

----- A R C A D Y 6 -----

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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RG40 3GA, UK

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

Run with file: -
"p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\Welshback_The Grove\
Welshback_The Grove AM 2016 Do Minimum No BRT.vao"
(drive-on-the-left) at 14:13:19 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Welshback_The Grove AM 2016 Do Minimum
LOCATION:
DATE: 22/10/09
CLIENT:
ENUMERATOR: gamb9563 [DGB204236]
JOB NUMBER:
STATUS:
DESCRIPTION:

. INPUT DATA

ARM A - The Grove West
ARM B - Welshback
ARM C - The Grove East

. MINI-ROUNDAABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL
ROAD SURFACE CONDITION: NORMAL
ARM C HAS A CENTRAL ISLAND

ARM	V (M)	E (M)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.00	4.50	3.00	4.00	20.00	22.00	0.00	2.139	41.462
ARM B	5.00	5.00	3.00	2.50	20.00	15.00	0.00	0.560	7.831
ARM C	5.50	6.00	1.00	5.50	20.00	13.00	0.00	0.524	15.481

V = approach half-width Lm = effective flare length A = distance between arms
E = entry width Vm = minimum approach half-width K = entry corner kerb line G=gradient over 50 m
WARNING ARM A Entry corner kerb line distance is in range 20m-40m
provided only for compatibility with accidents analysis.
Treat capacities with increasing caution.

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

T13

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

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)
. LENGTH OF TIME PERIOD - (90) MINUTES
. LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Welshback_The Grove AM 2016 Do Minimum

T15

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	9.95	14.92	9.95
ARM B	15.00	45.00	75.00	2.59	3.88	2.59
ARM C	15.00	45.00	75.00	6.80	10.20	6.80

DEMAND SET TITLE: Welshback_The Grove AM 2016 Do Minimum

T33

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.420	0.580
		0.0	334.0	462.0
		(0.0)	(8.0)	(8.0)
	ARM B	0.990	0.000	0.010
		205.0	0.0	2.0
		(8.0)	(0.0)	(8.0)
	ARM C	0.908	0.092	0.000
		494.0	50.0	0.0
		(8.0)	(8.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00								
ARM A	9.99	37.06	0.269	--	0.0	0.4	5.4	0.037
ARM B	2.60	4.01	0.648	--	0.0	1.6	20.6	0.621
ARM C	6.83	13.04	0.523	--	0.0	1.1	15.1	0.157

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.00-08.15								
ARM A	11.93	36.80	0.324	--	0.4	0.5	7.1	0.040
ARM B	3.10	3.37	0.919	--	1.6	4.9	55.4	1.576
ARM C	8.15	12.84	0.635	--	1.1	1.7	23.7	0.210

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.15-08.30								
ARM A	14.61	36.45	0.401	--	0.5	0.7	9.8	0.046
ARM B	3.80	2.50	1.517	--	4.9	24.9	225.1	6.686
ARM C	9.98	13.05	0.765	--	1.7	3.0	40.8	0.308

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.30-08.45								
ARM A	14.61	36.43	0.401	--	0.7	0.7	10.0	0.046
ARM B	3.80	2.50	1.520	--	24.9	44.4	520.0	12.572
ARM C	9.98	13.04	0.766	--	3.0	3.1	46.2	0.324

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.45-09.00								
ARM A	11.93	36.77	0.324	--	0.7	0.5	7.3	0.040
ARM B	3.10	3.37	0.921	--	44.4	41.6	645.2	12.173
ARM C	8.15	12.62	0.646	--	3.1	1.9	30.5	0.232

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
09.00-09.15								
ARM A	9.99	37.04	0.270	--	0.5	0.4	5.6	0.037
ARM B	2.60	4.00	0.649	--	41.6	22.0	476.4	8.245
ARM C	6.83	12.31	0.555	--	1.9	1.3	20.2	0.185

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.4
08.15	0.5
08.30	0.7 *
08.45	0.7 *
09.00	0.5
09.15	0.4

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
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Welshback_The Grove AM 2016 Do Minimum No BRT.vao

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08.00      1.6  **
08.15      4.9  *****
08.30     24.9  *****
08.45     44.4  *****
09.00     41.6  *****
09.15     22.0  *****
    
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. QUEUE AT ARM C

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TIME SEGMENT NO. OF
ENDING        VEHICLES
              IN QUEUE
08.00         1.1  *
08.15         1.7  **
08.30         3.0  ***
08.45         3.1  ***
09.00         1.9  **
09.15         1.3  *
    
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. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1095.6	730.4	45.3	0.04	45.3	0.04
B	284.9	189.9	1942.8	6.82	2003.0	7.03
C	748.8	499.2	176.5	0.24	176.5	0.24
ALL	2129.3	1419.6	2164.5	1.02	2224.8	1.04

T75

* 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

----- A R C A D Y 6 -----

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

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Run with file: -
"p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\Welshback_The Grove\
Welshback_The Grove PM 2016 Do Minimum No BRT.vao"
(drive-on-the-left) at 16:43:13 on Wednesday, 25 November 2009

. FILE PROPERTIES

RUN TITLE: Welshback_The Grove PM 2016 Do Minimum
LOCATION:
DATE: 22/10/09
CLIENT:
ENUMERATOR: gamb9563 [DGB204236]
JOB NUMBER:
STATUS:
DESCRIPTION:

. INPUT DATA

ARM A - The Grove West
ARM B - Welshback
ARM C - The Grove East

. MINI-ROUNDBOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL
ROAD SURFACE CONDITION: NORMAL
ARM C HAS A CENTRAL ISLAND

ARM	V (M)	E (M)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.00	4.50	3.00	4.00	20.00	22.00	0.00	2.139	41.462
ARM B	5.00	5.00	3.00	2.50	20.00	15.00	0.00	0.560	7.831
ARM C	5.50	6.00	1.00	5.50	20.00	13.00	0.00	0.524	15.481

V = approach half-width Lm = effective flare length A = distance between arms
E = entry width Vm = minimum approach half-width K = entry corner kerb line G=gradient over 50 m
WARNING ARM A Entry corner kerb line distance is in range 20m-40m
provided only for compatibility with accidents analysis.
Treat capacities with increasing caution.

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

T13

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

TIME PERIOD BEGINS(16.45) AND ENDS(18.15)
LENGTH OF TIME PERIOD - (90) MINUTES
LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Welshback_The Grove PM 2016 Do Minimum

T15

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.16	4.74	3.16
ARM B	15.00	45.00	75.00	7.89	11.83	7.89
ARM C	15.00	45.00	75.00	4.91	7.37	4.91

DEMAND SET TITLE: Welshback_The Grove PM 2016 Do Minimum

T33

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.008	0.992
		0.0	2.0	251.0
		(0.0)	(6.0)	(6.0)
	ARM B	0.276	0.000	0.724
		174.0	0.0	457.0
		(6.0)	(0.0)	(6.0)
	ARM C	0.740	0.260	0.000
		291.0	102.0	0.0
		(6.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
16.45-17.00								
ARM A	3.17	36.40	0.087	--	0.0	0.1	1.4	0.030
ARM B	7.92	5.63	1.407	--	0.0	36.6	286.9	3.668
ARM C	4.93	13.81	0.357	--	0.0	0.5	7.9	0.112

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.00-17.15								
ARM A	3.79	35.85	0.106	--	0.1	0.1	1.8	0.031
ARM B	9.45	5.28	1.790	--	36.6	99.3	1019.2	13.813
ARM C	5.89	13.84	0.425	--	0.5	0.7	10.6	0.125

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.15-17.30								
ARM A	4.64	35.12	0.132	--	0.1	0.2	2.3	0.033
ARM B	11.58	4.81	2.409	--	99.3	200.8	2250.9	31.384
ARM C	7.21	13.91	0.518	--	0.7	1.1	15.2	0.148

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.30-17.45								
ARM A	4.64	35.11	0.132	--	0.2	0.2	2.3	0.033
ARM B	11.58	4.81	2.409	--	200.8	302.4	3774.7	48.049
ARM C	7.21	13.91	0.518	--	1.1	1.1	15.9	0.149

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.45-18.00								
ARM A	3.79	35.84	0.106	--	0.2	0.1	1.8	0.031
ARM B	9.45	5.28	1.791	--	302.4	365.1	5006.4	60.489
ARM C	5.89	13.84	0.425	--	1.1	0.8	11.7	0.126

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
18.00-18.15								
ARM A	3.17	36.37	0.087	--	0.1	0.1	1.4	0.030
ARM B	7.92	5.62	1.408	--	365.1	399.5	5734.5	68.222
ARM C	4.93	13.79	0.358	--	0.8	0.6	8.7	0.113

QUEUE AT ARM A

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

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

Welshback_The Grove PM 2016 Do Minimum No BRT.vao

17.00	36.6	*****
17.15	99.3	*****
17.30	200.8	*****
17.45	302.4	*****
18.00	365.1	*****
18.15	399.5	*****

. QUEUE AT ARM C

TIME ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE
17.00		0.5 *
17.15		0.7 *
17.30		1.1 *
17.45		1.1 *
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)	(MIN)	(MIN/VEH)
A	348.2	232.2	11.0	0.03	11.0	0.03
B	868.5	579.0	18072.6	20.81	32269.6	37.15
C	540.9	360.6	70.0	0.13	70.0	0.13
ALL	1757.7	1171.8	18153.6	10.33	32350.6	18.41

T75

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END OF JOB

----- A R C A D Y 6 -----

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

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Run with file: -
"p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\Welshback_The Grove\
Welshback_The Grove AM 2016 Do Something.vao"
(drive-on-the-left) at 14:16:21 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Welshback_The Grove AM 2016 Do Something
LOCATION:
DATE: 22/10/09
CLIENT:
ENUMERATOR: gamb9563 [DGB204236]
JOB NUMBER:
STATUS:
DESCRIPTION:

. INPUT DATA

ARM A - The Grove West
ARM B - Welshback
ARM C - The Grove East

. MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL
ROAD SURFACE CONDITION: NORMAL
ARM C HAS A CENTRAL ISLAND

ARM	V (M)	E (M)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.00	4.50	3.00	4.00	20.00	22.00	0.00	2.139	41.462
ARM B	5.00	5.00	3.00	2.50	20.00	15.00	0.00	0.560	7.831
ARM C	5.50	6.00	1.00	5.50	20.00	13.00	0.00	0.524	15.481

V = approach half-width Lm = effective flare length A = distance between arms
E = entry width Vm = minimum approach half-width K = entry corner kerb line G=gradient over 50 m
WARNING ARM A Entry corner kerb line distance is in range 20m-40m
provided only for compatibility with accidents analysis.
Treat capacities with increasing caution.

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

T13

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

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)
LENGTH OF TIME PERIOD -(90) MINUTES
LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Welshback_The Grove AM 2016 Do Something

T15

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	5.20	7.80	5.20
ARM B	15.00	45.00	75.00	1.49	2.23	1.49
ARM C	15.00	45.00	75.00	6.10	9.15	6.10

DEMAND SET TITLE: Welshback_The Grove AM 2016 Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.481	0.519
		0.0	200.0	216.0
		(0.0)	(8.0)	(8.0)
	ARM B	0.950	0.000	0.050
		113.0	0.0	6.0
		(8.0)	(0.0)	(8.0)
	ARM C	0.625	0.375	0.000
		305.0	183.0	0.0
		(8.0)	(8.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00								
ARM A	5.22	33.52	0.156	--	0.0	0.2	2.7	0.035
ARM B	1.49	5.74	0.260	--	0.0	0.3	4.9	0.233
ARM C	6.12	13.60	0.450	--	0.0	0.8	11.5	0.132
08.00-08.15								
ARM A	6.23	32.55	0.192	--	0.2	0.2	3.5	0.038
ARM B	1.78	5.44	0.328	--	0.3	0.5	6.8	0.272
ARM C	7.31	13.45	0.544	--	0.8	1.2	16.7	0.162
08.15-08.30								
ARM A	7.63	31.25	0.244	--	0.2	0.3	4.8	0.042
ARM B	2.18	5.03	0.434	--	0.5	0.7	10.4	0.347
ARM C	8.95	13.26	0.676	--	1.2	2.0	27.8	0.227
08.30-08.45								
ARM A	7.63	31.21	0.245	--	0.3	0.3	4.8	0.042
ARM B	2.18	5.03	0.434	--	0.7	0.8	11.2	0.350
ARM C	8.95	13.25	0.676	--	2.0	2.0	30.3	0.232
08.45-09.00								
ARM A	6.23	32.48	0.192	--	0.3	0.2	3.6	0.038
ARM B	1.78	5.44	0.328	--	0.8	0.5	7.9	0.277
ARM C	7.31	13.44	0.544	--	2.0	1.2	19.3	0.166
09.00-09.15								
ARM A	5.22	33.46	0.156	--	0.2	0.2	2.8	0.035
ARM B	1.49	5.73	0.261	--	0.5	0.4	5.6	0.237
ARM C	6.12	13.59	0.451	--	1.2	0.8	13.0	0.135

QUEUE AT ARM A

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 B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

08.00	0.3
08.15	0.5
08.30	0.7
08.45	0.8
09.00	0.5
09.15	0.4

QUEUE AT ARM C

TIME ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE	
08.00		0.8	*
08.15		1.2	*
08.30		2.0	**
08.45		2.0	**
09.00		1.2	*
09.15		0.8	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	572.6	381.7	22.3	0.04	22.3	0.04
B	163.8	109.2	46.8	0.29	46.9	0.29
C	671.7	447.8	118.7	0.18	118.7	0.18
ALL	1408.1	938.7	187.8	0.13	187.8	0.13

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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 RG40 3GA, UK

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Run with file: -
 "p:\GBCF\ATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\Welshback_The Grove\
 Welshback_The Grove PM 2016 Do Something.vao"
 (drive-on-the-left) at 14:22:33 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Welshback_The Grove PM 2016 Do Something
 LOCATION:
 DATE: 22/10/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - The Grove West
 ARM B - Welshback
 ARM C - The Grove East

. MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL
 ROAD SURFACE CONDITION: NORMAL
 ARM C HAS A CENTRAL ISLAND

ARM	V (M)	E (M)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.00	4.50	3.00	4.00	20.00	22.00	0.00	2.139	41.462
ARM B	5.00	5.00	3.00	2.50	20.00	15.00	0.00	0.560	7.831
ARM C	5.50	6.00	1.00	5.50	20.00	13.00	0.00	0.524	15.481

V = approach half-width Lm = effective flare length A = distance between arms
 E = entry width Vm = minimum approach half-width K = entry corner kerb line G=gradient over 50 m
 WARNING ARM A Entry corner kerb line distance is in range 20m-40m
 provided only for compatibility with accidents analysis.
 Treat capacities with increasing caution.

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

T13

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

TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
 . LENGTH OF TIME PERIOD - (90) MINUTES
 . LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Welshback_The Grove PM 2016 Do Something

T15

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.09	4.63	3.09
ARM B	15.00	45.00	75.00	4.01	6.02	4.01
ARM C	15.00	45.00	75.00	5.28	7.91	5.28

DEMAND SET TITLE: Welshback_The Grove PM 2016 Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.000	1.000
		0.0	0.0	247.0
		(0.0)	(6.0)	(6.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	321.0
		(6.0)	(0.0)	(6.0)
	ARM C	0.618	0.382	0.000
		261.0	161.0	0.0
		(6.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
16.45-17.00								
ARM A	3.10	34.83	0.089	--	0.0	0.1	1.4	0.032
ARM B	4.03	5.65	0.712	--	0.0	2.2	27.6	0.529
ARM C	5.30	14.60	0.363	--	0.0	0.6	8.1	0.107
17.00-17.15								
ARM A	3.70	33.97	0.109	--	0.1	0.1	1.8	0.033
ARM B	4.81	5.31	0.905	--	2.2	5.4	63.8	1.135
ARM C	6.32	14.60	0.433	--	0.6	0.8	11.0	0.120
17.15-17.30								
ARM A	4.53	32.82	0.138	--	0.1	0.2	2.4	0.035
ARM B	5.89	4.85	1.215	--	5.4	22.5	213.0	3.388
ARM C	7.74	14.60	0.530	--	0.8	1.1	15.9	0.145
17.30-17.45								
ARM A	4.53	32.80	0.138	--	0.2	0.2	2.4	0.035
ARM B	5.89	4.85	1.215	--	22.5	38.5	457.7	6.526
ARM C	7.74	14.60	0.530	--	1.1	1.1	16.7	0.146
17.45-18.00								
ARM A	3.70	33.94	0.109	--	0.2	0.1	1.9	0.033
ARM B	4.81	5.31	0.905	--	38.5	33.0	535.8	6.844
ARM C	6.32	14.60	0.433	--	1.1	0.8	12.0	0.121
18.00-18.15								
ARM A	3.10	34.78	0.089	--	0.1	0.1	1.5	0.032
ARM B	4.03	5.65	0.713	--	33.0	11.1	330.7	4.183
ARM C	5.30	14.60	0.363	--	0.8	0.6	8.9	0.108

QUEUE AT ARM A

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

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

```

17.00      2.2  **
17.15      5.4  *****
17.30     22.5  *****
17.45     38.5  *****
18.00     33.0  *****
18.15     11.1  *****
    
```

. QUEUE AT ARM C

```

-----
TIME SEGMENT NO. OF
ENDING        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  *
    
```

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	340.0	226.7	11.4	0.03	11.4	0.03
B	441.8	294.6	1628.7	3.69	1639.7	3.71
C	580.9	387.2	72.6	0.13	72.6	0.13
ALL	1362.7	908.4	1712.7	1.26	1723.7	1.26

T75

* 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

----- A R C A D Y 6 -----

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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

Run with file: -
"p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\Welshback_The Grove\
Welshback_The Grove AM 2031 Do Minimum No BRT.vao"
(drive-on-the-left) at 14:15:14 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Welshback_The Grove AM 2031 Do Minimum
LOCATION:
DATE: 22/10/09
CLIENT:
ENUMERATOR: gamb9563 [DGB204236]
JOB NUMBER:
STATUS:
DESCRIPTION:

. INPUT DATA

ARM A - The Grove West
ARM B - Welshback
ARM C - The Grove East

. MINI-ROUNDAABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL
ROAD SURFACE CONDITION: NORMAL
ARM C HAS A CENTRAL ISLAND

ARM	V (M)	E (M)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.00	4.50	3.00	4.00	20.00	22.00	0.00	2.139	41.462
ARM B	5.00	5.00	3.00	2.50	20.00	15.00	0.00	0.560	7.831
ARM C	5.50	6.00	1.00	5.50	20.00	13.00	0.00	0.524	15.481

V = approach half-width Lm = effective flare length A = distance between arms
E = entry width Vm = minimum approach half-width K = entry corner kerb line G = gradient over 50 m
WARNING ARM A Entry corner kerb line distance is in range 20m-40m
provided only for compatibility with accidents analysis.
Treat capacities with increasing caution.

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

T13

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

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)
LENGTH OF TIME PERIOD - (90) MINUTES
LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Welshback_The Grove AM 2031 Do Minimum

T15

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	12.63	18.94	12.63
ARM B	15.00	45.00	75.00	3.09	4.63	3.09
ARM C	15.00	45.00	75.00	6.61	9.92	6.61

DEMAND SET TITLE: Welshback_The Grove AM 2031 Do Minimum

T33

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.409	0.591
		0.0	413.0	597.0
		(0.0)	(8.0)	(8.0)
	ARM B	0.992	0.000	0.008
		245.0	0.0	2.0
		(8.0)	(0.0)	(8.0)
	ARM C	0.947	0.053	0.000
		501.0	28.0	0.0
		(8.0)	(8.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00								
ARM A	12.67	37.65	0.337	--	0.0	0.5	7.4	0.040
ARM B	3.10	3.06	1.012	--	0.0	6.6	63.0	1.847
ARM C	6.64	12.95	0.513	--	0.0	1.0	14.5	0.155

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.00-08.15								
ARM A	15.13	37.50	0.404	--	0.5	0.7	10.0	0.045
ARM B	3.70	2.24	1.651	--	6.6	28.8	266.2	12.272
ARM C	7.93	13.18	0.601	--	1.0	1.5	20.9	0.188

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.15-08.30								
ARM A	18.53	37.30	0.497	--	0.7	1.0	14.4	0.053
ARM B	4.53	1.12	4.055	--	28.8	80.0	816.0	48.792
ARM C	9.71	13.75	0.706	--	1.5	2.3	31.9	0.241

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.30-08.45								
ARM A	18.53	37.29	0.497	--	1.0	1.0	14.7	0.053
ARM B	4.53	1.11	4.080	--	80.0	131.3	1585.2	48.589
ARM C	9.71	13.76	0.706	--	2.3	2.3	34.7	0.246

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.45-09.00								
ARM A	15.13	37.49	0.404	--	1.0	0.7	10.4	0.045
ARM B	3.70	2.23	1.659	--	131.3	153.4	2135.6	51.072
ARM C	7.93	13.17	0.602	--	2.3	1.6	24.7	0.194

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
09.00-09.15								
ARM A	12.67	37.64	0.337	--	0.7	0.5	7.8	0.040
ARM B	3.10	3.05	1.017	--	153.4	154.2	2307.1	50.799
ARM C	6.64	12.75	0.521	--	1.6	1.1	17.4	0.166

QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.5 *
08.15	0.7 *
08.30	1.0 *
08.45	1.0 *
09.00	0.7 *
09.15	0.5 *

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

Welshback_The Grove AM 2031 Do Minimum No BRT.vao

08.00	6.6	*****
08.15	28.8	*****
08.30	80.0	*****
08.45	131.3	*****
09.00	153.4	*****
09.15	154.2	*****

. QUEUE AT ARM C

TIME ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE	
08.00		1.0	*
08.15		1.5	*
08.30		2.3	**
08.45		2.3	**
09.00		1.6	**
09.15		1.1	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1390.2	926.8	64.7	0.05	64.7	0.05
B	340.0	226.7	7173.2	21.10	11074.0	32.57
C	728.1	485.4	144.1	0.20	144.2	0.20
ALL	2458.3	1638.9	7382.0	3.00	11282.9	4.59

T75

* 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

----- A R C A D Y 6 -----

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Wokingham, Berks. Web: www.trlsoftware.co.uk
RG40 3GA, UK

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Run with file: -
"p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\Welshback_The Grove\
Welshback_The Grove PM 2031 Do Minimum No BRT.vao"
(drive-on-the-left) at 16:44:10 on Wednesday, 25 November 2009

. FILE PROPERTIES

RUN TITLE: Welshback_The Grove PM 2031 Do Minimum
LOCATION:
DATE: 22/10/09
CLIENT:
ENUMERATOR: gamb9563 [DGB204236]
JOB NUMBER:
STATUS:
DESCRIPTION:

. INPUT DATA

ARM A - The Grove West
ARM B - Welshback
ARM C - The Grove East

. MINI-ROUNDAABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL
ROAD SURFACE CONDITION: NORMAL
ARM C HAS A CENTRAL ISLAND

ARM	V (M)	E (M)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.00	4.50	3.00	4.00	20.00	22.00	0.00	2.139	41.462
ARM B	5.00	5.00	3.00	2.50	20.00	15.00	0.00	0.560	7.831
ARM C	5.50	6.00	1.00	5.50	20.00	13.00	0.00	0.524	15.481

V = approach half-width Lm = effective flare length A = distance between arms
E = entry width Vm = minimum approach half-width K = entry corner kerb line G = gradient over 50 m
WARNING ARM A Entry corner kerb line distance is in range 20m-40m
provided only for compatibility with accidents analysis.
Treat capacities with increasing caution.

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

T13

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

TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
LENGTH OF TIME PERIOD - (90) MINUTES
LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Welshback_The Grove PM 2031 Do Minimum

T15

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.60	5.40	3.60
ARM B	15.00	45.00	75.00	6.20	9.30	6.20
ARM C	15.00	45.00	75.00	4.34	6.51	4.34

DEMAND SET TITLE: Welshback_The Grove PM 2031 Do Minimum

T33

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.024	0.976
		0.0	7.0	281.0
		(0.0)	(6.0)	(6.0)
	ARM B	0.409	0.000	0.591
		203.0	0.0	293.0
		(6.0)	(0.0)	(6.0)
	ARM C	0.622	0.378	0.000
		216.0	131.0	0.0
		(6.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
16.45-17.00				--	--			
ARM A	3.61	35.63	0.101	--	0.0	0.1	1.7	0.031
ARM B	6.22	5.42	1.149	--	0.0	16.7	142.8	2.018
ARM C	4.35	13.51	0.322	--	0.0	0.5	6.8	0.108

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.00-17.15				--	--			
ARM A	4.32	34.93	0.124	--	0.1	0.1	2.1	0.033
ARM B	7.43	5.03	1.478	--	16.7	53.0	523.0	7.620
ARM C	5.20	13.53	0.384	--	0.5	0.6	9.0	0.120

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.15-17.30				--	--			
ARM A	5.28	33.99	0.155	--	0.1	0.2	2.7	0.035
ARM B	9.10	4.50	2.023	--	53.0	122.0	1312.4	19.488
ARM C	6.37	13.64	0.467	--	0.6	0.9	12.5	0.137

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.30-17.45				--	--			
ARM A	5.28	33.97	0.156	--	0.2	0.2	2.8	0.035
ARM B	9.10	4.50	2.024	--	122.0	191.1	2348.3	35.061
ARM C	6.37	13.64	0.467	--	0.9	0.9	13.0	0.138

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.45-18.00				--	--			
ARM A	4.32	34.90	0.124	--	0.2	0.1	2.1	0.033
ARM B	7.43	5.03	1.479	--	191.1	227.2	3136.9	39.937
ARM C	5.20	13.53	0.384	--	0.9	0.6	9.8	0.121

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
18.00-18.15				--	--			
ARM A	3.61	35.59	0.102	--	0.1	0.1	1.7	0.031
ARM B	6.22	5.41	1.150	--	227.2	239.4	3499.1	43.338
ARM C	4.35	13.44	0.324	--	0.6	0.5	7.4	0.110

QUEUE AT ARM A

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

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

Welshback_The Grove PM 2031 Do Minimum No BRT.vao

17.00	16.7	*****
17.15	53.0	*****
17.30	122.0	*****
17.45	191.1	*****
18.00	227.2	*****
18.15	239.4	*****

. QUEUE AT ARM C

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

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	396.4	264.3	13.1	0.03	13.1	0.03
B	682.7	455.1	10962.5	16.06	16258.0	23.81
C	477.6	318.4	58.5	0.12	58.5	0.12
ALL	1556.7	1037.8	11034.1	7.09	16329.6	10.49

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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 Wokingham, Berks. Web: www.trlsoftware.co.uk
 RG40 3GA, UK

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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\Welshback_The Grove\
 Welshback_The Grove AM 2031 Do Something.vao"
 (drive-on-the-left) at 14:17:53 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Welshback_The Grove AM 2031 Do Something
 LOCATION:
 DATE: 22/10/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - The Grove West
 ARM B - Welshback
 ARM C - The Grove East

. MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL
 ROAD SURFACE CONDITION: NORMAL
 ARM C HAS A CENTRAL ISLAND

ARM	V (M)	E (M)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.00	4.50	3.00	4.00	20.00	22.00	0.00	2.139	41.462
ARM B	5.00	5.00	3.00	2.50	20.00	15.00	0.00	0.560	7.831
ARM C	5.50	6.00	1.00	5.50	20.00	13.00	0.00	0.524	15.481

V = approach half-width Lm = effective flare length A = distance between arms
 E = entry width Vm = minimum approach half-width K = entry corner kerb line G=gradient over 50 m
 WARNING ARM A Entry corner kerb line distance is in range 20m-40m
 provided only for compatibility with accidents analysis.
 Treat capacities with increasing caution.

