_____ 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 16:47:16 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 - Ffrodd y Mileniwm (E)
ARM B - Wimbourne Road
ARM C - Ffrodd y Mileniwm (W)

.GEOMETRIC DATA

T5

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.50	7.00	22.30	20.00	30.00	20.0	0.695	30.462
ARM B	4.45	6.76	15.10	20.00	40.00	25.5	0.676	30.777
ARM C	3.60	7.19	100.00	30.00	40.00	28.0	0.732	35.242

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	FLOW SCALE(%)
A	100
B	100
C	100

TIME PERIOD BEGINS(16.15)AND ENDS(17.45)
.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: PM 2020 With Development+ tourism

T15

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	16.58	24.86	16.58
ARM B	15.00	45.00	75.00	5.46	8.19	5.46
ARM C	15.00	45.00	75.00	13.46	20.19	13.46

DEMAND SET TITLE: PM 2020 With Development+ tourism

T33

TURNING PROPORTIONS
TURNING COUNTS

TIME	FROM/TO	ARM A	ARM B	ARM C
16.15 - 17.45				
	ARM A	0.000	0.055	0.945
		0.0	73.0	1253.0
		(0.0)	(27.0)	(2.0)
	ARM B	0.430	0.000	0.570
		188.0	0.0	249.0
		(6.0)	(0.0)	(3.0)
	ARM C	0.913	0.087	0.000
		983.0	94.0	0.0
		(2.0)	(9.0)	(0.0)

(PERCENTAGE OF H.V.S)

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)
16.15-16.30									
ARM A	16.64	28.61	0.582	- -	0.0	1.4	19.7	-	0.082
ARM B	5.48	19.18	0.286	- -	0.0	0.4	5.8	-	0.073
ARM C	13.51	32.57	0.415	- -	0.0	0.7	10.3	-	0.052
16.30-16.45									
ARM A	19.87	28.44	0.699	- -	1.4	2.3	32.3	-	0.115
ARM B	6.55	17.14	0.382	- -	0.4	0.6	8.9	-	0.094
ARM C	16.14	32.22	0.501	- -	0.7	1.0	14.6	-	0.062
16.45-17.00									
ARM A	24.33	28.21	0.863	- -	2.3	5.7	74.3	-	0.233
ARM B	8.02	14.45	0.555	- -	0.6	1.2	17.4	-	0.154
ARM C	19.76	31.75	0.622	- -	1.0	1.6	23.5	-	0.083
17.00-17.15									
ARM A	24.33	28.20	0.863	- -	5.7	5.9	87.3	-	0.255
ARM B	8.02	14.32	0.560	- -	1.2	1.3	18.6	-	0.158
ARM C	19.76	31.74	0.623	- -	1.6	1.6	24.5	-	0.084
17.15-17.30									
ARM A	19.87	28.43	0.699	- -	5.9	2.4	38.6	-	0.123
ARM B	6.55	16.95	0.386	- -	1.3	0.6	9.9	-	0.097
ARM C	16.14	32.20	0.501	- -	1.6	1.0	15.6	-	0.063
17.30-17.45									
ARM A	16.64	28.60	0.582	- -	2.4	1.4	21.9	-	0.085
ARM B	5.48	19.08	0.287	- -	0.6	0.4	6.2	-	0.074
ARM C	13.51	32.56	0.415	- -	1.0	0.7	10.9	-	0.053

T70

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	1.4	*
16.45	2.3	**
17.00	5.7	******
17.15	5.9	******
17.30	2.4	**
17.45	1.4	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.4	
16.45	0.6	*

17.00	1.2	*
17.15	1.3	*
17.30	0.6	*
17.45	0.4	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.7	*
16.45	1.0	*
17.00	1.6	**
17.15	1.6	**
17.30	1.0	*
17.45	0.7	*

.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	1825.1	1216.8	274.3	0.15	274.3	0.15	
B	601.5	401.0	66.8	0.11	66.8	0.11	
C	1482.4	988.3	99.5	0.07	99.5	0.07	
ALL	3909.1	2606.0	440.6	0.11	440.6	0.11	

* 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