

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 Weekday PM.vai"
(drive-on-the-left) at 16:50:16 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

I	ARM	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(16.45)AND ENDS(18.15)

.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: Copy of 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 PM										
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	15.00	I	45.00	I	75.00	I	7.09
I	ARM	B	I	15.00	I	45.00	I	75.00	I	1.13
I	ARM	C	I	15.00	I	45.00	I	75.00	I	11.36
I	ARM	D	I	15.00	I	45.00	I	75.00	I	11.90

DEMAND SET TITLE: Copy of 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
I	TIME	I	FROM/T	I	ARM A	I	ARM B	I	ARM C	I	ARM D
I	16.45 - 18.15	I		I		I		I		I	
I		ARM A	I	0.000	I	0.002	I	0.644	I	0.354	
I			I	0.0	I	1.0	I	365.0	I	201.0	
I			I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	
I			I		I		I		I		
I		ARM B	I	0.033	I	0.000	I	0.756	I	0.211	
I			I	3.0	I	0.0	I	68.0	I	19.0	
I			I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	
I			I		I		I		I		
I		ARM C	I	0.231	I	0.015	I	0.000	I	0.754	
I			I	210.0	I	14.0	I	0.0	I	685.0	
I			I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	
I			I		I		I		I		
I		ARM D	I	0.182	I	0.004	I	0.814	I	0.000	
I			I	173.0	I	4.0	I	775.0	I	0.0	
I			I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	
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	16.45-17.00										I
I	ARM A	7.11	21.01	0.339	-	-	0.0	0.5	7.4	0.072	I
I	ARM B	1.13	6.39	0.177	-	-	0.0	0.2	3.0	0.189	I
I	ARM C	11.41	26.59	0.429	-	-	0.0	0.7	10.9	0.065	I
I	ARM D	11.95	37.93	0.315	-	-	0.0	0.5	6.8	0.038	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	17.00-17.15										I
I	ARM A	8.50	19.79	0.429	-	-	0.5	0.7	10.9	0.088	I
I	ARM B	1.35	4.96	0.272	-	-	0.2	0.4	5.2	0.275	I
I	ARM C	13.62	26.25	0.519	-	-	0.7	1.1	15.6	0.079	I
I	ARM D	14.26	37.47	0.381	-	-	0.5	0.6	9.0	0.043	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	17.15-17.30										I
I	ARM A	10.40	18.14	0.574	-	-	0.7	1.3	18.9	0.128	I
I	ARM B	1.65	3.02	0.546	-	-	0.4	1.1	14.3	0.685	I
I	ARM C	16.68	25.78	0.647	-	-	1.1	1.8	25.8	0.109	I
I	ARM D	17.47	36.85	0.474	-	-	0.6	0.9	13.2	0.051	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	17.30-17.45										I
I	ARM A	10.40	18.13	0.574	-	-	1.3	1.3	19.9	0.129	I
I	ARM B	1.65	3.00	0.550	-	-	1.1	1.2	17.0	0.733	I
I	ARM C	16.68	25.77	0.647	-	-	1.8	1.8	27.1	0.110	I
I	ARM D	17.47	36.84	0.474	-	-	0.9	0.9	13.5	0.052	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	17.45-18.00										I
I	ARM A	8.50	19.78	0.430	-	-	1.3	0.8	11.8	0.089	I
I	ARM B	1.35	4.93	0.274	-	-	1.2	0.4	6.3	0.288	I

Base + Dev + Hotel_Weekday PM													
I	ARM C	13.62	26.23	0.519	-	-	-	1.8	1.1	16.9	-	0.080	I
I	ARM D	14.26	37.46	0.381	-	-	-	0.9	0.6	9.4	-	0.043	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	18.00-18.15										I	
I	ARM A	7.11	20.98	0.339	-	-	0.8	0.5	7.9	-	0.072	I
I	ARM B	1.13	6.35	0.178	-	-	0.4	0.2	3.4	-	0.192	I
I	ARM C	11.41	26.58	0.429	-	-	1.1	0.8	11.6	-	0.066	I
I	ARM D	11.95	37.92	0.315	-	-	0.6	0.5	7.0	-	0.039	I
I												

.QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.5 *
17.15	0.7 *
17.30	1.3 *
17.45	1.3 *
18.00	0.8 *
18.15	0.5 *

.QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.4
17.30	1.1 *
17.45	1.2 *
18.00	0.4
18.15	0.2

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.7 *
17.15	1.1 *
17.30	1.8 **
17.45	1.8 **
18.00	1.1 *
18.15	0.8 *

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.5
17.15	0.6 *
17.30	0.9 *
17.45	0.9 *
18.00	0.6 *
18.15	0.5

.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	780.4	I	520.3	I	76.9	I	0.10	I
I	B	I	123.9	I	82.6	I	49.3	I	0.40	I
I	C	I	1251.2	I	834.1	I	107.9	I	0.09	I
I	D	I	1310.4	I	873.6	I	58.9	I	0.04	I
I	ALL	I	3465.8	I	2310.6	I	293.0	I	0.08	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 PM

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