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

T13

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

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)
 . LENGTH OF TIME PERIOD - (90) MINUTES
 . LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Welshback_The Grove AM 2031 Do Something

T15

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	5.76	8.64	5.76
ARM B	15.00	45.00	75.00	1.71	2.57	1.71
ARM C	15.00	45.00	75.00	6.55	9.83	6.55

DEMAND SET TITLE: Welshback_The Grove AM 2031 Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.445	0.555
		0.0	205.0	256.0
		(0.0)	(8.0)	(8.0)
	ARM B	0.949	0.000	0.051
		130.0	0.0	7.0
		(8.0)	(0.0)	(8.0)
	ARM C	0.653	0.347	0.000
		342.0	182.0	0.0
		(8.0)	(8.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00								
ARM A	5.78	33.55	0.172	--	0.0	0.2	3.1	0.036
ARM B	1.72	5.45	0.315	--	0.0	0.4	6.3	0.264
ARM C	6.57	13.49	0.487	--	0.0	0.9	13.2	0.142
08.00-08.15								
ARM A	6.91	32.58	0.212	--	0.2	0.3	4.0	0.039
ARM B	2.05	5.10	0.402	--	0.4	0.7	9.2	0.324
ARM C	7.85	13.32	0.589	--	0.9	1.4	19.9	0.180
08.15-08.30								
ARM A	8.46	31.31	0.270	--	0.3	0.4	5.5	0.044
ARM B	2.51	4.62	0.544	--	0.7	1.1	15.4	0.462
ARM C	9.62	13.10	0.734	--	1.4	2.6	35.5	0.274
08.30-08.45								
ARM A	8.46	31.25	0.271	--	0.4	0.4	5.5	0.044
ARM B	2.51	4.62	0.544	--	1.1	1.2	17.1	0.472
ARM C	9.62	13.09	0.735	--	2.6	2.7	39.6	0.287
08.45-09.00								
ARM A	6.91	32.50	0.213	--	0.4	0.3	4.1	0.039
ARM B	2.05	5.10	0.403	--	1.2	0.7	11.2	0.336
ARM C	7.85	13.30	0.590	--	2.7	1.5	23.7	0.189
09.00-09.15								
ARM A	5.78	33.48	0.173	--	0.3	0.2	3.2	0.036
ARM B	1.72	5.45	0.315	--	0.7	0.5	7.5	0.270
ARM C	6.57	13.47	0.488	--	1.5	1.0	15.2	0.146

QUEUE AT ARM A

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

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

08.00	0.4	*
08.15	0.7	*
08.30	1.1	*
08.45	1.2	*
09.00	0.7	*
09.15	0.5	

QUEUE AT ARM C

TIME ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE	
08.00		0.9	*
08.15		1.4	*
08.30		2.6	***
08.45		2.7	***
09.00		1.5	*
09.15		1.0	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	634.5	423.0	25.3	0.04	25.3	0.04
B	188.6	125.7	66.8	0.35	66.8	0.35
C	721.2	480.8	147.1	0.20	147.2	0.20
ALL	1544.4	1029.6	239.2	0.15	239.3	0.15

T75

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
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END OF JOB

----- A R C A D Y 6 -----

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file: -
"p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\Welshback_The Grove\
Welshback_The Grove PM 2031 Do Something.vao"
(drive-on-the-left) at 14:23:53 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Welshback_The Grove PM 2031 Do Something
LOCATION:
DATE: 22/10/09
CLIENT:
ENUMERATOR: gamb9563 [DGB204236]
JOB NUMBER:
STATUS:
DESCRIPTION:

. INPUT DATA

ARM A - The Grove West
ARM B - Welshback
ARM C - The Grove East

. MINI-ROUNDABOUT GEOMETRIC DATA

LIGHTING CONDITIONS : NORMAL
ROAD SURFACE CONDITION: NORMAL
ARM C HAS A CENTRAL ISLAND

ARM	V (M)	E (M)	Lm(M)	Vm(M)	A (M)	K (M)	G (%)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	3.00	4.50	3.00	4.00	20.00	22.00	0.00	2.139	41.462
ARM B	5.00	5.00	3.00	2.50	20.00	15.00	0.00	0.560	7.831
ARM C	5.50	6.00	1.00	5.50	20.00	13.00	0.00	0.524	15.481

V = approach half-width Lm = effective flare length A = distance between arms
E = entry width Vm = minimum approach half-width K = entry corner kerb line G=gradient over 50 m
WARNING ARM A Entry corner kerb line distance is in range 20m-40m
provided only for compatibility with accidents analysis.
Treat capacities with increasing caution.

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

T13

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

TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
LENGTH OF TIME PERIOD -(90) MINUTES
LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Welshback_The Grove PM 2031 Do Something

T15

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.81	5.72	3.81
ARM B	15.00	45.00	75.00	4.29	6.43	4.29
ARM C	15.00	45.00	75.00	7.05	10.58	7.05

DEMAND SET TITLE: Welshback_The Grove PM 2031 Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.000	1.000
		0.0	0.0	305.0
		(0.0)	(6.0)	(6.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	343.0
		(6.0)	(0.0)	(6.0)
	ARM C	0.495	0.505	0.000
		279.0	285.0	0.0
		(6.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
16.45-17.00								
ARM A	3.83	31.53	0.121	--	0.0	0.1	2.0	0.036
ARM B	4.30	5.25	0.820	--	0.0	3.5	40.4	0.749
ARM C	7.08	14.60	0.485	--	0.0	0.9	13.2	0.131
17.00-17.15								
ARM A	4.57	30.01	0.152	--	0.1	0.2	2.7	0.039
ARM B	5.14	4.83	1.064	--	3.5	12.0	121.8	2.170
ARM C	8.45	14.60	0.579	--	0.9	1.3	19.2	0.161
17.15-17.30								
ARM A	5.60	28.00	0.200	--	0.2	0.2	3.7	0.045
ARM B	6.29	4.25	1.480	--	12.0	42.9	411.9	6.914
ARM C	10.35	14.60	0.709	--	1.3	2.3	32.2	0.228
17.30-17.45								
ARM A	5.60	27.93	0.200	--	0.2	0.2	3.7	0.045
ARM B	6.29	4.25	1.481	--	42.9	73.6	873.2	13.235
ARM C	10.35	14.60	0.709	--	2.3	2.4	35.2	0.234
17.45-18.00								
ARM A	4.57	29.91	0.153	--	0.2	0.2	2.7	0.039
ARM B	5.14	4.82	1.065	--	73.6	78.4	1140.0	15.977
ARM C	8.45	14.60	0.579	--	2.4	1.4	22.3	0.166
18.00-18.15								
ARM A	3.83	31.43	0.122	--	0.2	0.1	2.1	0.036
ARM B	4.30	5.24	0.821	--	78.4	65.4	1078.5	13.913
ARM C	7.08	14.60	0.485	--	1.4	1.0	14.9	0.134

QUEUE AT ARM A

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

QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
------------------------	--------------------------------

Welshback_The Grove PM 2031 Do Something.vao

```

17.00      3.5 ***
17.15     12.0 *****
17.30     42.9 *****
17.45     73.6 *****
18.00     78.4 *****
18.15     65.4 *****
    
```

. QUEUE AT ARM C

TIME ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE
17.00		0.9 *
17.15		1.3 *
17.30		2.3 **
17.45		2.4 **
18.00		1.4 *
18.15		1.0 *

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	419.8	279.9	17.0	0.04	17.0	0.04
B	472.1	314.7	3665.9	7.76	4073.6	8.63
C	776.3	517.5	137.1	0.18	137.1	0.18
ALL	1668.2	1112.2	3820.0	2.29	4227.7	2.53

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\
 Redcliffe Way_Redcliffe Hill\Redcliffe Way_Redcliffe Hill AM 2016 Do Minimum.vai"
 (drive-on-the-left) at 14:26:57 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Redcliffe Way / Redcliffe Hill AM 2016 Do Minimum
 LOCATION:
 DATE: 18/08/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - Redcliffe Way East
 ARM B - Redcliffe Hill
 ARM C - Redcliffe Way West
 ARM D - Redcliffe Street

. GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	8.50	9.00	1.00	25.00	63.00	7.5	0.759	47.753
ARM B	7.00	7.00	0.00	40.00	63.00	29.0	0.628	36.337
ARM C	6.00	10.00	10.00	35.00	63.00	30.0	0.663	39.980
ARM D	3.50	4.50	4.00	15.00	63.00	25.0	0.462	20.502

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

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

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

TIME PERIOD BEGINS(07.45) AND ENDS(09.15)
 LENGTH OF TIME PERIOD - (90) MINUTES
 LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill AM 2016 Do Minimum

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	7.18	10.76	7.18
ARM B	15.00	45.00	75.00	14.29	21.43	14.29
ARM C	15.00	45.00	75.00	5.90	8.85	5.90
ARM D	15.00	45.00	75.00	4.54	6.81	4.54

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill AM 2016 Do Minimum

TURNING PROPORTIONS	
TURNING COUNTS	
(PERCENTAGE OF H.V.S)	

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000 (0.0)	0.101 (8.0)	0.573 (8.0)	0.326 (8.0)
	ARM B	0.485 (8.0)	0.000 (0.0)	0.086 (8.0)	0.430 (8.0)
	ARM C	0.432 (8.0)	0.390 (8.0)	0.000 (0.0)	0.178 (8.0)
	ARM D	0.058 (8.0)	0.625 (8.0)	0.317 (8.0)	0.000 (0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
07.45-08.00									
ARM A	7.20	39.24	0.184	--	0.0	0.2	3.3	-	0.031
ARM B	14.34	28.69	0.500	--	0.0	1.0	14.4	-	0.069
ARM C	5.92	26.81	0.221	--	0.0	0.3	4.2	-	0.048
ARM D	4.55	13.55	0.336	--	0.0	0.5	7.2	-	0.110

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.00-08.15									
ARM A	8.60	38.25	0.225	--	0.2	0.3	4.3	-	0.034
ARM B	17.13	27.71	0.618	--	1.0	1.6	23.0	-	0.094
ARM C	7.07	24.80	0.285	--	0.3	0.4	5.9	-	0.056
ARM D	5.44	12.48	0.436	--	0.5	0.8	11.0	-	0.141

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.15-08.30									
ARM A	10.53	36.93	0.285	--	0.3	0.4	5.9	-	0.038
ARM B	20.97	26.38	0.795	--	1.6	3.7	50.2	-	0.176
ARM C	8.66	22.11	0.392	--	0.4	0.6	9.4	-	0.074
ARM D	6.66	11.04	0.603	--	0.8	1.5	20.6	-	0.224

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.30-08.45									
ARM A	10.53	36.89	0.285	--	0.4	0.4	6.0	-	0.038
ARM B	20.97	26.37	0.795	--	3.7	3.8	56.0	-	0.184
ARM C	8.66	22.03	0.393	--	0.6	0.6	9.6	-	0.075
ARM D	6.66	11.00	0.605	--	1.5	1.5	22.3	-	0.230

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
ARM A	8.60	38.20	0.225	--	0.4	0.3	4.4	-	0.034
ARM B	17.13	27.69	0.618	--	3.8	1.6	26.1	-	0.097
ARM C	7.07	24.69	0.286	--	0.6	0.4	6.2	-	0.057
ARM D	5.44	12.43	0.438	--	1.5	0.8	12.4	-	0.145

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
ARM A	7.20	39.19	0.184	--	0.3	0.2	3.4	-	0.031
ARM B	14.34	28.66	0.500	--	1.6	1.0	15.6	-	0.070
ARM C	5.92	26.74	0.221	--	0.4	0.3	4.3	-	0.048
ARM D	4.55	13.51	0.337	--	0.8	0.5	8.0	-	0.112

QUEUE AT ARM A

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	0.2
08.15	0.3
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.2

. QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.0	*
08.15	1.6	**
08.30	3.7	****
08.45	3.8	****
09.00	1.6	**
09.15	1.0	*

. QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.3	
08.15	0.4	
08.30	0.6	*
08.45	0.6	*
09.00	0.4	
09.15	0.3	

. QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.5	*
08.15	0.8	*
08.30	1.5	*
08.45	1.5	**
09.00	0.8	*
09.15	0.5	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	790.1	526.7	27.3	0.03	27.3	0.03
B	1573.3	1048.8	185.3	0.12	185.3	0.12
C	649.7	433.1	39.5	0.06	39.5	0.06
D	499.6	333.1	81.5	0.16	81.5	0.16
ALL	3512.6	2341.8	333.7	0.09	333.7	0.09

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\
 Redcliffe Way_Redcliffe Hill\Redcliffe Way_Redcliffe Hill PM 2016 Do Minimum.vai"
 (drive-on-the-left) at 16:28:39 on Wednesday, 25 November 2009

. FILE PROPERTIES

RUN TITLE: Redcliffe Way / Redcliffe Hill PM 2016 Do Minimum No BRT
 LOCATION:
 DATE: 18/08/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - Redcliffe Way East
 ARM B - Redcliffe Hill
 ARM C - Redcliffe Way West
 ARM D - Redcliffe Street

. GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	8.50	9.00	1.00	25.00	63.00	7.5	0.759	47.753
ARM B	7.00	7.00	0.00	40.00	63.00	29.0	0.628	36.337
ARM C	6.00	10.00	10.00	35.00	63.00	30.0	0.663	39.980
ARM D	3.50	4.50	4.00	15.00	63.00	25.0	0.462	20.502

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

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

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

TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
 LENGTH OF TIME PERIOD - (90) MINUTES
 LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill PM 2016 Do Minimum

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	5.03	7.54	5.03
ARM B	15.00	45.00	75.00	12.27	18.41	12.27
ARM C	15.00	45.00	75.00	8.95	13.42	8.95
ARM D	15.00	45.00	75.00	4.55	6.83	4.55

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill PM 2016 Do Minimum

TURNING PROPORTIONS	
TURNING COUNTS	
(PERCENTAGE OF H.V.S)	

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.000	0.234	0.463	0.303
		0.0	94.0	186.0	122.0
		(0.0)	(6.0)	(6.0)	(6.0)
	ARM B	0.559	0.000	0.109	0.332
		549.0	0.0	107.0	326.0
		(6.0)	(0.0)	(6.0)	(6.0)
	ARM C	0.399	0.566	0.000	0.035
		286.0	405.0	0.0	25.0
		(6.0)	(6.0)	(0.0)	(6.0)
	ARM D	0.044	0.799	0.157	0.000
		16.0	291.0	57.0	0.0
		(6.0)	(6.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
ARM A	5.04	37.92	0.133	--	0.0	0.2	2.3	-	0.030
ARM B	12.32	31.41	0.392	--	0.0	0.6	9.4	-	0.052
ARM C	8.98	29.45	0.305	--	0.0	0.4	6.4	-	0.049
ARM D	4.57	12.18	0.375	--	0.0	0.6	8.5	-	0.130

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
ARM A	6.02	36.52	0.165	--	0.2	0.2	2.9	-	0.033
ARM B	14.71	30.85	0.477	--	0.6	0.9	13.3	-	0.062
ARM C	10.73	27.82	0.386	--	0.4	0.6	9.2	-	0.058
ARM D	5.45	10.77	0.506	--	0.6	1.0	14.3	-	0.186

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
ARM A	7.38	34.67	0.213	--	0.2	0.3	4.0	-	0.037
ARM B	18.02	30.09	0.599	--	0.9	1.5	21.4	-	0.082
ARM C	13.14	25.61	0.513	--	0.6	1.0	15.2	-	0.080
ARM D	6.68	8.86	0.754	--	1.0	2.8	36.1	-	0.416

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
ARM A	7.38	34.58	0.213	--	0.3	0.3	4.1	-	0.037
ARM B	18.02	30.07	0.599	--	1.5	1.5	22.2	-	0.083
ARM C	13.14	25.58	0.514	--	1.0	1.0	15.7	-	0.080
ARM D	6.68	8.84	0.756	--	2.8	2.9	42.8	-	0.457

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
ARM A	6.02	36.39	0.166	--	0.3	0.2	3.0	-	0.033
ARM B	14.71	30.83	0.477	--	1.5	0.9	14.2	-	0.062
ARM C	10.73	27.79	0.386	--	1.0	0.6	9.7	-	0.059
ARM D	5.45	10.74	0.508	--	2.9	1.1	17.3	-	0.198

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
ARM A	5.04	37.85	0.133	--	0.2	0.2	2.3	-	0.030
ARM B	12.32	31.40	0.392	--	0.9	0.6	9.9	-	0.052
ARM C	8.98	29.41	0.305	--	0.6	0.4	6.7	-	0.049
ARM D	4.57	12.15	0.376	--	1.1	0.6	9.5	-	0.133

QUEUE AT ARM A

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.6 *
17.15	0.9 *
17.30	1.5 *
17.45	1.5 *
18.00	0.9 *
18.15	0.6 *

. QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.4 *
17.15	0.6 *
17.30	1.0 *
17.45	1.0 *
18.00	0.6 *
18.15	0.4 *

. QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.6 *
17.15	1.0 **
17.30	2.8 ***
17.45	2.9 ***
18.00	1.1 *
18.15	0.6 *

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	553.3	368.9	18.6	0.03	18.6	0.03
B	1351.7	901.1	90.4	0.07	90.4	0.07
C	985.5	657.0	62.9	0.06	62.9	0.06
D	501.0	334.0	128.5	0.26	128.5	0.26
ALL	3391.5	2261.0	300.4	0.09	300.4	0.09

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\
 Redcliffe Way_Redcliffe Hill\Redcliffe Way_Redcliffe Hill AM 2016 Do Something With BRT.vai"
 (drive-on-the-left) at 15:09:48 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Redcliffe Way / Redcliffe Hill AM 2016 Do Something With BRT
 LOCATION:
 DATE: 18/08/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - Redcliffe Way East
 ARM B - Redcliffe Hill
 ARM C - Redcliffe Way West
 ARM D - Redcliffe Street

. GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	8.50	9.00	1.00	25.00	63.00	7.5	0.759	47.753
ARM B	7.00	7.00	0.00	40.00	63.00	29.0	0.628	36.337
ARM C	6.00	10.00	10.00	35.00	63.00	30.0	0.663	39.980
ARM D	3.50	4.50	4.00	15.00	63.00	25.0	0.462	20.502

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

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

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

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)
 LENGTH OF TIME PERIOD - (90) MINUTES
 LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill AM 2016 Do Something

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	3.56	5.34	3.56
ARM B	15.00	45.00	75.00	13.49	20.23	13.49
ARM C	15.00	45.00	75.00	2.71	4.07	2.71
ARM D	15.00	45.00	75.00	4.47	6.71	4.47

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill AM 2016 Do Something

TURNING PROPORTIONS	
TURNING COUNTS	
(PERCENTAGE OF H.V.S)	

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.284	0.579	0.137
		(0.0)	(81.0)	(165.0)	(39.0)
	ARM B	0.210	0.000	0.255	0.535
		(227.0)	(0.0)	(275.0)	(577.0)
	ARM C	0.051	0.889	0.000	0.060
		(11.0)	(193.0)	(0.0)	(13.0)
	ARM D	0.003	0.844	0.154	0.000
		(1.0)	(302.0)	(55.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
07.45-08.00									
ARM A	3.58	39.00	0.092	--	0.0	0.1	1.5	-	0.028
ARM B	13.54	31.61	0.428	--	0.0	0.7	10.9	-	0.055
ARM C	2.72	30.03	0.091	--	0.0	0.1	1.5	-	0.037
ARM D	4.49	16.49	0.272	--	0.0	0.4	5.4	-	0.083

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.00-08.15									
ARM A	4.27	37.97	0.112	--	0.1	0.1	1.9	-	0.030
ARM B	16.17	31.21	0.518	--	0.7	1.1	15.6	-	0.066
ARM C	3.25	28.65	0.113	--	0.1	0.1	1.9	-	0.039
ARM D	5.36	16.00	0.335	--	0.4	0.5	7.3	-	0.094

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.15-08.30									
ARM A	5.23	36.57	0.143	--	0.1	0.2	2.5	-	0.032
ARM B	19.80	30.66	0.646	--	1.1	1.8	25.8	-	0.091
ARM C	3.98	26.78	0.149	--	0.1	0.2	2.6	-	0.044
ARM D	6.57	15.34	0.428	--	0.5	0.7	10.8	-	0.114

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.30-08.45									
ARM A	5.23	36.56	0.143	--	0.2	0.2	2.5	-	0.032
ARM B	19.80	30.66	0.646	--	1.8	1.8	27.0	-	0.092
ARM C	3.98	26.76	0.149	--	0.2	0.2	2.6	-	0.044
ARM D	6.57	15.33	0.428	--	0.7	0.7	11.1	-	0.114

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
ARM A	4.27	37.95	0.113	--	0.2	0.1	1.9	-	0.030
ARM B	16.17	31.20	0.518	--	1.8	1.1	16.7	-	0.067
ARM C	3.25	28.62	0.114	--	0.2	0.1	2.0	-	0.039
ARM D	5.36	16.00	0.335	--	0.7	0.5	7.8	-	0.094

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
ARM A	3.58	38.97	0.092	--	0.1	0.1	1.5	-	0.028
ARM B	13.54	31.60	0.428	--	1.1	0.8	11.5	-	0.055
ARM C	2.72	29.99	0.091	--	0.1	0.1	1.5	-	0.037
ARM D	4.49	16.48	0.273	--	0.5	0.4	5.8	-	0.084

QUEUE AT ARM A

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 B

TIME ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE
08.00		0.7 *
08.15		1.1 **
08.30		1.8 ***
08.45		1.8 ***
09.00		1.1 *
09.15		0.8 *

. QUEUE AT ARM C

TIME ENDING	SEGMENT	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 ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE
08.00		0.4
08.15		0.5 *
08.30		0.7 *
08.45		0.7 *
09.00		0.5 *
09.15		0.4

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	392.3	261.5	11.8	0.03	11.8	0.03
B	1485.2	990.1	107.7	0.07	107.7	0.07
C	298.7	199.1	12.0	0.04	12.0	0.04
D	492.8	328.5	48.3	0.10	48.3	0.10
ALL	2668.9	1779.3	179.8	0.07	179.8	0.07

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\
 Redcliffe Way_Redcliffe Hill\Redcliffe Way_Redcliffe Hill PM 2016 Do Something With BRT.vai"
 (drive-on-the-left) at 16:33:37 on Wednesday, 25 November 2009

. FILE PROPERTIES

RUN TITLE: Redcliffe Way / Redcliffe Hill PM 2016 Do Something With BRT
 LOCATION:
 DATE: 18/08/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - Redcliffe Way East
 ARM B - Redcliffe Hill
 ARM C - Redcliffe Way West
 ARM D - Redcliffe Street

. GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	8.50	9.00	1.00	25.00	63.00	7.5	0.759	47.753
ARM B	7.00	7.00	0.00	40.00	63.00	29.0	0.628	36.337
ARM C	6.00	10.00	10.00	35.00	63.00	30.0	0.663	39.980
ARM D	3.50	4.50	4.00	15.00	63.00	25.0	0.462	20.502

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

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

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

TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
 LENGTH OF TIME PERIOD - (90) MINUTES
 LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill PM 2016 Do Something

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	1.45	2.18	1.45
ARM B	15.00	45.00	75.00	8.51	12.77	8.51
ARM C	15.00	45.00	75.00	6.82	10.24	6.82
ARM D	15.00	45.00	75.00	7.00	10.50	7.00

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill PM 2016 Do Something

TURNING PROPORTIONS	
TURNING COUNTS	
(PERCENTAGE OF H. V. S)	

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.000 0.0 (0.0)	0.181 21.0 (6.0)	0.560 65.0 (6.0)	0.259 30.0 (6.0)
	ARM B	0.119 81.0 (6.0)	0.000 0.0 (0.0)	0.278 189.0 (6.0)	0.604 411.0 (6.0)
	ARM C	0.081 44.0 (6.0)	0.859 469.0 (6.0)	0.000 0.0 (0.0)	0.060 33.0 (6.0)
	ARM D	0.005 3.0 (6.0)	0.757 424.0 (6.0)	0.237 133.0 (6.0)	0.000 0.0 (0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
ARM A	1.46	35.33	0.041	--	0.0	0.0	0.6	-	0.030
ARM B	8.54	32.49	0.263	--	0.0	0.4	5.2	-	0.042
ARM C	6.85	33.38	0.205	--	0.0	0.3	3.8	-	0.038
ARM D	7.03	15.91	0.442	--	0.0	0.8	11.2	-	0.111

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
ARM A	1.74	33.41	0.052	--	0.0	0.1	0.8	-	0.032
ARM B	10.20	32.14	0.317	--	0.4	0.5	6.9	-	0.046
ARM C	8.18	32.53	0.251	--	0.3	0.3	5.0	-	0.041
ARM D	8.39	15.23	0.551	--	0.8	1.2	17.3	-	0.145

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
ARM A	2.13	30.83	0.069	--	0.1	0.1	1.1	-	0.035
ARM B	12.50	31.66	0.395	--	0.5	0.6	9.6	-	0.052
ARM C	10.02	31.37	0.319	--	0.3	0.5	6.9	-	0.047
ARM D	10.28	14.31	0.718	--	1.2	2.4	33.2	-	0.238

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
ARM A	2.13	30.77	0.069	--	0.1	0.1	1.1	-	0.035
ARM B	12.50	31.65	0.395	--	0.6	0.7	9.7	-	0.052
ARM C	10.02	31.36	0.319	--	0.5	0.5	7.0	-	0.047
ARM D	10.28	14.31	0.718	--	2.4	2.5	36.8	-	0.247

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
ARM A	1.74	33.32	0.052	--	0.1	0.1	0.8	-	0.032
ARM B	10.20	32.12	0.318	--	0.7	0.5	7.1	-	0.046
ARM C	8.18	32.52	0.252	--	0.5	0.3	5.1	-	0.041
ARM D	8.39	15.23	0.551	--	2.5	1.3	19.9	-	0.150

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
ARM A	1.46	35.26	0.041	--	0.1	0.0	0.7	-	0.030
ARM B	8.54	32.48	0.263	--	0.5	0.4	5.4	-	0.042
ARM C	6.85	33.37	0.205	--	0.3	0.3	3.9	-	0.038
ARM D	7.03	15.90	0.442	--	1.3	0.8	12.5	-	0.114

QUEUE AT ARM A

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
17.00	0.0
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.0

. QUEUE AT ARM B

TIME ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE
17.00		0.4
17.15		0.5
17.30		0.6 *
17.45		0.7 *
18.00		0.5
18.15		0.4

. QUEUE AT ARM C

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

. QUEUE AT ARM D

TIME ENDING	SEGMENT	NO. OF VEHICLES IN QUEUE
17.00		0.8 *
17.15		1.2 **
17.30		2.4 **
17.45		2.5 **
18.00		1.3 *
18.15		0.8 *

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	159.7	106.4	5.1	0.03	5.1	0.03
B	937.3	624.9	44.0	0.05	44.0	0.05
C	751.5	501.0	31.7	0.04	31.7	0.04
D	770.8	513.9	130.8	0.17	130.8	0.17
ALL	2619.3	1746.2	211.7	0.08	211.7	0.08

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\
 Redcliffe Way_Redcliffe Hill\Redcliffe Way_Redcliffe Hill AM 2031 Do Minimum.vai"
 (drive-on-the-left) at 14:29:12 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Redcliffe Way / Redcliffe Hill AM 2031 Do Minimum
 LOCATION:
 DATE: 18/08/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - Redcliffe Way East
 ARM B - Redcliffe Hill
 ARM C - Redcliffe Way West
 ARM D - Redcliffe Street

. GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	8.50	9.00	1.00	25.00	63.00	7.5	0.759	47.753
ARM B	7.00	7.00	0.00	40.00	63.00	29.0	0.628	36.337
ARM C	6.00	10.00	10.00	35.00	63.00	30.0	0.663	39.980
ARM D	3.50	4.50	4.00	15.00	63.00	25.0	0.462	20.502

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

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

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

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)
 LENGTH OF TIME PERIOD - (90) MINUTES
 LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill AM 2031 Do Minimum

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	9.80	14.70	9.80
ARM B	15.00	45.00	75.00	13.40	20.10	13.40
ARM C	15.00	45.00	75.00	7.66	11.49	7.66
ARM D	15.00	45.00	75.00	5.01	7.52	5.01

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill AM 2031 Do Minimum

TURNING PROPORTIONS	
TURNING COUNTS	
(PERCENTAGE OF H. V. S)	

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000 0.0 (0.0)	0.111 87.0 (8.0)	0.489 383.0 (8.0)	0.401 314.0 (8.0)
	ARM B	0.504 540.0 (8.0)	0.000 0.0 (0.0)	0.061 65.0 (8.0)	0.436 467.0 (8.0)
	ARM C	0.458 281.0 (8.0)	0.359 220.0 (8.0)	0.000 0.0 (0.0)	0.183 112.0 (8.0)
	ARM D	0.072 29.0 (8.0)	0.663 266.0 (8.0)	0.264 106.0 (8.0)	0.000 0.0 (0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
07.45-08.00									
ARM A	9.84	38.62	0.255	--	0.0	0.3	5.0	-	0.035
ARM B	13.45	27.33	0.492	--	0.0	1.0	13.9	-	0.071
ARM C	7.69	26.07	0.295	--	0.0	0.4	6.1	-	0.054
ARM D	5.03	12.98	0.388	--	0.0	0.6	9.0	-	0.125

