

I ARM I FLOW SCALE(%) I

I A	I	100	I
I B	I	100	I
I C	I	100	I

Demand set: 2016 + CD+B1 Gavray Drive - Mallards Demand Set

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 TURNING COUNT DATA

I ARM	I FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
		I TOP OF PEAK IS REACHED	I FLOW STOPS FALLING	I	I BEFORE PEAK	I AT TOP OF PEAK	I AFTER PEAK
I A	I 15.00	I 45.00	I 75.00	I	I 1.44	I 2.16	I 1.44
I B	I 15.00	I 45.00	I 75.00	I	I 0.60	I 0.90	I 0.60
I C	I 15.00	I 45.00	I 75.00	I	I 0.21	I 0.32	I 0.21

I TIME	I FROM/TO	TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
		ARM A	ARM B	ARM C
I 16.45 - 18.15	I ARM A	I 0.000	I 0.861	I 0.139
		I 0.0	I 99.0	I 16.0
		I (0.0)	I (0.0)	I (0.0)
	I ARM B	I 0.854	I 0.000	I 0.146
		I 41.0	I 0.0	I 7.0
		I (0.0)	I (0.0)	I (0.0)
	I ARM C	I 0.765	I 0.235	I 0.000
		I 13.0	I 4.0	I 0.0
		I (0.0)	I (0.0)	I (0.0)
	I	I	I	I
		I	I	I
		I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

I TIME	I DEMAND (VEH/MIN)	I CAPACITY (VEH/MIN)	I DEMAND/CAPACITY (RFC)	I PEDESTRIAN FLOW (PEDS/MIN)	I START QUEUE (VEHS)	I END QUEUE (VEHS)	I DELAY (VEH.MIN/ TIME SEGMENT)	I GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
I 16.45-17.00	I B-C	I 0.09	I 10.09	I 0.009	I 0.00	I 0.01	I 0.1	I	I
	I B-A	I 0.51	I 10.22	I 0.050	I 0.00	I 0.05	I 0.8	I	I
	I C-A	I 0.16	I	I	I 0.00	I 0.00	I 0.1	I	I
	I C-B	I 0.05	I 10.51	I 0.005	I	I	I	I	I
	I A-B	I 1.24	I	I	I	I	I	I	I
	I A-C	I 0.20	I	I	I	I	I	I	I

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM B-A

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

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-C	9.6	1.0	0.10
B-A	56.4	5.9	0.10
A	17.9	11.9	0.10
B	5.5	3.7	0.10
B	136.3	90.8	0.10
C	22.0	14.7	0.10
ALL	247.8	165.2	0.03

* 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

***** PICADY 5 run completed.

end of file

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

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Run with file:-

"i:\18578-01-X Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Wretchwick - Gavray Drive - Charbridge\Wretchwick - Gavray Drive - Charbridge AM Peak REV.vai"
(drive-on-the-left) at 13:53:07 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Wretchwick - Gavray Drive - Charbridge AM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Wretchwick
ARM B - Gavray Drive
ARM C - Charbridge

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	6.00	I	8.00	I	15.00	I	20.00	I	45.00	I	49.0	I	0.685	I	34.915	I
I	ARM B	I	3.50	I	7.00	I	10.00	I	20.00	I	45.00	I	44.0	I	0.571	I	24.749	I
I	ARM C	I	5.75	I	7.00	I	10.00	I	35.00	I	45.00	I	34.0	I	0.694	I	33.784	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 SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEM SET TITLE: 2016+CD+B1 Wretchwick - Gavray Drive - Charbridge AM Peak

I	I	I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)			I
I	ARM	I	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	I
I	I	I	TO RISE	IS REACHED	IF FALLING	PEAK	OF PEAK	PEAK	I
I	ARM A	I	15.00	I	45.00	I	26.61	I	26.61
I	ARM B	I	15.00	I	45.00	I	3.14	I	3.14
I	ARM C	I	15.00	I	45.00	I	13.60	I	13.60

DEMAND SET TITLE: 2016+CD+B1 Wretchwick - Gavray Drive - Charbridge AM Peak

		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
TIME	FROM/TO	ARM A	ARM B	ARM C	
07.45 - 09.15	ARM A	0.000	0.721	0.279	
		0.0	1536.0	593.0	
		(0.0)	(0.0)	(0.0)	
	ARM B	0.729	0.000	0.271	
		183.0	0.0	68.0	
		(0.0)	(0.0)	(0.0)	
	ARM C	0.696	0.304	0.000	
		757.0	331.0	0.0	
		(0.0)	(0.0)	(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)
	07.45-08.00					0.0	4.6	60.7		
	ARM A	26.61	32.09	0.829		0.0	0.2	2.6		
	ARM B	3.14	20.56	0.153		0.0	0.7	10.6		
	ARM C	13.60	32.20	0.422						

TRL

TRL VIEWER 3.1 AD i:\... \Wretchwick - Gavray Drive - Charbridge AM Peak REV.vao - Page 3

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	08.00-08.15										I
I	ARM A	31.78	31.53	1.008		4.6	23.9	240.7			I
I	ARM B	3.75	19.89	0.188		0.2	0.2	3.4			I
I	ARM C	16.24	31.89	0.509		0.7	1.0	15.1			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	08.15-08.30										I
I	ARM A	38.92	30.78	1.265		23.9	146.5	1279.8			I
I	ARM B	4.59	19.86	0.231		0.2	0.3	4.4			I
I	ARM C	19.89	31.47	0.632		1.0	1.7	24.5			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	08.30-08.45										I
I	ARM A	38.92	30.77	1.265		146.5	268.9	3115.4			I
I	ARM B	4.59	19.85	0.231		0.3	0.3	4.5			I
I	ARM C	19.89	31.46	0.632		1.7	1.7	25.5			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	08.45-09.00										I
I	ARM A	31.78	31.52	1.008		268.9	273.1	4065.0			I
I	ARM B	3.75	19.74	0.190		0.3	0.2	3.6			I
I	ARM C	16.24	31.89	0.509		1.7	1.0	16.1			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	09.00-09.15										I
I	ARM A	26.61	32.07	0.830		273.1	193.0	3495.9			I
I	ARM B	3.14	19.66	0.160		0.2	0.2	2.9			I
I	ARM C	13.60	32.20	0.422		1.0	0.7	11.3			I

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	4.6	*****
08.15	23.9	*****
08.30	146.5	*****
08.45	268.9	*****
09.00	273.1	*****
09.15	193.0	*****

QUEUE AT ARM B

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

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.7 *
08.15	1.0 *
08.30	1.7 **
08.45	1.7 **
09.00	1.0 *
09.15	0.7 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
A	2919.3	12257.5	4.20
B	344.2	21.4	0.06
C	1491.9	103.1	0.07
ALL	4755.4	12382.0	2.60

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
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 * THE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

***** ARCADY 6 run completed.

end of file

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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program advice and maintenance, contact:

TRL Limited	Tel: +44 (0) 1344 770018
Crowthorne House	Fax: +44 (0) 1344 770864
Nine Mile Ride	Email: softwarebureau@trl.co.uk
Wokingham, Berks.	Web: www.trlsoftware.co.uk
RG40 3GA, UK	

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Run with file:-

"i:\18578-01-X_Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Wretchwick - Gavray Drive - Charbridge\Wretchwick - Gavray Drive - Charbridge PM Peak.vai"
(drive-on-the-left) at 14:02:15 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Wretchwick - Gavray Drive - Charbridge PM Peak

LOCATION: Bicester

DATE: 13/07/10

CLIENT: JJ Gallagher

ENUMERATOR: Alexanders [CS5DG3J]

JOB NUMBER: 18578-01-1

STATUS:

DESCRIPTION:

INPUT DATA

ARM A - Wretchwick
ARM B - Gavray Drive
ARM C - Charbridge

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	6.00	I	8.00	I	15.00	I	20.00	I	45.00	I	49.0	I	0.685	I	34.915	I
I	ARM B	I	3.50	I	7.00	I	10.00	I	20.00	I	45.00	I	44.0	I	0.571	I	24.749	I
I	ARM C	I	5.75	I	7.00	I	10.00	I	35.00	I	45.00	I	34.0	I	0.694	I	33.784	I

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEM SET TITLE: 2016+CD+B1 Wretchwick - Gavray Drive - Charbridge PM Peak

I	I	I	NUMBER OF	MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)			I
I	ARM	I	FLOW STARTS	I TOP OF PEAK	I FLOW STOPS	I BEFORE	I AT TOP	I AFTER	I
I	I	I	TO RISE	I IS REACHED	IF FALLING	I PEAK	I OF PEAK	I PEAK	I
I	ARM A	I	15.00	I 45.00	I 75.00	I 11.66	I 17.49	I 11.66	I
I	ARM B	I	15.00	I 45.00	I 75.00	I 17.89	I 26.83	I 17.89	I
I	ARM C	I	15.00	I 45.00	I 75.00	I 8.86	I 13.29	I 8.86	I

DEMAND SET TITLE: 2016+CD+B1 Wretchwick - Gavray Drive - ChaiBridge in rear

I I I I I I	TIME	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S)					
		I FROM/TO I	I ARM A I	I ARM B I	I ARM C I		
I 16.45 - 18.15 I	I	I	I	I	I	I	
I	I ARM A I	I 0.000 I	I 0.229 I	I 0.771 I	I	I	
I	I	I 0.0 I	I 214.0 I	I 719.0 I	I	I	
I	I	I (0.0) I	I (0.0) I	I (0.0) I	I	I	
I	I	I	I	I	I	I	
I	I ARM B I	I 0.817 I	I 0.000 I	I 0.183 I	I	I	
I	I	I 1169.0 I	I 0.0 I	I 262.0 I	I	I	
I	I	I (0.0) I	I (0.0) I	I (0.0) I	I	I	
I	I	I	I	I	I	I	
I	I ARM C I	I 0.890 I	I 0.110 I	I 0.000 I	I	I	
I	I	I 631.0 I	I 78.0 I	I 0.0 I	I	I	
I	I	I (0.0) I	I (0.0) I	I (0.0) I	I	I	
I	I	I	I	I	I	I	

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)
16.45-17.00					0.0	0.5	7.6		
ARM A	11.66	34.25	0.341		0.0	7.7	90.3		
ARM B	17.89	19.63	0.911		0.0	0.6	8.5		
ARM C	8.86	23.94	0.370						

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)
17.00-17.15									
ARM A	13.93	34.12	0.408		0.5	0.7	10.1		
ARM B	21.36	18.62	1.147		7.7	51.3	451.1		
ARM C	10.58	23.32	0.454		0.6	0.8	12.0		

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)
17.15-17.30									
ARM A	17.06	33.94	0.503		0.7	1.0	14.7		
ARM B	26.16	17.25	1.517		51.3	185.1	1773.1		
ARM C	12.96	24.01	0.540		0.8	1.2	16.9		

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	17.06	33.94	0.503		1.0	1.0	15.1		
ARM B	26.16	17.24	1.518		185.1	318.9	3780.0		
ARM C	12.96	24.01	0.540		1.2	1.2	17.4		

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	13.93	34.12	0.408		1.0	0.7	10.6		
ARM B	21.36	18.61	1.148		318.9	360.2	5093.6		
ARM C	10.58	23.24	0.455		1.2	0.8	13.0		

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	11.66	34.25	0.341		0.7	0.5	7.9		
ARM B	17.89	19.61	0.912		360.2	335.2	5216.0		
ARM C	8.86	22.70	0.390		0.8	0.6	9.9		

QUEUE AT ARM A

TIME SEGMENT
ENDING NO. OF
VEHICLES
IN QUEUE

17.00	0.5	*
17.15	0.7	*
17.30	1.0	*
17.45	1.0	*
18.00	0.7	*
18.15	0.5	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	7.7	*****
17.15	51.3	*****
17.30	185.1	*****
17.45	318.9	*****
18.00	360.2	*****
18.15	335.2	*****

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.6	*
17.15	0.8	*
17.30	1.2	*
17.45	1.2	*
18.00	0.8	*
18.15	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
A	1279.3	852.9	66.0
B	1962.2	1308.1	16404.2
C	972.2	648.1	77.7
ALL	4213.7	2809.2	16547.9

* 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.
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EN F JOB

***** ARCADY 6 run completed. end of file =====

TRL VIEWER 3.1 AD I:\..\Copy of Wretchwick - Peregrine Priority\Wretchwick Pergrine Priority.vpo - P 1

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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TRL SOFTWARE BUREAU
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Run with file:-

"I:\18578-01-X Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Wretchwick - Peregrine Priority\Wretchwick Pergrine Priority.vpi"
(drive-on-the-left) at 13:17:03 on Thursday, 2 September 2010

RUN INFORMATION

RUN TITLE: Wretchwick Way - Peregrine Way

LOCATION: Bicester

DATE: 13/07/10

CLIENT: JJ Gallagher

ENUMERATOR: Alexanders [CS5DG3J]

JOB NUMBER: 18578-01-1

STATUS: TIA

DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)

I
I
I
I
I
I

MINOR ROAD (ARM B)

ARM A IS Wretchwick Way SW
ARM B IS Peregrine Way
ARM C IS Wretchwick Way NE

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM	I	MINOR ROAD B	I
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 12.00 M.	I
CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I
MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 3.20 M.	I
- VISIBILITY	I	(VC-B) 120.0 M.	I
- BLOCKS TRAFFIC	I	NO	I
MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 65.0 M.	I
- VISIBILITY TO RIGHT	I	(VB-A) 120.0 M.	I
- LANE 1 WIDTH	I	(WB-C) -	I
- LANE 2 WIDTH	I	(WB-A) -	I
- WIDTH AT 0 M FROM JUNC.	I	10.00 M.	I
- WIDTH AT 5 M FROM JUNC.	I	9.00 M.	I
- WIDTH AT 10 M FROM JUNC.	I	6.50 M.	I
- WIDTH AT 15 M FROM JUNC.	I	6.00 M.	I
- WIDTH AT 20 M FROM JUNC.	I	6.00 M.	I
- LENGTH OF FLARED SECTION	I	1 VEHS	I

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For Slope For Opposing	Slope For Opposing	I
Stream B-C	Stream A-C	Stream A-B
643.46	0.18	0.07

Intercept For Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
Stream B-A	Stream A-C	Stream A-B	Stream C-A	Stream C-B
513.92	0.17	0.07	0.11	0.25

Intercept For Slope For Opposing	Slope For Opposing	I
Stream C-B	Stream A-C	Stream A-B
713.49	0.20	0.20

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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)
08.00-08.15									
B-C	2.31	3.20	0.720		0.40	2.10	25.5		
B-A	1.29	1.50	0.856		0.56	2.81	30.4		
C-A	12.72								
C-B	1.36	5.72	0.238		0.20	0.31	4.4		
A-B	0.45								
A-C	29.74								

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)
08.15-08.30									
B-C	2.83	0.04	66.334		2.10	43.85	344.7		
B-A	1.58	0.03	62.229		2.81	26.11	216.9		
-A	15.58								
B	1.67	4.34	0.385		0.31	0.60	8.4		
-B	0.55								
A-C	36.43								

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)
08.30-08.45									
B-C	2.83	0.03	81.796		43.85	85.73	971.9		
B-A	1.58	0.02	79.140		26.11	49.48	566.9		
C-A	15.58								
C-B	1.67	4.34	0.385		0.60	0.61	9.1		
A-B	0.55								
A-C	36.43								

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)
45-09.00									
-C	2.31	2.45	0.941		85.73	83.98	1272.8		
-A	1.29	1.40	0.919		49.48	48.20	732.6		
C-A	12.72								
C-B	1.36	5.72	0.238		0.61	0.32	5.0		
A-B	0.45								
A-C	29.74								

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)
09.00-09.15									
B-C	1.93	3.63	0.532		83.98	59.09	1073.1		
B-A	1.08	2.07	0.521		48.20	33.94	616.0		
C-A	10.65								
C-B	1.14	6.73	0.170		0.32	0.21	3.2		
A-B	0.38								
A-C	24.91								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	2.1	**
08.30	43.9	*****
08.45	85.7	*****
09.00	84.0	*****
09.15	59.1	*****

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	2.8	***
08.30	26.1	*****
08.45	49.5	*****
09.00	48.2	*****
09.15	33.9	*****

