

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Run with file:-
"C:\E DRIVE DOCS\WORKING JOB FILES\Bicester\Oct 2010 onwards\Junction Capacity\Site 2a\Existing\
Site 2a Bucknell Road rev2 Exemplar base years.vai"
(drive-on-the-left) at 09:08:51 on Wednesday, 24 November 2010

FILE PROPERTIES

RUN TITLE: Bucknell Road Roundabout
LOCATION:
DATE: 06/07/10
CLIENT:
ENUMERATOR: mba24773 [HCL56181]
JOB NUMBER:
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Lords Lane (east) A4095
ARM B - Bucknell Road (south) A4095
ARM C - Bucknell Road (north)

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
I	ARM A	I	4.20	I	6.00	I	13.30	I	22.20	I	31.00	I	25.0	I	0.662	I	28.165	I
I	ARM B	I	3.00	I	7.34	I	9.80	I	41.10	I	31.00	I	19.0	I	0.645	I	25.750	I
I	ARM C	I	2.80	I	9.10	I	10.80	I	66.60	I	31.00	I	18.0	I	0.666	I	27.153	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)

I	ARM	I	FLOW	I	SCALE(%)	I
I	A	I	100	I		I
I	B	I	100	I		I
I	C	I	100	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)
17.30-17.45									
ARM A	8.87	27.20	0.326		0.5	0.5	7.2		0.05
ARM B	10.22	25.05	0.408		0.7	0.7	10.3		0.07
ARM C	1.83	20.74	0.088		0.1	0.1	1.4		0.05

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)
17.45-18.00									
ARM A	7.24	27.33	0.265		0.5	0.4	5.5		0.05
ARM B	8.34	25.13	0.332		0.7	0.5	7.6		0.06
ARM C	1.49	21.87	0.068		0.1	0.1	1.1		0.05

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)
18.00-18.15									
ARM A	6.06	27.42	0.221		0.4	0.3	4.3		0.05
ARM B	6.99	25.18	0.277		0.5	0.4	5.9		0.05
ARM C	1.25	22.69	0.055		0.1	0.1	0.9		0.05

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3
17.15	0.4
17.30	0.5
17.45	0.5
18.00	0.4
18.15	0.3

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.4
17.15	0.5
17.30	0.7 *
17.45	0.7 *
18.00	0.5 *
18.15	0.4

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND		I	* QUEUEING * * DELAY *		I	* INCLUSIVE QUEUEING * * DELAY *		I
I		I			I			I			I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	A	I	665.0	I 443.4	I	33.6	I 0.05	I	33.6	I 0.05	I
I	B	I	766.5	I 511.0	I	46.8	I 0.06	I	46.8	I 0.06	I
I	C	I	137.1	I 91.4	I	6.8	I 0.05	I	6.8	I 0.05	I
I	ALL	I	1568.7	I 1045.8	I	87.2	I 0.06	I	87.2	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

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