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.00-08.15									
ARM A	11.75	37.51	0.313	--	0.3	0.5	6.7	-	0.039
ARM B	16.06	26.09	0.616	--	1.0	1.6	22.7	-	0.099
ARM C	9.18	23.92	0.384	--	0.4	0.6	9.1	-	0.068
ARM D	6.01	11.80	0.509	--	0.6	1.0	14.5	-	0.171

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.15-08.30									
ARM A	14.39	36.05	0.399	--	0.5	0.7	9.8	-	0.046
ARM B	19.67	24.41	0.806	--	1.6	3.9	52.6	-	0.199
ARM C	11.25	21.04	0.535	--	0.6	1.1	16.4	-	0.101
ARM D	7.36	10.21	0.721	--	1.0	2.4	32.2	-	0.330

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.30-08.45									
ARM A	14.39	35.98	0.400	--	0.7	0.7	9.9	-	0.046
ARM B	19.67	24.39	0.807	--	3.9	4.0	59.6	-	0.211
ARM C	11.25	20.95	0.537	--	1.1	1.1	17.2	-	0.103
ARM D	7.36	10.17	0.724	--	2.4	2.5	37.0	-	0.353

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
ARM A	11.75	37.41	0.314	--	0.7	0.5	7.0	-	0.039
ARM B	16.06	26.06	0.616	--	4.0	1.6	26.0	-	0.103
ARM C	9.18	23.79	0.386	--	1.1	0.6	9.8	-	0.069
ARM D	6.01	11.73	0.512	--	2.5	1.1	17.3	-	0.181

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
ARM A	9.84	38.56	0.255	--	0.5	0.3	5.2	-	0.035
ARM B	13.45	27.31	0.493	--	1.6	1.0	15.1	-	0.073
ARM C	7.69	26.00	0.296	--	0.6	0.4	6.5	-	0.055
ARM D	5.03	12.94	0.389	--	1.1	0.6	10.1	-	0.127

QUEUE AT ARM A

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	0.3
08.15	0.5
08.30	0.7 *
08.45	0.7 *
09.00	0.5
09.15	0.3

. QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.0	*
08.15	1.6	**
08.30	3.9	****
08.45	4.0	****
09.00	1.6	**
09.15	1.0	*

. QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.4	
08.15	0.6	*
08.30	1.1	*
08.45	1.1	*
09.00	0.6	*
09.15	0.4	

. QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	1.0	*
08.30	2.4	**
08.45	2.5	***
09.00	1.1	*
09.15	0.6	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	1079.1	719.4	43.7	0.04	43.7	0.04
B	1475.5	983.7	190.0	0.13	190.0	0.13
C	843.7	562.5	64.9	0.08	64.9	0.08
D	551.9	368.0	120.0	0.22	120.0	0.22
ALL	3950.3	2633.6	418.5	0.11	418.6	0.11

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\
 Redcliffe Way_Redcliffe Hill\Redcliffe Way_Redcliffe Hill PM 2031 Do Minimum.vai"
 (drive-on-the-left) at 16:35:46 on Wednesday, 25 November 2009

. FILE PROPERTIES

RUN TITLE: Redcliffe Way / Redcliffe Hill PM 2031 Do Minimum No BRT
 LOCATION:
 DATE: 18/08/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - Redcliffe Way East
 ARM B - Redcliffe Hill
 ARM C - Redcliffe Way West
 ARM D - Redcliffe Street

. GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	8.50	9.00	1.00	25.00	63.00	7.5	0.759	47.753
ARM B	7.00	7.00	0.00	40.00	63.00	29.0	0.628	36.337
ARM C	6.00	10.00	10.00	35.00	63.00	30.0	0.663	39.980
ARM D	3.50	4.50	4.00	15.00	63.00	25.0	0.462	20.502

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

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

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

TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
 LENGTH OF TIME PERIOD - (90) MINUTES
 LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill PM 2031 Do Minimum

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	5.97	8.96	5.97
ARM B	15.00	45.00	75.00	14.23	21.34	14.23
ARM C	15.00	45.00	75.00	7.56	11.34	7.56
ARM D	15.00	45.00	75.00	4.86	7.29	4.86

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill PM 2031 Do Minimum

TURNING PROPORTIONS	
TURNING COUNTS	
(PERCENTAGE OF H.V.S)	

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.000	0.272	0.423	0.305
		0.0	130.0	202.0	146.0
		(0.0)	(6.0)	(6.0)	(6.0)
	ARM B	0.591	0.000	0.093	0.315
		673.0	0.0	106.0	359.0
		(6.0)	(0.0)	(6.0)	(6.0)
	ARM C	0.395	0.574	0.000	0.031
		239.0	347.0	0.0	19.0
		(6.0)	(6.0)	(0.0)	(6.0)
	ARM D	0.046	0.825	0.129	0.000
		18.0	321.0	50.0	0.0
		(6.0)	(6.0)	(6.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
ARM A	6.00	38.26	0.157	--	0.0	0.2	2.7	-	0.031
ARM B	14.28	31.15	0.458	--	0.0	0.8	12.3	-	0.059
ARM C	7.59	27.95	0.272	--	0.0	0.4	5.5	-	0.049
ARM D	4.88	12.07	0.404	--	0.0	0.7	9.5	-	0.137

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
ARM A	7.16	36.92	0.194	--	0.2	0.2	3.6	-	0.034
ARM B	17.05	30.54	0.558	--	0.8	1.3	18.2	-	0.074
ARM C	9.06	26.03	0.348	--	0.4	0.5	7.8	-	0.059
ARM D	5.83	10.64	0.548	--	0.7	1.2	16.7	-	0.205

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
ARM A	8.77	35.20	0.249	--	0.2	0.3	4.9	-	0.038
ARM B	20.88	29.71	0.703	--	1.3	2.3	32.9	-	0.112
ARM C	11.10	23.42	0.474	--	0.5	0.9	13.0	-	0.081
ARM D	7.14	8.70	0.820	--	1.2	3.8	47.6	-	0.530

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
ARM A	8.77	35.08	0.250	--	0.3	0.3	5.0	-	0.038
ARM B	20.88	29.69	0.703	--	2.3	2.3	34.9	-	0.113
ARM C	11.10	23.38	0.475	--	0.9	0.9	13.4	-	0.081
ARM D	7.14	8.67	0.823	--	3.8	4.2	60.3	-	0.620

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
ARM A	7.16	36.74	0.195	--	0.3	0.2	3.7	-	0.034
ARM B	17.05	30.52	0.559	--	2.3	1.3	19.9	-	0.075
ARM C	9.06	25.97	0.349	--	0.9	0.5	8.3	-	0.059
ARM D	5.83	10.60	0.550	--	4.2	1.3	21.5	-	0.227

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
ARM A	6.00	38.18	0.157	--	0.2	0.2	2.8	-	0.031
ARM B	14.28	31.14	0.459	--	1.3	0.9	13.1	-	0.060
ARM C	7.59	27.90	0.272	--	0.5	0.4	5.7	-	0.049
ARM D	4.88	12.03	0.406	--	1.3	0.7	10.9	-	0.142

QUEUE AT ARM A

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.8	*
17.15	1.3	**
17.30	2.3	**
17.45	2.3	**
18.00	1.3	*
18.15	0.9	*

. QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	*
17.30	0.9	*
17.45	0.9	*
18.00	0.5	*
18.15	0.4	

. QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.7	*
17.15	1.2	*
17.30	3.8	****
17.45	4.2	****
18.00	1.3	*
18.15	0.7	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	657.9	438.6	22.7	0.03	22.7	0.03
B	1566.4	1044.2	131.3	0.08	131.3	0.08
C	832.7	555.2	53.7	0.06	53.7	0.06
D	535.4	357.0	166.4	0.31	166.4	0.31
ALL	3592.5	2395.0	374.1	0.10	374.1	0.10

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\
 Redcliffe Way_Redcliffe Hill\Redcliffe Way_Redcliffe Hill AM 2031 Do Something With BRT.vai"
 (drive-on-the-left) at 15:12:18 on Monday, 23 November 2009

. FILE PROPERTIES

RUN TITLE: Redcliffe Way / Redcliffe Hill AM 2031 Do Something With BRT
 LOCATION:
 DATE: 18/08/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - Redcliffe Way East
 ARM B - Redcliffe Hill
 ARM C - Redcliffe Way West
 ARM D - Redcliffe Street

. GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	8.50	9.00	1.00	25.00	63.00	7.5	0.759	47.753
ARM B	7.00	7.00	0.00	40.00	63.00	29.0	0.628	36.337
ARM C	6.00	10.00	10.00	35.00	63.00	30.0	0.663	39.980
ARM D	3.50	4.50	4.00	15.00	63.00	25.0	0.462	20.502

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

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

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

TIME PERIOD BEGINS(07.45)AND ENDS(09.15)
 LENGTH OF TIME PERIOD - (90) MINUTES
 LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill AM 2031 Do Something

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	4.34	6.51	4.34
ARM B	15.00	45.00	75.00	15.29	22.93	15.29
ARM C	15.00	45.00	75.00	3.30	4.95	3.30
ARM D	15.00	45.00	75.00	6.20	9.30	6.20

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill AM 2031 Do Something

TURNING PROPORTIONS	
TURNING COUNTS	
(PERCENTAGE OF H.V.S)	

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
07.45 - 09.15	ARM A	0.000	0.277	0.556	0.167
		(0.0)	(96.0)	(193.0)	(58.0)
	ARM B	0.200	0.000	0.219	0.581
		(244.0)	(0.0)	(268.0)	(711.0)
	ARM C	0.053	0.871	0.000	0.076
		(14.0)	(230.0)	(0.0)	(20.0)
	ARM D	0.004	0.845	0.151	0.000
		(2.0)	(419.0)	(75.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
07.45-08.00									
ARM A	4.35	37.36	0.117	--	0.0	0.1	2.0	-	0.030
ARM B	15.35	31.08	0.494	--	0.0	1.0	14.1	-	0.063
ARM C	3.31	28.62	0.116	--	0.0	0.1	1.9	-	0.039
ARM D	6.22	16.17	0.385	--	0.0	0.6	8.9	-	0.100

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.00-08.15									
ARM A	5.20	36.00	0.144	--	0.1	0.2	2.5	-	0.032
ARM B	18.32	30.58	0.599	--	1.0	1.5	21.4	-	0.081
ARM C	3.96	26.97	0.147	--	0.1	0.2	2.5	-	0.043
ARM D	7.43	15.61	0.476	--	0.6	0.9	13.0	-	0.122

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.15-08.30									
ARM A	6.37	34.17	0.186	--	0.2	0.2	3.4	-	0.036
ARM B	22.44	29.89	0.751	--	1.5	2.9	40.9	-	0.131
ARM C	4.84	24.74	0.196	--	0.2	0.2	3.6	-	0.050
ARM D	9.10	14.86	0.613	--	0.9	1.5	21.8	-	0.171

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.30-08.45									
ARM A	6.37	34.14	0.187	--	0.2	0.2	3.4	-	0.036
ARM B	22.44	29.89	0.751	--	2.9	3.0	44.1	-	0.134
ARM C	4.84	24.69	0.196	--	0.2	0.2	3.6	-	0.050
ARM D	9.10	14.85	0.613	--	1.5	1.6	23.3	-	0.174

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
ARM A	5.20	35.95	0.145	--	0.2	0.2	2.6	-	0.033
ARM B	18.32	30.57	0.599	--	3.0	1.5	23.7	-	0.083
ARM C	3.96	26.90	0.147	--	0.2	0.2	2.6	-	0.044
ARM D	7.43	15.60	0.476	--	1.6	0.9	14.4	-	0.124

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
ARM A	4.35	37.31	0.117	--	0.2	0.1	2.0	-	0.030
ARM B	15.35	31.07	0.494	--	1.5	1.0	15.1	-	0.064
ARM C	3.31	28.57	0.116	--	0.2	0.1	2.0	-	0.040
ARM D	6.22	16.15	0.385	--	0.9	0.6	9.8	-	0.101

QUEUE AT ARM A

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	0.1
08.15	0.2
08.30	0.2
08.45	0.2
09.00	0.2
09.15	0.1

. QUEUE AT ARM B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	1.0	*
08.15	1.5	**
08.30	2.9	***
08.45	3.0	***
09.00	1.5	**
09.15	1.0	*

. QUEUE AT ARM C

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

. QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.6	*
08.15	0.9	**
08.30	1.5	**
08.45	1.6	**
09.00	0.9	*
09.15	0.6	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	477.6	318.4	15.8	0.03	15.8	0.03
B	1683.4	1122.2	159.4	0.09	159.4	0.09
C	363.4	242.3	16.3	0.04	16.3	0.04
D	682.7	455.1	91.2	0.13	91.2	0.13
ALL	3207.1	2138.0	282.8	0.09	282.8	0.09

T75

* 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

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 5.0 (JANUARY 2009)

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 THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
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Run with file: -
 "p:\GBCFATP\HB\Projects\5056525 - Bristol BRT - KIDD8473\33_Analysis\Junction Assessments\
 Redcliffe Way_Redcliffe Hill\Redcliffe Way_Redcliffe Hill PM 2031 Do Something With BRT.vai"
 (drive-on-the-left) at 16:38:25 on Wednesday, 25 November 2009

. FILE PROPERTIES

RUN TITLE: Redcliffe Way / Redcliffe Hill PM 2031 Do Something With BRT
 LOCATION:
 DATE: 18/08/09
 CLIENT:
 ENUMERATOR: gamb9563 [DGB204236]
 JOB NUMBER:
 STATUS:
 DESCRIPTION:

. INPUT DATA

ARM A - Redcliffe Way East
 ARM B - Redcliffe Hill
 ARM C - Redcliffe Way West
 ARM D - Redcliffe Street

. GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	8.50	9.00	1.00	25.00	63.00	7.5	0.759	47.753
ARM B	7.00	7.00	0.00	40.00	63.00	29.0	0.628	36.337
ARM C	6.00	10.00	10.00	35.00	63.00	30.0	0.663	39.980
ARM D	3.50	4.50	4.00	15.00	63.00	25.0	0.462	20.502

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

. TRAFFIC DEMAND DATA

Only sets included in the current run are shown

. SCALING FACTORS

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

TIME PERIOD BEGINS(16.45)AND ENDS(18.15)
 LENGTH OF TIME PERIOD - (90) MINUTES
 LENGTH OF TIME SEGMENT - (15) MINUTES

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM THE TURNING COUNT DATA

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill PM 2031 Do Something

ARM	NUMBER OF MINUTES FROM START WHEN			RATE OF FLOW (VEH/MIN)		
	FLOW STARTS	TOP OF PEAK	FLOW STOPS	BEFORE	AT TOP	AFTER
	TO RISE	IS REACHED	FALLING	PEAK	OF PEAK	PEAK
ARM A	15.00	45.00	75.00	1.76	2.64	1.76
ARM B	15.00	45.00	75.00	10.14	15.21	10.14
ARM C	15.00	45.00	75.00	7.81	11.72	7.81
ARM D	15.00	45.00	75.00	8.45	12.67	8.45

. DEMAND SET TITLE: Redcliffe Way / Redcliffe Hill PM 2031 Do Something

TURNING PROPORTIONS	
TURNING COUNTS	
(PERCENTAGE OF H. V. S)	

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
16.45 - 18.15	ARM A	0.000 0.0 (0.0)	0.156 22.0 (6.0)	0.582 82.0 (6.0)	0.262 37.0 (6.0)
	ARM B	0.101 82.0 (6.0)	0.000 0.0 (0.0)	0.289 234.0 (6.0)	0.610 495.0 (6.0)
	ARM C	0.077 48.0 (6.0)	0.854 534.0 (6.0)	0.000 0.0 (0.0)	0.069 43.0 (6.0)
	ARM D	0.006 4.0 (6.0)	0.726 491.0 (6.0)	0.268 181.0 (6.0)	0.000 0.0 (0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
ARM A	1.77	33.64	0.053	--	0.0	0.1	0.8	-	0.031
ARM B	10.18	31.93	0.319	--	0.0	0.5	6.9	-	0.046
ARM C	7.84	32.62	0.240	--	0.0	0.3	4.7	-	0.040
ARM D	8.48	15.51	0.547	--	0.0	1.2	16.7	-	0.139

T70

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
ARM A	2.11	31.39	0.067	--	0.1	0.1	1.1	-	0.034
ARM B	12.15	31.47	0.386	--	0.5	0.6	9.2	-	0.052
ARM C	9.36	31.62	0.296	--	0.3	0.4	6.2	-	0.045
ARM D	10.13	14.75	0.687	--	1.2	2.1	29.3	-	0.211

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
ARM A	2.59	28.51	0.091	--	0.1	0.1	1.5	-	0.039
ARM B	14.88	30.88	0.482	--	0.6	0.9	13.5	-	0.062
ARM C	11.47	30.25	0.379	--	0.4	0.6	8.9	-	0.053
ARM D	12.40	13.72	0.904	--	2.1	6.8	81.7	-	0.533

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
ARM A	2.59	28.31	0.091	--	0.1	0.1	1.5	-	0.039
ARM B	14.88	30.83	0.483	--	0.9	0.9	13.9	-	0.063
ARM C	11.47	30.24	0.379	--	0.6	0.6	9.1	-	0.053
ARM D	12.40	13.72	0.904	--	6.8	7.8	110.5	-	0.667

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
ARM A	2.11	31.06	0.068	--	0.1	0.1	1.1	-	0.035
ARM B	12.15	31.39	0.387	--	0.9	0.6	9.7	-	0.052
ARM C	9.36	31.61	0.296	--	0.6	0.4	6.4	-	0.045
ARM D	10.13	14.74	0.687	--	7.8	2.3	41.6	-	0.254

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTR IAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
ARM A	1.77	33.51	0.053	--	0.1	0.1	0.8	-	0.032
ARM B	10.18	31.90	0.319	--	0.6	0.5	7.2	-	0.046
ARM C	7.84	32.60	0.241	--	0.4	0.3	4.8	-	0.040
ARM D	8.48	15.49	0.548	--	2.3	1.2	19.5	-	0.146

QUEUE AT ARM A

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 AT ARM B

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

. QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3
17.15	0.4
17.30	0.6 *
17.45	0.6 *
18.00	0.4
18.15	0.3

. QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	1.2 *
17.15	2.1 **
17.30	6.8 *****
17.45	7.8 *****
18.00	2.3 **
18.15	1.2 *

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	194.1	129.4	6.8	0.04	6.8	0.04
B	1116.3	744.2	60.4	0.05	60.4	0.05
C	860.3	573.5	40.2	0.05	40.2	0.05
D	930.5	620.3	299.3	0.32	299.4	0.32
ALL	3101.1	2067.4	406.7	0.13	406.8	0.13

T75

* 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

M2 - Jessop Underpass - 2016 Do Minimum.vpo

602.92	0.10	0.10	
--------	------	------	--

(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: M2 - Jessop Underpass - 2016 AM Do Minimum

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	VEH/MI N AFTER PEAK
ARM A	15.00	45.00	75.00	31.25	46.88	31.25
ARM B	15.00	45.00	75.00	15.90	23.85	15.90
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M2 - Jessop Underpass - 2016 AM Do Minimum

TIME	FROM/TO	TURNING PROPORTIONS (PERCENTAGE OF H. V. S)		
		ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.00 0.0 (0.0)	0.00 0.0 (5.0)	1.000 2500.0 (5.0)
	ARM B	0.00 0.0 (5.0)	0.00 0.0 (0.0)	1.000 1272.0 (5.0)
	ARM C	0.00 0.0 (5.0)	0.00 0.0 (5.0)	0.000 0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
07.45-08.00									
B-AC	15.96	7.99	1.999		0.00	120.61	911.2		8.16
C-AB	0.00	6.10	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	31.37								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.00-08.15									
B-AC	19.06	7.21	2.642		120.61	298.30	3141.8		28.65
C-AB	0.00	5.51	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	37.46								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.15-08.30									
B-AC	23.34	6.14	3.799		298.30	556.25	6409.1		62.02
C-AB	0.00	4.69	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	45.88								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.30-08.45									
B-AC	23.34	6.14	3.799		556.25	814.21	10278.4		90.82
C-AB	0.00	4.69	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	45.88								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	19.06	7.21	2.642		814.21	991.89	13545.7		114.61
C-AB	0.00	5.51	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	37.46								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	15.96	7.99	1.999		991.89	*****	15775.5		131.77
C-AB	0.00	6.10	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	31.37								

WARNING NO MARGI NAL ANALYSIS OF CAPACI TIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	120.6
08.15	298.3
08.30	556.3
08.45	814.2
09.00	991.9
09.15	1111.5

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATION OVER WHOLE PERI OD

STREAM	TOTAL DEMAND (VEH)	(VEH/H)	* QUEUEI NG * DELAY * (MI N)	(MI N/VEH)	* I NCLUSI VE QUEUEI NG * DELAY * (MI N)	(MI N/VEH)
B-AC	1750.8	1167.2	50061.8	28.59	127418.9	72.78
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0	0.0			
A-B	0.0	0.0				
A-C	3441.1	2294.0				
ALL	5191.9	3461.3	50061.8	9.64	127418.9	24.54

* DELAY I S THAT OCCURRI NG ONLY WI TH I N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FICANTLY DI FFERENT I F THERE I S A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

WARNING RI GHT TURN TRAFFI C I NTO ARM B I S UNLI KELY TO CAUSE BLOCKI NG OF THE MAJOR CARRI AGEWAY OF WI DTH 19.00 METRES.

SLOPES AND I NTERCEPT

(NB: Streams may be combined, i n whi ch case capaci ty wi ll be adjusted)

Intercept For STREAM B-C	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
753.84	0.13	0.05

Intercept For STREAM B-A	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B	Slope For Opposi ng STREAM C-A	Slope For Opposi ng STREAM C-B
616.35	0.12	0.05	0.08	0.17

Intercept For STREAM C-B	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
602.92	0.10	0.10

(NB These values do not allow for any si te speci fic correcti ons)

TRAFFI C DEMAND DATA

M2 - Jessop Underpass - 2016 Do Minimum.vpo

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

Demand set: M2 - Jessop Underpass - 2016 PM Do Minimum

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM START WHEN TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	RATE OF FLOW AFTER PEAK
ARM A	15.00	45.00	75.00	25.34	38.01	25.34
ARM B	15.00	45.00	75.00	9.60	14.40	9.60
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M2 - Jessop Underpass - 2016 PM Do Minimum

TIME	FROM/TO	TURNING PROPORTIONS (PERCENTAGE OF H. V. S)		
		ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.000	1.000
		0.0	0.0	2027.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	768.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.000	0.000	0.000
		0.0	0.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
B-AC	9.64	9.09	1.060		0.00	16.14	146.2		1.24
C-AB	0.00	6.74	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	25.43								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
B-AC	11.51	8.46	1.360		16.14	62.16	588.3		5.07
C-AB	0.00	6.28	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	30.37								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
B-AC	14.09	7.60	1.855		62.16	159.61	1663.3		14.72
C-AB	0.00	5.63	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	37.20								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
B-AC	14.09	7.60	1.855		159.61	257.04	3124.8		27.58
C-AB	0.00	5.63	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	37.20								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									

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B-AC	11.51	8.46	1.360	257.04	302.69	4197.9	31.97
C-AB	0.00	6.28	0.000	0.00	0.00	0.0	0.00
C-A	0.00						
A-B	0.00						
A-C	30.37						

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	9.64	9.09	1.060		302.69	310.90	4601.9		33.88
C-AB	0.00	6.74	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	25.43								

WARNING NO MARGI NAL ANALYSI S OF CAPACI TI ES AS MAJOR ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
17.00	16.1
17.15	62.2
17.30	159.6
17.45	257.0
18.00	302.7
18.15	310.9

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATI ON OVER WHOLE PERI OD

STREAM	TOTAL DEMAND (VEH)	DEMAND (VEH/H)	* QUEUEI NG * * DELAY * (MI N)	* INCLUSI VE QUEUEI NG * * DELAY * (MI N/VEH)	* INCLUSI VE QUEUEI NG * * DELAY * (MI N)	* INCLUSI VE QUEUEI NG * * DELAY * (MI N/VEH)
B-AC	1057.1	704.7	14322.5	13.55	19639.0	18.58
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0				
A-B	0.0	0.0				
A-C	2790.0	1860.0				
ALL	3847.1	2564.7	14322.5	3.72	19639.0	5.10

* DELAY I S THAT OCCURRI NG ONLY WI THI N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

M2 - Jessop Underpass - 2016 Do Something.vpo

602.92	0.10	0.10	
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(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: M2 - Jessop Underpass - 2016 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	(VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	29.38	44.06	29.38
ARM B	15.00	45.00	75.00	16.60	24.90	16.60
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M2 - Jessop Underpass - 2016 AM Do Something

TIME	FROM/TO	TURNING PROPORTIONS (PERCENTAGE OF H. V. S)		
		ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.00	0.00	1.000
		0.0 (0.0)	0.0 (5.0)	2350.0 (5.0)
	ARM B	0.00	0.000	1.000
		0.0 (5.0)	0.0 (0.0)	1328.0 (5.0)
	ARM C	0.000	0.000	0.000
		0.0 (5.0)	0.0 (5.0)	0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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	16.66	8.22	2.026		0.00	127.54	963.1		8.33
C-AB	0.00	6.28	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	29.49								

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	19.90	7.50	2.654		127.54	313.54	3308.1		29.07
C-AB	0.00	5.72	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	35.21								

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	24.37	6.49	3.753		313.54	581.67	6714.0		62.21
C-AB	0.00	4.96	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	43.12								

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)
08.30-08.45									
B-AC	24.37	6.49	3.753		581.67	849.80	10736.0		91.67
C-AB	0.00	4.96	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	43.12								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	19.90	7.50	2.654		849.80	*****	14141.9		116.14
C-AB	0.00	5.72	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	35.21								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	16.66	8.22	2.026		*****	*****	16486.2		7.93
C-AB	0.00	6.28	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	29.49								

WARNING NO MARGI NAL ANALYSIS OF CAPACI TIES AS MAJOR ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	127.5
08.15	313.5
08.30	581.7
08.45	849.8
09.00	1035.8
09.15	1162.4

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATION OVER WHOLE PERI OD

STREAM	TOTAL DEMAND (VEH)	(VEH/H)	* QUEUEI NG * DELAY * (MI N)	(MI N/VEH)	* I NCLUSI VE QUEUEI NG * DELAY * (MI N)	(MI N/VEH)
B-AC	1827.9	1218.6	52349.3	28.64	134490.7	73.58
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0				
A-B	0.0	0.0				
A-C	3234.6	2156.4				
ALL	5062.5	3375.0	52349.3	10.34	134490.7	26.57

* DELAY I S THAT OCCURRI NG ONLY WI THI N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FICANTLY DI FFERENT I F THERE I S A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

WARNING RI GHT TURN TRAFFI C I NTO ARM B I S UNLI KELY TO CAUSE BLOCKI NG OF THE MAJOR CARRI AGEWAY OF WI DTH 19.00 METRES.