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.2	
08.15	0.3	
08.30	0.6	*
08.45	0.6	*
09.00	0.3	
09.15	0.2	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I		I			I	* DELAY *		I	* DELAY *		I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	B-C	I	212.0	I 141.3	I	3693.6	I 17.43	I	4174.0	I 19.69	I
I	B-A	I	118.4	I 78.9	I	2170.2	I 18.33	I	2448.3	I 20.68	I
I	C-A	I	1168.6	I 779.1	I			I			I
I	C-B	I	125.3	I 83.5	I	33.1	I 0.26	I	33.1	I 0.26	I
I	A-B	I	41.3	I 27.5	I			I			I
I	A-C	I	2732.2	I 1821.5	I			I			I
I	ALL	I	4397.7	I 2931.8	I	5896.9	I 1.34	I	6655.4	I 1.51	I

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END OF JOB
.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity
will be adjusted)

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	Stream B-C	Stream A-C	Stream A-B	I
I	643.46	0.18	0.07	I

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	Stream B-A	Stream A-C	Stream A-B	Stream C-A	Stream C-B	I
I	513.92	0.17	0.07	0.11	0.25	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	Stream C-B	Stream A-C	Stream A-B	I
I	713.49	0.20	0.20	I

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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)
17.00-17.15									
B-C	2.31	10.36	0.223		0.21	0.28	4.1		
B-A	0.52	3.15	0.167		0.12	0.19	2.8		
C-A	24.72				0.24	0.33	4.8		
C-B	2.25	9.02	0.249						
A-B	2.19								
A-C	11.88								

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)
17.15-17.30									
B-C	2.83	9.14	0.309		0.28	0.44	6.4		
B-A	0.64	1.82	0.354		0.19	0.51	6.7		
A	30.28				0.33	0.48	7.0		
B	2.75	8.37	0.329						
-B	2.68								
A-C	14.55								

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									
B-C	2.83	9.08	0.311		0.44	0.45	6.7		
B-A	0.64	1.81	0.355		0.51	0.53	7.8		
C-A	30.28				0.48	0.49	7.3		
C-B	2.75	8.37	0.329						
A-B	2.68								
A-C	14.55								

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									
-C	2.31	10.33	0.223		0.45	0.29	4.5		
B-A	0.52	3.14	0.167		0.53	0.21	3.4		
C-A	24.72				0.49	0.34	5.2		
C-B	2.25	9.02	0.249						
A-B	2.19								
A-C	11.88								

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									
B-C	1.93	11.05	0.175		0.29	0.21	3.3		
B-A	0.44	4.08	0.108		0.21	0.12	1.9		
C-A	20.70				0.34	0.25	3.9		
C-B	1.88	9.48	0.198						
A-B	1.83								
A-C	9.95								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.3
17.30	0.4
17.45	0.4
18.00	0.3
18.15	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.5 *
17.45	0.5 *
18.00	0.2
18.15	0.1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.3
17.30	0.5
17.45	0.5
18.00	0.3
18.15	0.3

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	I	I	I	I	I	I	I
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
I	B-C	I	212.0	I 141.3	I 28.0	I 0.13	I 28.0	I 0.13
I	B-A	I	48.2	I 32.1	I 24.2	I 0.50	I 24.2	I 0.50
I	C-A	I	2271.1	I 1514.1	I	I	I	I
I	C-B	I	206.5	I 137.6	I 31.6	I 0.15	I 31.6	I 0.15
I	A-B	I	201.0	I 134.0	I	I	I	I
I	A-C	I	1091.5	I 727.7	I	I	I	I
I	ALL	I	4030.2	I 2686.8	I 83.9	I 0.02	I 83.9	I 0.02

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END OF JOB

***** PICADY 5 run completed.

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

[Printed at 13:17:34 on 02/09/2010]

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"i:\18578-01-X_Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Peregrine Way - Wretchwick Way\Peregrine Way - Wretchwick Way AM Peak.vai"
(drive-on-the-left) at 14:17:35 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Peregrine Way/Wretchwick Way AM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

ARM A - Neunkirchen Way
ARM B - Peregrine Way
ARM C - Wretchwick Way 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	7.00	I	10.00	I	10.00	I	45.00	I	49.00	I	31.0	I	0.800	I	44.100	I
I	ARM B	I	3.00	I	7.00	I	8.00	I	60.00	I	50.00	I	17.0	I	0.590	I	24.700	I
I	ARM C	I	5.50	I	8.00	I	10.00	I	35.00	I	50.00	I	38.0	I	0.677	I	34.552	I

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I	ARM	I	FLOW SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	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 TURNING COUNT DATA

DEMAND SET TITLE: 2016+CD+B1 Peregrine Way/Wretchwick Way AM Peak

I	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I	ARM	I FLOW STARTS I TOP OF PEAK I FLOW STOPS	I	BEFORE I AT TOP I AFTER	I
I	I	I TO RISE I IS REACHED IF FALLING	I	PEAK I OF PEAK I PEAK	I
I	ARM A	I 15.00 I 45.00 I 75.00	I	25.46 I 38.19 I 25.46	I
I	ARM B	I 15.00 I 45.00 I 75.00	I	5.51 I 8.27 I 5.51	I
I	ARM C	I 15.00 I 45.00 I 75.00	I	11.69 I 17.53 I 11.69	I

DEMAND SET TITLE: 2016+CD+B1 Peregrine Way/Wretchwick Way AM Peak

I	I	TURNING PROPORTIONS	I
I	I	TURNING COUNTS (VEH/HR)	I
I	I	(PERCENTAGE OF H.V.S)	I
I	TIME	I FROM/TO I ARM A I ARM B I ARM C	I
I	07.45 - 09.15	I	I
I		I ARM A I 0.000 I 0.049 I 0.951	I
I		I 0.0 I 99.0 I 1938.0	I
I		I (0.0) I (0.0) I (0.0)	I
I		I I I I	I
I		I ARM B I 0.832 I 0.000 I 0.168	I
I		I 367.0 I 0.0 I 74.0	I
I		I (0.0) I (0.0) I (0.0)	I
I		I I I I	I
I		I ARM C I 0.972 I 0.028 I 0.000	I
I		I 909.0 I 26.0 I 0.0	I
I		I (0.0) I (0.0) I (0.0)	I
I		I I I I	I

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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	07.45-08.00										I
I	ARM A	25.46	43.84	0.581		0.0	1.4	20.0			I
I	ARM B	5.51	10.47	0.527		0.0	1.1	15.1			I
I	ARM C	11.69	31.49	0.371		0.0	0.6	8.6			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)
08.00-08.15									
ARM A	30.40	43.79	0.694		1.4	2.2	32.3		
ARM B	6.58	7.68	0.857		1.1	4.5	54.0		
ARM C	13.96	30.98	0.450		0.6	0.8	12.0		

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)
08.15-08.30									
ARM A	37.24	43.72	0.852		2.2	5.4	73.3		
ARM B	8.06	3.93	2.051		4.5	66.7	535.8		
ARM C	17.09	32.35	0.528		0.8	1.1	16.3		

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)
08.30-08.45									
ARM A	37.24	43.72	0.852		5.4	5.6	82.4		
ARM B	8.06	3.82	2.111		66.7	130.4	1478.6		
ARM C	17.09	32.40	0.528		1.1	1.1	16.7		

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)
08.45-09.00									
ARM A	30.40	43.79	0.694		5.6	2.3	36.6		
ARM B	6.58	7.52	0.875		130.4	117.1	1856.4		
ARM C	13.96	30.34	0.460		1.1	0.9	13.1		

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)
09.00-09.15									
ARM A	25.46	43.84	0.581		2.3	1.4	21.5		
ARM B	5.51	10.38	0.531		117.1	45.4	1218.7		
ARM C	11.69	28.75	0.407		0.9	0.7	10.5		

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	1.4 *
08.15	2.2 **
08.30	5.4 *****
08.45	5.6 *****
09.00	2.3 **
09.15	1.4 *

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	1.1 *
08.15	4.5 *****
08.30	66.7 *****
08.45	130.4 *****
09.00	117.1 *****
09.15	45.4 *****

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.6 *
08.15	0.8 *
08.30	1.1 *
08.45	1.1 *
09.00	0.9 *
09.15	0.7 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND	* QUEUEING * * DELAY *	* INCLUSIVE QUEUEING * * DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
A	2793.2	1862.1	266.1
B	604.7	403.1	5158.6
C	1282.1	854.7	77.2
ALL	4679.9	3120.0	5501.9

* 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

***** ARCADY 6 run completed.

end of file

TRL VIEWER 3.1 AD i:\..\Copy of Peregrine Way - Wretchwick Way\Peregrine Way - Wretchwick Way PM Peak GEOM

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"i:\18578-01-X Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Peregrine Way - Wretchwick Way\Peregrine Way - Wretchwick Way PM Peak GEOM CHANGE.vai"
(drive-on-the-left) at 14:41:07 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Peregrine Way/Wretchwick Way AM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

ARM A - Neunkirchen Way
ARM B - Peregrine Way
ARM C - Wretchwick Way 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	7.00	I	10.00	I	10.00	I	45.00	I	50.00	I	31.0	I	0.794	I	44.100	I
I	ARM B	I	3.00	I	7.00	I	8.00	I	60.00	I	50.00	I	17.0	I	0.590	I	24.700	I
I	ARM C	I	5.50	I	8.00	I	10.00	I	35.00	I	50.00	I	38.0	I	0.677	I	34.552	I

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I	ARM	I	FLOW SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	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 TURNING COUNT DATA

DEMAND SET TITLE: 2016+CD+B1 Peregrine Way/Wretchwick Way PM Peak

I	ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I	TOP OF PEAK IS REACHED	I	FLOW STOPS IF FALLING	I	RATE OF FLOW (VEH/MIN) BEFORE PEAK	I	AT TOP OF PEAK	I	AFTER PEAK	I
I	ARM A	I	15.00	I	45.00	I	75.00	I	15.68	I	23.51	I	15.68	I
I	ARM B	I	15.00	I	45.00	I	75.00	I	2.56	I	3.84	I	2.56	I
I	ARM C	I	15.00	I	45.00	I	75.00	I	21.23	I	31.84	I	21.23	I

DEMAND SET TITLE: 2016+CD+B1 Peregrine Way/Wretchwick Way PM Peak

I	TIME	I	FROM/TO	I	ARM A	I	ARM B	I	ARM C	I
I	16.45 - 18.15	I	ARM A	I	0.000	I	0.282	I	0.718	I
I		I		I	0.0	I	354.0	I	900.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I
I		I	ARM B	I	0.829	I	0.000	I	0.171	I
I		I		I	170.0	I	0.0	I	35.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I
I		I	ARM C	I	0.960	I	0.040	I	0.000	I
I		I		I	1630.0	I	68.0	I	0.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	TIME	I	DEMAND (VEH/MIN)	I	CAPACITY (VEH/MIN)	I	DEMAND/CAPACITY (RFC)	I	PEDESTRIAN FLOW (PEDS/MIN)	I	START QUEUE (VEHS)	I	END QUEUE (VEHS)	I	DELAY (VEH.MIN/ TIME SEGMENT)	I	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	16.45-17.00	I		I		I		I		I		I		I		I		I		I
I	ARM A	I	15.68	I	43.43	I	0.361	I		I	0.0	I	0.6	I	8.3	I		I		I
I	ARM B	I	2.56	I	18.08	I	0.142	I		I	0.0	I	0.2	I	2.4	I		I		I
I	ARM C	I	21.23	I	33.12	I	0.641	I		I	0.0	I	1.8	I	25.2	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)
17.00-17.15					0.6	0.8	11.2		
ARM A	18.72	43.30	0.432		0.2	0.2	3.3		
ARM B	3.06	16.79	0.182		1.8	3.3	45.8		
ARM C	25.34	32.84	0.772						

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)
17.15-17.30					0.8	1.1	16.6		
ARM A	22.92	43.13	0.531		0.2	0.3	4.8		
ARM B	3.75	15.01	0.250		3.3	13.3	152.2		
ARM C	31.04	32.45	0.957						

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					1.1	1.1	16.9		
ARM A	22.92	43.12	0.532		0.3	0.3	5.0		
ARM B	3.75	15.00	0.250		13.3	15.8	221.0		
ARM C	31.04	32.45	0.957						

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					1.1	0.8	11.7		
ARM A	18.72	43.27	0.433		0.3	0.2	3.4		
ARM B	3.06	16.77	0.182		15.8	3.5	69.3		
ARM C	25.34	32.83	0.772						

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					0.8	0.6	8.6		
ARM A	15.68	43.42	0.361		0.2	0.2	2.5		
ARM B	2.56	18.06	0.142		3.5	1.8	28.4		
ARM C	21.23	33.11	0.641						

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.6 *
17.15	0.8 *
17.30	1.1 *
17.45	1.1 *
18.00	0.8 *
18.15	0.6 *

TRL VIEWER 3.1 AD i:\.. \Copy of Peregrine Way - Wretchwick Way\Peregrine Way - Wretchwick Way PM Pea! 30M

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.2

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	1.8 **
17.15	3.3 ***
17.30	13.3 *****
17.45	15.8 *****
18.00	3.5 *****
18.15	1.8 **

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I		I		I	* DELAY *	I	* DELAY *	I		
I		I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
I	A	I	1719.5	I	1146.3	I	73.3	I	0.04	I
I	B	I	281.1	I	187.4	I	21.5	I	0.08	I
I	C	I	2328.3	I	1552.2	I	541.9	I	0.23	I
I	ALL	I	4328.9	I	2885.9	I	636.6	I	0.15	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

***** ARCADY 6 run completed.

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

[Printed at 14:41:47 on 02/09/2010]

TRL VIEWER 3.1 AD 1:\..\2010 adj Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 Lond

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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TRL Limited	Tel: +44 (0) 1344 770018
Crowthorne House	Fax: +44 (0) 1344 770864
Nine Mile Ride	Email: softwarebureau@trl.co.uk
Wokingham, Berks.	Web: www.trlsoftware.co.uk
RG40 3GA, UK	

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Run with file:-
"i:\18578-01-X Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Seelshield Way\
2010 adj Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road AM Peak.vai"
(drive-on-the-left) at 14:55:56 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Seelshield Way/A41 East/Gravenhill Road North/A41 West/B4100 London Road AM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher Ltd
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

ARM A - Seelshield Way
ARM B - A41 East
AF - Gravenhill Road North
Ai - A41 West
ARM E - B4100 London Road

TRL TRL VIEWER 3.1 AD i:\..\2010 adj Seelshield Way - A41 East - Gravenhill Road North - A41 West - B410' and

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	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	31.0	I	0.570	I	30.227 *	I
I	ARM B	I	5.25	I	8.50	I	20.00	I	20.00	I	70.00	I	31.0	I	0.588	I	37.181	I
I	ARM C	I	3.50	I	7.00	I	5.00	I	20.00	I	70.00	I	20.0	I	0.472	I	23.933	I
I	ARM D	I	5.00	I	9.00	I	20.00	I	20.00	I	70.00	I	42.0	I	0.568	I	36.003	I
I	ARM E	I	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	39.0	I	0.554	I	34.246	I

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

WARNING One or more intercept values (flagged * in the table) have been adjusted according to local values input from a previous run and listed below -

I	ARM	I	ADJUSTMENT TO	I
I		I	INTERCEPT (PCU/MIN)	I
I	ARM A	I	-5.000	I

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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
I	E	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 TURNING COUNT DATA

DEMAND SET TITLE: 2016+CD+B1 AM Peak

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I		I	FLOW STARTS	I	TOP OF PEAK	I
I		I	TO RISE	I	IS REACHED IF FALLING	I
I		I		I	BEFORE PEAK	I
I		I		I	AT TOP OF PEAK	I
I		I		I	AFTER PEAK	I
I	ARM A	I	15.00	I	45.00	I
I	ARM B	I	15.00	I	45.00	I
I	ARM C	I	15.00	I	45.00	I
I	ARM D	I	15.00	I	45.00	I
I	ARM E	I	15.00	I	45.00	I

