00										
ARM A	17.62	25.75	0.684	-	1.2	2.1	30.1	-	0.121	
ARM B	3.65	16.83	0.217	-	0.2	0.3	4.1	-	0.076	
ARM C	20.99	32.90	0.638	-	1.1	1.7	25.1	-	0.083	
09.00-09.15										
ARM A	17.62	25.75	0.684	-	2.1	2.1	31.9	-	0.123	
ARM B	3.65	16.80	0.217	-	0.3	0.3	4.1	-	0.076	
ARM C	20.99	32.90	0.638	-	1.7	1.7	26.2	-	0.084	
09.15-09.30										
ARM A	14.38	26.19	0.549	-	2.1	1.2	19.2	-	0.085	
ARM B	2.98	18.41	0.162	-	0.3	0.2	3.0	-	0.065	
ARM C	17.14	33.18	0.517	-	1.7	1.1	16.6	-	0.063	
09.30-09.45										
ARM A	12.05	26.52	0.454	-	1.2	0.8	12.9	-	0.069	
ARM B	2.50	19.61	0.127	-	0.2	0.1	2.2	-	0.058	
ARM C	14.35	33.38	0.430	-	1.1	0.8	11.6	-	0.053	

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.8 *
08.45	1.2 *
09.00	2.1 **
09.15	2.1 **
09.30	1.2 *
09.45	0.8 *

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.1
08.45	0.2

09.00	0.3
09.15	0.3
09.30	0.2
09.45	0.1

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.7 *
08.45	1.1 *
09.00	1.7 **
09.15	1.7 **
09.30	1.1 *
09.45	0.8 *

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

										T75	
I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I			
I	I	I	I	I	* DELAY *	I	* DELAY *	I			
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	I		
I	A	I	1321.4	I	880.9	I	123.6	I	0.09	I	123.6
I	B	I	273.9	I	182.6	I	18.4	I	0.07	I	18.4
I	C	I	1574.6	I	1049.8	I	106.0	I	0.07	I	106.0
I	ALL	I	3169.9	I	2113.3	I	248.0	I	0.08	I	248.0

* 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