SLOPES AND I NTERCEPT

(NB: Streams may be combined, i n whi ch case capaci ty wi ll be adjusted)

Intercept For STREAM B-C	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
753.84	0.13	0.05

Intercept For STREAM B-A	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B	Slope For Opposi ng STREAM C-A	Slope For Opposi ng STREAM C-B
616.35	0.12	0.05	0.08	0.17

Intercept For STREAM C-B	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
602.92	0.10	0.10

(NB These values do not allow for any si te speci fic correcti ons)

TRAFFI C DEMAND DATA

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

Demand set: M2 - Jessop Underpass - 2016 PM Do Something

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM START WHEN TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	RATE OF FLOW AFTER PEAK
ARM A	15.00	45.00	75.00	25.05	37.57	25.05
ARM B	15.00	45.00	75.00	10.40	15.60	10.40
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M2 - Jessop Underpass - 2016 PM Do Something

TIME	TURNING PROPORTIONS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.000	1.000
		0.0	0.0	2004.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	832.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.000	0.000	0.000
		0.0	0.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
B-AC	10.44	9.13	1.144		0.00	24.96	209.5		1.70
C-AB	0.00	6.77	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	25.15								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
B-AC	12.47	8.51	1.465		24.96	84.50	821.4		6.93
C-AB	0.00	6.31	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	30.03								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
B-AC	15.27	7.65	1.995		84.50	198.75	2124.4		18.48
C-AB	0.00	5.67	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	36.77								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
B-AC	15.27	7.65	1.995		198.75	312.99	3838.0		33.60
C-AB	0.00	5.67	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	36.77								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									

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B-AC	12.47	8.51	1.465	312.99	372.36	5140.2	38.68
C-AB	0.00	6.31	0.000	0.00	0.00	0.0	0.00
C-A	0.00						
A-B	0.00						
A-C	30.03						

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	10.44	9.13	1.144		372.36	392.06	5733.2		41.99
C-AB	0.00	6.77	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	25.15								

WARNING NO MARGI NAL ANALYSI S OF CAPACI TI ES AS MAJOR ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
17.00	25.0
17.15	84.5
17.30	198.7
17.45	313.0
18.00	372.4
18.15	392.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATI ON OVER WHOLE PERI OD

STREAM	TOTAL DEMAND (VEH)	DEMAND (VEH/H)	* QUEUEI NG * * DELAY *	* INCLUSI VE QUEUEI NG * * DELAY *
			(MI N)	(MI N)
			(MI N/VEH)	(MI N/VEH)
B-AC	1145.2	763.5	17866.6	26287.2
C-AB	0.0	0.0	0.0	0.0
C-A	0.0	0.0		
A-B	0.0	0.0		
A-C	2758.4	1838.9		
ALL	3903.5	2602.4	17866.6	26287.2

* DELAY I S THAT OCCURRI NG ONLY WI TH I N THE TIME PERI OD
 * INCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTE R THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERE NT I F THERE I S
 A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

M2 - Jessop Underpass - 2031 Do Mi ni mum. vpo

602.92	0.10	0.10	
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(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: M2 - Jessop Underpass - 2031 AM Do Mi ni mum

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	(VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	34.53	51.79	34.53
ARM B	15.00	45.00	75.00	14.84	22.26	14.84
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M2 - Jessop Underpass - 2031 AM Do Mi ni mum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.00	0.00	1.000
		0.0 (0.0)	0.0 (5.0)	2762.0 (5.0)
	ARM B	0.00	0.000	1.000
		0.0 (5.0)	0.0 (0.0)	1187.0 (5.0)
	ARM C	0.00	0.000	0.000
		0.0 (5.0)	0.0 (5.0)	0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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	14.89	7.57	1.968		0.00	110.90	838.5		8.00
B-AC	0.00	5.78	0.000		0.00	0.00	0.0		0.00
C-AB	0.00								
C-A	0.00								
A-B	0.00								
A-C	34.66								

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	17.78	6.71	2.649		110.90	276.95	2908.9		28.33
B-AC	0.00	5.13	0.000		0.00	0.00	0.0		0.00
C-AB	0.00								
C-A	0.00								
A-B	0.00								
A-C	41.38								

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	21.78	5.53	3.936		276.95	520.66	5982.1		62.61
B-AC	0.00	4.23	0.000		0.00	0.00	0.0		0.00
C-AB	0.00								
C-A	0.00								
A-B	0.00								
A-C	50.68								

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	21.78	5.53	3.936		520.66	764.37	9637.7		90.75
B-AC	0.00	4.23	0.000		0.00	0.00	0.0		0.00
C-AB	0.00								
C-A	0.00								
A-B	0.00								
A-C	50.68								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	17.78	6.71	2.649		764.37	930.42	12710.9		113.78
C-AB	0.00	5.13	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	41.38								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	14.89	7.57	1.968		930.42	*****	14780.4		130.31
C-AB	0.00	5.78	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	34.66								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHI CLES IN QUEUE
08.00	110.9
08.15	277.0
08.30	520.7
08.45	764.4
09.00	930.4
09.15	1040.3

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHI CLES 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 (VEH)	DEMAND (VEH/H)	* QUEUEING * DELAY (MI N)	* INCLUSIVE QUEUEING * DELAY (MI N/VEH)
B-AC	1633.8	1089.2	46858.7	28.68
C-AB	0.0	0.0	0.0	0.00
C-A	0.0	0.0	0.0	0.00
A-B	0.0	0.0	0.0	0.00
A-C	3801.7	2534.5		
ALL	5435.5	3623.7	46858.7	8.62

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHI CLES 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*****

WARNING RIGHT TURN TRAFFIC INTO ARM B IS UNLIKELY TO CAUSE BLOCKING OF THE MAJOR CARRIAGEWAY OF WIDTH 19.00 METRES.

SLOPES AND INTERCEPT

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

Intercept For Stream	Slope For Opposing Stream	Slope For Opposing Stream
B-C	A-C	A-B
753.84	0.13	0.05

Intercept For Stream	Slope For Opposing Stream	Slope For Opposing Stream	Slope For Opposing Stream	Slope For Opposing Stream
B-A	A-C	A-B	C-A	C-B
616.35	0.12	0.05	0.08	0.17

Intercept For Stream	Slope For Opposing Stream	Slope For Opposing Stream
C-B	A-C	A-B
602.92	0.10	0.10

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

TRAFFIC DEMAND DATA

M2 - Jessop Underpass - 2031 Do Minimum.vpo

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

Demand set: M2 - Jessop Underpass - 2031 PM Do Minimum

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	29.05	43.57	29.05
ARM B	15.00	45.00	75.00	10.80	16.20	10.80
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M2 - Jessop Underpass - 2031 PM Do Minimum

TIME	TURNING PROPORTIONS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.000	1.000
		0.0	0.0	2324.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	864.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.000	0.000	0.000
		0.0	0.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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-AC	10.84	8.62	1.258		0.00	36.77	293.4		2.46
C-AB	0.00	6.39	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	29.16								

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-AC	12.95	7.90	1.639		36.77	112.53	1120.0		10.28
C-AB	0.00	5.86	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	34.82								

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-AC	15.85	6.91	2.296		112.53	246.76	2694.7		26.18
C-AB	0.00	5.12	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	42.65								

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)
17.30-17.45									
B-AC	15.85	6.91	2.296		246.76	380.99	4708.1		40.78
C-AB	0.00	5.12	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	42.65								

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)
17.45-18.00									

M2 - Jessop Underpass - 2031 Do Mini mum. vpo

B-AC	12.95	7.90	1.639	380.99	456.68	6282.5	49.98
C-AB	0.00	5.86	0.000	0.00	0.00	0.0	0.00
C-A	0.00						
A-B	0.00						
A-C	34.82						

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	10.84	8.62	1.258		456.68	490.03	7100.3		55.05
C-AB	0.00	6.39	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	29.16								

WARNING NO MARGI NAL ANALYSI S OF CAPACI TI ES AS MAJOR ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
17.00	36.8
17.15	112.5
17.30	246.8
17.45	381.0
18.00	456.7
18.15	490.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATI ON OVER WHOLE PERI OD

STREAM	TOTAL DEMAND (VEH)	DEMAND (VEH/H)	* QUEUEI NG * * DELAY * (MI N)	* INCLUSI VE QUEUEI NG * * DELAY * (MI N/VEH)	* INCLUSI VE QUEUEI NG * * DELAY * (MI N)	* INCLUSI VE QUEUEI NG * * DELAY * (MI N/VEH)
B-AC	1189.2	792.8	22198.9	18.67	36131.4	30.38
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0				
A-B	0.0	0.0				
A-C	3198.8	2132.5				
ALL	4388.0	2925.4	22198.9	5.06	36131.4	8.23

* DELAY I S THAT OCCURRI NG ONLY WI THI N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

M2 - Jessop Underpass - 2031 Do Something.vpo

602.92	0.10	0.10
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(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: M2 - Jessop Underpass - 2031 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	35.15	52.73	35.15
ARM B	15.00	45.00	75.00	15.63	23.44	15.63
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M2 - Jessop Underpass - 2031 AM Do Something

TIME	FROM/TO	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)		
		ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.00	0.00	1.000
		0.0 (0.0)	0.0 (5.0)	2812.0 (5.0)
	ARM B	0.00	0.000	1.000
		0.0 (5.0)	0.0 (0.0)	1250.0 (5.0)
	ARM C	0.00	0.000	0.000
		0.0 (5.0)	0.0 (5.0)	0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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	15.68	7.49	2.094		0.00	123.84	934.9		9.08
C-AB	0.00	5.72	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	35.28								

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	18.73	6.62	2.829		123.84	305.47	3219.8		31.31
C-AB	0.00	5.05	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	42.13								

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	22.94	5.42	4.233		305.47	568.27	6553.1		68.51
C-AB	0.00	4.14	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	51.60								

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-AC	22.94	5.42	4.233		568.27	831.07	10495.0		99.45
C-AB	0.00	4.14	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	51.60								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	18.73	6.62	2.829		831.07	*****	13828.2		124.97
C-AB	0.00	5.05	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	42.13								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	15.68	7.49	2.094		*****	*****	16112.5		8.46
C-AB	0.00	5.72	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	35.28								

WARNING NO MARGI NAL ANALYSIS OF CAPACI TIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	123.8
08.15	305.5
08.30	568.3
08.45	831.1
09.00	1012.7
09.15	1135.6

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATION OVER WHOLE PERI OD

STREAM	TOTAL DEMAND (VEH)	SLOPE (VEH/H)	* QUEUEI NG * DELAY (MI N)	* INCLUSI VE QUEUEI NG * DELAY (MI N/VEH)
B-AC	1720.5	1147.0	51143.6	29.73
C-AB	0.0	0.0	0.0	0.00
C-A	0.0	0.0	0.0	
A-B	0.0	0.0		
A-C	3870.5	2580.3		
ALL	5591.0	3727.4	51143.6	9.15

* DELAY IS THAT OCCURRI NG ONLY WI THIN THE TIME PERI OD
 * INCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FICANTLY DI FFERENT I F THERE I S A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

WARNING RI GHT TURN TRAFFI C I NTO ARM B I S UNLI KELY TO CAUSE BLOCKI NG OF THE MAJOR CARRI AGEWAY OF WI DTH 19.00 METRES.

SLOPES AND I NTERCEPT

(NB: Streams may be combined, i n whi ch case capaci ty wi ll be adjusted)

Intercept For STREAM B-C	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
753.84	0.13	0.05

Intercept For STREAM B-A	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B	Slope For Opposi ng STREAM C-A	Slope For Opposi ng STREAM C-B
616.35	0.12	0.05	0.08	0.17

Intercept For STREAM C-B	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
602.92	0.10	0.10

(NB These values do not allow for any si te speci fic correcti ons)

TRAFFI C DEMAND DATA

M2 - Jessop Underpass - 2031 Do Something.vpo

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

Demand set: M2 - Jessop Underpass - 2031 PM Do Something

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	29.25	43.88	29.25
ARM B	15.00	45.00	75.00	11.44	17.16	11.44
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M2 - Jessop Underpass - 2031 PM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.000	1.000
		0.0	0.0	2340.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	915.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.000	0.000	0.000
		0.0	0.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD

2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
B-AC	11.48	8.59	1.336		0.00	46.07	360.8		3.00
C-AB	0.00	6.37	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	29.36								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
B-AC	13.71	7.87	1.742		46.07	133.72	1348.5		12.45
C-AB	0.00	5.84	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	35.06								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
B-AC	16.79	6.87	2.444		133.72	282.54	3122.0		30.39
C-AB	0.00	5.09	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	42.94								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
B-AC	16.79	6.87	2.444		282.54	431.37	5354.3		45.95
C-AB	0.00	5.09	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	42.94								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									

M2 - Jessop Underpass - 2031 Do Somethi ng. vpo

B-AC	13.71	7.87	1.742	431.37	518.97	7127.6	56.71
C-AB	0.00	5.84	0.000	0.00	0.00	0.0	0.00
C-A	0.00						
A-B	0.00						
A-C	35.06						

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	11.48	8.59	1.336		518.97	562.31	8109.6		63.07
C-AB	0.00	6.37	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	29.36								

WARNING NO MARGI NAL ANALYSIS OF CAPACI TIES AS MAJOR ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
17.00	46.1
17.15	133.7
17.30	282.5
17.45	431.4
18.00	519.0
18.15	562.3

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATION OVER WHOLE PERI OD

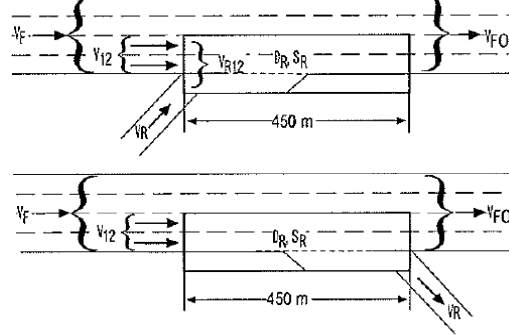
STREAM	TOTAL DEMAND		* QUEUEI NG * * DELAY *		* I NCLUSI VE QUEUEI NG * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	1259.4	839.6	25422.8	20.19	43822.9	34.80
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0				
A-B	0.0	0.0				
A-C	3220.8	2147.2				
ALL	4480.3	2986.8	25422.8	5.67	43822.9	9.78

* DELAY IS THAT OCCURRI NG ONLY WI THI N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FICANTLY DI FFERENT I F THERE IS
 A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

EXHIBIT 25-2. CRITICAL RAMP JUNCTION VARIABLES

Jessop Underpass Merge 1



Notes
For dual carriageways V12 equals V



- V_{12} Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V_f Maximum total flow approaching from a merge or diverge area on the freeway
- V_{fo} Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service
- Capacity

Calculation	2016			2016 With Dev No CALA Relocatic			2031			2031 With Dev No CALA Relocatic		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V_{12}	0	0	185	0	0	177	0	0	209	0	0	212
V_f	0	0	185	0	0	177	0	0	209	0	0	212
V_{fo}	0	0	885	0	0	880	0	0	1071	0	0	1091
V_{R12}	0	0	885	0	0	880	0	0	1071	0	0	1091
V_R			700			703			862			879
L_A	44.5		44.5	44.5		44.5	44.5		44.5	44.5		44.5
S_{FR}	40		40	40		40	40		40	40		40
D_R			6.91329			6.88857			7.76721			7.85913
LOS			B			B			B			B

- V_{12} Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V_f Maximum total flow approaching from a merge or diverge area on the freeway
- V_{fo} Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No CALA Relocatic			2031			2031 With Dev No CALA Relocatic		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V_{12}	0	0	479	0	0	473	0	0	549	0	0	553
V_f	0	0	479	0	0	473	0	0	549	0	0	553
V_{fo}	0	0	990	0	0	948	0	0	1089	0	0	1087
V_{R12}	0	0	990	0	0	948	0	0	1089	0	0	1087
V_R			511			475			540			534
L_A	44.5		44.5	44.5		44.5	44.5		44.5	44.5		44.5
S_{FR}	40		40	40		40	40		40	40		40
D_R			7.46265			7.26969			7.93089			7.92273
LOS			B			B			B			B

1 mile = 1.6km

Kmph/h	Mp/h
80	50
65	41
50	31
30	19

Determining Capacity $V_{R12} = V_{12} + V_R$

Capacity Values for Merge Areas

Freeway Free Flow Speed	Max Downstream Freeway Flow, V (pc/h)**					Max desirable flow entering influence area V_{R12} (PC/H)
	Number of lanes in one direction					
kph	mph	2	3	4	>4*	
120	75	4800	7200	9600	2400	4600
110	69	4700	7050	9400	2350	4600
100	63	4600	6900	9200	2300	4600
90	56	4500	6750	9000	2250	4600

* values are per lane

** $V = V_f + V_R$

Determining Level of Service $DR = 3.402 + 0.00456V_R + 0.0048V_{12} - 0.01278L_A$

Where

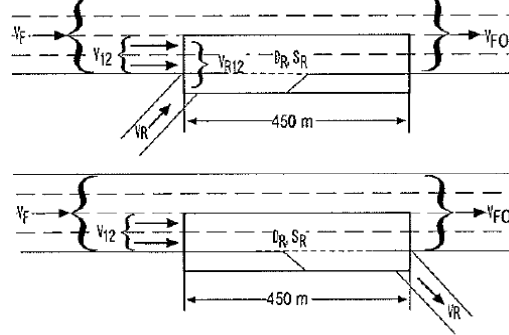
- D_R - density of merge influence area (pc/km/ln)
- V_R - on-ramp peak 15-min flow rate (pc/h)
- V_{12} - flow rate entering ramp influence area (pc/h), and
- L_A - length of acceleration lane (m)

LOS Criteria for Merge and Diverge Areas

LOS	Density (pc/km/ln)
A	≤ 6
B	> 6 - 12
C	> 12 - 17
D	> 17 - 22
E	> 22
F	Demand exceeds capacity

EXHIBIT 25-2. CRITICAL RAMP JUNCTION VARIABLES

Jessop Underpass Diverge 1



Notes
For dual carriageways V12 equals V



- V_{12} Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V_f Maximum total flow approaching from a merge or diverge area on the freeway
- V_{f0} Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No CALA Relocatic			2031			2031 With Dev No CALA Relocatic		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V_{12}	0	0	2906	0	0	2917	0	0	3579	0	0	3648
V_f	0	0	2906	0	0	2917	0	0	3579	0	0	3648
V_{f0}	0	0	3606	0	0	3620	0	0	4441	0	0	4527
V_{R12}	0	0	3606	0	0	3620	0	0	4441	0	0	4527
V_R			700			703			862			879
L_A	25		25	25		25	25		25	25		25
S_{FR}	40		40	40		40	40		40	40		40
D_R			20.2233			20.28978			24.19242			24.60114
LOS			D			D			E			E

- V_{12} Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V_f Maximum total flow approaching from a merge or diverge area on the freeway
- V_{f0} Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No CALA Relocatic			2031			2031 With Dev No CALA Relocatic		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V_{12}	0	0	4192	0	0	3892	0	0	4427	0	0	4380
V_f	0	0	4192	0	0	3892	0	0	4427	0	0	4380
V_{f0}	0	0	4703	0	0	4367	0	0	4967	0	0	4914
V_{R12}	0	0	4703	0	0	4367	0	0	4967	0	0	4914
V_R			511			475			540			534
L_A	25		25	25		25	25		25	25		25
S_{FR}	40		40	40		40	40		40	40		40
D_R			25.53426			23.9301			26.7945			26.54154
LOS			E			E			E			E

1 mile = 1.6km

Kmph/h	Mp/h
80	50
65	41
50	31
30	19

Determining Capacity $V_{R12} = V_{12} + V_R$

Capacity Values for Merge Areas

Freeway Free Flow Speed	Max Downstream Freeway Flow, V (pc/h)**					Max desirable flow entering influence area V_{R12} (PC/H)
	Number of lanes in one direction					
kph	mph	2	3	4	>4*	
120	75	4800	7200	9600	2400	4600
110	69	4700	7050	9400	2350	4600
100	63	4600	6900	9200	2300	4600
90	56	4500	6750	9000	2250	4600

* values are per lane

** $V = V_f + V_R$

$$V_{R12} = V_{12} + V_R$$

Determining Level of Service $DR = 3.402 + 0.00456V_R + 0.0048V_{12} - 0.01278L_A$

Where

- D_R - density of merge influence area (pc/km/ln)
- V_R - on-ramp peak 15-min flow rate (pc/h)
- V_{12} - flow rate entering ramp influence area (pc/h), and
- L_A - length of acceleration lane (m)

LOS Criteria for Merge and Diverge Areas

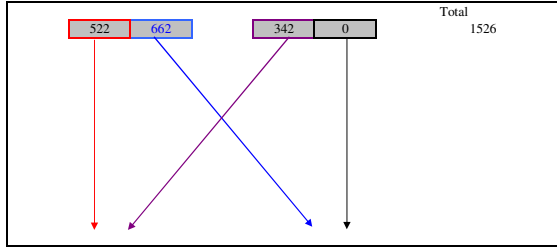
LOS	Density (pc/km/ln)
A	≤ 6
B	> 6 - 12
C	> 12 - 17
D	> 17 - 22
E	> 22
F	Demand exceeds capacity

Winderstoke Road to A370 Weave 1 Section AM 2016 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.658
v =	total flow in weaving area pcph	1004
v _{w1} =	larger weaving flow pcph	662
v _{w2} =	smaller weaving flow pcph	342
R =	weaving ratio of smaller weave to total	0.341
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	651



unconstrained weaving and non weaving speeds				
S _w =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.71969}$ = 38.26 mph
S _{nw} =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.392774}$ = 43.71967 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438}$	= 1.613 lanes required unconstrained applies

Speeds	S =	$\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment	
Sw	mean speed of weaving vehicles in waeving segment	
Snw	mean speed of non-weaving vehicles in waeving segment	
V	Total flow rate in weaving segment	
Vw	weaving flow rate in weaving segment	
Vnw	non-weaving flow rate in weaving segment	
S =	39.9673	

Density	D =	$\frac{(V/N)}{S}$
D =	8.373511658	

Level of Service A

Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

LOS

Density (pc/mi/ln)	Freeway Weaving Multilane and Collector Distributor Weaving Segments	
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

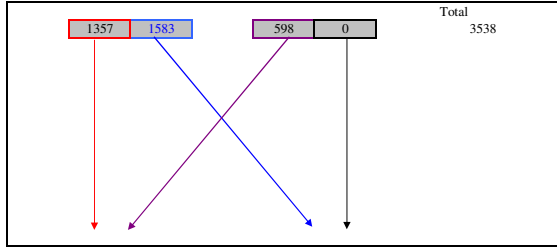
C = C * f_{IV} * f_p

Winderstoke Road to A370 Weave 1 Section PM 2016 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.616
v =	total flow in weaving area pcph	2181
v _{w1} =	larger weaving flow pcph	1583
v _{w2} =	smaller weaving flow pcph	598
R =	weaving ratio of smaller weave to total	0.274
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	651



unconstrained weaving and non weaving speeds				
S _w =	15 + $\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{2.444614}$	= 31.3625 mph
S _{nw} =	15 + $\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.97303}$	= 35.27339 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438}$	= 1.696 lanes required unconstrained applies

Speeds	S = $\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment
Sw	mean speed of weaving vehicles in waeving segment
Snw	mean speed of non-weaving vehicles in waeving segment
V	Total flow rate in weaving segment
Vw	weaving flow rate in weaving segment
Vnw	non-weaving flow rate in weaving segment
S =	32.75545

Density	D = $\frac{(V/N)}{S}$
D =	22.19478295

Level of Service C

LOS		Density (pc/mi/ln)
Freeway Weaving Multilane and Collector Distributor Weaving Segments		
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity C = f_{IV} * f_p

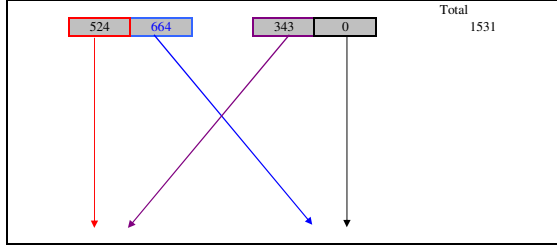
Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Winderstoke Road to A370 Weave 1 Section AM 2016 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.658
v =	total flow in weaving area pcph	1007
v _{w1} =	larger weaving flow pcph	664
v _{w2} =	smaller weaving flow pcph	343
R =	weaving ratio of smaller weave to total	0.341
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	651



unconstrained weaving and non weaving speeds				
S _w =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.721595}$ = 38.23427 mph
S _{nw} =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.39412}$ = 43.69193 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438}$	= 1.613 lanes required unconstrained applies

Speeds	
S =	$\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment
S _w	mean speed of weaving vehicles in waeving segment
S _{nw}	mean speed of non-weaving vehicles in waeving segment
V	Total flow rate in weaving segment
V _w	weaving flow rate in weaving segment
V _{nw}	non-weaving flow rate in weaving segment
S =	39.94188

Density	
D =	$\frac{(V/N)}{S}$
	8.403876941

Level of Service A

LOS		Density (pc/mi/ln)
Freeway Weaving Multilane and Collector Distributor Weaving Segments		
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity
C = C * f_{IV} * f_p

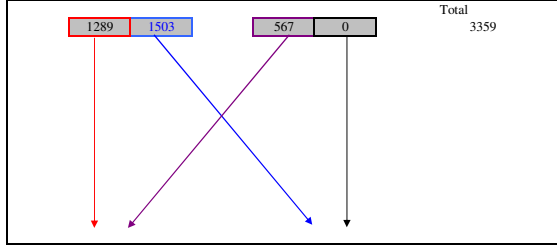
Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Winderstoke Road to A370 Weave 1 Section PM 2016 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.616
v =	total flow in weaving area pcph	2070
v _{w1} =	larger weaving flow pcph	1503
v _{w2} =	smaller weaving flow pcph	567
R =	weaving ratio of smaller weave to total	0.274
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	651



unconstrained weaving and non weaving speeds				
S _w =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{2.372877}$ = 31.85717 mph
S _{nw} =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.90871}$ = 35.95656 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438}$	= 1.684 lanes required unconstrained applies

Speeds	S =	$\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment	
Sw	mean speed of weaving vehicles in waeving segment	
Snw	mean speed of non-weaving vehicles in waeving segment	
V	Total flow rate in weaving segment	
Vw	weaving flow rate in weaving segment	
Vnw	non-weaving flow rate in weaving segment	
S =	33.31471	

Density	D =	$\frac{(V/N)}{S}$
D =	20.71157215	

Level of Service C

Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

LOS		Density (pc/mi/ln)
Freeway Weaving Multilane and Collector Distributor Weaving Segments		
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

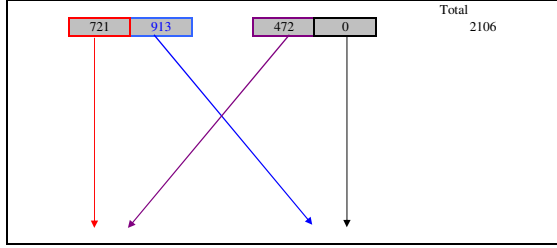
Capacity
C = C * f_{IV} * f_p

Winderstoke Road to A370 Weave 1 Section AM 2031 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.658
v =	total flow in weaving area pcph	1385
v _{w1} =	larger weaving flow pcph	913
v _{w2} =	smaller weaving flow pcph	472
R =	weaving ratio of smaller weave to total	0.341
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	651



unconstrained weaving and non weaving speeds				
S _w =	15 + $\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.982893}$	= 35.17254 mph
S _{nw} =	15 + $\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.596314}$	= 40.05772 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438}$	= 1.673 lanes required unconstrained applies

Speeds	S = $\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment
Sw	mean speed of weaving vehicles in waeving segment
Snw	mean speed of non-weaving vehicles in waeving segment
V	Total flow rate in weaving segment
Vw	weaving flow rate in weaving segment
Vnw	non-weaving flow rate in weaving segment
S =	36.70503

Density	D = $\frac{(V/N)}{S}$
D =	12.57774975

Level of Service B

LOS		Density (pc/mi/ln)
Freeway Weaving Multilane and Collector Distributor Weaving Segments		
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity
C = C * f_{IV} * f_p

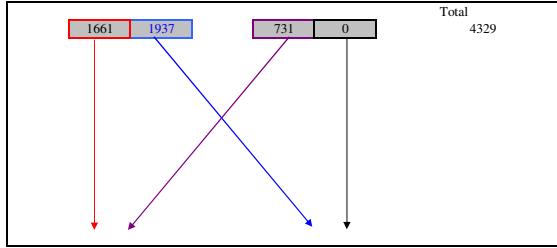
Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Winderstoke Road to A370 Weave 1 Section PM 2031 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.616
v =	total flow in weaving area pcph	2668
v _{w1} =	larger weaving flow pcph	1937
v _{w2} =	smaller weaving flow pcph	731
R =	weaving ratio of smaller weave to total	0.274
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	651



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.756194} = 29.51277 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.264048} = 32.66747 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438} = 1.741 \text{ lanes required}$ **unconstrained applies**

Speeds $S = \frac{V}{((Vw/Sw)+(Vnw/Snw))}$

S Mean speed of all vehicles in weaving Segment
 Sw mean speed of weaving vehicles in waeving segment
 Snw mean speed of non-weaving vehicles in waeving segment
 V Total flow rate in weaving segment
 Vw weaving flow rate in weaving segment
 Vnw non-weaving flow rate in weaving segment