DEMAND SET TITLE: 2016+CD+B1 AM Peak

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S)				
		ARM A	ARM B	ARM C	ARM D	ARM E
07.45 - 09.15	ARM A	0.000 0.0 (0.0)	0.354 457.0 (0.0)	0.003 4.0 (0.0)	0.533 689.0 (0.0)	0.110 142.0 (0.0)
	ARM B	0.265 379.0 (0.0)	0.000 0.0 (0.0)	0.011 16.0 (0.0)	0.551 787.0 (0.0)	0.173 247.0 (0.0)
	ARM C	0.182 8.0 (0.0)	0.568 25.0 (0.0)	0.000 0.0 (0.0)	0.250 11.0 (0.0)	0.000 0.0 (0.0)
	ARM D	0.567 1111.0 (0.0)	0.337 660.0 (0.0)	0.015 30.0 (0.0)	0.000 0.0 (0.0)	0.082 160.0 (0.0)
	ARM E	0.456 536.0 (0.0)	0.342 402.0 (0.0)	0.009 10.0 (0.0)	0.193 227.0 (0.0)	0.000 0.0 (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)
07.45-08.00									
ARM A	16.15	20.71	0.780		0.0	3.3	44.6		
ARM B	17.86	29.19	0.612		0.0	1.6	22.2		
ARM C	0.55	9.48	0.058		0.0	0.1	0.9		
ARM D	24.51	30.36	0.807		0.0	4.0	53.5		
ARM E	14.69	19.08	0.770		0.0	3.1	42.1		

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)
08.00-08.15									
A	19.28	19.40	0.994		3.3	16.1	167.3		
B	21.33	28.01	0.761		1.6	3.1	42.9		
ARM C	0.66	6.95	0.094		0.1	0.1	1.5		
ARM D	29.27	29.29	0.999		4.0	20.8	213.3		
ARM E	17.54	16.53	1.061		3.1	25.5	233.9		

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)
08.15-08.30									
ARM A	23.62	19.43	1.216		16.1	79.9	722.6		
ARM B	26.12	27.68	0.944		3.1	11.2	130.5		
ARM C	0.80	4.66	0.173		0.1	0.2	2.9		
ARM D	35.85	28.09	1.276		20.8	137.7	1190.5		
ARM E	21.48	15.89	1.352		25.5	109.7	1014.2		

TRL

TRL VIEWER

3.1 AD i:\... \2010 adj Seelshield Way - A41 East - Gravenhill Road North - A41 West - B410/ and

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	08.30-08.45										I
I	ARM A	23.62	19.44	1.215		79.9	142.6	1668.6			I
I	ARM B	26.12	27.66	0.944		11.2	13.0	183.6			I
I	ARM C	0.80	4.44	0.181		0.2	0.2	3.2			I
I	ARM D	35.85	27.98	1.281		137.7	255.8	2950.9			I
I	ARM E	21.48	15.86	1.354		109.7	194.0	2277.2			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	08.45-09.00										I
I	ARM A	19.28	19.24	1.002		142.6	144.1	2150.2			I
I	ARM B	21.33	27.73	0.769		13.0	3.5	65.5			I
I	ARM C	0.66	6.39	0.103		0.2	0.1	1.8			I
I	ARM D	29.27	29.06	1.007		255.8	259.4	3863.7			I
I	ARM E	17.54	15.97	1.098		194.0	217.5	3085.9			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	09.00-09.15										I
I	ARM A	16.15	19.06	0.847		144.1	102.4	1848.4			I
I	ARM B	17.86	27.81	0.642		3.5	1.8	28.8			I
I	ARM C	0.55	8.32	0.066		0.1	0.1	1.1			I
I	ARM D	24.51	30.11	0.814		259.4	177.1	3273.9			I
I	ARM E	14.69	16.12	0.911		217.5	197.2	3109.9			I

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	3.3	***
08.15	16.1	*****
08.30	79.9	*****
08.45	142.6	*****
09.00	144.1	*****
09.15	102.4	*****

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.6	**
08.15	3.1	***
08.30	11.2	*****
08.45	13.0	*****
09.00	3.5	***
09.15	1.8	**

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	4.0
08.15	20.8
08.30	137.7
08.45	255.8
09.00	259.4
09.15	177.1

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	3.1
08.15	25.5
08.30	109.7
08.45	194.0
09.00	217.5
09.15	197.2

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

			TOTAL DEMAND		* QUEUEING *		* INCLUSIVE QUEUEING *		
			(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	
I	A	I	1771.6	I 1181.1	I 6601.6	I 3.73	I 6876.5	I 3.88	I
I	B	I	1959.5	I 1306.3	I 473.4	I 0.24	I 473.5	I 0.24	I
I	C	I	60.3	I 40.2	I 11.4	I 0.19	I 11.4	I 0.19	I
I	D	I	2688.9	I 1792.6	I 11545.8	I 4.29	I 12066.7	I 4.49	I
I	E	I	1611.2	I 1074.1	I 9763.2	I 6.06	I 10969.3	I 6.81	I
I	ALL	I	8091.5	I 5394.3	I 28395.5	I 3.51	I 30397.4	I 3.76	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

***** ARCADY 6 run completed.

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

TRL TRL VIEWER 3.1 AD i:\.. \Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London F i P

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

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Run with file:-

"i:\18578-01-X Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Seelshield Way\
Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road PM Peak specific.vai"
(drive-on-the-left) at 15:27:19 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Seelshield Way/A41 East/Gravenhill Road North/A41 West/B4100 London Road PM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher Ltd
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

ARM A - Seelshield Way
ARM B - A41 East
ARM C - Gravenhill Road North
ARM D - A41 West
ARM E - B4100 London Road

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	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	31.0	I	0.570	I	35.227	I
I	ARM B	I	5.25	I	8.50	I	20.00	I	20.00	I	70.00	I	31.0	I	0.588	I	37.181	I
I	ARM C	I	3.50	I	7.00	I	5.00	I	20.00	I	70.00	I	20.0	I	0.472	I	23.933	I
I	ARM D	I	5.00	I	9.00	I	20.00	I	20.00	I	70.00	I	42.0	I	0.568	I	36.003	I
I	ARM E	I	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	39.0	I	0.554	I	34.246	I

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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
I	E	I	100		I

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEM* \ FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2016 PM Peak+CD+B1

I	ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	I	TOP OF PEAK IS REACHED	I	IF FLOW STOPS FALLING	I	BEFORE PEAK	I	AT TOP OF PEAK	I	AFTER PEAK	I
I	ARM A	I	15.00	I	45.00	I	75.00	I	18.05	I	27.07	I	18.05	I
I	ARM B	I	15.00	I	45.00	I	75.00	I	19.44	I	29.16	I	19.44	I
I	ARM C	I	15.00	I	45.00	I	75.00	I	1.05	I	1.57	I	1.05	I
I	ARM D	I	15.00	I	45.00	I	75.00	I	18.39	I	27.58	I	18.39	I
I	ARM E	I	15.00	I	45.00	I	75.00	I	9.40	I	14.10	I	9.40	I

DEMAND SET TITLE: 2016 PM Peak+CD+B1

I	TIME	I	FROM/TO	I	ARM A	I	ARM B	I	ARM C	I	ARM D	I	ARM E	I
I	16.45 - 18.15	I	ARM A	I	0.000	I	0.247	I	0.001	I	0.666	I	0.086	I
I		I		I	0.0	I	356.0	I	2.0	I	962.0	I	124.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I
I		I	ARM B	I	0.267	I	0.000	I	0.006	I	0.505	I	0.222	I
I		I		I	415.0	I	0.0	I	9.0	I	786.0	I	345.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I
I		I	ARM C	I	0.155	I	0.286	I	0.000	I	0.321	I	0.238	I
I		I		I	13.0	I	24.0	I	0.0	I	27.0	I	20.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I
I		I	ARM D	I	0.425	I	0.473	I	0.006	I	0.000	I	0.096	I
I		I		I	625.0	I	696.0	I	9.0	I	0.0	I	141.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I
I		I	ARM E	I	0.259	I	0.441	I	0.000	I	0.299	I	0.000	I
I		I		I	195.0	I	332.0	I	0.0	I	225.0	I	0.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I	(0.0)	I

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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	16.45-17.00										I
I	ARM A	18.05	26.12	0.691		0.0	2.2	30.6			I
I	ARM B	19.44	27.53	0.706		0.0	2.3	32.7			I
I	ARM C	1.05	7.20	0.146		0.0	0.2	2.4			I
I	ARM D	18.39	29.38	0.626		0.0	1.6	23.5			I
I	ARM E	9.40	21.99	0.427		0.0	0.7	10.7			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	17.00-17.15										I
I	ARM A	21.55	24.34	0.885		2.2	6.6	83.3			I
I	ARM B	23.21	25.71	0.903		2.3	7.6	94.3			I
I	ARM C	1.25	4.06	0.308		0.2	0.4	6.0			I
I	ARM D	21.96	28.14	0.780		1.6	3.4	47.0			I
I	ARM E	11.22	19.63	0.572		0.7	1.3	18.9			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	17.15-17.30										I
I	ARM A	26.40	22.14	1.193		6.6	72.6	602.9			I
I	ARM B	28.43	24.95	1.139		7.6	62.7	537.6			I
I	ARM C	1.54	2.57	0.596		0.4	1.3	16.5			I
I	ARM D	26.89	27.49	0.978		3.4	16.0	172.2			I
I	ARM E	13.75	17.18	0.800		1.3	3.7	48.8			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	17.30-17.45										I
I	ARM A	26.40	21.94	1.203		72.6	139.7	1592.3			I
I	ARM B	28.43	24.95	1.139		62.7	115.1	1334.1			I
I	ARM C	1.54	2.50	0.615		1.3	1.4	20.8			I
I	ARM D	26.89	27.42	0.981		16.0	21.1	281.2			I
I	ARM E	13.75	16.89	0.814		3.7	4.1	59.1			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	17.45-18.00										I
I	ARM A	21.55	23.91	0.901		139.7	106.9	1849.0			I
I	ARM B	23.21	24.57	0.945		115.1	97.9	1597.8			I
I	ARM C	1.25	2.45	0.512		1.4	1.1	18.3			I
I	ARM D	21.96	27.59	0.796		21.1	4.1	98.3			I
I	ARM E	11.22	18.78	0.598		4.1	1.5	24.6			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	18.05	26.01	0.694		106.9	2.7	743.9			I
I	ARM B	19.44	24.37	0.797		97.9	27.6	941.0			I
I	ARM C	1.05	2.39	0.439		1.1	0.8	13.6			I
I	ARM D	18.39	27.68	0.664		4.1	2.0	32.0			I
I	ARM E	9.40	21.14	0.445		1.5	0.8	12.5			I

TRL VIEWER 3.1 AD 1:\..\Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road P.

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	2.2	**
17.15	6.6	*****
17.30	72.6	*****
17.45	139.7	*****
18.00	106.9	*****
18.15	2.7	***

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	2.3	**
17.15	7.6	*****
17.30	62.7	*****
17.45	115.1	*****
18.00	97.9	*****
18.15	27.6	*****

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.2	
17.15	0.4	
17.30	1.3	*
17.45	1.4	*
18.00	1.1	*
18.15	0.8	*

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.6	**
17.15	3.4	***
17.30	16.0	*****
17.45	21.1	*****
18.00	4.1	****
18.15	2.0	**

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	1.3	*
17.30	3.7	****
17.45	4.1	****
18.00	1.5	**
18.15	0.8	*

TRL TRL VIEWER 3.1 AD i:\... \Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London F 1 P

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I		I			I	* DELAY *		I	* DELAY *		I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	A	I	1980.0	I 1320.0	I	4902.0	I 2.48	I	4902.1	I 2.48	I
I	B	I	2132.2	I 1421.5	I	4537.6	I 2.13	I	4553.2	I 2.14	I
I	C	I	115.2	I 76.8	I	77.8	I 0.68	I	77.9	I 0.68	I
I	D	I	2017.1	I 1344.7	I	654.3	I 0.32	I	654.3	I 0.32	I
I	E	I	1031.2	I 687.4	I	174.7	I 0.17	I	174.7	I 0.17	I
I	ALL	I	7275.6	I 4850.4	I	10346.3	I 1.42	I	10362.2	I 1.42	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

***** ARCADY 6 run completed.

end of file

[Printed at 15:28:00 on 02/09/2010]

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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Run file:-
"I:\18578-01-X Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Gavray - Mallards\Gavray Mallards.vpi"
(drive-on-the-left) at 13:03:41 on Thursday, 2 September 2010

RUN INFORMATION

RUN TITLE: Gavray Drive - Mallards
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Gavray Drive East
ARM B IS Mallards Lane
ARM C IS Gavray Drive West

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 9.10 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I
I	- VISIBILITY	I	(VC-B) 130.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 90.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 85.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) -	I
I	- LANE 2 WIDTH	I	(WB-A) -	I
I	- WIDTH AT 0 M FROM JUNC.	I	10.00 M.	I
I	- WIDTH AT 5 M FROM JUNC.	I	5.50 M.	I
I	- WIDTH AT 10 M FROM JUNC.	I	5.00 M.	I
I	- WIDTH AT 15 M FROM JUNC.	I	4.00 M.	I
I	- WIDTH AT 20 M FROM JUNC.	I	4.00 M.	I
I	- LENGTH OF FLARED SECTION	I	1 VEHS	I

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	I
I	623.19	0.21	0.08	I

I	Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B	I
I	505.60	0.20	0.08	0.13	0.29	I

I	Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	I
I	649.25	0.22	0.22	I

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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)
08.00-08.15									
B-C	0.04	9.75	0.005		0.00	0.00	0.1		
B-A	0.97	10.45	0.093		0.08	0.10	1.5		
C-A	0.15								
C-B	0.07	10.68	0.007		0.01	0.01	0.1		
A-B	0.51								
A-C	0.12								

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)
08.15-08.30									
B-C	0.06	9.67	0.006		0.00	0.01	0.1		
B-A	1.19	10.43	0.114		0.10	0.13	1.9		
C-A	0.18								
C-B	0.09	10.65	0.009		0.01	0.01	0.1		
A-B	0.62								
A-C	0.15								

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)
08.30-08.45									
B-C	0.06	9.67	0.006		0.01	0.01	0.1		
B-A	1.19	10.43	0.114		0.13	0.13	1.9		
C-A	0.18								
C-B	0.09	10.65	0.009		0.01	0.01	0.1		
A-B	0.62								
A-C	0.15								

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)
08.45-09.00									
B-C	0.04	9.75	0.005		0.01	0.00	0.1		
B-A	0.97	10.45	0.093		0.13	0.10	1.6		
C-A	0.15								
C-B	0.07	10.68	0.007		0.01	0.01	0.1		
A-B	0.51								
A-C	0.12								

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)
09.00-09.15									
B-C	0.04	9.80	0.004		0.00	0.00	0.1		
B-A	0.82	10.48	0.078		0.10	0.09	1.3		
C-A	0.13								
C-B	0.06	10.71	0.006		0.01	0.01	0.1		
A-B	0.43								
A-C	0.10								

QUEUE FOR STREAM B-C

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 FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUE FOR STREAM C-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

 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING *	* INCLUSIVE QUEUEING *
		* DELAY *	* DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
		(MIN)	(MIN/VEH)
B-C	4.1	0.4	0.10
B-A	89.5	9.4	0.11
C-A	13.8		
C-B	6.9	0.6	0.09
A-B	46.8		
A-C	11.0		
ALL	172.1	10.5	0.06

* 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

 .SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity
 will be adjusted)

Intercept For	Slope For Opposing	Slope For Opposing
Stream B-C	Stream A-C	Stream A-B
623.19	0.21	0.08

Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing
Stream B-A	Stream A-C	Stream A-B	Stream C-A	Stream C-B
505.60	0.20	0.08	0.13	0.29

Intercept For	Slope For Opposing	Slope For Opposing
Stream C-B	Stream A-C	Stream A-B
649.25	0.22	0.22

NB These values do not allow for any site specific corrections

 TRAFFIC DEMAND DATA

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

Demand set: 2016 + CD+B1c Gavray Drive - Mallards Demand Set

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 TURNING COUNT DATA

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
A	15.00	45.00	75.00	1.44	2.16	1.44
B	15.00	45.00	75.00	0.59	0.88	0.59
C	15.00	45.00	75.00	0.21	0.32	0.21

I I I I I I	I I I	TURNING PROPORTIONS				I I I				
		TURNING COUNTS (VEH/HR)								
		(PERCENTAGE OF H.V.S)								
TIME		FROM/TO	ARM A	ARM B	ARM C					
I	16.45 - 18.15	I	I	I	I	I				
I		I	ARM A	I	0.000	I	0.861	I	0.139	I
I		I		I	0.0	I	99.0	I	16.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I
I		I		I		I		I		I
I		I		I		I		I		I
I		I	ARM B	I	0.851	I	0.000	I	0.149	I
I		I		I	40.0	I	0.0	I	7.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I
I		I		I		I		I		I
I		I		I		I		I		I
I		I	ARM C	I	0.765	I	0.235	I	0.000	I
I		I		I	13.0	I	4.0	I	0.0	I
I		I		I	(0.0)	I	(0.0)	I	(0.0)	I
I		I		I		I		I		I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

