

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 7.0 (FEBRUARY 2010)

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Run with file:-

"p:\17000 PROJECTS\M17132 Plas Coch Retail Park\Tech\Junction Assessments & Modelling\Arcady\Working\September\
M17132 B5101 Plas Coch Rd 2023 Base + Dev + HOTEL.vai"
(drive-on-the-left) at 16:51:30 on Monday, 3 September 2018

.FILE PROPERTIES

RUN TITLE: Plas Coch Road
LOCATION: Wrexham
DATE: 03/09/18
CLIENT:
ENUMERATOR: WS
JOB NUMBER: M17132
STATUS:
DESCRIPTION:

.INPUT DATA

ARM A - B5101 Plas Coch Rd N
ARM B - University
ARM C - B5101 Plas Coch Rd S
ARM D - Retail Park

.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	5.54	I	5.97	I	0.40	I	23.30	I	35.90	I	45.0	I	0.622	I	27.182	I	
I	ARM B	I	2.67	I	4.07	I	2.00	I	13.70	I	35.90	I	61.0	I	0.432	I	13.628	I	
I	ARM C	I	4.88	I	10.11	I	4.50	I	27.90	I	35.90	I	52.0	I	0.631	I	28.351	I	
I	ARM D	I	7.36	I	7.36	I	0.00	I	30.90	I	35.90	I	11.0	I	0.820	I	40.260	I	

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

.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
I	D	I	100	I

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)

.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: Plas Coch Road with Hotel

----- T15

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I	ARM	I	FLOW STARTS	I	TOP OF PEAK	I
I		I	FLOW STOPS	I	BEFORE	I
I		I	AT TOP	I	AFTER	I

Base + Dev + Hotel_Weekday AM										
I	I	I	I	I	I	I	I	I	I	I
I	I	TO RISE	I	IS REACHED	I	FALLING	I	PEAK	I	OF PEAK
I	ARM	A	I	45.00	I	75.00	I	4.70	I	7.05
I	ARM	B	I	45.00	I	75.00	I	0.28	I	0.41
I	ARM	C	I	45.00	I	75.00	I	9.93	I	14.89
I	ARM	D	I	45.00	I	75.00	I	4.91	I	7.37

DEMAND SET TITLE: Plas Coch Road with Hotel

T33											
I		I	TURNING PROPORTIONS							I	
I		I	TURNING COUNTS							I	
I		I	(PERCENTAGE OF H.V.S)							I	
I		I									
I	TIME	I	FROM/T	I	ARM A	I	ARM B	I	ARM C	I	ARM D
I	07.45 - 09.15	I		I		I		I		I	
I		I	ARM A	I	0.000	I	0.040	I	0.686	I	0.274
I		I		I	0.0	I	15.0	I	258.0	I	103.0
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)
I		I		I		I		I		I	
I		I	ARM B	I	0.273	I	0.000	I	0.545	I	0.182
I		I		I	6.0	I	0.0	I	12.0	I	4.0
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)
I		I		I		I		I		I	
I		I	ARM C	I	0.399	I	0.089	I	0.000	I	0.511
I		I		I	317.0	I	71.0	I	0.0	I	406.0
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)
I		I		I		I		I		I	
I		I	ARM D	I	0.216	I	0.048	I	0.735	I	0.000
I		I		I	85.0	I	19.0	I	289.0	I	0.0
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)
I		I		I		I		I		I	

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70												
I	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)	I	
I											I	
I	07.45-08.00										I	
I	ARM A	4.72	24.23	0.195	- -	-	0.0	0.2	3.5	-	0.051	I
I	ARM B	0.28	10.12	0.027	- -	-	0.0	0.0	0.4	-	0.102	I
I	ARM C	9.96	27.46	0.363	- -	-	0.0	0.6	8.3	-	0.057	I
I	ARM D	4.93	36.22	0.136	- -	-	0.0	0.2	2.3	-	0.032	I
I												I
I												I
I	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)	I	
I											I	
I	08.00-08.15										I	
I	ARM A	5.63	23.65	0.238	- -	-	0.2	0.3	4.6	-	0.055	I
I	ARM B	0.33	9.43	0.035	- -	-	0.0	0.0	0.5	-	0.110	I
I	ARM C	11.90	27.28	0.436	- -	-	0.6	0.8	11.3	-	0.065	I
I	ARM D	5.89	35.42	0.166	- -	-	0.2	0.2	3.0	-	0.034	I
I												I
I												I
I	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)	I	
I											I	
I	08.15-08.30										I	
I	ARM A	6.90	22.86	0.302	- -	-	0.3	0.4	6.3	-	0.063	I
I	ARM B	0.40	8.48	0.048	- -	-	0.0	0.0	0.7	-	0.124	I
I	ARM C	14.57	27.04	0.539	- -	-	0.8	1.2	16.8	-	0.080	I
I	ARM D	7.21	34.34	0.210	- -	-	0.2	0.3	3.9	-	0.037	I
I												I
I												I
I	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)	I	
I											I	
I	08.30-08.45										I	
I	ARM A	6.90	22.85	0.302	- -	-	0.4	0.4	6.5	-	0.063	I
I	ARM B	0.40	8.48	0.048	- -	-	0.0	0.0	0.7	-	0.124	I
I	ARM C	14.57	27.04	0.539	- -	-	1.2	1.2	17.4	-	0.080	I
I	ARM D	7.21	34.33	0.210	- -	-	0.3	0.3	4.0	-	0.037	I
I												I
I												I
I	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)	I	
I											I	
I	08.45-09.00										I	
I	ARM A	5.63	23.64	0.238	- -	-	0.4	0.3	4.8	-	0.056	I
I	ARM B	0.33	9.42	0.035	- -	-	0.0	0.0	0.6	-	0.110	I

Base + Dev + Hotel_Weekday AM													
I	ARM C	11.90	27.28	0.436	-	-	-	1.2	0.8	12.0	-	0.065	I
I	ARM D	5.89	35.41	0.166	-	-	-	0.3	0.2	3.0	-	0.034	I
I													

I	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)	I	
I	I 09.00-09.15											
I	ARM A	4.72	24.22	0.195	-	-	0.3	0.2	3.7	-	0.051	I
I	ARM B	0.28	10.10	0.027	-	-	0.0	0.0	0.4	-	0.102	I
I	ARM C	9.96	27.45	0.363	-	-	0.8	0.6	8.8	-	0.057	I
I	ARM D	4.93	36.20	0.136	-	-	0.2	0.2	2.4	-	0.032	I
I												

.QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.3
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.2

.QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.6 *
08.15	0.8 *
08.30	1.2 *
08.45	1.2 *
09.00	0.8 *
09.15	0.6 *

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.2
08.15	0.2
08.30	0.3
08.45	0.3
09.00	0.2
09.15	0.2

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING * * DELAY *	I	* INCLUSIVE QUEUEING * * DELAY *	I	T75	
I	I	I	I	I	I	I	I	I	I	
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	I	
I	A	I	517.5	I	345.0	I	29.4	I	0.06	I
I	B	I	30.3	I	20.2	I	3.4	I	0.11	I
I	C	I	1092.9	I	728.6	I	74.5	I	0.07	I
I	D	I	540.9	I	360.6	I	18.6	I	0.03	I
I	ALL	I	2181.6	I	1454.4	I	126.0	I	0.06	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

Base + Dev + Hotel_Weekday AM

===== end of file =====