S = **30.64839**

Density $D = \frac{(V/N)}{S}$

29.01729722

Level of Service D

LOS

Density (pc/mi/ln)
 Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

C = C * f_{NV} * f_p

Check 1 Calc from manual page 24-30

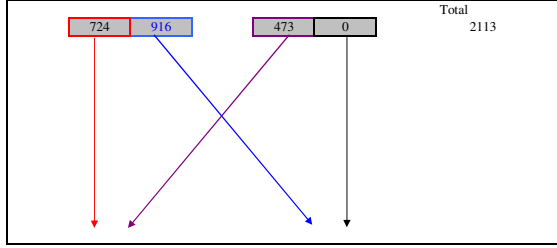
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Winderstoke Road to A370 Weave 1 Section AM 2031 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.657
v =	total flow in weaving area pcph	1389
v _{w1} =	larger weaving flow pcph	916
v _{w2} =	smaller weaving flow pcph	473
R =	weaving ratio of smaller weave to total	0.341
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	651



unconstrained weaving and non weaving speeds				
S _w =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.985273}$ = 35.14836 mph
S _{nw} =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.598142}$ = 40.02907 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438}$	= 1.673 lanes required unconstrained applies

Speeds	S =	$\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment	
Sw	mean speed of weaving vehicles in waeving segment	
Snw	mean speed of non-weaving vehicles in waeving segment	
V	Total flow rate in weaving segment	
Vw	weaving flow rate in weaving segment	
Vnw	non-weaving flow rate in weaving segment	
S =	36.68081	

Density	D =	$\frac{(V/N)}{S}$
D =	12.62240495	

Level of Service B

Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

LOS		Density (pc/mi/ln)
Freeway Weaving Multilane and Collector Distributor Weaving Segments		
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

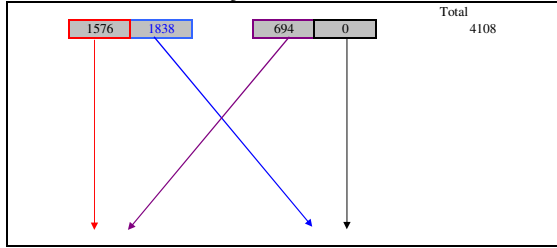
Capacity	
C =	$C * f_{IV} * f_p$

Winderstoke Road to A370 Weave 1 Section PM 2031 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.616
v =	total flow in weaving area pcph	2532
v _{w1} =	larger weaving flow pcph	1838
v _{w2} =	smaller weaving flow pcph	694
R =	weaving ratio of smaller weave to total	0.274
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	651



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.669404} = 29.98462 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.181077} = 33.33957 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438} = 1.729 \text{ lanes required}$ **unconstrained applies**

Speeds $S = \frac{V}{(V_w/S_w) + (V_{nw}/S_{nw})}$

S Mean speed of all vehicles in weaving Segment
 S_w mean speed of weaving vehicles in weaving segment
 S_{nw} mean speed of non-weaving vehicles in weaving segment
 V Total flow rate in weaving segment
 V_w weaving flow rate in weaving segment
 V_{nw} non-weaving flow rate in weaving segment

S = **31.18868**

Density $D = \frac{(V/N)}{S}$

27.06110063

Level of Service C

LOS

Density (pc/mi/ln)
 Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

C = C * f_{NV} * f_p

Check 1 Calc from manual page 24-30

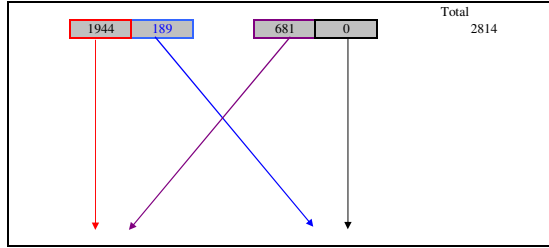
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Winderstoke Road to Jessops Underpass Northbound Weave 2 Section AM 2016 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.309
v =	total flow in weaving area pcph	870
v _{w1} =	larger weaving flow pcph	681
v _{w2} =	smaller weaving flow pcph	189
R =	weaving ratio of smaller weave to total	0.217
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds				
S _w =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.534034}$ = 41.07504 mph
S _{nw} =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.177677}$ = 48.96517 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438}$	= 0.914 lanes required unconstrained applies

Speeds	S =	$\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment	
S _w	mean speed of weaving vehicles in waeving segment	
S _{nw}	mean speed of non-weaving vehicles in waeving segment	
V	Total flow rate in weaving segment	
V _w	weaving flow rate in weaving segment	
V _{nw}	non-weaving flow rate in weaving segment	
S =	46.22022	

Density	D =	$\frac{(V/N)}{S}$
D =	6.274309616	

Level of Service A

Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

LOS

Density (pc/mi/ln)	Freeway Weaving	Multilane and Collector Distributor Weaving Segments
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

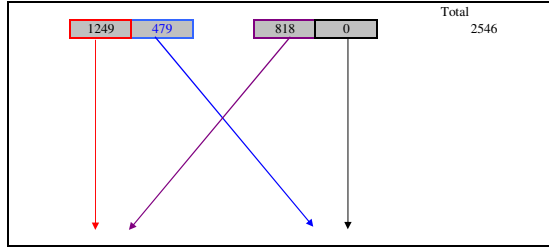
C = C * f_{NV} * f_p

Winderstoke Road to Jessops Underpass Northbound Weave 2 Section PM 2016 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.509
v =	total flow in weaving area pcph	1297
v _{w1} =	larger weaving flow pcph	818
v _{w2} =	smaller weaving flow pcph	479
R =	weaving ratio of smaller weave to total	0.369
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.075928} = 34.26849 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{1.527648} = 41.18404 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438} = 1.317 \text{ lanes required}$ **unconstrained applies**

Speeds $S = \frac{V}{(V_w/S_w) + (V_{nw}/S_{nw})}$

S Mean speed of all vehicles in weaving Segment
 S_w mean speed of weaving vehicles in weaving segment
 S_{nw} mean speed of non-weaving vehicles in weaving segment
 V Total flow rate in weaving segment
 V_w weaving flow rate in weaving segment
 V_{nw} non-weaving flow rate in weaving segment

S = **37.34481**

Density $D = \frac{(V/N)}{S}$

11.57679678

Level of Service B

LOS

Density (pc/mi/ln)
 Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

C = C * f_{NV} * f_p

Check 1 Calc from manual page 24-30

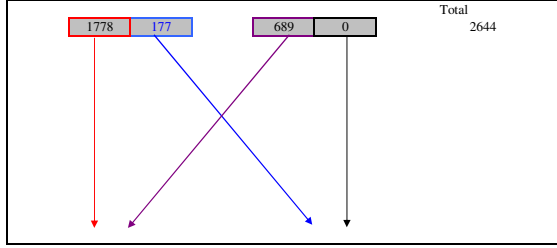
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Winderstoke Road to Jessops Underpass Northbound Weave 2 Section AM 2016 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.328
v =	total flow in weaving area pcph	866
v _{w1} =	larger weaving flow pcph	689
v _{w2} =	smaller weaving flow pcph	177
R =	weaving ratio of smaller weave to total	0.204
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds				
S _w =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.548199}$ = 40.83648 mph
S _{nw} =	15 +	$\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.186737}$ = 48.70587 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438}$	= 0.947 lanes required unconstrained applies

Speeds	
S =	$\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment
Sw	mean speed of weaving vehicles in waeving segment
Snw	mean speed of non-weaving vehicles in waeving segment
V	Total flow rate in weaving segment
Vw	weaving flow rate in weaving segment
Vnw	non-weaving flow rate in weaving segment
S =	45.81419

Density	
D =	$\frac{(V/N)}{S}$
	6.300812877

Level of Service A

LOS		Density (pc/mi/ln)
Freeway Weaving Multilane and Collector Distributor Weaving Segments		
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity	
C =	C * f _{NV} * f _p

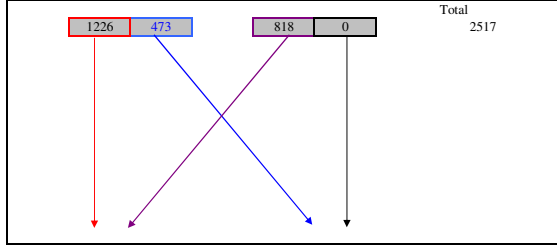
Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Winderstoke Road to Jessops Underpass Northbound Weave 2 Section PM 2016 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.513
v =	total flow in weaving area pcph	1291
v _{w1} =	larger weaving flow pcph	818
v _{w2} =	smaller weaving flow pcph	473
R =	weaving ratio of smaller weave to total	0.366
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds				
S _w =	15 + $\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{2.076549}$	= 34.26273 mph
S _{nw} =	15 + $\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{1.529338}$	= 41.1551 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438}$	= 1.322 lanes required unconstrained applies

Speeds	S = $\frac{V}{(Vw/Sw)+(Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment
S _w	mean speed of weaving vehicles in waeving segment
S _{nw}	mean speed of non-weaving vehicles in waeving segment
V	Total flow rate in weaving segment
V _w	weaving flow rate in weaving segment
V _{nw}	non-weaving flow rate in weaving segment
S =	37.30593

Density	D = $\frac{(V/N)}{S}$
D =	11.53525392

Level of Service B

Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

LOS		Density (pc/mi/ln)
Freeway Weaving Multilane and Collector Distributor Weaving Segments		
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

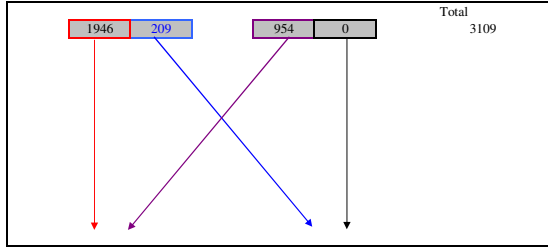
Capacity	
C =	C * f _{NV} * f _p

Winderstoke Road to Jessops Underpass Northbound Weave 2 Section AM 2031 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.374
v =	total flow in weaving area pcph	1163
v _{w1} =	larger weaving flow pcph	954
v _{w2} =	smaller weaving flow pcph	209
R =	weaving ratio of smaller weave to total	0.180
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{1.787192} = 37.38148 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{1.314463} = 45.43067 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A

$$N = 0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438} = 1.062 \text{ lanes required} \quad \text{unconstrained applies}$$

Speeds

$$S = \frac{V}{(V_w/S_w) + (V_{nw}/S_{nw})}$$

S Mean speed of all vehicles in weaving Segment
 S_w mean speed of weaving vehicles in waeving segment
 S_{nw} mean speed of non-weaving vehicles in waeving segment
 V Total flow rate in weaving segment
 V_w weaving flow rate in weaving segment
 V_{nw} non-weaving flow rate in weaving segment

$$S = 42.0441$$

Density

$$D = \frac{(V/N)}{S}$$

$$9.22047684$$

Level of Service A

LOS

Density (pc/mi/ln)

Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

$$C = f_{IV} * f_p$$

Check 1 Calc from manual page 24-30

VR 0.545

N 3

L 1000

Sw 38.9

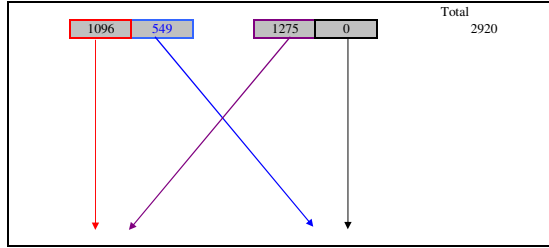
1.590 ✓

Winderstoke Road to Jessops Underpass Northbound Weave 2 Section PM 2031 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.625
v =	total flow in weaving area pcph	1824
v _{w1} =	larger weaving flow pcph	1275
v _{w2} =	smaller weaving flow pcph	549
R =	weaving ratio of smaller weave to total	0.301
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.760821} = 29.48844 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.103199} = 34.01865 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438} = 1.580 \text{ lanes required}$ **unconstrained applies**

Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Speeds $S = \frac{V}{(Vw/Sw)+(Vnw/Snw)}$

S Mean speed of all vehicles in weaving Segment
 Sw mean speed of weaving vehicles in weaving segment
 Snw mean speed of non-weaving vehicles in weaving segment
 V Total flow rate in weaving segment
 Vw weaving flow rate in weaving segment
 Vnw non-weaving flow rate in weaving segment

S = **31.03993**

Density $D = \frac{(V/N)}{S}$

19.5876712

Level of Service B

LOS

Density (pc/mi/ln)
 Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

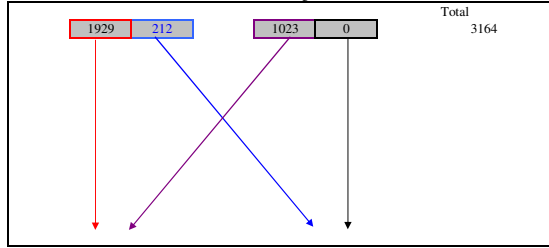
C = C * f_N * f_p

Winderstoke Road to Jessops Underpass Northbound Weave 2 Section AM 2031 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.390
v =	total flow in weaving area pcph	1235
v _{w1} =	larger weaving flow pcph	1023
v _{w2} =	smaller weaving flow pcph	212
R =	weaving ratio of smaller weave to total	0.172
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{1.856289} = 36.54836 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{1.356378} = 44.4903 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438} = 1.099 \text{ lanes required}$ **unconstrained applies**

Speeds $S = \frac{V}{(Vw/Sw) + (Vnw/Snw)}$

S Mean speed of all vehicles in weaving Segment
 Sw mean speed of weaving vehicles in waeving segment
 Snw mean speed of non-weaving vehicles in waeving segment
 V Total flow rate in weaving segment
 Vw weaving flow rate in weaving segment
 Vnw non-weaving flow rate in weaving segment

S = **41.01176**

Density $D = \frac{(V/N)}{S}$

10.03777237

Level of Service B

LOS

Density (pc/mi/ln)
 Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

C = C * f_{IV} * f_p

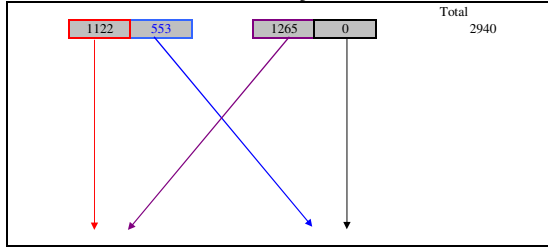
Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Winderstoke Road to Jessops Underpass Northbound Weave 2 Section PM 2031 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.618
v =	total flow in weaving area pcph	1818
v _{w1} =	larger weaving flow pcph	1265
v _{w2} =	smaller weaving flow pcph	553
R =	weaving ratio of smaller weave to total	0.304
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.740287} = 29.59701 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.08157} = 34.21626 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438} = 1.568 \text{ lanes required}$ **unconstrained applies**

Check 1 Calc from manual page 24-30

VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Speeds $S = \frac{V}{(Vw/Sw) + (Vnw/Snw)}$

- S Mean speed of all vehicles in weaving Segment
- Sw mean speed of weaving vehicles in waeving segment
- Snw mean speed of non-weaving vehicles in waeving segment
- V Total flow rate in weaving segment
- Vw weaving flow rate in weaving segment
- Vnw non-weaving flow rate in weaving segment

S = 31.20471

Density

$$D = \frac{(V/N)}{S}$$

19.42014548

Level of Service B

LOS

Density (pc/mi/ln)

Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

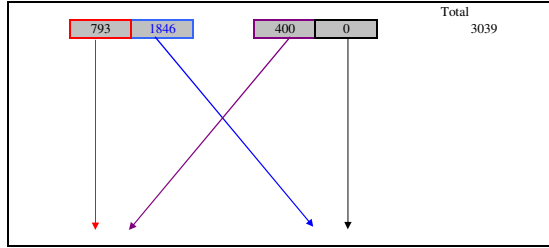
C = C * f_{IV} * f_p

Jessops Underpass to Winderstoke Road Weave 3 Section AM 2016 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.739
v =	total flow in weaving area pcph	2246
v _{w1} =	larger weaving flow pcph	1846
v _{w2} =	smaller weaving flow pcph	400
R =	weaving ratio of smaller weave to total	0.178
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.502673} = 26.41985 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.898297} = 28.80121 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438} = 1.825 \text{ lanes required}$ **unconstrained applies**

Speeds $S = \frac{V}{((Vw/Sw)+(Vnw/Snw))}$

S Mean speed of all vehicles in weaving Segment
 Sw mean speed of weaving vehicles in waeving segment
 Snw mean speed of non-weaving vehicles in waeving segment
 V Total flow rate in weaving segment
 Vw weaving flow rate in weaving segment
 Vnw non-weaving flow rate in weaving segment

S = **27.00244**

Density $D = \frac{(V/N)}{S}$

27.72589396

Level of Service C

Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

LOS

Density (pc/mi/ln)	Freeway Weaving	Multilane and Collector Distributor Weaving Segments
A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

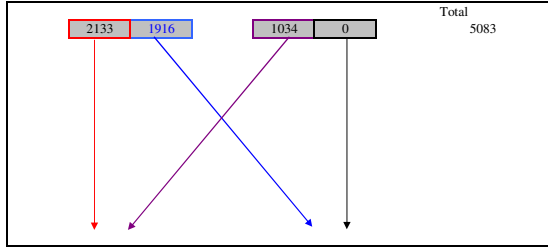
C = C * f_{IV} * f_p

Jessops Underpass to Winderstoke Road Weave 3 Section PM 2016 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.580
v =	total flow in weaving area pcph	2950
v _{w1} =	larger weaving flow pcph	1916
v _{w2} =	smaller weaving flow pcph	1034
R =	weaving ratio of smaller weave to total	0.351
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.641432} = 25.98469 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.845328} = 29.05813 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A

$$N = 0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438} = 1.601 \text{ lanes required} \quad \text{unconstrained applies}$$

Speeds

$$S = \frac{V}{(V_w/S_w) + (V_{nw}/S_{nw})}$$

S Mean speed of all vehicles in weaving Segment
 S_w mean speed of weaving vehicles in weaving segment
 S_{nw} mean speed of non-weaving vehicles in weaving segment
 V Total flow rate in weaving segment
 V_w weaving flow rate in weaving segment
 V_{nw} non-weaving flow rate in weaving segment

$$S = 27.19157$$

Density

$$D = \frac{(V/N)}{S}$$

$$36.16317434$$

Level of Service D

LOS

Density (pc/mi/ln)
 Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

$$C = f_{IV} * f_p$$

Check 1 Calc from manual page 24-30

VR 0.545

N 3

L 1000

Sw 38.9

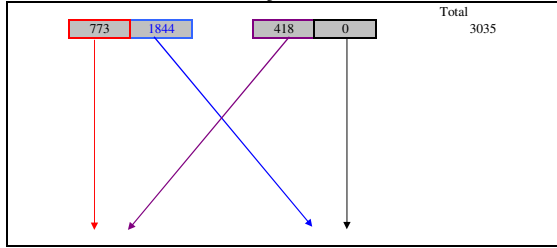
1.590 ✓

Jessops Underpass to Winderstone Road Weave 3 Section AM 2016 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.745
v =	total flow in weaving area pcph	2262
v _{w1} =	larger weaving flow pcph	1844
v _{w2} =	smaller weaving flow pcph	418
R =	weaving ratio of smaller weave to total	0.185
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.539919} = 26.29969 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.943568} = 28.58895 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A

$$N = 0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438} = 1.837 \text{ lanes required} \quad \text{unconstrained applies}$$

Speeds

$$S = \frac{V}{(V_w/S_w) + (V_{nw}/S_{nw})}$$

- S Mean speed of all vehicles in weaving Segment
- S_w mean speed of weaving vehicles in waeving segment
- S_{nw} mean speed of non-weaving vehicles in waeving segment
- V Total flow rate in weaving segment
- V_w weaving flow rate in weaving segment
- V_{nw} non-weaving flow rate in weaving segment

$$S = 26.84724$$

Density

$$D = \frac{(V/N)}{S}$$

$$28.08482862$$

Level of Service D

LOS

Density (pc/mi/ln)

Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

$$C = f_{IV} * f_p$$

Check 1 Calc from manual page 24-30

VR 0.545

N 3

L 1000

Sw 38.9

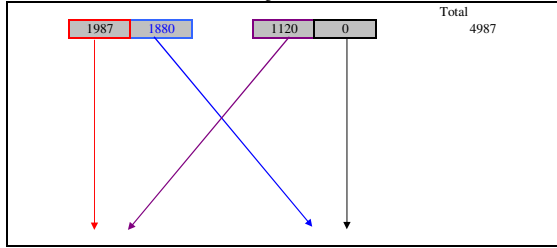
1.590 ✓

Jessops Underpass to Winderstone Road Weave 3 Section PM 2016 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.602
v =	total flow in weaving area pcph	3000
v _{w1} =	larger weaving flow pcph	1880
v _{w2} =	smaller weaving flow pcph	1120
R =	weaving ratio of smaller weave to total	0.373
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.764714} = 25.62498 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{2.989341} = 28.38088 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A

$$N = 0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438} = 1.644 \text{ lanes required} \quad \text{unconstrained applies}$$

Speeds

$$S = \frac{V}{(Vw/Sw) + (Vnw/Snw)}$$

- S Mean speed of all vehicles in weaving Segment
- Sw mean speed of weaving vehicles in waeving segment
- Snw mean speed of non-weaving vehicles in waeving segment
- V Total flow rate in weaving segment
- Vw weaving flow rate in weaving segment
- Vnw non-weaving flow rate in weaving segment

$$S = 26.6563$$

Density

$$D = \frac{(V/N)}{S}$$

$$37.51458098$$

Level of Service E

LOS

Density (pc/mi/ln)

Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

$$C = f_{IV} * f_p$$

Check 1 Calc from manual page 24-30

VR 0.545

N 3

L 1000

Sw 38.9

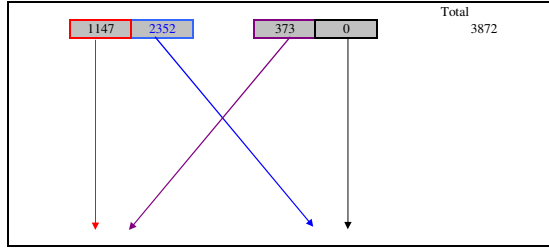
1.590 ✓

Jessops Underpass to Winderstoke Road Weave 3 Section AM 2031 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.704
v =	total flow in weaving area pcph	2725
v _{w1} =	larger weaving flow pcph	2352
v _{w2} =	smaller weaving flow pcph	373
R =	weaving ratio of smaller weave to total	0.137
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.885727} = 25.29409 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.248513} = 27.31333 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438} = 1.809 \text{ lanes required}$ **unconstrained applies**

Speeds $S = \frac{V}{((Vw/Sw)+(Vnw/Snw))}$

S Mean speed of all vehicles in weaving Segment
 Sw mean speed of weaving vehicles in waeving segment
 Snw mean speed of non-weaving vehicles in waeving segment
 V Total flow rate in weaving segment
 Vw weaving flow rate in weaving segment
 Vnw non-weaving flow rate in weaving segment

S = **25.86043**

Density $D = \frac{(V/N)}{S}$

35.1244542

Level of Service E

LOS

Density (pc/mi/ln)
 Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

C = C * f_{IV} * f_p

Check 1 Calc from manual page 24-30

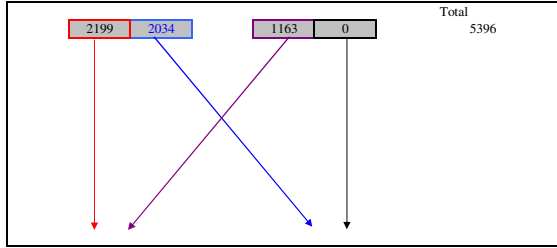
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Jessops Underpass to Winderstoke Road Weave 3 Section PM 2031 DoMinimum

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.592
v =	total flow in weaving area pcph	3197
v _{w1} =	larger weaving flow pcph	2034
v _{w2} =	smaller weaving flow pcph	1163
R =	weaving ratio of smaller weave to total	0.364
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.904062} = 25.24574 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.112182} = 27.85272 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A

$$N = 0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438} = 1.641 \text{ lanes required} \quad \text{unconstrained applies}$$

Speeds

$$S = \frac{V}{(V_w/S_w) + (V_{nw}/S_{nw})}$$

- S Mean speed of all vehicles in weaving Segment
- S_w mean speed of weaving vehicles in waeving segment
- S_{nw} mean speed of non-weaving vehicles in waeving segment
- V Total flow rate in weaving segment
- V_w weaving flow rate in weaving segment
- V_{nw} non-weaving flow rate in weaving segment

$$S = 26.24689$$

Density

$$D = \frac{(V/N)}{S}$$

$$40.60162801$$

Level of Service E

LOS

Density (pc/mi/ln)

Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

$$C = C * f_{IV} * f_p$$

Check 1 Calc from manual page 24-30

VR 0.545

N 3

L 1000

Sw 38.9

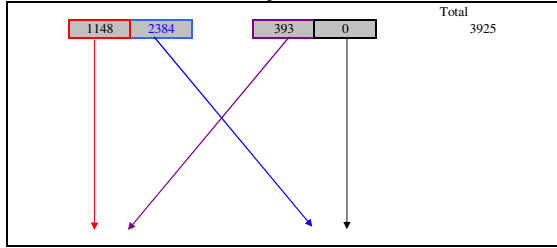
1.590 ✓

Jessops Underpass to Winderstone Road Weave 3 Section AM 2031 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.708
v =	total flow in weaving area pcph	2777
v _{w1} =	larger weaving flow pcph	2384
v _{w2} =	smaller weaving flow pcph	393
R =	weaving ratio of smaller weave to total	0.142
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds

$$S_w = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.953359} = 25.11798 \text{ mph}$$

$$S_{nw} = 15 + \frac{40}{1 + a(1 + VR)^2(v/N)/L^2} = 15 + \frac{40}{3.324781} = 27.03087 \text{ mph}$$

Number of lanes required for Unconstrained vs constrained operation

See Check 1 to right

Type A
 $N = 0.74(N) VR^{0.571} L^{0.234}/S_w^{0.438} = 1.820 \text{ lanes required}$ **unconstrained applies**

Check 1 Calc from manual page 24-30

VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

Speeds $S = \frac{V}{(Vw/Sw)+(Vnw/Snw)}$

S Mean speed of all vehicles in weaving Segment
 Sw mean speed of weaving vehicles in waeving segment
 Snw mean speed of non-weaving vehicles in waeving segment
 V Total flow rate in weaving segment
 Vw weaving flow rate in weaving segment
 Vnw non-weaving flow rate in weaving segment

S = 25.64886

Density

$D = \frac{(V/N)}{S}$

36.08996899

Level of Service E

LOS

Density (pc/mi/ln)

Freeway Weaving Multilane and Collector Distributor Weaving Segments

A	≤ 10	≤ 12
B	10 to 20	12 to 24
C	20 to 28	24 to 32
D	28 to 35	32 to 36
E	35 to 43	36 to 40
F	> 43	> 40

Capacity

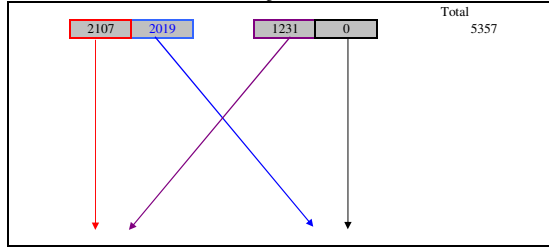
$C = f_{IV} * f_p$

Jessops Underpass to Winderstone Road Weave 3 Section PM 2031 DoSomething

Type A junction

factors	a	b	c	d
weave unconstrained	0.15	2.2	0.97	0.8
weave constrained	0.35	2.2	0.97	0.8
non weave unconstrained	0.0035	4	1.3	0.75
non weave constrained	0.002	4	1.3	0.75

VR =	volume ratio of weaving to total traffic	0.607
v =	total flow in weaving area pcph	3250
v _{w1} =	larger weaving flow pcph	2019
v _{w2} =	smaller weaving flow pcph	1231
R =	weaving ratio of smaller weave to total	0.379
N =	number of lanes in weaving area	3
L =	length of weaving flow in feet	415



unconstrained weaving and non weaving speeds				
S _w =	15 + $\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{4.008974}$	= 24.97762 mph
S _{nw} =	15 + $\frac{40}{1 + a(1 + VR)^2(v/N)/L^2}$	=	15 + $\frac{40}{3.235853}$	= 27.3615 mph

Number of lanes required for Unconstrained vs constrained operation		See Check 1 to right
Type A	N = $0.74(N) VR^{0.571} L^{0.234} / S_w^{0.438}$	= 1.671 lanes required unconstrained applies