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)
16.45-17.00									
B-C	0.09	10.10	0.009		0.00	0.01	0.1		
B-A	0.50	10.22	0.049		0.00	0.05	0.7		
C-A	0.16								
C-B	0.05	10.51	0.005		0.00	0.00	0.1		
A-B	1.24								
A-C	0.20								

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)
17.00-17.15									
B-C	0.10	10.05	0.010		0.01	0.01	0.2		
B-A	0.60	10.17	0.059		0.05	0.06	0.9		
C-A	0.19								
C-B	0.06	10.45	0.006		0.00	0.01	0.1		
A-B	1.48								
A-C	0.24								

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)
17.15-17.30									
B-C	0.13	9.97	0.013		0.01	0.01	0.2		
B-A	0.73	10.12	0.073		0.06	0.08	1.1		
C-A	0.24								
C-B	0.07	10.36	0.007		0.01	0.01	0.1		
A-B	1.82								
A-C	0.29								

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									
B-C	0.13	9.97	0.013		0.01	0.01	0.2		
B-A	0.73	10.12	0.073		0.08	0.08	1.2		
C-A	0.24								
C-B	0.07	10.36	0.007		0.01	0.01	0.1		
A-B	1.82								
A-C	0.29								

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									
B-C	0.10	10.05	0.010		0.01	0.01	0.2		
B-A	0.60	10.17	0.059		0.08	0.06	1.0		
C-A	0.19								
C-B	0.06	10.45	0.006		0.01	0.01	0.1		
A-B	1.48								
A-C	0.24								

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									
B-C	0.09	10.10	0.009		0.01	0.01	0.1		
B-A	0.50	10.22	0.049		0.06	0.05	0.8		
C-A	0.16								
C-B	0.05	10.51	0.005		0.01	0.00	0.1		
A-B	1.24								
A-C	0.20								

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM B-A

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

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	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	B-C	I	9.6	I 6.4	I 1.0	I 0.10	I 1.0	I 0.10
I	B-A	I	55.1	I 36.7	I 5.7	I 0.10	I 5.7	I 0.10
I	C-A	I	17.9	I 11.9	I	I	I	I
I	C-B	I	5.5	I 3.7	I 0.5	I 0.10	I 0.5	I 0.10
I	B	I	136.3	I 90.8	I	I	I	I
I	-C	I	22.0	I 14.7	I	I	I	I
I	ALL	I	246.4	I 164.3	I 7.2	I 0.03	I 7.2	I 0.03

* 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

***** PICADY 5 run completed.

end of file

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-

"i:\18578-01-X Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Wretchwick - Gavray Drive - Charbridge\Wretchwick - Gavray Drive - Charbridge AM Peak REV.vai"
(drive-on-the-left) at 13:54:51 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Wretchwick - Gavray Drive - Charbridge AM Peak

LOCATION: Bicester

DATE: 13/07/10

CLIENT: JJ Gallagher

ENUMERATOR: Alexanders [CS5DG3J]

JOB NUMBER: 18578-01-1

STATUS:

DESCRIPTION:

INPUT DATA

ARM A - Wretchwick
ARM B - Gavray Drive
ARM C - Charbridge

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	6.00	I	8.00	I	15.00	I	20.00	I	45.00	I	49.0	I	0.685	I	34.915	I
I	ARM B	I	3.50	I	7.00	I	10.00	I	20.00	I	45.00	I	44.0	I	0.571	I	24.749	I
I	ARM C	I	5.75	I	7.00	I	10.00	I	35.00	I	45.00	I	34.0	I	0.694	I	33.784	I

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I	ARM	I	FLOW	SCALE (%)	I
I	A	I		100	I
I	B	I		100	I
I	C	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 TURNING COUNT DATA

DE* SET TITLE: 2016+CD+B1c Wretchwick - Gavray Drive - Charbridge AM Peak

I	I	I	NUMBER OF MINUTES FROM START WHEN	I	I	I	RATE OF FLOW (VEH/MIN)	I	I					
I	ARM	I	FLOW STARTS	I	TOP OF PEAK	I	FLOW STOPS	I	BEFORE	I	AT TOP	I	AFTER	I
I	I	I	TO RISE	I	IS REACHED	I	IF FALLING	I	PEAK	I	OF PEAK	I	PEAK	I
I	ARM A	I	15.00	I	45.00	I	75.00	I	19.02	I	28.54	I	19.02	I
I	ARM B	I	15.00	I	45.00	I	75.00	I	3.41	I	5.12	I	3.41	I
I	ARM C	I	15.00	I	45.00	I	75.00	I	12.02	I	18.04	I	12.02	I

DEMAND SET TITLE: 2016+CD+B1c Wretchwick - Gavray Drive - Charbridge AM Peak

		TURNING PROPORTIONS				
		TURNING COUNTS (VEH/HR)				
		(PERCENTAGE OF H.V.S)				
TIME		FROM/TO	ARM A	ARM B	ARM C	
07.45 - 09.15	ARM A	0.000	0.610	0.390		
		0.0	929.0	593.0		
		(0.0)	(0.0)	(0.0)		
	ARM B	0.736	0.000	0.264		
		201.0	0.0	72.0		
		(0.0)	(0.0)	(0.0)		
	ARM C	0.787	0.213	0.000		
		757.0	205.0	0.0		
		(0.0)	(0.0)	(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)
I	07.45-08.00					0.0	1.3	19.2		
I	ARM A	19.02	33.16	0.574		0.0	0.2	2.9		
I	ARM B	3.41	20.53	0.166		0.0	0.6	8.8		
I	ARM C	12.02	32.05	0.375						

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	08.00-08.15										I
I	ARM A	22.72	32.82	0.692		1.3	2.2	31.6			I
I	ARM B	4.07	19.70	0.207		0.2	0.3	3.8			I
I	ARM C	14.36	31.70	0.453		0.6	0.8	12.1			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	08.15-08.30										I
I	ARM A	27.82	32.35	0.860		2.2	5.6	74.5			I
I	ARM B	4.99	18.60	0.268		0.3	0.4	5.4			I
I	ARM C	17.59	31.24	0.563		0.8	1.3	18.6			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	08.30-08.45										I
I	ARM A	27.82	32.35	0.860		5.6	5.9	86.4			I
I	ARM B	4.99	18.56	0.269		0.4	0.4	5.5			I
I	ARM C	17.59	31.23	0.563		1.3	1.3	19.2			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	08.45-09.00										I
I	ARM A	22.72	32.81	0.692		5.9	2.3	37.0			I
I	ARM B	4.07	19.64	0.208		0.4	0.3	4.0			I
I	ARM C	14.36	31.70	0.453		1.3	0.8	12.8			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	09.00-09.15										I
I	ARM A	19.02	33.16	0.574		2.3	1.4	21.1			I
I	ARM B	3.41	20.50	0.166		0.3	0.2	3.1			I
I	ARM C	12.02	32.04	0.375		0.8	0.6	9.2			I

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.3	*
08.15	2.2	**
08.30	5.6	*****
08.45	5.9	*****
09.00	2.3	**
09.15	1.4	*

QUEUE AT ARM B

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 C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.6 *
08.15	0.8 *
08.30	1.3 *
08.45	1.3 *
09.00	0.8 *
09.15	0.6 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I		I			I	* DELAY *		I	* DELAY *		I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	A	I	2087.0	I 1391.3	I	269.8	I 0.13	I	269.9	I 0.13	I
I	B	I	374.3	I 249.6	I	24.7	I 0.07	I	24.7	I 0.07	I
I	C	I	1319.1	I 879.4	I	80.6	I 0.06	I	80.6	I 0.06	I
I	ALL	I	3780.4	I 2520.3	I	375.1	I 0.10	I	375.2	I 0.10	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.

EN F JOB

***** ARCADY 6 run completed.

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

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"i:\18578-01-X_Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Wretchwick - Gavray Drive - Charbridge\Wretchwick - Gavray Drive - Charbridge PM Peak.vai"
(drive-on-the-left) at 14:04:06 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Wretchwick - Gavray Drive - Charbridge PM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS:
DESCRIPTION:

INPUT DATA

ARM A - Wretchwick
ARM B - Gavray Drive
ARM C - Charbridge

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	6.00	I	8.00	I	15.00	I	20.00	I	45.00	I	49.0	I	0.685	I	34.915	I
I	ARM B	I	3.50	I	7.00	I	10.00	I	20.00	I	45.00	I	44.0	I	0.571	I	24.749	I
I	ARM C	I	5.75	I	7.00	I	10.00	I	35.00	I	45.00	I	34.0	I	0.694	I	33.784	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 SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	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 TURNING COUNT DATA

DEMO SET TITLE: 2016+CD+B1c Wretchwick - Gavray Drive - Charbridge PM Peak

I	I	I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)			I
			I	I	I	I	I	I	
I	ARM	I	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER	I
I	I	I	TO RISE	IS REACHED	IF FALLING	PEAK	OF PEAK	PEAK	I
I	ARM A	I	15.00	I	45.00	I	75.00	I	12.11
I	ARM B	I	15.00	I	45.00	I	75.00	I	12.70
I	ARM C	I	15.00	I	45.00	I	75.00	I	8.96
I		I		I		I		I	

DEMAND SET TITLE: 2016+CD+B1c Wretchwick - Gavray Drive - Charbridge PM Peak

		TURNING PROPORTIONS					
		TURNING COUNTS (VEH/HR)					
		(PERCENTAGE OF H.V.S)					
TIME	FROM/TO	ARM A	ARM B	ARM C			
16.45 - 18.15	ARM A	0.000	0.258	0.742			
		0.0	250.0	719.0			
		(0.0)	(0.0)	(0.0)			
	ARM B	0.812	0.000	0.188			
		825.0	0.0	191.0			
		(0.0)	(0.0)	(0.0)			
	ARM C	0.880	0.120	0.000			
		631.0	86.0	0.0			
		(0.0)	(0.0)	(0.0)			

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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	16.45-17.00					0.0	0.5	8.0		
I	ARM A	12.11	34.18	0.354		0.0	1.8	25.0		
I	ARM B	12.70	19.63	0.647		0.0	0.5	7.4		
I	ARM C	8.96	26.70	0.336						

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	17.00-17.15										I
I	ARM A	14.46	34.04	0.425		0.5	0.7	10.8			I
I	ARM B	15.17	18.62	0.814		1.8	4.0	53.5			I
I	ARM C	10.70	25.33	0.423		0.5	0.7	10.7			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	17.15-17.30										I
I	ARM A	17.71	33.84	0.523		0.7	1.1	16.0			I
I	ARM B	18.57	17.25	1.077		4.0	29.9	270.8			I
I	ARM C	13.11	24.29	0.540		0.7	1.2	16.8			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	17.30-17.45										I
I	ARM A	17.71	33.84	0.524		1.1	1.1	16.4			I
I	ARM B	18.57	17.24	1.077		29.9	51.2	609.6			I
I	ARM C	13.11	24.12	0.543		1.2	1.2	17.6			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	17.45-18.00										I
I	ARM A	14.46	34.03	0.425		1.1	0.7	11.4			I
I	ARM B	15.17	18.61	0.815		51.2	6.4	421.8			I
I	ARM C	10.70	23.56	0.454		1.2	0.8	12.9			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	18.00-18.15										I
I	ARM A	12.11	34.18	0.354		0.7	0.6	8.4			I
I	ARM B	12.70	19.61	0.648		6.4	1.9	32.1			I
I	ARM C	8.96	26.46	0.339		0.8	0.5	7.9			I
I											I

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.7	*
17.30	1.1	*
17.45	1.1	*
18.00	0.7	*
18.15	0.6	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.8	**
17.15	4.0	****
17.30	29.9	*****
17.45	51.2	*****
18.00	6.4	*****
18.15	1.9	**

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.7	*
17.30	1.2	*
17.45	1.2	*
18.00	0.8	*
18.15	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
						* DELAY *			* DELAY *		
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	A	I	1328.7	I 885.8	I	71.0	I 0.05	I	71.0	I 0.05	I
I	B	I	1393.2	I 928.8	I	1412.8	I 1.01	I	1412.9	I 1.01	I
I	C	I	983.2	I 655.4	I	73.2	I 0.07	I	73.3	I 0.07	I
I	ALL	I	3705.0	I 2470.0	I	1557.0	I 0.42	I	1557.1	I 0.42	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.

EN F JOB

***** ARCADY 6 run completed.
===== end of file =====

TRL TRL VIEWER 3.1 AD I:\..\Copy of Wretchwick - Peregrine Priority\Wretchwick Pergrine Priority.vpo - P. 1

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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Run with file:-

"I:\18578-01-X_Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Wretchwick - Peregrine Priority\Wretchwick Pergrine Priority.vpi"
(drive-on-the-left) at 13:23:24 on Thursday, 2 September 2010

RUN INFORMATION

RUN TITLE: Wretchwick Way - Peregrine Way
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA

DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)
I
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Wretchwick Way SW
ARM B IS Peregrine Way
ARM C IS Wretchwick Way NE

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 12.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.20 M.
- VISIBILITY	(VC-B) 120.0 M.
- BLOCKS TRAFFIC	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 65.0 M.
- VISIBILITY TO RIGHT	(VB-A) 120.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
- WIDTH AT 0 M FROM JUNC.	10.00 M.
- WIDTH AT 5 M FROM JUNC.	9.00 M.
- WIDTH AT 10 M FROM JUNC.	6.50 M.
- WIDTH AT 15 M FROM JUNC.	6.00 M.
- WIDTH AT 20 M FROM JUNC.	6.00 M.
- LENGTH OF FLARED SECTION	1 VEHS

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.18	0.07

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
513.92	0.17	0.07	0.11	0.25

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
713.49	0.20	0.20

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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)
08.00-08.15					0.28	0.44	6.3		
B-C	2.31	7.48	0.309		0.32	0.60	8.2		
B-A	1.29	3.35	0.385						
C-A	12.99				0.16	0.22	3.2		
C-B	1.36	7.58	0.180						
A-B	0.45								
A-C	20.65								

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)
08.15-08.30									
B-C	2.83	3.64	0.777		0.44	2.68	31.8		
B-A	1.58	1.79	0.882		0.60	3.27	35.0		
C-A	15.91								
3	1.67	6.61	0.253		0.22	0.33	4.8		
3	0.55								
A-C	25.29								

	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	08.30-08.45					2.68	6.19	70.3		
I	B-C	2.83	2.90	0.975						
I	B-A	1.58	1.73	0.911		3.27	4.50	59.2		
I	C-A	15.91								
I	C-B	1.67	6.61	0.253		0.33	0.33	5.0		
I	A-B	0.55								
I	A-C	25.29								

[illegible][illegible]

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.4	
08.30	2.7	***
08.45	6.2	*****
09.00	0.5	
09.15	0.3	

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.6	*
08.30	3.3	***
08.45	4.5	****
09.00	0.7	*
09.15	0.3	

QUEUE FOR STREAM C-B

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

STREAM	TOTAL DEMAND	* QUEUEING *	* INCLUSIVE QUEUEING *
(VEH)	(VEH/H)	(MIN)	(MIN)
B-C	212.0	129.1	129.1
B-A	118.4	128.7	128.7
C-A	1193.4		
C-B	125.3	21.2	21.2
A-B	41.3		
A-C	1896.7		
ALL	3587.0	279.0	279.0

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
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 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.18	0.07

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
513.92	0.17	0.07	0.11	0.25

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
713.49	0.20	0.20

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

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

Demand set: 2016+CD+B1c Wretchwick Way - Peregrine Way Demand Set

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 TURNING COUNT DATA

I ARM I	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN) I		
	I FLOW STARTS I	I TOP OF PEAK I	I FLOW STOPS I	I BEFORE I	I AT TOP I	I AFTER I
I	I TO RISE I	I IS REACHED I	I FALLING I	I PEAK I	I OF PEAK I	I PEAK I
I ARM A I	15.00 I	45.00 I	75.00 I	12.19 I	18.28 I	12.19 I
I ARM B I	15.00 I	45.00 I	75.00 I	2.36 I	3.54 I	2.36 I
I ARM C I	15.00 I	45.00 I	75.00 I	18.20 I	27.30 I	18.20 I