Speeds	S = $\frac{V}{(Vw/Sw) + (Vnw/Snw)}$
S	Mean speed of all vehicles in weaving Segment
Sw	mean speed of weaving vehicles in waeving segment
Snw	mean speed of non-weaving vehicles in waeving segment
V	Total flow rate in weaving segment
Vw	weaving flow rate in weaving segment
Vnw	non-weaving flow rate in weaving segment
S =	25.86392

Density	D = $\frac{(V/N)}{S}$
D =	41.88589193

Level of Service E

LOS

Density (pc/mi/ln)		Freeway Weaving/Multilane and Collector Distributor Weaving Segments	
A	≤ 10	≤ 12	
B	10 to 20	12 to 24	
C	20 to 28	24 to 32	
D	28 to 35	32 to 36	
E	35 to 43	36 to 40	
F	> 43	> 40	

Capacity

C = C * f_{IV} * f_p

Check 1 Calc from manual page 24-30	
VR	0.545
N	3
L	1000
Sw	38.9
	1.590 ✓

M3 - Winterstoke Rd - 2016 Do Something No CALA Relocation.vpo
 (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: M3 - Winterstoke Rd - 2016 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	9.80	14.70	9.80
ARM B	15.00	45.00	75.00	2.99	4.48	2.99
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M3 - Winterstoke Rd - 2016 AM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
		784.0	0.0	0.0
	ARM B	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
		239.0	0.0	0.0
	ARM C	0.000	0.000	0.000
		(0.0)	(0.0)	(0.0)
		0.0	(5.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
07.45-08.00									
B-AC	3.00	9.49	0.316		0.00	0.46	6.5		0.15
C-AB	0.00	7.27	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	9.84								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.00-08.15									
B-AC	3.58	8.91	0.402		0.46	0.66	9.5		0.19
C-AB	0.00	6.83	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	11.75								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.15-08.30									
B-AC	4.39	8.10	0.541		0.66	1.14	16.0		0.26
C-AB	0.00	6.21	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	14.39								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.30-08.45									
B-AC	4.39	8.10	0.541		1.14	1.16	17.3		0.27
C-AB	0.00	6.21	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	14.39								

M3 - Winterstoke Rd - 2016 Do Something No CALA Relocation.vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	3.58	8.91	0.402		1.16	0.69	10.8		0.19
C-AB	0.00	6.83	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	11.75								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	3.00	9.49	0.316		0.69	0.47	7.3		0.15
C-AB	0.00	7.27	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	9.84								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHI CLES IN QUEUE
08.00	0.5
08.15	0.7 *
08.30	1.1 *
08.45	1.2 *
09.00	0.7 *
09.15	0.5

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHI CLES 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 * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	329.0	219.3	67.4	0.20	67.4	0.20
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0				
A-B	0.0	0.0				
A-C	1079.1	719.4				
ALL	1408.1	938.7	67.4	0.05	67.4	0.05

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHI CLES
 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)

Intercept For STREAM B-C	Slope For STREAM A-C	Opposing Slope For STREAM A-B
786.65	0.30	0.12

Intercept For STREAM B-A	Slope For STREAM A-C	Opposing Slope For STREAM A-B	Opposing Slope For STREAM C-A	Opposing Slope For STREAM C-B
622.33	0.29	0.11	0.18	0.41

Intercept For STREAM C-B	Slope For STREAM A-C	Opposing Slope For STREAM A-B
631.87	0.24	0.24

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

TRAFFIC DEMAND DATA

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

M3 - Winterstoke Rd - 2016 Do Something No CALA Relocati on.vpo

Demand set: M3 - Winterstoke Rd - 2016 PM Do Something

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	(VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.20	9.30	6.20
ARM B	15.00	45.00	75.00	1.66	2.49	1.66
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M3 - Winterstoke Rd - 2016 PM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.000	1.000
		0.0	0.0	496.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	133.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.000	0.000	0.000
		0.0	0.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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-AC	1.67	10.96	0.152		0.00	0.18	2.6		0.11
C-AB	0.00	8.16	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	6.22								

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-AC	1.99	10.59	0.188		0.18	0.23	3.4		0.12
C-AB	0.00	7.89	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	7.43								

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)
17.15-17.30									
B-AC	2.44	10.08	0.242		0.23	0.32	4.6		0.13
C-AB	0.00	7.51	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	9.10								

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-AC	2.44	10.08	0.242		0.32	0.32	4.8		0.13
C-AB	0.00	7.51	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	9.10								

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-AC	1.99	10.59	0.188		0.32	0.23	3.6		0.12
C-AB	0.00	7.89	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	7.43								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	1.67	10.96	0.152		0.23	0.18	2.8		0.11
C-AB	0.00	8.16	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	6.22								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHI CLES 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 FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHI CLES 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)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	183.1	122.0	21.7	0.12	21.7	0.12
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0				
A-B	0.0	0.0				
A-C	682.7	455.1				
ALL	865.8	577.2	21.7	0.03	21.7	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 RUN*****

M3 - Winterstoke Rd - 2031 Do Something - No CALA Relocation.vpo
 (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: M3 - Winterstoke Rd - 2031 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM START WHEN TOP OF PEAK IS REACHED	START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	14.20	21.30	14.20
ARM B	15.00	45.00	75.00	3.84	5.76	3.84
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M3 - Winterstoke Rd - 2031 AM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000	0.000	1.000
		(0.0)	(5.0)	(5.0)
		1136.0		
	ARM B	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
		307.0		
	ARM C	0.000	0.000	0.000
		(0.0)	(0.0)	(0.0)
		(5.0)	(5.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
07.45-08.00									
B-AC	3.85	8.14	0.473		0.00	0.87	12.1		0.23
C-AB	0.00	6.24	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	14.25								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.00-08.15									
B-AC	4.60	7.30	0.630		0.87	1.61	22.0		0.36
C-AB	0.00	5.60	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	17.02								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.15-08.30									
B-AC	5.63	6.13	0.919		1.61	5.99	67.4		1.02
C-AB	0.00	4.70	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	20.85								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.30-08.45									
B-AC	5.63	6.13	0.919		5.99	7.33	101.0		1.40
C-AB	0.00	4.70	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	20.85								

M3 - Winterstoke Rd - 2031 Do Something - No CALA Relocation.vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	4.60	7.30	0.630		7.33	1.82	37.5		0.48
C-AB	0.00	5.60	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	17.02								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	3.85	8.14	0.473		1.82	0.92	14.8		0.24
C-AB	0.00	6.24	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	14.25								

WARNING NO MARGI NAL ANALYSIS OF CAPACI TIES AS MAJOR ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	0.9 *
08.15	1.6 **
08.30	6.0 *****
08.45	7.3 **
09.00	1.8 **
09.15	0.9 *

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATION OVER WHOLE PERI OD

STREAM	TOTAL DEMAND		* QUEUEI NG * DELAY *		* I NCLUSI VE QUEUEI NG * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	422.6	281.7	254.8	0.60	254.9	0.60
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0				
A-B	0.0	0.0				
A-C	1563.6	1042.4				
ALL	1986.2	1324.1	254.8	0.13	254.9	0.13

* DELAY I S THAT OCCURRI NG ONLY WI THI N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

.SLOPES AND I NTERCEPT

(NB: Streams may be combined, i n whi ch case capaci ty wi ll be adju sted)

Intercept For STREAM B-C	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
786.65	0.30	0.12

Intercept For STREAM B-A	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B	Slope For Opposi ng STREAM C-A	Slope For Opposi ng STREAM C-B
622.33	0.29	0.11	0.18	0.41

Intercept For STREAM C-B	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
631.87	0.24	0.24

(NB These values do not allow for any si te speci fic correcti ons)

.TRAFFI C DEMAND DATA

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

M3 - Winterstoke Rd - 2031 Do Something - No CALA Relocation.vpo

Demand set: M3 - Winterstoke Rd - 2031 PM Do Something

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK (VEH/MI N)	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	9.46	14.19	9.46
ARM B	15.00	45.00	75.00	1.96	2.94	1.96
ARM C	15.00	45.00	75.00	0.00	0.00	0.00

Demand set: M3 - Winterstoke Rd - 2031 PM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.000	1.000
		0.0	0.0	757.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	157.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.000	0.000	0.000
		0.0	0.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
16.45-17.00									
B-AC	1.97	9.96	0.198		0.00	0.24	3.5		0.12
C-AB	0.00	7.42	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	9.50								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.00-17.15									
B-AC	2.35	9.40	0.250		0.24	0.33	4.8		0.14
C-AB	0.00	7.00	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	11.34								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.15-17.30									
B-AC	2.88	8.62	0.334		0.33	0.49	7.1		0.17
C-AB	0.00	6.42	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	13.89								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.30-17.45									
B-AC	2.88	8.62	0.334		0.49	0.50	7.4		0.17
C-AB	0.00	6.42	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	13.89								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.45-18.00									
B-AC	2.35	9.40	0.250		0.50	0.34	5.2		0.14
C-AB	0.00	7.00	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	11.34								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
18.00-18.15									
B-AC	1.97	9.96	0.198		0.34	0.25	3.8		0.13
C-AB	0.00	7.42	0.000		0.00	0.00	0.0		0.00
C-A	0.00								
A-B	0.00								
A-C	9.50								

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

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHI CLES 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

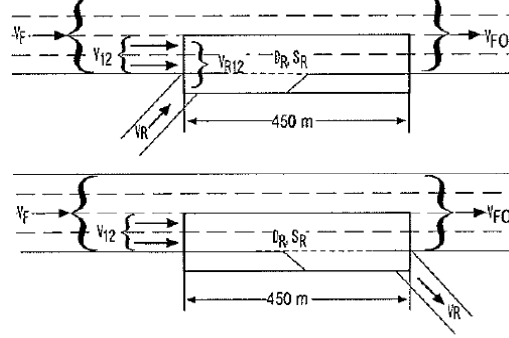
STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	216.1	144.1	32.0	0.15	32.0	0.15
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	0.0	0.0				
A-B	0.0	0.0				
A-C	1042.0	694.6				
ALL	1258.1	838.7	32.0	0.03	32.0	0.03

* 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 RUN*****

EXHIBIT 25-2. CRITICAL RAMP JUNCTION VARIABLES

Diverge 1 A370 to Winterstoke Road



Notes
For dual carriageways V12 equals V1



- V₁₂ Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V₁ Maximum total flow approaching from a merge or diverge area on the freeway
- V_b Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No CALA Relocatio			2031			2031 With Dev No Cala Relocatio		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V ₁₂	0	0	2171	0	0	2019	0	0	2732	0	0	2594
V ₁	0	0	2171	0	0	2019	0	0	2732	0	0	2594
V _b	0	0	2441	0	0	2269	0	0	3071	0	0	2916
V _{R12}	0	0	2441	0	0	2269	0	0	3071	0	0	2916
V _R			270			250			339			322
L _A	65		65	65		65	65		65	65		65
S _{FR}	80		80	80		80	80		80	80		80
D _R			14.2233			13.4025			17.23074			16.49082
LOS			C			C			D			C

- V₁₂ Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V₁ Maximum total flow approaching from a merge or diverge area on the freeway
- V_b Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No Cala Relocation			2031			2031 With Dev No Cala Relocatio		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V ₁₂	0	0	1317	0	0	1294	0	0	1558	0	0	1528
V ₁	0	0	1317	0	0	1294	0	0	1558	0	0	1528
V _b	0	0	1455	0	0	1429	0	0	1721	0	0	1688
V _{R12}	0	0	1455	0	0	1429	0	0	1721	0	0	1688
V _R			138			135			163			160
L _A	35		35	35		35	35		35	35		35
S _{FR}	80		80	80		80	80		80	80		80
D _R			9.90558			9.7815			11.17638			11.0187
LOS			B			B			B			B

1 mile = 1.6km

Kmph/h	Mp/h
80	50
65	41
50	31
30	19

Determining Capacity $V_{R12} = V_{12} + V_R$

Capacity Values for Merge Areas

Freeway Free Flow Speed	Max Downstream Freeway Flow, V (pc/h)**					Max desirable flow entering influence area V _{R12} (PC/H)
	Number of lanes in one direction					
kph	mph	2	3	4	>4*	
120	75	4800	7200	9600	2400	4600
110	69	4700	7050	9400	2350	4600
100	63	4600	6900	9200	2300	4600
90	56	4500	6750	9000	2250	4600

* values are per lane
** V = V₁ + V_R

Determining Level of Service $DR = 3.402 + 0.00456V_R + 0.0048V_{12} - 0.01278L_A$

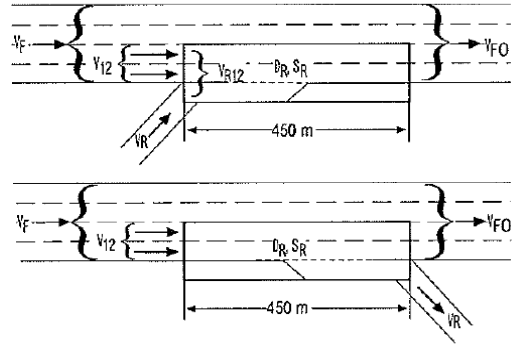
- Where
- D_R = density of merge influence area (pc/km/ln)
- V_R = on-ramp peak 15-min flow rate (pc/h)
- V₁₂ = flow rate entering ramp influence area (pc/h), and
- L_A = length of acceleration lane (m)

LOS Criteria for Merge and Diverge Areas

LOS	Density (pc/km/ln)
A	≤ 6
B	> 6 - 12
C	> 12 - 17
D	> 17 - 22
E	> 22
F	Demand exceeds capacity

EXHIBIT 25-2. CRITICAL RAMP JUNCTION VARIABLES

Maerge 1 Winterstoke Road to A370 Northbound



Notes
For dual carriageways V12 equals V1



- V₁₂ Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V_f Maximum total flow approaching from a merge or diverge area on the freeway
- V_b Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No Cala Relocation			2031			2031 With Dev No Cala Relocation		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V ₁₂	0	0	1901	0	0	1768	0	0	2393	0	0	2272
V _f	0	0	1901	0	0	1768	0	0	2393	0	0	2272
V _b	0	0	2272	0	0	2130	0	0	2773	0	0	2652
V _{R12}	0	0	2272	0	0	2130	0	0	2773	0	0	2652
V _R			371			362			380			380
L _A	30		30	30		30	30		30	30		30
S _{FR}	80		80	80		80	80		80	80		80
D _R			13.83516			13.15572			16.2378			15.657
LOS			C			C			C			C

- V₁₂ Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V_f Maximum total flow approaching from a merge or diverge area on the freeway
- V_b Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No Cala Relocation			2031			2031 With Dev No Cala Relocation		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V ₁₂	0	0	1179	0	0	1154	0	0	1395	0	0	1388
V _f	0	0	1179	0	0	1154	0	0	1395	0	0	1388
V _b	0	0	1600	0	0	1574	0	0	1928	0	0	1876
V _{R12}	0	0	1600	0	0	1574	0	0	1928	0	0	1876
V _R			421			420			533			508
L _A	30		30	30		30	30		30	30		30
S _{FR}	80		80	80		80	80		80	80		80
D _R			10.59756			10.473			12.14508			11.90148
LOS			B			B			C			B

1 mile = 1.6km

Kmph/h	Mp/h
80	50
65	41
50	31
30	19

Determining Capacity $V_{R12} = V_{12} + V_R$

Capacity Values for Merge Areas

Freeway Free Flow Speed	Max Downstream Freeway Flow, V (pc/h)**					Max desirable flow entering influence area V _{R12} (PC/H)
	Number of lanes in one direction					
kph	mph	2	3	4	>4*	
120	75	4800	7200	9600	2400	4600
110	69	4700	7050	9400	2350	4600
100	63	4600	6900	9200	2300	4600
90	56	4500	6750	9000	2250	4600

* values are per lane
** V = V_f + V_R

Determining Level of Service $DR = 3.402 + 0.00456V_R + 0.0048V_{12} - 0.01278L_A$

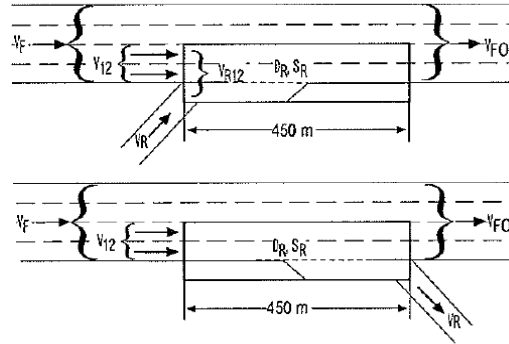
- Where
- D_R = density of merge influence area (pc/km/ln)
- V_R = on-ramp peak 15-min flow rate (pc/h)
- V₁₂ = flow rate entering ramp influence area (pc/h), and
- L_A = length of acceleration lane (m)

LOS Criteria for Merge and Diverge Areas

LOS	Density (pc/km/ln)
A	≤ 6
B	> 6 - 12
C	> 12 - 17
D	> 17 - 22
E	> 22
F	Demand exceeds capacity

EXHIBIT 25-2. CRITICAL RAMP JUNCTION VARIABLES

Ashton Road Diverge 1



Notes
For dual carriageways V12 equals V1



- V₁₂ Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V₁ Maximum total flow approaching from a merge or diverge area on the freeway
- V_b Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No Cala Relocation			2031			2031 With Dev No Cala Relocation		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V ₁₂	0	0	1586	0	0	1634	0	0	1696	0	0	1708
V ₁	0	0	1586	0	0	1634	0	0	1696	0	0	1708
V _b	0	0	1843	0	0	1898	0	0	1970	0	0	1984
V _{R12}	0	0	1843	0	0	1898	0	0	1970	0	0	1984
V _R			257			264			274			276
L _A	89		89	89		89	89		89	89		89
S _{FR}	80		80	80		80	80		80	80		80
D _R			11.0493			11.31162			11.65482			11.72154
LOS			B			B			B			B

- V₁₂ Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V₁ Maximum total flow approaching from a merge or diverge area on the freeway
- V_b Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No Cala Relocation			2031			2031 With Dev No Cala Relocation		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V ₁₂	0	0	722	0	0	717	0	0	982	0	0	982
V ₁	0	0	722	0	0	717	0	0	982	0	0	982
V _b	0	0	750	0	0	745	0	0	1020	0	0	1020
V _{R12}	0	0	750	0	0	745	0	0	1020	0	0	1020
V _R			28			28			38			38
L _A	89		89	89		89	89		89	89		89
S _{FR}	80		80	80		80	80		80	80		80
D _R			5.85786			5.83386			7.15146			7.15146
LOS			A			A			B			B

1 mile = 1.6km

Kmph/h	Mp/h
80	50
65	41
50	31
30	19

Determining Capacity $V_{R12} = V_{12} + V_R$

Capacity Values for Merge Areas

Freeway Free Flow Speed	Max Downstream Freeway Flow, V (pc/h)**					Max desirable flow entering influence area V _{R12} (PC/H)
	Number of lanes in one direction					
kph	mph	2	3	4	>4*	
120	75	4800	7200	9600	2400	4600
110	69	4700	7050	9400	2350	4600
100	63	4600	6900	9200	2300	4600
90	56	4500	6750	9000	2250	4600

* values are per lane
** V = V₁ + V_R

Determining Level of Service $DR = 3.402 + 0.00456V_R + 0.0048V_{12} - 0.01278L_A$

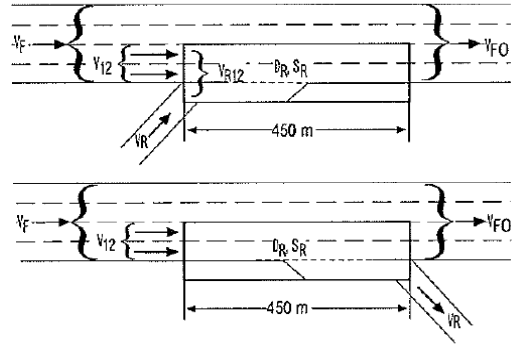
- Where
- D_R = density of merge influence area (pc/km/ln)
- V_R = on-ramp peak 15-min flow rate (pc/h)
- V₁₂ = flow rate entering ramp influence area (pc/h), and
- L_A = length of acceleration lane (m)

LOS Criteria for Merge and Diverge Areas

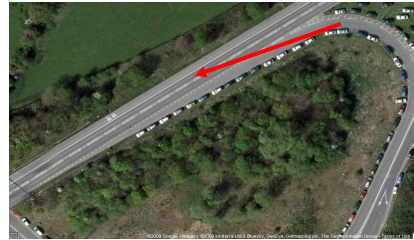
LOS	Density (pc/km/ln)
A	≤ 6
B	> 6 - 12
C	> 12 - 17
D	> 17 - 22
E	> 22
F	Demand exceeds capacity

EXHIBIT 25-2. CRITICAL RAMP JUNCTION VARIABLES

Ashton Road Merge 2



Notes
For dual carriageways V12 equals V1



- V₁₂ Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V_f Maximum total flow approaching from a merge or diverge area on the freeway
- V_b Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No Cala Relocation			2031			2031 With Dev No Cala Relocation		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V ₁₂	0	0	864	0	0	867	0	0	1193	0	0	1197
V _f	0	0	864	0	0	867	0	0	1193	0	0	1197
V _b	0	0	883	0	0	888	0	0	1217	0	0	1223
V _{R12}	0	0	883	0	0	888	0	0	1217	0	0	1223
V _R			19			21			24			26
L _A	110		110	110		110	110		110	89		89
S _{FR}	80		80	80		80	80		80	80		80
D _R			6.23004			6.25356			7.83204			8.12874
LOS			B			B			B			B

- V₁₂ Flow entering Lanes 1 and 2 immediately upstream of the merge influence area
Nearside Lane 1
Offside Lane 2
- V_f Maximum total flow approaching from a merge or diverge area on the freeway
- V_b Maximum total flow departing from a merge or diverge area on the freeway
- V_{R12} Maximum total flow entering the ramp influence (merge) area
- V_R Maximum flow on a ramp (on slip)
- L_A Length of Acceleration (Entry Taper) Lane (meters)
- S_{FR} Free Flow Speed of ramp at point of merge area (Kmph/h)
- D_R Density of merge influence area (pc/km/ln)
- LOS Level of Service

Calculation	2016			2016 With Dev No Cala Relocation			2031			2031 With Dev No Cala Relocation		
	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus	Totals	Heavies	pcus
V ₁₂	0	0	1955	0	0	1856	0	0	2392	0	0	2270
V _f	0	0	1955	0	0	1856	0	0	2392	0	0	2270
V _b	0	0	2186	0	0	2137	0	0	2619	0	0	2568
V _{R12}	0	0	2186	0	0	2137	0	0	2619	0	0	2568
V _R			231			281			227			298
L _A	110		110	110		110	110		110	89		89
S _{FR}	80		80	80		80	80		80	80		80
D _R			12.43356			12.18636			14.51292			14.51946
LOS			C			C			C			C

1 mile = 1.6km

Kmph/h	Mp/h
80	50
65	41
50	31
30	19

Determining Capacity $V_{R12} = V_{12} + V_R$

Capacity Values for Merge Areas

Freeway Free Flow Speed	Max Downstream Freeway Flow, V (pc/h)**					Max desirable flow entering influence area V _{R12} (PC/H)
	Number of lanes in one direction					
kph	mph	2	3	4	>4*	
120	75	4800	7200	9600	2400	4600
110	69	4700	7050	9400	2350	4600
100	63	4600	6900	9200	2300	4600
90	56	4500	6750	9000	2250	4600

* values are per lane
** V = V_f + V_R

Determining Level of Service $DR = 3.402 + 0.00456V_R + 0.0048V_{12} - 0.01278L_A$

- Where
- D_R = density of merge influence area (pc/km/ln)
- V_R = on-ramp peak 15-min flow rate (pc/h)
- V₁₂ = flow rate entering ramp influence area (pc/h), and
- L_A = length of acceleration lane (m)

LOS Criteria for Merge and Diverge Areas

LOS	Density (pc/km/ln)
A	≤ 6
B	> 6 - 12
C	> 12 - 17
D	> 17 - 22
E	> 22
F	Demand exceeds capacity

(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: M1 - Ashton Rd - 2016 AM Do Minimum

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	15.82	23.74	15.82
ARM B	15.00	45.00	75.00	11.95	17.92	11.95
ARM C	15.00	45.00	75.00	10.29	15.43	10.29

Demand set: M1 - Ashton Rd - 2016 AM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
	ARM B	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
	ARM C	1.000	0.000	0.000
		(5.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00									
B-AC	12.00	7.61	1.576		0.00	67.45	516.3		4.82
C-A	10.33								
C-B	0.00	6.67	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	15.89								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.00-08.15									
B-AC	14.32	6.97	2.056		67.45	177.83	1839.7		19.37
C-A	12.33								
C-B	0.00	6.11	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	18.97								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.15-08.30									
B-AC	17.54	6.08	2.887		177.83	349.82	3957.4		43.04
C-A	15.10								
C-B	0.00	5.33	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	23.23								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-AC	17.54	6.08	2.887		349.82	521.81	6537.3		61.70
C-A	15.10								
C-B	0.00	5.33	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	23.23								

M1 - Ashton Rd - 2016 Do Minimum.vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	14.32	6.97	2.056		521.81	632.17	8654.9		77.23
C-A	12.33								
C-B	0.00	6.11	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	18.97								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	12.00	7.61	1.576		632.17	697.96	9976.0		87.53
C-A	10.33								
C-B	0.00	6.67	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	15.89								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	67.5
08.15	177.8
08.30	349.8
08.45	521.8
09.00	632.2
09.15	698.0

QUEUE FOR STREAM C-B

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 * * DELAY *		* I NCLUSI VE * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	1315.9	877.2	31481.4	23.92	63489.5	48.25
C-A	1132.8	755.2				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
A-B	0.0	0.0				
A-C	1742.6	1161.7				
ALL	4191.2	2794.1	31481.4	7.51	63489.5	15.15

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERIOD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAI NI NG 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)

Intercept For STREAM B-C	Slope For STREAM A-C	Opposing Slope For STREAM A-B
688.22	0.21	0.08

Intercept For STREAM B-A	Slope For STREAM A-C	Opposing Slope For STREAM A-B	Opposing Slope For STREAM C-A	Opposing Slope For STREAM C-B
556.62	0.20	0.08	0.12	0.28

Intercept For STREAM C-B	Slope For STREAM A-C	Opposing Slope For STREAM A-B
631.87	0.19	0.19

(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: M1 - Ashton Rd - 2016 PM Do Minimum

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	8.50	12.75	8.50
ARM B	15.00	45.00	75.00	8.34	12.51	8.34
ARM C	15.00	45.00	75.00	23.96	35.94	23.96

Demand set: M1 - Ashton Rd - 2016 PM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.000	1.000
		0.0	0.0	680.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	1.000
		0.0	0.0	667.0
		(2.0)	(0.0)	(2.0)
	ARM C	1.000	0.000	0.000
		1917.0	0.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
16.45-17.00									
B-AC	8.37	9.47	0.884		0.00	5.48	63.0		0.59
C-A	24.05								
C-B	0.00	8.06	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	8.53								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.00-17.15									
B-AC	9.99	9.12	1.096		5.48	22.08	214.2		1.88
C-A	28.72								
C-B	0.00	7.76	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	10.19								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.15-17.30									
B-AC	12.24	8.64	1.416		22.08	76.27	738.2		5.94
C-A	35.18								
C-B	0.00	7.36	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	12.48								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.30-17.45									
B-AC	12.24	8.64	1.416		76.27	130.28	1549.1		11.85
C-A	35.18								
C-B	0.00	7.36	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	12.48								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.45-18.00									
B-AC	9.99	9.12	1.096		130.28	143.46	2053.0		14.89
C-A	28.72								
C-B	0.00	7.76	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	10.19								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	8.37	9.47	0.884		143.46	128.00	2035.9		14.44
C-A	24.05								
C-B	0.00	8.06	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	8.53								

QUEUE FOR STREAM B-AC

TI ME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE	
17.00	5.5	*****
17.15	22.1	*****
17.30	76.3	*****
17.45	130.3	*****
18.00	143.5	*****
18.15	128.0	*****

QUEUE FOR STREAM C-B

TI ME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 I NFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEI NG * * DELAY *		* I NCLUSI VE QUEUEI NG * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	918.1	612.1	6653.5	7.25	7518.9	8.19
C-A	2638.6	1759.1				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
A-B	0.0	0.0				
A-C	936.0	624.0				
ALL	4492.7	2995.1	6653.5	1.48	7518.9	1.67

* DELAY IS THAT OCCURRI NG ONLY WITHI N THE TI ME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHICH ARE STI LL QUEUEI NG AFTER THE END OF THE TI ME PERI OD
 * THESE WILL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REI NAINI NG AT THE END OF THE TI ME PERI OD.

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

M1 - Ashton Rd - 2016 Do Something No CALA Relocation.vpo
 (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: M1 - Ashton Rd - 2016 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	16.30	24.45	16.30
ARM B	15.00	45.00	75.00	11.11	16.67	11.11
ARM C	15.00	45.00	75.00	10.32	15.49	10.32

Demand set: M1 - Ashton Rd - 2016 AM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
	ARM B	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
	ARM C	1.000	0.000	0.000
		(5.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00									
B-AC	11.15	7.51	1.485		0.00	56.62	436.4		4.14
C-A	10.36								
C-B	0.00	6.58	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	16.36								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.00-08.15									
B-AC	13.32	6.85	1.945		56.62	153.73	1577.7		16.93
C-A	12.38								
C-B	0.00	6.00	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	19.54								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.15-08.30									
B-AC	16.31	5.93	2.750		153.73	309.46	3473.9		38.88
C-A	15.16								
C-B	0.00	5.20	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	23.93								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-AC	16.31	5.93	2.750		309.46	465.19	5809.9		56.20
C-A	15.16								
C-B	0.00	5.20	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	23.93								

M1 - Ashton Rd - 2016 Do Something No CALA Relocati on. vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	13.32	6.85	1.945		465.19	562.28	7706.0		69.87
C-A	12.38								
C-B	0.00	6.00	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	19.54								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	11.15	7.51	1.485		562.28	616.95	8844.2		78.65
C-A	10.36								
C-B	0.00	6.58	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	16.36								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	56.6
08.15	153.7
08.30	309.5
08.45	465.2
09.00	562.3
09.15	616.9

QUEUE FOR STREAM C-B

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 (VEH)	DEMAND (VEH/H)	* QUEUEING * * DELAY * (MI N)	* INCLUSIVE QUEUEING * * DELAY * (MI N/VEH)	* INCLUSIVE QUEUEING * * DELAY * (MI N)	* INCLUSIVE QUEUEING * * DELAY * (MI N/VEH)
B-AC	1223.6	815.8	27848.2	22.76	53188.4	43.47
C-A	1136.9	758.0				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
A-B	0.0	0.0				
A-C	1794.9	1196.6				
ALL	4155.4	2770.3	27848.2	6.70	53188.4	12.80

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHI CLES
 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)

Intercept For STREAM B-C	Slope For STREAM A-C	Opposing Slope For STREAM A-B
688.22	0.21	0.08

Intercept For STREAM B-A	Slope For STREAM A-C	Opposing Slope For STREAM A-B	Opposing Slope For STREAM C-A	Opposing Slope For STREAM C-B
556.62	0.20	0.08	0.12	0.28

Intercept For STREAM C-B	Slope For STREAM A-C	Opposing Slope For STREAM A-B
631.87	0.19	0.19

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

TRAFFIC DEMAND DATA

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

M1 - Ashton Rd - 2016 Do Something No CALA Relocati on.vpo
 Demand set: M1 - Ashton Rd - 2016 PM Do Something

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	8.45	12.67	8.45
ARM B	15.00	45.00	75.00	8.16	12.24	8.16
ARM C	15.00	45.00	75.00	22.75	34.13	22.75

Demand set: M1 - Ashton Rd - 2016 PM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000 (0.0)	0.000 (2.0)	1.000 (676.0)
	ARM B	0.000 (0.0)	0.000 (0.0)	1.000 (653.0)
	ARM C	1.000 (1820.0)	0.000 (0.0)	0.000 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
 AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
16.45-17.00									
B-AC	8.19	9.48	0.865		0.00	4.89	57.5		0.54
C-A	22.84								
C-B	0.00	8.07	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	8.48								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.00-17.15									
B-AC	9.78	9.13	1.071		4.89	19.06	188.1		1.68
C-A	27.27								
C-B	0.00	7.77	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	10.13								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.15-17.30									
B-AC	11.98	8.66	1.384		19.06	69.23	663.0		5.36
C-A	33.40								
C-B	0.00	7.37	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	12.40								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.30-17.45									
B-AC	11.98	8.66	1.384		69.23	119.17	1413.1		10.83
C-A	33.40								
C-B	0.00	7.37	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	12.40								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.45-18.00									
B-AC	9.78	9.13	1.071		119.17	129.05	1861.7		13.52
C-A	27.27								
C-B	0.00	7.77	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	10.13								

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-AC	8.19	9.48	0.865		129.05	110.91	1799.7		12.77
C-A	22.84								
C-B	0.00	8.07	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	8.48								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	4.9	*****
17.15	19.1	*****
17.30	69.2	*****
17.45	119.2	*****
18.00	129.1	*****
18.15	110.9	*****

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)	(MIN)	(MIN/VEH)
B-AC	898.8	599.2	5983.1	6.66	6632.2	7.38
C-A	2505.1	1670.1				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
A-B	0.0	0.0				
A-C	930.5	620.3				
ALL	4334.4	2889.6	5983.1	1.38	6632.2	1.53

* 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 RUN*****

M1 - Ashton Rd - 2031 Do Minimum.vpo

(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: M1 - Ashton Rd - 2031 AM Do Minimum

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM START WHEN TOP OF PEAK IS REACHED	START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	16.92	25.39	16.92
ARM B	15.00	45.00	75.00	15.04	22.56	15.04
ARM C	15.00	45.00	75.00	14.20	21.30	14.20

Demand set: M1 - Ashton Rd - 2031 AM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
		1354.0	(5.0)	
	ARM B	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
		1203.0	(0.0)	(5.0)
	ARM C	1.000	0.000	0.000
		(5.0)	(0.0)	(0.0)
		1136.0	(5.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00									
B-AC	15.09	7.38	2.046		0.00	116.67	881.4		8.55
C-A	14.25								
C-B	0.00	6.47	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	16.99								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.00-08.15									
B-AC	18.02	6.69	2.694		116.67	286.67	3025.1		29.71
C-A	17.02								
C-B	0.00	5.86	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	20.29								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.15-08.30									
B-AC	22.08	5.74	3.846		286.67	531.71	6137.9		63.67
C-A	20.85								
C-B	0.00	5.03	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	24.85								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-AC	22.08	5.74	3.846		531.71	776.74	9813.3		93.53
C-A	20.85								
C-B	0.00	5.03	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	24.85								

M1 - Ashton Rd - 2031 Do Minimum.vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	18.02	6.69	2.694		776.74	946.74	12926.1		118.31
C-A	17.02								
C-B	0.00	5.86	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	20.29								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	15.09	7.38	2.046		946.74	*****	15069.0		136.27
C-A	14.25								
C-B	0.00	6.47	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	16.99								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	116.7
08.15	286.7
08.30	531.7
08.45	776.7
09.00	946.7
09.15	1062.5

QUEUE FOR STREAM C-B

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 * * DELAY *		* I NCLUSI VE * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	1655.8	1103.9	47852.8	28.90	124339.0	75.09
C-A	1563.6	1042.4				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
A-B	0.0	0.0				
A-C	1863.7	1242.5				
ALL	5083.1	3388.8	47852.8	9.41	124339.0	24.46

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERIOD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAI NI NG 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)

Intercept For STREAM B-C	Slope For STREAM A-C	Opposing Slope For STREAM A-B
688.22	0.21	0.08

Intercept For STREAM B-A	Slope For STREAM A-C	Opposing Slope For STREAM A-B	Opposing Slope For STREAM C-A	Opposing Slope For STREAM C-B
556.62	0.20	0.08	0.12	0.28

Intercept For STREAM C-B	Slope For STREAM A-C	Opposing Slope For STREAM A-B
631.87	0.19	0.19

(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: M1 - Ashton Rd - 2031 PM Do Minimum

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	11.57	17.36	11.57
ARM B	15.00	45.00	75.00	9.88	14.81	9.88
ARM C	15.00	45.00	75.00	29.33	43.99	29.33

Demand set: M1 - Ashton Rd - 2031 PM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000 (0.0)	0.000 (2.0)	1.000 (926.0)
	ARM B	0.000 (0.0)	0.000 (0.0)	1.000 (790.0)
	ARM C	1.000 (2346.0)	0.000 (0.0)	0.000 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
16.45-17.00									
B-AC	9.91	8.82	1.124		0.00	22.10	188.4		1.59
C-A	29.44								
C-B	0.00	7.51	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	11.62								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.00-17.15									
B-AC	11.84	8.35	1.417		22.10	74.60	725.8		6.21
C-A	35.15								
C-B	0.00	7.11	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	13.87								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.15-17.30									
B-AC	14.50	7.70	1.883		74.60	176.57	1883.9		16.41
C-A	43.05								
C-B	0.00	6.56	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	16.99								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.30-17.45									
B-AC	14.50	7.70	1.883		176.57	278.53	3413.3		29.72
C-A	43.05								
C-B	0.00	6.56	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	16.99								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.45-18.00									
B-AC	11.84	8.35	1.417		278.53	330.82	4570.1		35.48
C-A	35.15								
C-B	0.00	7.11	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	13.87								

M1 - Ashton Rd - 2031 Do Minimum.vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	9.91	8.82	1.124		330.82	347.20	5085.2		38.57
C-A	29.44								
C-B	0.00	7.51	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	11.62								

QUEUE FOR STREAM B-AC

TI ME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
17.00	22.1
17.15	74.6
17.30	176.6
17.45	278.5
18.00	330.8
18.15	347.2

QUEUE FOR STREAM C-B

TI ME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 I NFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	DEMAND (VEH/H)	* QUEUEI NG * * DELAY * (MI N)	(MI N/VEH)	* I NCLUSI VE QUEUEI NG * * DELAY * (MI N)	(MI N/VEH)
B-AC	1087.4	724.9	15866.7	14.59	22699.7	20.88
C-A	3229.1	2152.7				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
A-B	0.0	0.0				
A-C	1274.6	849.7				
ALL	5591.0	3727.4	15866.7	2.84	22699.7	4.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHICH ARE STILL QUEUEI NG AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNI FICANTLY DIFFERENT I F THERE I S
 A LARGE QUEUE REMAINI NG AT THE END OF THE TIME PERIOD.

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

M1 - Ashton Rd - 2031 Do Something No CALA Relocation.vpo
 (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: M1 - Ashton Rd - 2031 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	17.04	25.56	17.04
ARM B	15.00	45.00	75.00	14.29	21.43	14.29
ARM C	15.00	45.00	75.00	14.25	21.38	14.25

Demand set: M1 - Ashton Rd - 2031 AM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
	ARM B	0.000	0.000	1.000
		(0.0)	(0.0)	(5.0)
	ARM C	1.000	0.000	0.000
		(5.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00									
B-AC	14.34	7.36	1.950		0.00	105.82	800.6		7.78
C-A	14.30								
C-B	0.00	6.45	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	17.10								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.00-08.15									
B-AC	17.13	6.66	2.570		105.82	262.77	2764.4		27.44
C-A	17.08								
C-B	0.00	5.84	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	20.42								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.15-08.30									
B-AC	20.97	5.71	3.676		262.77	491.80	5659.2		66.28
C-A	20.92								
C-B	0.00	5.00	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	25.01								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-AC	20.97	5.71	3.676		491.80	720.83	9094.7		87.33
C-A	20.92								
C-B	0.00	5.00	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	25.01								

M1 - Ashton Rd - 2031 Do Something No CALA Relocati on. vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	17.13	6.66	2.570		720.83	877.77	11989.5		110.17
C-A	17.08								
C-B	0.00	5.84	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	20.42								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	14.34	7.36	1.950		877.77	982.56	13952.5		126.53
C-A	14.30								
C-B	0.00	6.45	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	17.10								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	105.8
08.15	262.8
08.30	491.8
08.45	720.8
09.00	877.8
09.15	982.6

QUEUE FOR STREAM C-B

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 I NFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	DEMAND (VEH/H)	* QUEUEI NG * * DELAY * (MI N)	* INCLUSI VE * * DELAY * (MI N/VEH)	* INCLUSI VE * * DELAY * (MI N)	* INCLUSI VE * * DELAY * (MI N/VEH)
B-AC	1573.3	1048.8	44261.0	28.13	109884.4	69.85
C-A	1569.1	1046.1				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
A-B	0.0	0.0				
A-C	1876.1	1250.7				
ALL	5018.5	3345.6	44261.0	8.82	109884.4	21.90

* DELAY IS THAT OCCURRI NG ONLY WITHI N THE TIME PERIOD
 * INCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SI GNI FICANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERIOD.

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

SLOPES AND I NTERCEPT

(NB: Streams may be combined, i n whi ch case capaci ty wi ll be adjusted)

Intercept For STREAM B-C	Slope For STREAM A-C	Opposi ng STREAM A-C	Intercept For STREAM A-B	Slope For STREAM A-B	Opposi ng STREAM A-B
688.22	0.21		0.08		

Intercept For STREAM B-A	Slope For STREAM A-C	Opposi ng STREAM A-C	Intercept For STREAM A-B	Slope For STREAM A-B	Opposi ng STREAM A-B	Intercept For STREAM C-A	Slope For STREAM C-B	Opposi ng STREAM C-B
556.62	0.20		0.08			0.12	0.28	

Intercept For STREAM C-B	Slope For STREAM A-C	Opposi ng STREAM A-C	Intercept For STREAM A-B	Slope For STREAM A-B	Opposi ng STREAM A-B
631.87	0.19		0.19		

(NB These values do not allow for any si te speci fi c correcti ons)

TRAFFI C DEMAND DATA

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

Demand set: M1 - Ashton Rd - 2031 PM Do Something

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	11.57	17.36	11.57
ARM B	15.00	45.00	75.00	9.68	14.51	9.68
ARM C	15.00	45.00	75.00	27.81	41.72	27.81

Demand set: M1 - Ashton Rd - 2031 PM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000 (0.0)	0.000 (2.0)	1.000 (926.0)
	ARM B	0.000 (0.0)	0.000 (0.0)	1.000 (774.0)
	ARM C	1.000 (2225.0)	0.000 (0.0)	0.000 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
16.45-17.00									
B-AC	9.71	8.82	1.101		0.00	19.74	171.6		1.46
C-A	27.92								
C-B	0.00	7.51	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	11.62								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.00-17.15									
B-AC	11.60	8.35	1.389		19.74	68.70	664.0		5.71
C-A	33.34								
C-B	0.00	7.11	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	13.87								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.15-17.30									
B-AC	14.20	7.70	1.845		68.70	166.27	1762.3		15.39
C-A	40.83								
C-B	0.00	6.56	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	16.99								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.30-17.45									
B-AC	14.20	7.70	1.845		166.27	263.82	3225.7		28.10
C-A	40.83								
C-B	0.00	6.56	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	16.99								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.45-18.00									
B-AC	11.60	8.35	1.389		263.82	312.52	4322.6		33.61
C-A	33.34								
C-B	0.00	7.11	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	13.87								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	9.71	8.82	1.101		312.52	325.89	4788.1		36.33
C-A	27.92								
C-B	0.00	7.51	0.000		0.00	0.00	0.0		0.00
A-B	0.00								
A-C	11.62								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE	
17.00	19.7	*****
17.15	68.7	*****
17.30	166.3	*****
17.45	263.8	*****
18.00	312.5	*****
18.15	325.9	*****

QUEUE FOR STREAM C-B

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 I NFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEI NG * * DELAY *		* I NCLUSI VE QUEUEI NG * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	1065.4	710.2	14934.2	14.02	20954.1	19.67
C-A	3062.5	2041.7				
C-B	0.0	0.0	0.0	0.00	0.0	0.00
A-B	0.0	0.0				
A-C	1274.6	849.7				
ALL	5402.5	3601.6	14934.2	2.76	20954.1	3.88

* DELAY IS THAT OCCURRI NG ONLY WITHI N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WILL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

(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: M3 - Ashton Rd - 2016 AM Do Minimum

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

ARM	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	TOP OF PEAK FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	(VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	11.64	17.46
ARM B	15.00	45.00	75.00	0.00	0.00
ARM C	15.00	45.00	75.00	7.82	11.74

Demand set: M3 - Ashton Rd - 2016 AM Do Minimum

TIME	TURNING PROPORTIONS (PERCENTAGE OF H.V.S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000 (0.0)	0.825 768.0 (5.0)	0.175 163.0 (5.0)
	ARM B	0.000 (0.0)	0.000 (0.0)	0.000 (0.0)
	ARM C	0.887 555.0 (5.0)	0.113 71.0 (5.0)	0.000 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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	0.00	6.35	0.000		0.00	0.00	0.0		0.00
C-AB	0.89	8.59	0.104		0.00	0.11	1.7		0.13
A-B	9.64								
A-C	2.05								

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)
08.00-08.15									
B-AC	0.00	5.99	0.000		0.00	0.00	0.0		0.00
C-AB	1.06	8.07	0.132		0.11	0.15	2.3		0.14
A-B	11.51								
A-C	2.44								

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	0.00	5.49	0.000		0.00	0.00	0.0		0.00
C-AB	1.30	7.36	0.177		0.15	0.21	3.2		0.16
A-B	14.09								
A-C	2.99								

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-AC	0.00	5.49	0.000		0.00	0.00	0.0		0.00
C-AB	1.30	7.36	0.177		0.21	0.21	3.2		0.17
A-B	14.09								
A-C	2.99								

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)

M3 - Ashton Rd - 2016 Do Minimum.vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	0.00	5.99	0.000		0.00	0.00	0.0		0.00
C-AB	1.06	8.07	0.132		0.21	0.15	2.3		0.14
A-B	11.51								
A-C	2.44								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	0.00	6.34	0.000		0.00	0.00	0.0		0.00
C-AB	0.89	8.59	0.104		0.15	0.12	1.8		0.13
A-B	9.64								
A-C	2.05								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHI CLES 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 C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	97.7	65.2	14.4	0.15	14.4	0.15
A-B	1057.1	704.7				
A-C	224.4	149.6				
ALL	2143.1	1428.7	14.4	0.01	14.4	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHI CLES 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)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
602.92	0.19	0.08

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
476.98	0.18	0.07	0.11	0.26

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
707.52	0.23	0.23

(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: M3 - Ashton Rd - 2016 PM Do Minimum

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	5.94	8.91	5.94
ARM B	15.00	45.00	75.00	0.00	0.00	0.00
ARM C	15.00	45.00	75.00	21.61	32.42	21.61

Demand set: M3 - Ashton Rd - 2016 PM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000 (0.0)	0.962 (457.0 (2.0))	0.038 (18.0 (2.0))
	ARM B	0.000 (0.0 (2.0))	0.000 (0.0 (0.0))	0.000 (0.0 (2.0))
	ARM C	0.910 (1573.0 (2.0))	0.090 (156.0 (2.0))	0.000 (0.0 (0.0))

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
16.45-17.00									
B-AC	0.00	5.71	0.000		0.00	0.00	0.0		0.00
C-AB	1.96	10.21	0.192		0.00	0.23	3.5		0.12
A-B	5.73								
A-C	0.23								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.00-17.15									
B-AC	0.00	5.14	0.000		0.00	0.00	0.0		0.00
C-AB	2.34	9.95	0.235		0.23	0.30	4.6		0.13
A-B	6.85								
A-C	0.27								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.15-17.30									
B-AC	0.00	4.29	0.000		0.00	0.00	0.0		0.00
C-AB	2.86	9.59	0.299		0.30	0.42	6.3		0.15
A-B	8.39								
A-C	0.33								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.30-17.45									
B-AC	0.00	4.28	0.000		0.00	0.00	0.0		0.00
C-AB	2.86	9.59	0.299		0.42	0.42	6.4		0.15
A-B	8.39								
A-C	0.33								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
17.45-18.00									
B-AC	0.00	5.14	0.000		0.00	0.00	0.0		0.00
C-AB	2.34	9.95	0.235		0.42	0.31	4.7		0.13
A-B	6.85								
A-C	0.27								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
18.00-18.15									
B-AC	0.00	5.70	0.000		0.00	0.00	0.0		0.00
C-AB	1.96	10.21	0.192		0.31	0.24	3.6		0.12
A-B	5.73								
A-C	0.23								

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	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	214.7	143.1	29.0	0.14	29.0	0.14
A-B	629.0	419.4				
A-C	24.8	16.5				
ALL	3033.6	2022.4	29.0	0.01	29.0	0.01

* 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 RUN*****

M3 - Ashton Rd - 2016 Do Something No CALA Relocation.vpo
 (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: M3 - Ashton Rd - 2016 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	12.44	18.66	12.44
ARM B	15.00	45.00	75.00	0.00	0.00	0.00
ARM C	15.00	45.00	75.00	8.01	12.02	8.01

Demand set: M3 - Ashton Rd - 2016 AM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000 (0.0)	0.825 (82.0)	0.175 (17.0)
	ARM B	0.000 (0.0)	0.000 (0.0)	0.000 (0.0)
	ARM C	0.897 (57.5)	0.103 (6.0)	0.000 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
 FOR COMBINED DEMAND SETS
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00									
B-AC	0.00	6.26	0.000		0.00	0.00	0.0		0.00
C-AB	0.83	8.40	0.099		0.00	0.11	1.6		0.13
A-B	10.30								
A-C	2.18								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.00-08.15									
B-AC	0.00	5.89	0.000		0.00	0.00	0.0		0.00
C-AB	0.99	7.85	0.126		0.11	0.14	2.1		0.15
A-B	12.30								
A-C	2.61								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.15-08.30									
B-AC	0.00	5.36	0.000		0.00	0.00	0.0		0.00
C-AB	1.21	7.10	0.171		0.14	0.20	3.0		0.17
A-B	15.07								
A-C	3.19								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-AC	0.00	5.36	0.000		0.00	0.00	0.0		0.00
C-AB	1.21	7.10	0.171		0.20	0.20	3.1		0.17
A-B	15.07								
A-C	3.19								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)

M3 - Ashton Rd - 2016 Do Something No CALA Relocati on. vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	0.00	5.89	0.000		0.00	0.00	0.0		0.00
C-AB	0.99	7.85	0.126		0.20	0.15	2.2		0.15
A-B	12.30								
A-C	2.61								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	0.00	6.26	0.000		0.00	0.00	0.0		0.00
C-AB	0.83	8.40	0.099		0.15	0.11	1.7		0.13
A-B	10.30								
A-C	2.18								

WARNING NO MARGI NAL ANALY SIS OF CAPACI TIES AS MAJOR ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATI ON OVER WHOLE PERI OD

STREAM	TOTAL DEMAND		* QUEUEI NG * DELAY *		* I NCLUSI VE QUEUEI NG * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	90.8	60.6	13.7	0.15	13.7	0.15
A-B	1130.0	753.4				
A-C	239.5	159.7				
ALL	2251.8	1501.2	13.7	0.01	13.7	0.01

* DELAY I S THAT OCCURRI NG ONLY WI THI N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

SLOPES AND I NTERCEPT

(NB: Streams may be combined, i n whi ch case capaci ty wi ll be adjusted)

Intercept For STREAM B-C	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
602.92	0.19	0.08

Intercept For STREAM B-A	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B	Slope For Opposi ng STREAM C-A	Slope For Opposi ng STREAM C-B
476.98	0.18	0.07	0.11	0.26

Intercept For STREAM C-B	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
707.52	0.23	0.23

(NB These values do not allow for any si te speci fi c correcti ons)

TRAFFI C DEMAND DATA

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

Demand set: M3 - Ashton Rd - 2016 PM Do Something

TIME PERI OD BEGI NS 16.45 AND ENDS 18.15

LENGTH OF TIME PERI OD - 90 MI N.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	5.91	8.87	5.91
ARM B	15.00	45.00	75.00	0.00	0.00	0.00
ARM C	15.00	45.00	75.00	21.60	32.40	21.60

Demand set: M3 - Ashton Rd - 2016 PM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.962	0.038
		(0.0)	(455.0)	(18.0)
		(2.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	0.000
		(0.0)	(0.0)	(0.0)
		(2.0)	(0.0)	(2.0)
	ARM C	0.911	0.089	0.000
		(1575.0)	(153.0)	(0.0)
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
16.45-17.00									
B-AC	0.00	5.71	0.000		0.00	0.00	0.0		0.00
C-AB	1.92	10.22	0.188		0.00	0.23	3.4		0.12
A-B	5.71								
A-C	0.23								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.00-17.15									
B-AC	0.00	5.15	0.000		0.00	0.00	0.0		0.00
C-AB	2.29	9.96	0.230		0.23	0.30	4.4		0.13
A-B	6.82								
A-C	0.27								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.15-17.30									
B-AC	0.00	4.30	0.000		0.00	0.00	0.0		0.00
C-AB	2.81	9.60	0.293		0.30	0.41	6.1		0.15
A-B	8.35								
A-C	0.33								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.30-17.45									
B-AC	0.00	4.30	0.000		0.00	0.00	0.0		0.00
C-AB	2.81	9.60	0.293		0.41	0.41	6.2		0.15
A-B	8.35								
A-C	0.33								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
17.45-18.00									
B-AC	0.00	5.15	0.000		0.00	0.00	0.0		0.00
C-AB	2.29	9.96	0.230		0.41	0.30	4.5		0.13
A-B	6.82								
A-C	0.27								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
18.00-18.15									
B-AC	0.00	5.71	0.000		0.00	0.00	0.0		0.00
C-AB	1.92	10.22	0.188		0.30	0.23	3.5		0.12
A-B	5.71								
A-C	0.23								

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	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	210.6	140.4	28.2	0.13	28.2	0.13
A-B	626.3	417.5				
A-C	24.8	16.5				
ALL	3029.5	2019.7	28.2	0.01	28.2	0.01

* 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 RUN*****

(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: M3 - Ashton Rd - 2031 AM Do Minimum

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	VEH/MI N AFTER PEAK
ARM A	15.00	45.00	75.00	16.13	24.19	16.13
ARM B	15.00	45.00	75.00	0.00	0.00	0.00
ARM C	15.00	45.00	75.00	10.31	15.47	10.31

Demand set: M3 - Ashton Rd - 2031 AM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000 (0.0)	0.825 1064.0 (5.0)	0.175 226.0 (5.0)
	ARM B	0.000 (0.0)	0.000 (0.0)	0.000 (0.0)
	ARM C	0.892 736.0 (5.0)	0.108 89.0 (5.0)	0.000 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
07.45-08.00									
B-AC	0.00	5.70	0.000		0.00	0.00	0.0		0.00
C-AB	1.12	7.57	0.148		0.00	0.17	2.5		0.15
A-B	13.35								
A-C	2.84								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.00-08.15									
B-AC	0.00	5.19	0.000		0.00	0.00	0.0		0.00
C-AB	1.33	6.85	0.195		0.17	0.24	3.6		0.18
A-B	15.94								
A-C	3.39								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.15-08.30									
B-AC	0.00	4.47	0.000		0.00	0.00	0.0		0.00
C-AB	1.63	5.87	0.278		0.24	0.38	5.6		0.23
A-B	19.52								
A-C	4.15								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-AC	0.00	4.47	0.000		0.00	0.00	0.0		0.00
C-AB	1.63	5.87	0.278		0.38	0.38	5.8		0.24
A-B	19.52								
A-C	4.15								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)

M3 - Ashton Rd - 2031 Do Minimum.vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	0.00	5.19	0.000		0.00	0.00	0.0		0.00
C-AB	1.33	6.85	0.195		0.38	0.25	3.7		0.18
A-B	15.94								
A-C	3.39								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	0.00	5.69	0.000		0.00	0.00	0.0		0.00
C-AB	1.12	7.57	0.148		0.25	0.18	2.6		0.16
A-B	13.35								
A-C	2.84								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHI CLES 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 C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	122.5	81.7	23.9	0.19	23.9	0.19
A-B	1464.5	976.3				
A-C	311.1	207.4				
ALL	2911.1	1940.8	23.9	0.01	23.9	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHI CLES 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)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
602.92	0.19	0.08

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
476.98	0.18	0.07	0.11	0.26

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
707.52	0.23	0.23

(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: M3 - Ashton Rd - 2031 PM Do Minimum

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MIN.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.46	9.69	6.46
ARM B	15.00	45.00	75.00	0.00	0.00	0.00
ARM C	15.00	45.00	75.00	25.46	38.19	25.46