I TIME I	TURNING PROPORTIONS			
	TURNING COUNTS (VEH/HR)			
I FROM/TO I	(PERCENTAGE OF H.V.S)			
	I ARM A I	I ARM B I	I ARM C I	I
I 16.45 - 18.15 I	I	I	I	I
I ARM A I	0.000 I	0.150 I	0.850 I	I
I	0.0 I	146.0 I	829.0 I	I
I	(0.0) I	(0.0) I	(0.0) I	I
I ARM B I	0.185 I	0.000 I	0.815 I	I
I	35.0 I	0.0 I	154.0 I	I
I	(0.0) I	(0.0) I	(0.0) I	I
I ARM C I	0.897 I	0.103 I	0.000 I	I
I	1306.0 I	150.0 I	0.0 I	I
I	(0.0) I	(0.0) I	(0.0) I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS									
AND FOR TIME PERIOD 2									
I TIME I	I DEMAND I	I CAPACITY I	I DEMAND/ I	I PEDESTRIAN I	I START I	I END I	I DELAY I	I GEOMETRIC DELAY I	I AVERAGE DELAY I
I	I (VEH/MIN) I	I (VEH/MIN) I	I CAPACITY I	I FLOW I	I QUEUE I	I QUEUE I	I (VEH.MIN/ I	I (VEH.MIN/ I	I PER ARRIVING I
I	I	I	I (RFC) I	I (PEDS/MIN) I	I (VEHS) I	I (VEHS) I	I TIME SEGMENT) I	I TIME SEGMENT) I	I VEHICLE (MIN) I
I 16.45-17.00 I	I	I	I	I	I	I	I	I	I
I B-C I	1.93 I	10.98 I	0.176 I	I	0.00 I	0.21 I	3.1 I	I	I
I B-A I	0.44 I	4.49 I	0.098 I	I	0.00 I	0.11 I	1.5 I	I	I
I C-A I	16.39 I	I	I	I	I	I	I	I	I
I C-B I	1.88 I	9.39 I	0.200 I	I	0.00 I	0.25 I	3.6 I	I	I
I A-B I	1.83 I	I	I	I	I	I	I	I	I
I A-C I	10.40 I	I	I	I	I	I	I	I	I

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.3
17.30	0.4
17.45	0.4
18.00	0.3
18.15	0.2

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.1

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.3
17.30	0.5
17.45	0.5
18.00	0.3
18.15	0.3

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I	I	I	I	I	I	* DELAY *		I	* DELAY *		I
I	I	I	I	I	I	I	I	I	I	I	I
I	I	I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	B-C	I	212.0	I	141.3	I	28.0	I	28.0	I	0.13
I	B-A	I	48.2	I	32.1	I	18.2	I	18.2	I	0.38
I	C-A	I	1797.6	I	1198.4	I	I	I	I	I	I
I	C-B	I	206.5	I	137.6	I	32.2	I	32.2	I	0.16
I	A-B	I	201.0	I	134.0	I	I	I	I	I	I
I	A-C	I	1141.1	I	760.7	I	I	I	I	I	I
I	ALL	I	3606.2	I	2404.2	I	78.4	I	78.4	I	0.02

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* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB
***** PICADY 5 run completed.
===== end of file =====

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
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Run with file:-
"i:\18578-01-X_Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Peregrine Way - Wretchwick Way\Peregrine Way - Wretchwick Way AM Peak.vai"
(drive-on-the-left) at 14:26:16 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Peregrine Way/Wretchwick Way AM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

ARM A - Neunkirchen Way
ARM B - Peregrine Way
ARM C - Wretchwick Way 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	7.00	I	10.00	I	10.00	I	45.00	I	49.00	I	31.0	I	0.800	I	44.100	I
I	ARM B	I	3.00	I	7.00	I	8.00	I	60.00	I	50.00	I	17.0	I	0.590	I	24.700	I
I	ARM C	I	5.50	I	8.00	I	10.00	I	35.00	I	50.00	I	38.0	I	0.677	I	34.552	I

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I	ARM	FLOW SCALE (%)	I
I	A	100	I
I	B	100	I
I	C	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 TURNING COUNT DATA

DEMAND SET TITLE: 2016+CD+B1c Peregrine Way/Wretchwick Way AM Peak

I	ARM	NUMBER OF MINUTES FROM START WHEN				RATE OF FLOW (VEH/MIN)			I
		I	I	I	I	I	I	I	
I		FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER		
I		TO RISE	IS REACHED	IF FALLING	PEAK	OF PEAK	PEAK		
I	ARM A	I 15.00	I 45.00	I 75.00	I 17.88	I 26.81	I 17.88	I	I
I	ARM B	I 15.00	I 45.00	I 75.00	I 5.51	I 8.27	I 5.51	I	I
I	ARM C	I 15.00	I 45.00	I 75.00	I 11.91	I 17.87	I 11.91	I	I

DEMAND SET TITLE: 2016+CD+B1c Peregrine Way/Wretchwick Way AM Peak

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S.)		
		ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.069	0.931
		0.0	99.0	1331.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.832	0.000	0.168
		367.0	0.0	74.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.973	0.027	0.000
		927.0	26.0	0.0
		(0.0)	(0.0)	(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)
07.45-08.00									
ARM A	17.88	43.84	0.408		0.0	0.7	10.1		
ARM B	5.51	14.92	0.370		0.0	0.6	8.4		
ARM C	11.91	31.47	0.379		0.0	0.6	8.9		

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)
08.00-08.15									
ARM A	21.34	43.79	0.487		0.7	0.9	13.9		
ARM B	6.58	13.00	0.506		0.6	1.0	14.4		
ARM C	14.22	30.86	0.461		0.6	0.8	12.5		

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)
08.15-08.30									
ARM A	26.14	43.72	0.598		0.9	1.5	21.5		
ARM B	8.06	10.37	0.777		1.0	3.1	40.6		
ARM C	17.42	30.09	0.579		0.8	1.4	19.7		

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)
08.30-08.45									
ARM A	26.14	43.72	0.598		1.5	1.5	22.2		
ARM B	8.06	10.36	0.779		3.1	3.3	48.5		
ARM C	17.42	30.02	0.580		1.4	1.4	20.5		

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)
08.45-09.00									
ARM A	21.34	43.79	0.487		1.5	1.0	14.6		
ARM B	6.58	12.97	0.508		3.3	1.1	17.3		
ARM C	14.22	30.76	0.462		1.4	0.9	13.3		

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)
09.00-09.15									
ARM A	17.88	43.84	0.408		1.0	0.7	10.5		
ARM B	5.51	14.88	0.370		1.1	0.6	9.2		
ARM C	11.91	31.43	0.379		0.9	0.6	9.4		

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.7 *
08.15	0.9 *
08.30	1.5 *
08.45	1.5 *
09.00	1.0 *
09.15	0.7 *

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	1.0	*
08.30	3.1	***
08.45	3.3	***
09.00	1.1	*
09.15	0.6	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	0.8	*
08.30	1.4	*
08.45	1.4	*
09.00	0.9	*
09.15	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I	
I		I			I	* DELAY *		I	* DELAY *		I	
I		I			I			I			I	
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I	
I	A	I	1960.8	I	1307.2	I	92.9	I	92.9	I	0.05	I
I	B	I	604.7	I	403.1	I	138.3	I	138.3	I	0.23	I
I	C	I	1306.8	I	871.2	I	84.3	I	84.3	I	0.06	I
I	ALL	I	3872.3	I	2581.5	I	315.6	I	315.6	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
***** ARCADY 6 run completed.
===== end of file =====

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"i:\18578-01-X_Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Peregrine Way - Wretchwick Way\Peregrine Way - Wretchwick Way PM Peak GEOM CHANGE.vai"
(drive-on-the-left) at 14:45:04 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Peregrine Way/Wretchwick Way AM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

ARM A - Neunkirchen Way
ARM B - Peregrine Way
ARM C - Wretchwick Way 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	7.00	I	10.00	I	10.00	I	45.00	I	50.00	I	31.0	I	0.794	I	44.100	I
I ARM B	I	3.00	I	7.00	I	8.00	I	60.00	I	50.00	I	17.0	I	0.590	I	24.700	I
I ARM C	I	5.50	I	8.00	I	10.00	I	35.00	I	50.00	I	38.0	I	0.677	I	34.552	I

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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)
17.00-17.15					0.6	0.8	11.4		
ARM A	18.91	43.28	0.437		0.2	0.2	3.3		
ARM B	3.06	16.69	0.183		1.0	1.5	21.8		
ARM C	19.78	32.84	0.602						

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)
17.15-17.30					0.8	1.2	16.9		
ARM A	23.16	43.10	0.537		0.2	0.3	4.9		
ARM B	3.75	14.89	0.252		1.5	2.9	40.3		
ARM C	24.22	32.45	0.746						

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					1.2	1.2	17.3		
ARM A	23.16	43.10	0.537		0.3	0.3	5.0		
ARM B	3.75	14.88	0.252		2.9	2.9	43.2		
ARM C	24.22	32.45	0.746						

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					1.2	0.8	11.9		
ARM A	18.91	43.28	0.437		0.3	0.2	3.5		
ARM B	3.06	16.67	0.184		2.9	1.5	23.9		
ARM C	19.78	32.83	0.602						

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					0.8	0.6	8.8		
ARM A	15.84	43.41	0.365		0.2	0.2	2.5		
ARM B	2.56	17.98	0.143		1.5	1.0	15.5		
ARM C	16.56	33.11	0.500						

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.6 *
17.15	0.8 *
17.30	1.2 *
17.45	1.2 *
18.00	0.8 *
18.15	0.6 *

TRL TRL VIEWER 3.1 AD i:\..\Copy of Peregrine Way - Wretchwick Way\Peregrine Way - Wretchwick Way PM Peal 10N

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.2
17.15	0.2
17.30	0.3
17.45	0.3
18.00	0.2
18.15	0.2

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	1.0 *
17.15	1.5 *
17.30	2.9 ***
17.45	2.9 ***
18.00	1.5 **
18.15	1.0 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
	I		I	* DELAY *	I	* DELAY *	I		
	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)		
A	I	1737.3	I	1158.2	I	74.8	I	0.04	I
B	I	281.1	I	187.4	I	21.6	I	0.08	I
C	I	1816.9	I	1211.2	I	159.2	I	0.09	I
ALL	I	3835.3	I	2556.9	I	255.6	I	0.07	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

***** ARCADY 6 run completed.

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

[Printed at 14:45:19 on 02/09/2010]

TRL VIEWER 3.1 AD i:\..\2010 adj Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 Lond

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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TRL Limited	Tel: +44 (0) 1344 770018
Crowthorne House	Fax: +44 (0) 1344 770864
Nine Mile Ride	Email: softwarebureau@trl.co.uk
Wokingham, Berks.	Web: www.trlsoftware.co.uk
RG40 3GA, UK	

USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
1 0 WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"i:\18578-01-X Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Seelshield Way\
2010 adj Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road AM Peak.vai"
(drive-on-the-left) at 15:08:48 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Seelshield Way/A41 East/Gravenhill Road North/A41 West/B4100 London Road AM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher Ltd
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

AP \ - Seelshield Way
AK J - A41 East
AP ? - Gravenhill Road North
AK J - A41 West
ARM E - B4100 London Road

TRL VIEWER 3.1 AD 1:\... \2010 adj Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100

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	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	31.0	I	0.570	I	30.227	I
I ARM B	I	5.25	I	8.50	I	20.00	I	20.00	I	70.00	I	31.0	I	0.588	I	37.181	I
I ARM C	I	3.50	I	7.00	I	5.00	I	20.00	I	70.00	I	20.0	I	0.472	I	23.933	I
I ARM D	I	5.00	I	9.00	I	20.00	I	20.00	I	70.00	I	42.0	I	0.568	I	36.003	I
I ARM E	I	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	39.0	I	0.554	I	34.246	I

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

WARNING One or more intercept values (flagged * in the table) have been adjusted according to local values input from a previous run and listed below -

I	I	ADJUSTMENT TO	I
I	I	INTERCEPT (PCU/MIN)	I
I ARM A	I	-5.000	I

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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
I E	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 TURNING COUNT DATA

DEMAND SET TITLE: 2016+CD+B1c AM Peak

		NUMBER OF MINUTES FROM START WHEN				RATE OF FLOW (VEH/MIN)			
ARM		FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER		
		TO RISE	IS REACHED	IFALLING	PEAK	OF PEAK	PEAK		
ARM A		15.00	45.00	75.00	16.38	24.56	16.38		
ARM B		15.00	45.00	75.00	16.75	25.13	16.75		
ARM C		15.00	45.00	75.00	0.55	0.83	0.55		
ARM D		15.00	45.00	75.00	20.39	30.58	20.39		
ARM E		15.00	45.00	75.00	12.32	18.49	12.32		

DEMAND SET TITLE: 2016+CD+B1c AM Peak

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S)					ARM D	ARM E
		ARM A	ARM B	ARM C	ARM D	ARM E		
07.45 - 09.15	ARM A	0.000	0.351	0.003	0.533	0.113		
		0.0	460.0	4.0	698.0	148.0		
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)		
	ARM B	0.216	0.000	0.012	0.587	0.184		
		290.0	0.0	16.0	787.0	247.0		
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)		
	ARM C	0.182	0.568	0.000	0.250	0.000		
		8.0	25.0	0.0	11.0	0.0		
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)		
	ARM D	0.479	0.405	0.018	0.000	0.098		
		781.0	660.0	30.0	0.0	160.0		
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)		
	ARM E	0.352	0.408	0.010	0.230	0.000		
		347.0	402.0	10.0	227.0	0.0		
		(0.0)	(0.0)	(0.0)	(0.0)	(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)
07.45-08.00									
ARM A	16.38	20.65	0.793		0.0	3.6	47.5		
ARM B	16.75	29.07	0.576		0.0	1.3	19.3		
ARM C	0.55	9.91	0.056		0.0	0.1	0.8		
ARM D	20.39	30.94	0.659		0.0	1.9	27.0		
ARM E	12.32	21.90	0.563		0.0	1.3	18.1		

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)
0-08.15									
ARM A	19.55	18.79	1.041		3.6	23.9	226.7		
ARM B	20.00	27.91	0.717		1.3	2.5	34.8		
ARM C	0.66	7.49	0.088		0.1	0.1	1.4		
ARM D	24.34	30.02	0.811		1.9	4.1	55.6		
ARM E	14.72	19.50	0.755		1.3	2.9	40.1		

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)
08.15-08.30									
ARM A	23.95	17.09	1.401		23.9	127.0	1132.4		
ARM B	24.50	28.03	0.874		2.5	6.1	79.8		
ARM C	0.80	5.62	0.143		0.1	0.2	2.4		
ARM D	29.82	29.05	1.027		4.1	27.8	266.3		
ARM E	18.02	16.90	1.066		2.9	26.9	243.6		

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	08.30-08.45										I
I	ARM A	23.95	16.93	1.414		127.0	232.2	2693.8			I
I	ARM B	24.50	28.07	0.873		6.1	6.4	94.6			I
I	ARM C	0.80	5.55	0.145		0.2	0.2	2.5			I
I	ARM D	29.82	29.00	1.028		27.8	44.1	542.2			I
I	ARM E	18.02	16.62	1.085		26.9	49.4	573.4			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	08.45-09.00										I
I	ARM A	19.55	17.02	1.149		232.2	270.3	3768.9			I
I	ARM B	20.00	27.91	0.717		6.4	2.6	42.6			I
I	ARM C	0.66	7.38	0.089		0.2	0.1	1.5			I
I	ARM D	24.34	30.02	0.811		44.1	4.7	228.4			I
I	ARM E	14.72	18.07	0.814		49.4	6.2	404.3			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	09.00-09.15										I
I	ARM A	16.38	20.42	0.802		270.3	210.8	3608.0			I
I	ARM B	16.75	27.40	0.611		2.6	1.6	24.9			I
I	ARM C	0.55	8.50	0.065		0.1	0.1	1.1			I
I	ARM D	20.39	30.63	0.666		4.7	2.0	32.3			I
I	ARM E	12.32	21.73	0.567		6.2	1.3	22.7			I
I											I

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	3.6	****
08.15	23.9	*****
08.30	127.0	*****
08.45	232.2	*****
09.00	270.3	*****
09.15	210.8	*****

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.3	*
08.15	2.5	**
08.30	6.1	*****
08.45	6.4	*****
09.00	2.6	***
09.15	1.6	**

TRL VIEWER 3.1 AD i:\..\2010 adj Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 Lond

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.2
08.45	0.2
09.00	0.1
09.15	0.1

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	1.9 **
08.15	4.1 ****
08.30	27.8 *****
08.45	44.1 *****
09.00	4.7 *****
09.15	2.0 **

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	1.3 *
08.15	2.9 ***
08.30	26.9 *****
08.45	49.4 *****
09.00	6.2 *****
09.15	1.3 *

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

	M	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
					* DELAY *		* DELAY *	
			(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
I A	I	1796.3	I	1197.5	I	11477.3	I	6.39
I B	I	1837.4	I	1224.9	I	296.2	I	0.16
I C	I	60.3	I	40.2	I	9.7	I	0.16
I D	I	2236.4	I	1491.0	I	1151.7	I	0.51
I E	I	1352.0	I	901.3	I	1302.2	I	0.96
I ALL	I	7282.5	I	4855.0	I	14237.1	I	1.95

* 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

***** ARCADY 6 run completed.

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

[Printed at 15:10:13 on 02/09/2010]

TRL TRL VIEWER 3.1 AD i:\... \Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road PM Peak

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-

"i:\18578-01-X_Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
Copy of Seelshield Way\
Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road PM Peak specific.vai"
(drive-on-the-left) at 15:28:19 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Seelshield Way/A41 East/Gravenhill Road North/A41 West/B4100 London Road PM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher Ltd
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

ARM A - Seelshield Way
ARM B - A41 East
ARM C - Gravenhill Road North
ARM D - A41 West
ARM E - B4100 London Road

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	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	31.0	I	0.570	I	35.227	I
I	ARM B	I	5.25	I	8.50	I	20.00	I	20.00	I	70.00	I	31.0	I	0.588	I	37.181	I
I	ARM C	I	3.50	I	7.00	I	5.00	I	20.00	I	70.00	I	20.0	I	0.472	I	23.933	I
I	ARM D	I	5.00	I	9.00	I	20.00	I	20.00	I	70.00	I	42.0	I	0.568	I	36.003	I
I	ARM E	I	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	39.0	I	0.554	I	34.246	I

V = approach half-width
E = entry width

L = effective flare length
R = entry radius

D = inscribed circle diameter
PHI = entry angle

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

RI TRL VIEWER 3.1 AD i:\... \Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road F.

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
I	E	I	100	I

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DE. D FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: 2016 PM Peak+CD+B1c

I	I	NUMBER OF MINUTES FROM START WHEN			I	RATE OF FLOW (VEH/MIN)			I					
I	ARM	I	FLOW STARTS	I	TOP OF PEAK	I	FLOW STOPS	I	BEFORE	I	AT TOP	I	AFTER	I
I	I	I	TO RISE	I	IS REACHED	I	IF FALLING	I	PEAK	I	OF PEAK	I	PEAK	I
I	ARM A	I	15.00	I	45.00	I	75.00	I	15.23	I	22.84	I	15.23	I
I	ARM B	I	15.00	I	45.00	I	75.00	I	19.51	I	29.27	I	19.51	I
I	ARM C	I	15.00	I	45.00	I	75.00	I	1.05	I	1.57	I	1.05	I
I	ARM D	I	15.00	I	45.00	I	75.00	I	18.63	I	27.94	I	18.63	I
I	ARM E	I	15.00	I	45.00	I	75.00	I	9.54	I	14.31	I	9.54	I

DEMAND SET TITLE: 2016 PM Peak+CD+B1c

		TURNING PROPORTIONS												
		TURNING COUNTS (VEH/HR)												
		(PERCENTAGE OF H.V.S)												
TIME		FROM/TO	ARM A	ARM B	ARM C	ARM D	ARM E							
.45 - 18.15	ARM A	0.000	0.251	0.002	0.636	0.111								
		0.0	306.0	2.0	775.0	135.0								
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)								
	ARM B	0.270	0.000	0.006	0.504	0.221								
		421.0	0.0	9.0	786.0	345.0								
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)								
	ARM C	0.155	0.286	0.000	0.321	0.238								
		13.0	24.0	0.0	27.0	20.0								
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)								
	ARM D	0.432	0.467	0.006	0.000	0.095								
		644.0	696.0	9.0	0.0	141.0								
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)								
	ARM E	0.270	0.435	0.000	0.295	0.000								
		206.0	332.0	0.0	225.0	0.0								
		(0.0)	(0.0)	(0.0)	(0.0)	(0.0)								

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

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	16.45-17.00										I
I	ARM A	15.23	26.12	0.583		0.0	1.4	19.7			I
I	ARM B	19.51	28.80	0.677		0.0	2.1	29.0			I
I	ARM C	1.05	8.17	0.128		0.0	0.1	2.1			I
I	ARM D	18.63	29.25	0.637		0.0	1.7	24.6			I
I	ARM E	9.54	21.82	0.437		0.0	0.8	11.2			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	17.00-17.15										I
I	ARM A	18.18	24.35	0.747		1.4	2.8	39.5			I
I	ARM B	23.30	27.17	0.858		2.1	5.4	71.4			I
I	ARM C	1.25	5.14	0.244		0.1	0.3	4.5			I
I	ARM D	22.24	27.96	0.796		1.7	3.7	50.8			I
I	ARM E	11.39	19.41	0.587		0.8	1.4	20.0			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	17.15-17.30										I
I	ARM A	22.27	22.23	1.002		2.8	18.3	185.3			I
I	ARM B	28.54	25.35	1.126		5.4	57.1	483.8			I
I	ARM C	1.54	2.74	0.561		0.3	1.1	14.7			I
I	ARM D	27.24	27.10	1.005		3.7	21.2	214.1			I
I	ARM E	13.95	17.06	0.817		1.4	4.0	53.1			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	17.30-17.45										I
I	ARM A	22.27	22.02	1.011		18.3	28.2	352.4			I
I	ARM B	28.54	25.16	1.134		57.1	108.2	1240.7			I
I	ARM C	1.54	2.57	0.598		1.1	1.3	19.1			I
I	ARM D	27.24	27.05	1.007		21.2	31.0	395.4			I
I	ARM E	13.95	16.79	0.831		4.0	4.5	65.3			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	17.45-18.00										I
I	ARM A	18.18	23.75	0.766		28.2	3.5	119.0			I
I	ARM B	23.30	26.36	0.884		108.2	66.0	1306.5			I
I	ARM C	1.25	3.06	0.409		1.3	0.7	12.1			I
I	ARM D	22.24	26.98	0.824		31.0	5.2	167.1			I
I	ARM E	11.39	18.01	0.632		4.5	1.8	28.8			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	15.23	25.98	0.586		3.5	1.4	22.7			I
I	ARM B	19.51	28.68	0.680		66.0	2.2	266.8			I
I	ARM C	1.05	6.02	0.174		0.7	0.2	3.5			I
I	ARM D	18.63	27.99	0.665		5.2	2.0	32.7			I
I	ARM E	9.54	20.99	0.454		1.8	0.8	13.1			I

TRL VIEWER 3.1 AD i:\..\Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road P.

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.4	*
17.15	2.8	***
17.30	18.3	*****
17.45	28.2	*****
18.00	3.5	***
18.15	1.4	*

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	2.1	**
17.15	5.4	*****
17.30	57.1	*****
17.45	108.2	*****
18.00	66.0	*****
18.15	2.2	**

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.3	
17.30	1.1	*
17.45	1.3	*
18.00	0.7	*
18.15	0.2	

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.7	**
17.15	3.7	****
17.30	21.2	*****
17.45	31.0	*****
18.00	5.2	*****
18.15	2.0	**

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.8	*
17.15	1.4	*
17.30	4.0	****
17.45	4.5	*****
18.00	1.8	**
18.15	0.8	*

TRL

TRL VIEWER 3.1 AD i:\... \Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London 7 i f

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I														
			I	I		I	I		I	I															
												I	I												
													I	I		I	I		I	I					
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)																		
I	A	I	1670.1	I	1113.4	I	738.7	I	0.44	I	738.8	I	0.44	I											
I	B	I	2140.5	I	1427.0	I	3398.3	I	1.59	I	3398.4	I	1.59	I											
I	C	I	115.2	I	76.8	I	56.0	I	0.49	I	56.0	I	0.49	I											
I	D	I	2043.1	I	1362.1	I	884.7	I	0.43	I	884.7	I	0.43	I											
I	E	I	1046.2	I	697.5	I	191.5	I	0.18	I	191.5	I	0.18	I											
I	ALL	I	7015.1	I	4676.7	I	5269.2	I	0.75	I	5269.4	I	0.75	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

***** ARCADY 6 run completed.

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

[Printed at 15:29:00 on 02/09/2010]



Appendix I

Junction Capacity Tests – A41 / London Road / Seelscheid Way Part Time Signal Mitigation Strategy – TRANSYT Output



 Springer
 Springer

1

Traffic Network Study Tool

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For sales and distribution information,
program advice and maintenance, contact:

TRL Limited
Crowthorne House
Nine Mile Ride
Wokingham, Berks.
RG40 3GA, UK

Tel: +44 (0) 1344 770758
Fax: +44 (0) 1344 770864
Email: softwarebureau@trl.co.uk
Web: www.trlsoftware.co.uk

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "OLD MODEL.DAT" at 10:30 on 20101007

TRANSYT 12.0

A41 / Seelshied Way / London Road

PARAMETERS CONTROLLING DIMENSIONS OF PROBLEM :

NUMBER OF NODES	=	1
NUMBER OF LINKS	=	13
NUMBER OF OPTIMISED NODES	=	1
MAXIMUM NUMBER OF GRAPHIC PLOTS	=	0
NUMBER OF STEPS IN CYCLE	=	42
MAXIMUM NUMBER OF SHARED STOPLINES	=	0
MAXIMUM NUMBER OF TIMING POINTS	=	2
MAXIMUM LINKS AT ANY NODE	=	5

```
CORE REQUESTED = 5621 WORDS
CORE AVAILABLE = 72000 WORDS
```

DATA INPUT :-

[illegible]

28)- 32 202 612 0 11 265 40 101 347 40 0 0 0 0 0
 29)- 32 203 87 0 11 62 40 101 25 40 0 0 0 0 0
 30)- 32 301 880 0 21 793 40 203 87 40 0 0 0 0 0
 31)- 32 401 1817 0 31 996 40 301 880 40 0 0 0 0 0
 32)- 32 501 703 0 41 65 40 401 664 40 0 0 0 0 0

CARD CARD LINK LIMIT QUEUE LINK LIMIT QUEUE LINK LIMIT QUEUE LINK LIMIT QUEUE
 NO. TYPE NO. QUEUE WEIGHT NO. QUEUE WEIGHT NO. QUEUE WEIGHT NO. QUEUE WEIGHT NO. QUEUE WEIGHT
 33)- 38 201 6 5000 0 0 0 0 0 0 0 0 0 0 0
 34)- 38 202 6 5000 0 0 0 0 0 0 0 0 0 0 0

*****END OF SUBROUTINE TINPUT*****

42 SECOND CYCLE 42 STEPS

INITIAL SETTINGS
 - (SECONDS)

LINK NUMBER	FLOW INTO LINK	SAT FLOW	DEGREE OF SAT	MEAN TIMES PER CRUISE	UNIFORM DELAY (PCU-H/H)	RANDOM+ OVERSAT DELAY (PCU-H/H)	COST OF DELAY (\$/H)	MEAN COST OF STOPS (\$/H)	STOP OF STOPS (\$/H)	MEAN COST OF STOPS (\$/H)	STOP OF STOPS (\$/H)	PERFORMANCE INDEX WEIGHTED SUM OF () VALUES (\$/H)	EXIT NODE	GREEN START END TIMES 1ST 2ND (SECONDS)
11	660	2054	32	18.0	1.3	0.0 + 0.2	(2.2)	0	(0.0)	0	(0.0)	2.2		
21	1156	3600	79	18.0	16.9	3.5 + 1.9	(50.4)	90	(15.1)	13	(65.5)	65.5	2	16 32
22	531	1800	73	18.0	19.6	1.6 + 1.3	(26.9)	94	(7.3)	6	(34.1)	34.1	2	37 11
31	1035	2231	46	18.0	1.5	0.0 + 0.4	(4.0)	0	(0.0)	0	(4.0)	4.0		
41	65	1435	5	18.0	1.3	0.0 + 0.0	(0.2)	0	(0.0)	0	(0.2)	0.2		
51	1112	2160	51	18.0	1.7	0.0 + 0.5	(4.9)	0	(0.0)	1	(4.9)	4.9		
101	1179	2000	59	3.1	2.2	0.0 + 0.7	(6.7)	5	(0.9)	1	(7.5)	7.5		
201	612	1800	84	3.6	26.0	1.9 + 2.5	(41.2)	110	(9.9)	9	(80.0)	80.0	2	37 11
202	612	1800	84	3.6	26.0	1.9 + 2.5	(41.2)	110	(9.9)	9	(80.0)	80.0	2	37 11
203	88	1800	12	3.6	10.7	0.2 + 0.1	(2.4)	62	(0.8)	1	(3.2)	3.2	2	37 11
301	881	2000	44	2.9	2.5	0.2 + 0.4	(5.6)	32	(4.1)	8	(9.7)	9.7		
401	1817	2000	91	2.7	12.4	1.5 + 4.7	(58.4)	74	(19.7)	23	(76.1)	76.1		
501	702	2000	35	4.5	1.4	0.0 + 0.3	(2.5)	3	(0.3)	0	(2.9)	2.9		
TOTAL DISTANCE TRAVELLED		TOTAL TIME SPENT		MEAN JOURNEY SPEED		TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX		
(PCU-KM/H)		(PCU-H/H)		(KM/H)		(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)		TOTALS
1121.9		54.6		20.6		10.9	15.6	(246.5) + (	67.9)	+ (	58.0)	372.4		TOTALS

 CRUISE DELAY STOPS TOTALS
 LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR
 FUEL CONSUMPTION PREDICTIONS 61.5 + 30.5 + 47.3 = 139.3

NO. OF ENTRIES TO SUBPT = 1
 NO. OF LINKS RECALCULATED= 20

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6
 - (SECONDS)

TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)
1121.9	54.6	20.6	10.9	15.6	(246.5) + (	67.9)	+ (	58.0)

NO. OF ENTRIES TO SUBPT = 4
 NO. OF LINKS RECALCULATED= 66

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16
 - (SECONDS)

TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)
1121.9	54.6	20.6	10.9	15.6	(246.5) + (	67.9)	+ (	58.0)

NO. OF ENTRIES TO SUBPT = 4
 NO. OF LINKS RECALCULATED= 55

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1
 - (SECONDS)

TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)
1121.9	54.2	20.7	10.7	15.5	(243.1) + (	67.5)	+ (	12.6)

NO. OF ENTRIES TO SUBPT = 6
 NO. OF LINKS RECALCULATED= 68

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1 6

- (SECONDS)

2	2	30	11								
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX			
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)			
1121.9	54.2	20.7	10.7	15.5	(243.1) + (	67.5)	+ (12.6)	323.3	TOTALS		
NO. OF ENTRIES TO SUBPT = 4											
NO. OF LINKS RECALCULATED= 63											

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1 6 16
- (SECONDS)

2	2	30	11								
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX			
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)			
1121.9	54.2	20.7	10.7	15.5	(243.1) + (	67.5)	+ (12.6)	323.3	TOTALS		
NO. OF ENTRIES TO SUBPT = 4											
NO. OF LINKS RECALCULATED= 63											

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1 6 16 1
- (SECONDS)

2	2	32	13								
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX			
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)			
1121.9	54.2	20.7	10.7	15.5	(243.1) + (	67.5)	+ (12.6)	323.3	TOTALS		
NO. OF ENTRIES TO SUBPT = 4											
NO. OF LINKS RECALCULATED= 60											

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1 6 16 1 -1
- (SECONDS)

2	2	32	13								
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX			
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)			
1121.9	54.2	20.7	10.7	15.5	(243.1) + (	67.5)	+ (12.6)	323.3	TOTALS		
NO. OF ENTRIES TO SUBPT = 5											
NO. OF LINKS RECALCULATED= 65											

42 SECOND CYCLE 42 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 6 16 -1 6 16 1 -1 1
- (SECONDS)

NODE NO	NUMBER OF STAGES	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5	STAGE 6	STAGE 7	STAGE 8	STAGE 9	STAGE 10										
2	2	32	13																		
LINK NUMBER	FLOW INTO LINK	SAT FLOW	DEGREE OF SAT	MEAN TIMES PER CRUISE	MEAN TIMES CRUISE DELAY	-----DELAY----- UNIFORM RANDOM+ DELAY OF DELAY	-----STOPS----- MEAN COST STOPS OF STOPS	-----QUEUE----- MEAN AVERAGE MAX. EXCESS (PCU) (PCU)	PERFORMANCE INDEX WEIGHTED SUM OF () VALUES	EXIT NODE	GREEN START END	TIMES START END									
(PCU/H)	(PCU/H)	(%)	(SEC)	(SEC)	(U+R+O-MEAN Q) (PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)												
11	660	2054	32	18.0	1.3	0.0 + 0.2 (2.2)	0 (0.0)	0	2.2												
21	1156	3600	90	18.0	25.8	4.1 + 4.2 (77.1)	112 (18.9)	17	96.0	2	18	32									
22	531	1800	65	18.0	15.3	1.3 + 0.9 (21.0)	82 (6.3)	6	27.3	2	37	13									
31	1035	2231	46	18.0	1.5	0.0 + 0.4 (4.0)	0 (0.0)	0	4.0												
41	65	1435	5	18.0	1.3	0.0 + 0.0 (0.2)	0 (0.0)	0	0.2												
51	1112	2160	51	18.0	1.7	0.0 + 0.5 (4.9)	0 (0.0)	1	4.9												
101	1179	2000	59	3.1	2.2	0.0 + 0.7 (6.7)	5 (0.9)	1	7.5												
201	612	1800	75	3.6	18.3	1.6 + 1.5 (28.9)	91 (8.1)	7	43.3	2	37	13									
202	612	1800	75	3.6	18.3	1.6 + 1.5 (28.9)	91 (8.1)	7	43.3	2	37	13									
203	88	1800	11	3.6	9.1	0.2 + 0.1 (2.1)	56 (0.7)	1	2.8	2	37	13									
301	891	2000	44	2.9	2.6	0.2 + 0.4 (5.9)	35 (4.4)	9	10.4												
401	1817	2000	91	2.7	12.5	1.6 + 4.7 (58.7)	75 (19.8)	23	78.5												
501	702	2000	35	4.5	1.4	0.0 + 0.3 (2.5)	3 (0.3)	0	2.9												
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX													
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)													
1121.9	54.2	20.7	10.7	15.5	(243.1) + (	67.5)	+ (12.6)	323.3	TOTALS												

ROUTE

	CRUISE LITRES PER HOUR	DELAY LITRES PER HOUR	STOPS LITRES PER HOUR	TOTALS LITRES PER HOUR	
FUEL CONSUMPTION PREDICTIONS	61.5	+	30.1	47.1	= 138.6
NO. OF ENTRIES TO SUBPT = 4					
NO. OF LINKS RECALCULATED= 60					

Appendix J

Junction Capacity Tests – A41 / London Road / Seelscheid Way – ARCADY Output

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770018
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"c:\Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road PM Peak specific 2.vai"
(drive-on-the-left) at 15:31:03 on Thursday, 2 September 2010

FILE PROPERTIES

RUN TITLE: Seelshield Way/A41 East/Gravenhill Road North/A41 West/B4100 London Road PM Peak
LOCATION: Bicester
DATE: 13/07/10
CLIENT: JJ Gallagher Ltd
ENUMERATOR: Alexanders [CS5DG3J]
JOB NUMBER: 18578-01-1
STATUS: TIA
DESCRIPTION:

INPUT DATA

ARM A - Seelshield Way
ARM B - A41 East
ARM C - Gravenhill Road North
ARM D - A41 West
ARM E - B4100 London Road

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	7.00	I	7.00	I	0.00	I	20.00	I	70.00	I	31.0	I	0.570	I	35.227	I
I	ARM B	I	5.25	I	8.50	I	30.00	I	20.00	I	70.00	I	31.0	I	0.601	I	38.566	I
I	ARM C	I	3.50	I	7.00	I	5.00	I	20.00	I	70.00	I	20.0	I	0.472	I	23.933	I
I	ARM D	I	5.00	I	10.00	I	34.00	I	20.00	I	70.00	I	42.0	I	0.612	I	40.654	I
I	ARM E	I	7.00	I	9.00	I	10.00	I	20.00	I	70.00	I	39.0	I	0.610	I	40.212	I

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

WARNING ARM D: Effective flare length is outside normal range.
Treat capacities with increasing caution.

TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

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	17.00-17.15										I
I	ARM A	10.28	24.32	0.423		0.5	0.7	10.7		0.07	I
I	ARM B	23.11	32.03	0.721		1.4	2.5	35.9		0.11	I
I	ARM C	1.25	8.07	0.155		0.1	0.2	2.6		0.15	I
I	ARM D	23.51	32.50	0.723		1.4	2.5	36.2		0.11	I
I	ARM E	10.84	23.16	0.468		0.5	0.9	12.7		0.08	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	17.15-17.30										I
I	ARM A	12.60	22.00	0.572		0.7	1.3	19.0		0.11	I
I	ARM B	28.30	30.59	0.925		2.5	9.5	115.3		0.32	I
I	ARM C	1.54	4.69	0.328		0.2	0.5	6.6		0.31	I
I	ARM D	28.79	30.78	0.935		2.5	10.5	124.8		0.34	I
I	ARM E	13.27	19.63	0.676		0.9	2.0	28.4		0.15	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	17.30-17.45										I
I	ARM A	12.60	21.87	0.576		1.3	1.3	20.0		0.11	I
I	ARM B	28.30	30.55	0.926		9.5	10.7	153.0		0.40	I
I	ARM C	1.54	4.48	0.343		0.5	0.5	7.5		0.34	I
I	ARM D	28.79	30.65	0.939		10.5	12.3	173.5		0.46	I
I	ARM E	13.27	19.33	0.687		2.0	2.1	31.5		0.16	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	17.45-18.00										I
I	ARM A	10.28	24.09	0.427		1.3	0.8	11.6		0.07	I
I	ARM B	23.11	31.99	0.722		10.7	2.7	47.2		0.13	I
I	ARM C	1.25	7.75	0.162		0.5	0.2	3.1		0.15	I
I	ARM D	23.51	32.30	0.728		12.3	2.8	50.4		0.13	I
I	ARM E	10.84	22.65	0.478		2.1	0.9	14.5		0.09	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	18.00-18.15										I
I	ARM A	8.61	26.03	0.331		0.8	0.5	7.6		0.06	I
I	ARM B	19.35	33.07	0.585		2.7	1.4	22.2		0.07	I
I	ARM C	1.05	10.56	0.099		0.2	0.1	1.7		0.11	I
I	ARM D	19.69	33.77	0.583		2.8	1.4	22.0		0.07	I
I	ARM E	9.07	25.82	0.352		0.9	0.5	8.4		0.06	I
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

RI TRL VIEWER 3.1 AD c:\Seelshield Way - A41 East - Gravenhill Road North - A41 West - B4100 London Road PM Pe

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.4	*
17.15	2.5	***
17.30	9.5	*****
17.45	10.7	*****
18.00	2.7	***
18.15	1.4	*

QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
	0.2	
	0.5	
17.45	0.5	*
18.00	0.2	
18.15	0.1	

QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	1.4	*
17.15	2.5	***
17.30	10.5	*****
17.45	12.3	*****
18.00	2.8	***
18.15	1.4	*

QUEUE AT ARM E

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.9	*
17.30	2.0	**
17.45	2.1	**
18.00	0.9	*
18.15	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I		I			I	* DELAY *		I	* DELAY *		I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	A	I	944.8	I 629.8	I	76.0	I 0.08	I	76.0	I 0.08	I
I	B	I	2122.6	I 1415.1	I	393.6	I 0.19	I	393.6	I 0.19	I
I	C	I	115.2	I 76.8	I	23.1	I 0.20	I	23.1	I 0.20	I
I	D	I	2159.7	I 1439.8	I	426.8	I 0.20	I	426.8	I 0.20	I
I	E	I	995.5	I 663.7	I	103.3	I 0.10	I	103.3	I 0.10	I
I	ALL	I	6337.7	I 4225.2	I	1022.8	I 0.16	I	1022.9	I 0.16	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 =====

Appendix K

Junction Capacity Tests – A41 / London Road / Seelscheid Way Part Time Signal Mitigation Strategy – TRANSYT Output With Revised Geometries

PRT File Old Model

TRANST 12

Traffic Network Study Tool

Analysis Program Release 6 (February 2007)
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For sales and distribution information,
program advice and maintenance, contact:

TRL Limited Tel: +44 (0) 1344 770758
Crowthorne House Fax: +44 (0) 1344 770864
Nine Mile Ride Email: softwarebureau@trl.co.uk
Wokingham, Berks Web: www.trlsoftware.co.uk
RG40 3GA, UK

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "OLD MODEL NEW SATS FOLLOWING PM AMENDMENT.DAT" at 11:42 on 20101007

TRANSYT 12.0

A41 / Seelshied Way / London Road

PARAMETERS CONTROLLING DIMENSIONS OF PROBLEM :

NUMBER OF NODES	=	1
NUMBER OF LINKS	=	13
NUMBER OF OPTIMISED NODES	=	1
MAXIMUM NUMBER OF GRAPHIC PLOTS	=	0
NUMBER OF STEPS IN CYCLE	=	42
MAXIMUM NUMBER OF SHARED STOPLINES	=	0
MAXIMUM NUMBER OF TIMING POINTS	=	2
MAXIMUM LINKS AT ANY NODE	=	5

CORE REQUESTED - 5621 WORDS
CORE AVAILABLE - 72000 WORDS

DATA INPUT :-

[illegible]

CARD NO.	CARD TYPE	NODE NO.	NODE CARDS; MINIMUM STAGE TIMES (WORKING)									
			S1	S2	S3	S4	S5	S6	S7	S8	S9	S10

CARD NO.	CARD TYPE	NODE NO.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
			NODE CARDS: PRECEDING INTERSTAGE TIMES (WORKING)									

CARD NO.	CARD TYPE	NODE NO.	Sgl/Dbl Cycled	NODE CARDS: STAGE CHANGE TIMES (WORKING)									
				S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
6) =	12	2	1	32	13								

CARD NO.		CARD TYPE	LINK NO.	PRIORITY	LINKS	LINK1	LINK2	ONLY	LINK CARDS:		GIVEWAY DATA							
					LINK1 NO.	LINK2 NO.			A1	A2								
								% FLOW	X100	X100				LINK LENGTH	STOP WT.X100	MAX FLOW	DELAY WT.X100	
																	DISPSN X100	
7)	=	30			11	101	0	100	55	0				0	200	0	2413	0
8)	=	30			11	301	0	100	58	0	0	0	0	0	200	0	2267	0
9)	=	30			41	401	0	100	47	0	0	0	0	0	200	0	1435	0
10)	=	30			51	501	0	100	57	0	0	0	0	0	200	0	2439	0

CARD NO.	CARD TYPE	LINK NO.	EXIT NODE	LINK CARDS: FIXED DATA										STOP WT. X100	SAT FLOW	DELAY WT. X100	DISPSN X100
				FIRST		GREEN		SECOND		GREEN		LINK LENGTR					
				START STAGE	LAG	END STAGE	LAG	START STAGE	LAG	END STAGE	LAG						
11)	31	21	2	2	5	1	0	0	0	0	0	200	0	3600	0	0	
12)	31	22	2	1	5	2	0	0	0	0	0	200	0	1800	0	0	
13)	31	101	0	0	0	0	0	0	0	0	0	34	0	2000	0	0	
14)	31	201	2	1	5	2	0	0	0	0	0	40	0	1800	0	0	
15)	31	202	2	1	5	2	0	0	0	0	0	40	0	1800	0	0	
16)	31	203	2	1	5	2	0	0	0	0	0	40	0	1800	0	0	
17)	31	301	0	0	0	0	0	0	0	0	0	32	0	2000	0	0	
18)	31	401	0	0	0	0	0	0	0	0	0	30	0	2000	0	0	
19)	31	501	0	0	0	0	0	0	0	0	0	50	0	2000	0	0	

LINK CARDS: FLOW DATA																
CARD NO.	CARD TYPE	LINK NO.	TOTAL FLOW	UNIFORM FLOW	ENTRY 1			ENTRY 2			ENTRY 3			ENTRY 4		
					LINK NO.	FLOW	SPEED	LINK NO.	FLOW	SPEED	LINK NO.	FLOW	SPEED	LINK NO.	FLOW	SPEED
20)	32	11	660	0	0	0	0	0	0	0	0	0	0	0	0	0
21)	32	21	1156	0	0	0	40	0	0	0	0	0	0	0	0	0
22)	32	22	530	0	11	69	40	101	461	40	0	0	0	0	0	0
23)	32	31	1035	0	0	0	40	0	0	0	0	0	0	0	0	0
24)	32	41	65	0	0	0	40	0	0	0	0	0	0	0	0	0
25)	32	51	1112	0	0	0	40	0	0	0	0	0	0	0	0	0
26)	32	101	1179	0	51	1072	40	501	107	40	0	0	0	0	0	0
27)	32	201	612	0	11	265	40	101	347	40	0	0	0	0	0	0

28)= 32 202 612 0 11 265 40 101 347 40 0 0 0 0 0 0
 29)= 32 203 87 0 11 62 40 101 25 40 0 0 0 0 0 0
 30)= 32 301 880 0 21 793 40 203 87 40 0 0 0 0 0 0
 31)= 32 401 1817 0 31 996 40 301 880 40 0 0 0 0 0 0
 32)= 32 501 703 0 41 65 40 401 664 40 0 0 0 0 0 0

LINK DATA: QUEUE CONSTRAINTS
 CARD CARD LINK LIMIT QUEUE LINK LIMIT QUEUE LINK LIMIT QUEUE LINK LIMIT QUEUE
 NO. TYPE NO. QUEUE WEIGHT NO. QUEUE WEIGHT NO. QUEUE WEIGHT NO. QUEUE WEIGHT NO. QUEUE WEIGHT
 33)= 38 201 6 5000 0 0 0 0 0 0 0 0 0 0 0 0
 34)= 38 202 6 5000 0 0 0 0 0 0 0 0 0 0 0 0

*****END OF SUBROUTINE TINPUT*****

42 SECOND CYCLE 42 STEPS

INITIAL SETTINGS
 - (SECONDS)

NODE NO	NUMBER OF STAGES	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5	STAGE 6	STAGE 7	STAGE 8	STAGE 9	STAGE 10	LINK NUMBER	FLOW INTO LINK	SAT FLOW	DEGREE OF SAT	MEAN TIMES PER PCU CRUISE	UNIFORM DELAY (PCU-H/H)	RANDOM+ OVERSAT OF DELAY (PCU-H/H)	COST OF DELAY (\$/H)	MEAN STOPS OF /PCU (H)	COST OF STOPS (\$/H)	QUEUE MEAN MAX. AVERAGE EXCESS (PCU)	PERFORMANCE INDEX. WEIGHTED SUM OF () VALUES (\$/H)	EXIT NODE	GREEN TIMES START END 1ST 2ND (SECONDS)
2	2	32	11									11	660	2413	27	18.0	1.0	0.0 + 0.2 (1.8)	0 (0.0)	0	0	1.8	2	16 32	
21	1156	3600	79	18.0	16.9	3.5 + 1.9 (50.4)	90 (15.1)	13	65.5			21	1156	3600	79	18.0	16.9	3.5 + 1.9 (50.4)	90 (15.1)	13	65.5	2	37 11		
22	531	1800	73	18.0	19.6	1.6 + 1.3 (26.9)	94 (7.3)	6	34.1			22	531	1800	73	18.0	19.6	1.6 + 1.3 (26.9)	94 (7.3)	6	34.1				
31	1035	2267	46	18.0	1.5	0.0 + 0.4 (3.9)	0 (0.0)	0	3.9			31	1035	2267	46	18.0	1.5	0.0 + 0.4 (3.9)	0 (0.0)	0	3.9				
41	65	1435	5	18.0	1.3	0.0 + 0.0 (0.2)	0 (0.0)	0	0.2			41	65	1435	5	18.0	1.3	0.0 + 0.0 (0.2)	0 (0.0)	0	0.2				
51	1112	2439	46	18.0	1.4	0.0 + 0.4 (3.9)	0 (0.0)	1	7.5			51	1112	2439	46	18.0	1.4	0.0 + 0.4 (3.9)	0 (0.0)	1	7.5				
101	1179	2000	59	3.1	2.2	0.0 + 0.7 (6.7)	5 (0.9)	9	80.0	0.6*		101	1179	2000	59	3.1	2.2	0.0 + 0.7 (6.7)	5 (0.9)	9	80.0	2	37 11		
201	612	1800	84	3.6	26.0	1.9 + 2.5 (41.2)	110 (9.9)	9	80.0	0.6*		201	612	1800	84	3.6	26.0	1.9 + 2.5 (41.2)	110 (9.9)	9	80.0	2	37 11		
202	612	1800	84	3.6	26.0	0.2 + 0.1 (2.4)	62 (0.8)	1	3.2			202	612	1800	84	3.6	26.0	0.2 + 0.1 (2.4)	62 (0.8)	1	3.2	2	37 11		
301	881	2000	44	2.9	2.5	0.2 + 0.4 (5.6)	32 (4.1)	8	9.7			301	881	2000	44	2.9	2.5	0.2 + 0.4 (5.6)	32 (4.1)	8	9.7				
401	1817	2000	91	2.7	12.4	1.5 + 4.7 (58.4)	74 (19.7)	23	78.1			401	1817	2000	91	2.7	12.4	1.5 + 4.7 (58.4)	74 (19.7)	23	78.1				
501	702	2000	35	4.5	1.4	0.0 + 0.3 (2.5)	3 (0.3)	0	2.9			501	702	2000	35	4.5	1.4	0.0 + 0.3 (2.5)	3 (0.3)	0	2.9				
TOTAL													DISTANCE TRAVELLED (PCU-KM/H)	TIME SPENT (PCU-H/H)	MEAN JOURNEY SPEED (KM/H)	TOTAL UNIFORM DELAY (PCU-H/H)	TOTAL RANDOM+ OVERSAT OF DELAY (PCU-H/H)	TOTAL COST OF DELAY (\$/H)	TOTAL COST OF STOPS (\$/H)	PENALTY FOR EXCESS QUEUES (\$/H)	TOTAL PERFORMANCE INDEX (\$/H)	TOTALS			
													1121.9	54.4	20.6	10.9	15.5	(244.9) + (67.9)	+ (58.0)	=	370.7				

 CRUISE DELAY STOPS TOTALS
 LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR LITRES PER HOUR
 FUEL CONSUMPTION PREDICTIONS 61.5 30.3 47.3 = 139.1

NO. OF ENTRIES TO SUBPT = 1
 NO. OF LINKS RECALCULATED= 20

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6
 - (SECONDS)

2	2	32	11	TOTAL DISTANCE TRAVELLED (PCU-KM/H)	TOTAL TIME SPENT (PCU-H/H)	MEAN JOURNEY SPEED (KM/H)	TOTAL UNIFORM DELAY (PCU-H/H)	TOTAL RANDOM+ OVERSAT OF DELAY (PCU-H/H)	TOTAL COST OF DELAY (\$/H)	TOTAL COST OF STOPS (\$/H)	PENALTY FOR EXCESS QUEUES (\$/H)	TOTAL PERFORMANCE INDEX (\$/H)	TOTALS
2	2	32	11	1121.9	54.4	20.6	10.9	15.5	(244.9) + (67.9)	+ (58.0)	=	370.8	TOTALS

NO. OF ENTRIES TO SUBPT = 4
 NO. OF LINKS RECALCULATED= 66

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16
 - (SECONDS)

2	2	32	11	TOTAL DISTANCE TRAVELLED (PCU-KM/H)	TOTAL TIME SPENT (PCU-H/H)	MEAN JOURNEY SPEED (KM/H)	TOTAL UNIFORM DELAY (PCU-H/H)	TOTAL RANDOM+ OVERSAT OF DELAY (PCU-H/H)	TOTAL COST OF DELAY (\$/H)	TOTAL COST OF STOPS (\$/H)	PENALTY FOR EXCESS QUEUES (\$/H)	TOTAL PERFORMANCE INDEX (\$/H)	TOTALS
2	2	32	11	1121.9	54.4	20.6	10.9	15.5	(244.9) + (67.9)	+ (58.0)	=	370.8	TOTALS

NO. OF ENTRIES TO SUBPT = 4
 NO. OF LINKS RECALCULATED= 55

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1
 - (SECONDS)

2	2	30	11	TOTAL DISTANCE TRAVELLED (PCU-KM/H)	TOTAL TIME SPENT (PCU-H/H)	MEAN JOURNEY SPEED (KM/H)	TOTAL UNIFORM DELAY (PCU-H/H)	TOTAL RANDOM+ OVERSAT OF DELAY (PCU-H/H)	TOTAL COST OF DELAY (\$/H)	TOTAL COST OF STOPS (\$/H)	PENALTY FOR EXCESS QUEUES (\$/H)	TOTAL PERFORMANCE INDEX (\$/H)	TOTALS
2	2	30	11	1121.9	54.0	20.8	10.7	15.3	(241.5) + (67.5)	+ (12.6)	=	321.7	TOTALS

NO. OF ENTRIES TO SUBPT = 6
 NO. OF LINKS RECALCULATED= 68

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1 6

- (SECONDS)

2	2	30	11							
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX		
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)		
1121.9	54.0	20.8	10.7	15.3	(241.5) + (	67.5) + (	12.6)	321.7	TOTALS	

NO. OF ENTRIES TO SUBPT = 4

NO. OF LINKS RECALCULATED= 63

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1 6 16
- (SECONDS)

2	2	30	11							
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX		
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)		
1121.9	54.0	20.8	10.7	15.3	(241.5) + (	67.5) + (	12.6)	321.7	TOTALS	

NO. OF ENTRIES TO SUBPT = 4

NO. OF LINKS RECALCULATED= 63

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1 6 16 1
- (SECONDS)

2	2	32	13							
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX		
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)		
1121.9	54.0	20.8	10.7	15.3	(241.5) + (	67.5) + (	12.6)	321.7	TOTALS	

NO. OF ENTRIES TO SUBPT = 4

NO. OF LINKS RECALCULATED= 60

42 SECOND CYCLE 42 STEPS

INTERMEDIATE SETTINGS - INCREMENTS SO FAR :- 6 16 -1 6 16 1 -1
- (SECONDS)

2	2	32	13							
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED	TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES	TOTAL PERFORMANCE INDEX		
(PCU-KM/H)	(PCU-H/H)	(KM/H)	(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)		
1121.9	54.0	20.8	10.7	15.3	(241.5) + (	67.5) + (	12.6)	321.7	TOTALS	

NO. OF ENTRIES TO SUBPT = 5

NO. OF LINKS RECALCULATED= 65

42 SECOND CYCLE 42 STEPS

FINAL SETTINGS OBTAINED WITH INCREMENTS :- 6 16 -1 6 16 1 -1 1
- (SECONDS)

NODE NO	NUMBER OF STAGES	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5	STAGE 6	STAGE 7	STAGE 8	STAGE 9	STAGE 10									
2	2	32	13																	
LINK NUMBER	FLOW INTO LINK	SAT FLOW	DEGREE OF SAT	MEAN TIMES PER PCU CRUISE	UNIFORM DELAY (U+R+O+MEAN Q)	RANDOM+ OVERSAT DELAY	COST OF DELAY	STOPS /PCU	STOPS OF STOPS	MEAN MAX.	QUEUE AVERAGE EXCESS	PERFORMANCE INDEX. WEIGHTED SUM OF () VALUES	EXIT NODE	GREEN START END	TIMES START END					
	(PCU/H)	(PCU/H)	(%)	(SEC)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)	(\$/H)	(PCU)	(PCU)	(\$/H)		1ST	2ND	(SECONDS)				
11	660	2413	27	18.0	1.0	0.0 + 0.2	(1.8)	0	(0.0)	0	0	1.8								
21	1156	3600	90	18.0	25.8	4.1 + 4.2	(77.1)	112	(18.9)	17	17	96.0								
22	531	1800	65	18.0	15.3	1.3 + 0.9	(21.0)	82	(6.3)	6	6	27.3	2	18	32					
31	1035	2267	46	18.0	1.5	0.0 + 0.4	(3.9)	0	(0.0)	0	0	3.9	2	37	13					
41	65	1435	5	18.0	1.3	0.0 + 0.0	(0.2)	0	(0.0)	0	0	0.2								
51	1112	2439	46	18.0	1.4	0.0 + 0.4	(3.9)	0	(0.0)	0	0	3.9								
101	1179	2000	59	3.1	2.2	0.0 + 0.7	(6.7)	5	(0.9)	1	1	7.5								
201	612	1800	75	3.6	18.3	1.6 + 1.5	(28.9)	91	(8.1)	7	(0.1)*	43.3	2	37	13					
202	612	1800	75	3.6	18.3	1.6 + 1.5	(28.9)	91	(8.1)	7	(0.1)*	43.3	2	37	13					
203	88	1800	11	3.6	9.1	0.2 + 0.1	(2.1)	56	(0.7)	1		2.8	2	37	13					
301	881	2000	44	2.9	2.6	0.2 + 0.4	(5.9)	35	(4.4)	9	+	10.4								
401	1817	2000	91	2.7	12.5	1.6 + 4.7	(58.7)	75	(19.8)	23	+	78.5								
501	702	2000	35	4.5	1.4	0.0 + 0.3	(2.5)	3	(0.3)	0		2.9								
TOTAL DISTANCE TRAVELLED	TOTAL TIME SPENT	MEAN JOURNEY SPEED				TOTAL UNIFORM DELAY	TOTAL RANDOM+ OVERSAT DELAY	TOTAL COST OF DELAY	TOTAL COST OF STOPS	PENALTY FOR EXCESS QUEUES		TOTAL PERFORMANCE INDEX								
(PCU-KM/H)	(PCU-H/H)	(KM/H)				(PCU-H/H)	(PCU-H/H)	(\$/H)	(\$/H)	(\$/H)		(\$/H)								
1121.9	54.0	20.8				10.7	15.3	(241.5) + (	67.5) + (	12.6)		321.7								

ROUTE

CRUISE					DELAY		STOPS		TOTALS	
LITRES PER HOUR					LITRES PER HOUR		LITRES PER HOUR		LITRES PER HOUR	
FUEL CONSUMPTION PREDICTIONS					61.5	+	29.9	+	47.1	= 138.4
NO. OF ENTRIES TO SUBPT = 4										
NO. OF LINKS RECALCULATED= 60										

Appendix L

Site Access Junction Capacity Tests

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 5.0 (JUNE 2010)

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Run with file:-
"I:\18578-01-X_Gavray Drive, Bicester\3. Project\3.2 Analysis\Junction Capacity Tests\Old TA Reproduced TA\PCU\
site access.vpi"
(drive-on-the-left) at 16:41:01 on Friday, 8 October 2010

RUN INFORMATION

RUN TITLE : Site Access Junction
LOCATION : Gavray Drive Bicester
DATE : 28/07/10
CLIENT : Gallagher Estates
ENUMERATOR : Alexanders [CS5DG3J]
JOB NUMBER :
STATUS :
DESCRIPTION :

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS Gavray Drive West
ARM B IS Site Access
ARM C IS Gavray Drive East

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 7.30 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I
I	- VISIBILITY	I	(VC-B) 90.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES (0)	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 90.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 90.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 2.75 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-B	I
I	663.56	0.24	0.10	I

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	I
I	538.35	0.23	0.09	0.15	0.33	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	I
I	626.08	0.23	0.23	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

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

Demand set: Site Access Junction

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I		I	FLOW STARTS I TOP OF PEAK I FLOW STOPS	I	BEFORE I AT TOP I AFTER	I
I		I	I TO RISE I IS REACHED I FALLING	I	PEAK I OF PEAK I PEAK	I
I		I	I	I	I	I
I	ARM A	I	15.00 I 45.00 I 75.00	I	0.88 I 1.31 I 0.88	I
I	ARM B	I	15.00 I 45.00 I 75.00	I	2.11 I 3.17 I 2.11	I
I	ARM C	I	15.00 I 45.00 I 75.00	I	1.09 I 1.63 I 1.09	I

Demand set: Site Access Junction

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)											
	FROM/TO	ARM	A	ARM	B	ARM	C					
07.45 - 09.15	ARM A	I	0.000	I	0.000	I	1.000	I				
		I	0.0	I	0.0	I	70.0	I				
		I	(0.0)	I	(0.0)	I	(0.0)	I				
	ARM B	I	0.000	I	0.000	I	1.000	I				
		I	0.0	I	0.0	I	169.0	I				
		I	(0.0)	I	(0.0)	I	(0.0)	I				
	ARM C	I	0.460	I	0.540	I	0.000	I				
		I	40.0	I	47.0	I	0.0	I				
		I	(0.0)	I	(0.0)	I	(0.0)	I				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD

1

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)
07.45-08.00									
B-AC	2.12	10.85	0.196		0.00	0.24	3.5		0.11
C-AB	0.62	10.56	0.059		0.00	0.07	1.0		0.10
C-A	0.47								
A-B	0.00								
A-C	0.88								

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)
08.00-08.15									
B-AC	2.53	10.80	0.234		0.24	0.30	4.4		0.12
C-AB	0.75	10.59	0.070		0.07	0.08	1.2		0.10
C-A	0.56								
A-B	0.00								
A-C	1.05								

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)
08.15-08.30									
B-AC	3.10	10.75	0.289		0.30	0.40	5.9		0.13
C-AB	0.93	10.63	0.087		0.08	0.10	1.6		0.10
C-A	0.67								
A-B	0.00								
A-C	1.28								

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	08.30-08.45					0.40	0.40	6.0		0.13	I
I	B-AC	3.10	10.75	0.289		0.10	0.10	1.6		0.10	I
I	C-AB	0.93	10.63	0.087							I
I	C-A	0.67									I
I	A-B	0.00									I
I	A-C	1.28									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	08.45-09.00					0.40	0.31	4.8		0.12	I
I	B-AC	2.53	10.80	0.234		0.10	0.08	1.2		0.10	I
I	C-AB	0.75	10.59	0.070							I
I	C-A	0.56									I
I	A-B	0.00									I
I	A-C	1.05									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	09.00-09.15					0.31	0.25	3.8		0.11	I
I	B-AC	2.12	10.85	0.196		0.08	0.07	1.0		0.10	I
I	C-AB	0.62	10.56	0.059							I
I	C-A	0.47									I
I	A-B	0.00									I
I	A-C	0.88									I

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC	
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 FOR STREAM C-AB	
TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	I	I	I	I	I	I	I
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
I	B-AC	I	232.6	I	155.1	I	28.3	I
I	C-AB	I	68.8	I	45.8	I	7.5	I
I	C-A	I	51.0	I	34.0	I	0.11	I
I	A-B	I	0.0	I	0.0	I	I	I
I	A-C	I	96.3	I	64.2	I	I	I
I	ALL	I	448.7	I	299.1	I	35.9	I
							0.08	

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 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 RUN*****

SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-B	I
I	663.56	0.24	0.10	I

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	I
I	538.35	0.23	0.09	0.15	0.33	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	I
I	626.08	0.23	0.23	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

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

Demand set: Site Access Junction Demand Set

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.
 LENGTH OF TIME SEGMENT - 15 MIN.

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	17.15-17.30										I
I	B-AC	0.84	10.82	0.078		0.07	0.08	1.2		0.10	I
I	C-AB	3.57	11.57	0.309		0.37	0.51	7.7		0.12	I
I	C-A	1.42									I
I	A-B	0.00									I
I	A-C	0.97									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	17.30-17.45										I
I	B-AC	0.84	10.82	0.078		0.08	0.08	1.3		0.10	I
I	C-AB	3.58	11.57	0.309		0.51	0.51	7.7		0.13	I
I	C-A	1.42									I
I	A-B	0.00									I
I	A-C	0.97									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	17.45-18.00										I
I	B-AC	0.69	10.87	0.063		0.08	0.07	1.0		0.10	I
I	C-AB	2.82	11.36	0.248		0.51	0.38	5.7		0.12	I
I	C-A	1.26									I
I	A-B	0.00									I
I	A-C	0.79									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	B-AC	0.58	10.90	0.053		0.07	0.06	0.9		0.10	I
I	C-AB	2.29	11.21	0.205		0.38	0.29	4.4		0.11	I
I	C-A	1.12									I
I	A-B	0.00									I
I	A-C	0.67									I

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I		I			I	* DELAY *		I	* DELAY *		I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	B-AC	I	63.3	42.2	I	6.2	0.10	I	6.2	0.10	I
I	B	I	260.5	173.6	I	35.2	0.14	I	35.3	0.14	I
I	A	I	113.9	75.9	I			I			I
I	B	I	0.0	0.0	I			I			I
I	A-C	I	73.0	48.6	I			I			I
I	ALL	I	510.7	340.4	I	41.5	0.08	I	41.5	0.08	I

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 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

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