Demand set: M3 - Ashton Rd - 2031 PM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000 (0.0)	0.961 (497.0 (2.0))	0.039 (20.0 (2.0))
	ARM B	0.000 (0.0 (2.0))	0.000 (0.0 (0.0))	0.000 (0.0 (2.0))
	ARM C	0.909 (1852.0 (2.0))	0.091 (185.0 (2.0))	0.000 (0.0 (0.0))

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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-AC	0.00	5.23	0.000		0.00	0.00	0.0		0.00
C-AB	2.32	10.09	0.230		0.00	0.30	4.4		0.13
A-B	6.24								
A-C	0.25								

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-AC	0.00	4.52	0.000		0.00	0.00	0.0		0.00
C-AB	2.77	9.81	0.283		0.30	0.39	5.8		0.14
A-B	7.45								
A-C	0.30								

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-AC	0.00	3.41	0.000		0.00	0.00	0.0		0.00
C-AB	3.39	9.41	0.361		0.39	0.55	8.3		0.17
A-B	9.12								
A-C	0.37								

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-AC	0.00	3.41	0.000		0.00	0.00	0.0		0.00
C-AB	3.39	9.41	0.361		0.55	0.56	8.5		0.17
A-B	9.12								
A-C	0.37								

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-AC	0.00	4.52	0.000		0.00	0.00	0.0		0.00
C-AB	2.77	9.81	0.283		0.56	0.40	6.0		0.14
A-B	7.45								
A-C	0.30								

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-AC	0.00	5.23	0.000		0.00	0.00	0.0		0.00
C-AB	2.32	10.09	0.230		0.40	0.30	4.5		0.13
A-B	6.24								
A-C	0.25								

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	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.3
17.15	0.4
17.30	0.6 *
17.45	0.6 *
18.00	0.4
18.15	0.3

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	254.6	169.8	37.5	0.15	37.5	0.15
A-B	684.1	456.1				
A-C	27.5	18.4				
ALL	3515.4	2343.6	37.5	0.01	37.5	0.01

* 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 RUN*****

M3 - Ashton Rd - 2031 Do Something No CALA Relocation.vpo
 (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: M3 - Ashton Rd - 2031 AM Do Something

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

ARM	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	RATE OF FLOW AT TOP OF PEAK	RATE OF FLOW AFTER PEAK
ARM A	15.00	45.00	18.13	27.19	18.13
ARM B	15.00	45.00	0.00	0.00	0.00
ARM C	15.00	45.00	10.59	15.88	10.59

Demand set: M3 - Ashton Rd - 2031 AM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000 (0.0)	0.825 1196.0 (5.0)	0.175 254.0 (5.0)
	ARM B	0.000 (0.0)	0.000 (0.0)	0.000 (0.0)
	ARM C	0.900 762.0 (5.0)	0.100 85.0 (5.0)	0.000 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
 FOR COMBINED DEMAND SETS
 AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
07.45-08.00									
B-AC	0.00	5.49	0.000		0.00	0.00	0.0		0.00
C-AB	1.07	7.11	0.150		0.00	0.17	2.6		0.16
A-B	15.01								
A-C	3.19								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.00-08.15									
B-AC	0.00	4.94	0.000		0.00	0.00	0.0		0.00
C-AB	1.27	6.31	0.202		0.17	0.25	3.7		0.20
A-B	17.92								
A-C	3.81								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.15-08.30									
B-AC	0.00	4.14	0.000		0.00	0.00	0.0		0.00
C-AB	1.56	5.21	0.300		0.25	0.42	6.2		0.27
A-B	21.95								
A-C	4.66								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.30-08.45									
B-AC	0.00	4.14	0.000		0.00	0.00	0.0		0.00
C-AB	1.56	5.21	0.300		0.42	0.42	6.4		0.27
A-B	21.95								
A-C	4.66								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)

M3 - Ashton Rd - 2031 Do Something No CALA Relocati on. vpo

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.45-09.00									
B-AC	0.00	4.94	0.000		0.00	0.00	0.0		0.00
C-AB	1.27	6.31	0.202		0.42	0.26	3.9		0.20
A-B	17.92								
A-C	3.81								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
09.00-09.15									
B-AC	0.00	5.48	0.000		0.00	0.00	0.0		0.00
C-AB	1.07	7.11	0.150		0.26	0.18	2.7		0.17
A-B	15.01								
A-C	3.19								

WARNING NO MARGI NAL ANALY S I S OF CAPACI T I E S AS MAJ O R ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N QUEUE
08.00	0.2
08.15	0.2
08.30	0.4
08.45	0.4
09.00	0.3
09.15	0.2

QUEUEI NG DELAY I NFORMATI ON OVER WHOLE PERI OD

STREAM	TOTAL DEMAND		* QUEUEI NG * DELAY *		* I NCLUSI VE QUEUEI NG * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	117.0	78.0	25.5	0.22	25.5	0.22
A-B	1646.2	1097.5				
A-C	349.6	233.1				
ALL	3161.7	2107.8	25.5	0.01	25.5	0.01

* DELAY I S THAT OCCURRI NG ONLY WI TH I N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

SLOPES AND I NTERCEPT

(NB: Streams may be combined, i n whi ch case capaci ty wi ll be adjusted)

Intercept For STREAM B-C	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
602.92	0.19	0.08

Intercept For STREAM B-A	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B	Slope For Opposi ng STREAM C-A	Slope For Opposi ng STREAM C-B
476.98	0.18	0.07	0.11	0.26

Intercept For STREAM C-B	Slope For Opposi ng STREAM A-C	Slope For Opposi ng STREAM A-B
707.52	0.23	0.23

(NB These values do not allow for any si te speci fi c correcti ons)

TRAFFI C DEMAND DATA

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

Demand set: M3 - Ashton Rd - 2031 PM Do Something

TIME PERI OD BEGI NS 16.45 AND ENDS 18.15

LENGT H OF TIME PERI OD - 90 MI N.

LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	OF FLOW AT TOP OF PEAK	(VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	6.32	9.49	6.32
ARM B	15.00	45.00	75.00	0.00	0.00	0.00
ARM C	15.00	45.00	75.00	25.64	38.46	25.64

Demand set: M3 - Ashton Rd - 2031 PM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.960	0.040
		(0.0)	(486.0)	(20.0)
		(2.0)	(2.0)	(2.0)
	ARM B	0.000	0.000	0.000
		(0.0)	(0.0)	(0.0)
		(2.0)	(0.0)	(2.0)
	ARM C	0.912	0.088	0.000
		(1870.0)	(181.0)	(0.0)
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
B-AC	0.00	5.23	0.000		0.00	0.00	0.0		0.00
C-AB	2.27	10.12	0.224		0.00	0.29	4.2		0.13
A-B	6.10								
A-C	0.25								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
B-AC	0.00	4.52	0.000		0.00	0.00	0.0		0.00
C-AB	2.71	9.84	0.275		0.29	0.38	5.6		0.14
A-B	7.28								
A-C	0.30								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
B-AC	0.00	3.41	0.000		0.00	0.00	0.0		0.00
C-AB	3.32	9.46	0.351		0.38	0.53	8.0		0.16
A-B	8.92								
A-C	0.37								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
B-AC	0.00	3.41	0.000		0.00	0.00	0.0		0.00
C-AB	3.32	9.46	0.351		0.53	0.54	8.1		0.16
A-B	8.92								
A-C	0.37								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
B-AC	0.00	4.52	0.000		0.00	0.00	0.0		0.00
C-AB	2.71	9.84	0.275		0.54	0.38	5.8		0.14
A-B	7.28								
A-C	0.30								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-AC	0.00	5.23	0.000		0.00	0.00	0.0		0.00
C-AB	2.27	10.12	0.224		0.38	0.29	4.4		0.13
A-B	6.10								
A-C	0.25								

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	0.0
17.15	0.0
17.30	0.0
17.45	0.0
18.00	0.0
18.15	0.0

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

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	249.1	166.1	36.2	0.15	36.2	0.15
A-B	668.9	446.0				
A-C	27.5	18.4				
ALL	3519.5	2346.3	36.2	0.01	36.2	0.01

* 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 RUN*****

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For STREAM A-C	Opposing Slope For STREAM A-B
605.81	0.21	0.21

(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: M6 - Ashton Rd - 2016 AM Do Minimum

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	RATE OF FLOW AT TOP OF PEAK	RATE OF FLOW AFTER PEAK
ARM A	15.00	45.00	75.00	5.76	8.64	5.76
ARM B	15.00	45.00	75.00	0.44	0.66	0.44
ARM C	15.00	45.00	75.00	0.75	1.13	0.75

Demand set: M6 - Ashton Rd - 2016 AM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000 (0.0)	0.000 (5.0)	1.000 (461.0)
	ARM B	1.000 (35.0)	0.000 (0.0)	0.000 (5.0)
	ARM C	1.000 (60.0)	0.000 (0.0)	0.000 (5.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
07.45-08.00									
B-C	0.00	6.05	0.000		0.00	0.00	0.0		0.00
B-A	0.44	8.27	0.053		0.00	0.06	0.8		0.13
C-AB	0.00	8.02	0.000		0.00	0.00	0.0		0.00
C-A	0.75								
A-B	0.00								
A-C	5.78								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.00-08.15									
B-C	0.00	5.86	0.000		0.00	0.00	0.0		0.00
B-A	0.52	7.98	0.066		0.06	0.07	1.0		0.13
C-AB	0.00	7.80	0.000		0.00	0.00	0.0		0.00
C-A	0.90								
A-B	0.00								
A-C	6.91								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.15-08.30									
B-C	0.00	5.60	0.000		0.00	0.00	0.0		0.00
B-A	0.64	7.57	0.085		0.07	0.09	1.3		0.14
C-AB	0.00	7.49	0.000		0.00	0.00	0.0		0.00
C-A	1.10								
A-B	0.00								
A-C	8.46								

TIME	DEMAND	CAPACI TY	DEMAND/ CAPACI TY	PEDESTRI AN FLOW	START	END	DELAY	GEOMETRI C DELAY	AVERAGE DELAY
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	(VEH/MI N)	(VEH/MI N)	CAPACI TY (RFC)	M6 - Ashton FLOW (PEDS/MI N)	Rd - 2016 QUEUE (VEHS)	Do Mi ni num. vpo QUEUE (VEHS)	(VEH. MI N/ TIME SEGMENT)	(VEH. MI N/ TIME SEGMENT)	PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-C	0.00	5.60	0.000		0.00	0.00	0.0	0.00	
B-A	0.64	7.57	0.085		0.09	0.09	1.4	0.14	
C-AB	0.00	7.49	0.000		0.00	0.00	0.0	0.00	
C-A	1.10								
A-B	0.00								
A-C	8.46								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.45-09.00									
B-C	0.00	5.86	0.000		0.00	0.00	0.0		0.00
B-A	0.52	7.98	0.066		0.09	0.07	1.1		0.13
C-AB	0.00	7.80	0.000		0.00	0.00	0.0		0.00
C-A	0.90								
A-B	0.00								
A-C	6.91								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
09.00-09.15									
B-C	0.00	6.05	0.000		0.00	0.00	0.0		0.00
B-A	0.44	8.27	0.053		0.07	0.06	0.9		0.13
C-AB	0.00	8.02	0.000		0.00	0.00	0.0		0.00
C-A	0.75								
A-B	0.00								
A-C	5.78								

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

QUEUE FOR STREAM B-C

TIME SEGMENT	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	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-AB

TIME SEGMENT	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 * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-A	48.2	32.1	6.5	0.14	6.5	0.14
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	82.6	55.1				
A-B	0.0	0.0				
A-C	634.5	423.0				
ALL	765.3	510.2	6.5	0.01	6.5	0.01

* 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 RUN*****

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-C	STREAM A-B	STREAM A-B
0.00	0.00		0.00	

* Due to the presence of a flare, data is not available

Intercept For Stream B-A	Slope For Stream A-C	Opposing Slope For Stream A-B	Opposing Slope For Stream C-A	Opposing Slope For Stream C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For Stream C-B	Slope For Stream A-C	Opposing Slope For Stream A-B
605.81	0.21	0.21

(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: M6 - Ashton Rd - 2016 PM Do Minimum

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE BEFORE PEAK	RATE OF FLOW AT TOP OF PEAK	RATE OF FLOW AFTER PEAK
ARM A	15.00	45.00	75.00	1.75	2.63	1.75
ARM B	15.00	45.00	75.00	3.59	5.38	3.59
ARM C	15.00	45.00	75.00	3.59	5.38	3.59

Demand set: M6 - Ashton Rd - 2016 PM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.714	0.286
		(0.0)	(100.0)	(40.0)
		(0.0)	(2.0)	(2.0)
	ARM B	1.000	0.000	0.000
		(287.0)	(0.0)	(0.0)
		(2.0)	(0.0)	(2.0)
	ARM C	1.000	0.000	0.000
		(287.0)	(0.0)	(0.0)
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
B-C	0.00	6.20	0.000		0.00	0.00	0.0		0.00
B-A	3.60	9.28	0.388		0.00	0.62	8.8		0.17
C-AB	0.00	8.84	0.000		0.00	0.00	0.0		0.00
C-A	3.60								
A-B	1.25								
A-C	0.50								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
B-C	0.00	6.02	0.000		0.00	0.00	0.0		0.00
B-A	4.30	9.13	0.471		0.62	0.87	12.5		0.21
C-AB	0.00	8.77	0.000		0.00	0.00	0.0		0.00
C-A	4.30								
A-B	1.50								
A-C	0.60								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
B-C	0.00	5.78	0.000		0.00	0.00	0.0		0.00

M6 - Ashton Rd - 2016 Do Minimum.vpo

B-A	5.27	8.92	0.591	0.87	1.39	19.5	0.27
C-AB	0.00	8.68	0.000	0.00	0.00	0.0	0.00
C-A	5.27						
A-B	1.84						
A-C	0.73						

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
B-C	0.00	5.78	0.000		0.00	0.00	0.0		0.00
B-A	5.27	8.92	0.591		1.39	1.41	21.0		0.27
C-AB	0.00	8.68	0.000		0.00	0.00	0.0		0.00
C-A	5.27								
A-B	1.84								
A-C	0.73								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
B-C	0.00	6.02	0.000		0.00	0.00	0.0		0.00
B-A	4.30	9.13	0.471		1.41	0.91	14.4		0.21
C-AB	0.00	8.77	0.000		0.00	0.00	0.0		0.00
C-A	4.30								
A-B	1.50								
A-C	0.60								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-C	0.00	6.19	0.000		0.00	0.00	0.0		0.00
B-A	3.60	9.28	0.388		0.91	0.65	10.1		0.18
C-AB	0.00	8.84	0.000		0.00	0.00	0.0		0.00
C-A	3.60								
A-B	1.25								
A-C	0.50								

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

QUEUE FOR STREAM B-C

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 ENDI NG	NO. OF VEHI CLES I N QUEUE
17.00	0.6 *
17.15	0.9 *
17.30	1.4 *
17.45	1.4 *
18.00	0.9 *
18.15	0.6 *

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUING * * DELAY *		* I NCLUSI VE QUEUING * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-A	395.0	263.4	86.3	0.22	86.3	0.22
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	395.0	263.4				
A-B	137.6	91.8				
A-C	55.1	36.7				
ALL	982.8	655.2	86.3	0.09	86.3	0.09

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUING AFTER THE END OF THE TI ME PERI OD
 * THESE WI LL ONLY BE SI GNI FI CANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAINI NG AT THE END OF THE TI ME PERI OD.

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

* Due to the presence of a flare, data is not available

Intercept For Stream C-B	Slope For Stream A-C	Opposing Slope For Stream A-B
605.81	0.21	0.21

(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: M6 - Ashton Rd - 2016 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE BEFORE PEAK	AT TOP OF PEAK	RATE AFTER PEAK
ARM A	15.00	45.00	75.00	9.07	13.61	9.07
ARM B	15.00	45.00	75.00	0.44	0.66	0.44
ARM C	15.00	45.00	75.00	0.93	1.39	0.93

Demand set: M6 - Ashton Rd - 2016 AM Do Something

TIME	TURNING PROPORTIONS (PERCENTAGE OF H.V.S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000 (0.0)	0.000 (5.0)	1.000 (726.0)
	ARM B	1.000 (35.0)	0.000 (0.0)	0.000 (5.0)
	ARM C	1.000 (74.0)	0.000 (0.0)	0.000 (5.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
07.45-08.00									
B-C	0.00	5.54	0.000		0.00	0.00	0.0		0.00
B-A	0.44	7.44	0.059		0.00	0.06	0.9		0.14
C-AB	0.00	7.36	0.000		0.00	0.00	0.0		0.00
C-A	0.93								
A-B	0.00								
A-C	9.11								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.00-08.15									
B-C	0.00	5.25	0.000		0.00	0.00	0.0		0.00
B-A	0.52	6.98	0.075		0.06	0.08	1.2		0.15
C-AB	0.00	7.01	0.000		0.00	0.00	0.0		0.00
C-A	1.11								
A-B	0.00								
A-C	10.88								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
08.15-08.30									
B-C	0.00	4.85	0.000		0.00	0.00	0.0		0.00
B-A	0.64	6.35	0.101		0.08	0.11	1.6		0.18
C-AB	0.00	6.52	0.000		0.00	0.00	0.0		0.00
C-A	1.36								
A-B	0.00								
A-C	13.32								

TIME	DEMAND	CAPACI TY	DEMAND/	PEDESTRI AN	START	END	DELAY	GEOMETRI C DELAY	AVERAGE DELAY
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	(VEH/MI N)	(VEH/MI N)	CAPACI TY (RFC)	M6 - Ashton Rd FLOW (PEDS/MI N)	- 2016 QUEUE (VEHS)	Do Something QUEUE (VEHS)	No CALA (VEH. MI N/ TIME SEGMENT)	Rel coat ion. vpo (VEH. MI N/ TIME SEGMENT)	PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-C	0.00	4.85	0.000		0.00	0.00	0.0	0.00	
B-A	0.64	6.35	0.101		0.11	0.11	1.7	0.18	
C-AB	0.00	6.52	0.000		0.00	0.00	0.0	0.00	
C-A	1.36								
A-B	0.00								
A-C	13.32								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.45-09.00									
B-C	0.00	5.25	0.000		0.00	0.00	0.0		0.00
B-A	0.52	6.98	0.075		0.11	0.08	1.3		0.15
C-AB	0.00	7.01	0.000		0.00	0.00	0.0		0.00
C-A	1.11								
A-B	0.00								
A-C	10.88								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
09.00-09.15									
B-C	0.00	5.54	0.000		0.00	0.00	0.0		0.00
B-A	0.44	7.44	0.059		0.08	0.06	1.0		0.14
C-AB	0.00	7.36	0.000		0.00	0.00	0.0		0.00
C-A	0.93								
A-B	0.00								
A-C	9.11								

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

QUEUE FOR STREAM B-C

TIME SEGMENT	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	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-AB

TIME SEGMENT	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 * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-A	48.2	32.1	7.6	0.16	7.6	0.16
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	101.9	67.9				
A-B	0.0	0.0				
A-C	999.3	666.2				
ALL	1149.3	766.2	7.6	0.01	7.6	0.01

* 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 RUN*****

SLOPES AND INTERCEPT

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

Intercept For STREAM B-C	Slope For STREAM A-C	Opposing Slope For STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For Stream B-A	Slope For Stream A-C	Opposing Stream A-C	Slope For Stream A-B	Opposing Stream A-B	Slope For Stream C-A	Opposing Stream C-B
0.00	0.00		0.00		0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For Stream C-B	Slope For Stream A-C	Opposing Stream A-C	Slope For Stream A-B	Opposing Stream A-B
605.81	0.21		0.21	

(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: M6 - Ashton Rd - 2016 PM Do Something

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM START WHEN TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE BEFORE PEAK	RATE AT TOP OF PEAK	RATE AFTER PEAK
ARM A	15.00	45.00	75.00	1.71	2.57	1.71
ARM B	15.00	45.00	75.00	3.28	4.91	3.28
ARM C	15.00	45.00	75.00	5.06	7.59	5.06

Demand set: M6 - Ashton Rd - 2016 PM Do Something

TIME	TURNING PROPORTIONS (PERCENTAGE OF H.V.S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.730	0.270
		0.0	100.0	37.0
		(0.0)	(2.0)	(2.0)
	ARM B	1.000	0.000	0.000
		262.0	0.0	0.0
		(2.0)	(0.0)	(2.0)
	ARM C	1.000	0.000	0.000
		405.0	0.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
B-C	0.00	6.25	0.000		0.00	0.00	0.0		0.00
B-A	3.29	9.07	0.363		0.00	0.56	7.9		0.17
C-AB	0.00	8.85	0.000		0.00	0.00	0.0		0.00
C-A	5.08								
A-B	1.25								
A-C	0.46								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
B-C	0.00	6.08	0.000		0.00	0.00	0.0		0.00
B-A	3.93	8.87	0.443		0.56	0.78	11.2		0.20
C-AB	0.00	8.78	0.000		0.00	0.00	0.0		0.00
C-A	6.07								
A-B	1.50								
A-C	0.55								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
B-C	0.00	5.84	0.000		0.00	0.00	0.0		0.00

M6 - Ashton Rd - 2016 Do Something No CALA Relcoati on.vpo

B-A	4.81	8.60	0.559	0.78	1.22	17.2	0.26
C-AB	0.00	8.69	0.000	0.00	0.00	0.0	0.00
C-A	7.43						
A-B	1.84						
A-C	0.68						

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
B-C	0.00	5.84	0.000		0.00	0.00	0.0		0.00
B-A	4.81	8.60	0.559		1.22	1.24	18.5		0.26
C-AB	0.00	8.69	0.000		0.00	0.00	0.0		0.00
C-A	7.43								
A-B	1.84								
A-C	0.68								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
B-C	0.00	6.07	0.000		0.00	0.00	0.0		0.00
B-A	3.93	8.87	0.443		1.24	0.81	12.8		0.20
C-AB	0.00	8.78	0.000		0.00	0.00	0.0		0.00
C-A	6.07								
A-B	1.50								
A-C	0.55								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-C	0.00	6.24	0.000		0.00	0.00	0.0		0.00
B-A	3.29	9.07	0.363		0.81	0.58	9.0		0.17
C-AB	0.00	8.85	0.000		0.00	0.00	0.0		0.00
C-A	5.08								
A-B	1.25								
A-C	0.46								

WARNING NO MARGI NAL ANALY S I S OF CAPACI T I E S AS MAJ O R ROAD BLOCKI NG MAY OCCU R

QUEUE FOR STREAM B-C

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 ENDI NG	NO. OF VEHI CLES I N 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 *

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATI ON OVER WHOLE PERI O D

STREAM	TOTAL DEMAND		* QUEUEI NG * DELAY *		* I NCLU S I VE QUEUEI NG * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-A	360.6	240.4	76.7	0.21	76.7	0.21
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	557.5	371.6				
A-B	137.6	91.8				
A-C	50.9	34.0				
ALL	1106.6	737.8	76.7	0.07	76.7	0.07

* DELAY I S THAT OCCURRI NG ONLY WI TH I N THE TI ME PERI O D
 * I NCLU S I VE DELAY I NCLU D E S DELAY SUFFERED BY VEHI CLES
 WHI CH ARE ST I LL QUEUEI NG AFTE R THE END OF THE TI ME PERI O D
 * THESE WI LL ONLY BE SI GNI FICANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAI NI NG AT THE END OF THE TI ME PERI O D.

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

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For STREAM A-C	Opposing Slope For STREAM A-B
605.81	0.21	0.21

(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: M6 - Ashton Rd - 2031 AM Do Minimum

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MI N) BEFORE PEAK	RATE OF FLOW (VEH/MI N) AT TOP OF PEAK	RATE OF FLOW (VEH/MI N) AFTER PEAK
ARM A	15.00	45.00	75.00	5.35	8.02	5.35
ARM B	15.00	45.00	75.00	0.44	0.66	0.44
ARM C	15.00	45.00	75.00	0.74	1.11	0.74

Demand set: M6 - Ashton Rd - 2031 AM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000 (0.0)	0.000 (5.0)	1.000 428.0 (5.0)
	ARM B	1.000 35.0 (5.0)	0.000 (0.0)	0.000 (5.0)
	ARM C	1.000 59.0 (5.0)	0.000 (5.0)	0.000 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
07.45-08.00									
B-C	0.00	6.11	0.000		0.00	0.00	0.0		0.00
B-A	0.44	8.37	0.052		0.00	0.05	0.8		0.13
C-AB	0.00	8.11	0.000		0.00	0.00	0.0		0.00
C-A	0.74								
A-B	0.00								
A-C	5.37								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.00-08.15									
B-C	0.00	5.94	0.000		0.00	0.00	0.0		0.00
B-A	0.52	8.10	0.065		0.05	0.07	1.0		0.13
C-AB	0.00	7.90	0.000		0.00	0.00	0.0		0.00
C-A	0.88								
A-B	0.00								
A-C	6.41								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHI CLE (MI N)
08.15-08.30									
B-C	0.00	5.69	0.000		0.00	0.00	0.0		0.00
B-A	0.64	7.72	0.083		0.07	0.09	1.3		0.14
C-AB	0.00	7.61	0.000		0.00	0.00	0.0		0.00
C-A	1.08								
A-B	0.00								
A-C	7.85								

TIME	DEMAND	CAPACI TY	DEMAND/ CAPACI TY	PEDESTRI AN FLOW	START	END	DELAY	GEOMETRI C DELAY	AVERAGE DELAY
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	(VEH/MI N)	(VEH/MI N)	CAPACI TY (RFC)	M6 - Ashton FLOW (PEDS/MI N)	Rd - 2031 QUEUE (VEHS)	Do Mi ni num. vpo QUEUE (VEHS)	(VEH. MI N/ TIME SEGMENT)	(VEH. MI N/ TIME SEGMENT)	PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-C	0.00	5.69	0.000		0.00	0.00	0.0	0.00	
B-A	0.64	7.72	0.083		0.09	0.09	1.4	0.14	
C-AB	0.00	7.61	0.000		0.00	0.00	0.0	0.00	
C-A	1.08								
A-B	0.00								
A-C	7.85								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.45-09.00									
B-C	0.00	5.94	0.000		0.00	0.00	0.0	0.00	
B-A	0.52	8.10	0.065		0.09	0.07	1.1	0.13	
C-AB	0.00	7.90	0.000		0.00	0.00	0.0	0.00	
C-A	0.88								
A-B	0.00								
A-C	6.41								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
09.00-09.15									
B-C	0.00	6.11	0.000		0.00	0.00	0.0	0.00	
B-A	0.44	8.37	0.052		0.07	0.06	0.9	0.13	
C-AB	0.00	8.11	0.000		0.00	0.00	0.0	0.00	
C-A	0.74								
A-B	0.00								
A-C	5.37								

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

QUEUE FOR STREAM B-C

TIME SEGMENT	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	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-AB

TIME SEGMENT	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 * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-A	48.2	32.1	6.4	0.13	6.4	0.13
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	81.2	54.1				
A-B	0.0	0.0				
A-C	589.1	392.7				
ALL	718.5	479.0	6.4	0.01	6.4	0.01

* 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 RUN*****

SLOPES AND INTERCEPT

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

Intercept For STREAM B-C	Slope For STREAM A-C	Intercept For STREAM A-B	Slope For STREAM A-B
0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For Stream B-A	Slope For Stream A-C	Opposing Slope For Stream A-B	Opposing Slope For Stream C-A	Opposing Slope For Stream C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For Stream C-B	Slope For Stream A-C	Opposing Slope For Stream A-B
605.81	0.21	0.21

(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: M6 - Ashton Rd - 2031 PM Do Minimum

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE BEFORE PEAK	RATE OF FLOW AT TOP OF PEAK	RATE OF FLOW AFTER PEAK
ARM A	15.00	45.00	75.00	1.80	2.70	1.80
ARM B	15.00	45.00	75.00	3.28	4.91	3.28
ARM C	15.00	45.00	75.00	3.42	5.14	3.42

Demand set: M6 - Ashton Rd - 2031 PM Do Minimum

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.694	0.306
		(0.0)	(100.0)	(44.0)
	ARM B	1.000	0.000	0.000
		(262.0)	(0.0)	(0.0)
	ARM C	1.000	0.000	0.000
		(274.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT
FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
B-C	0.00	6.25	0.000		0.00	0.00	0.0		0.00
B-A	3.29	9.30	0.354		0.00	0.54	7.7		0.16
C-AB	0.00	8.83	0.000		0.00	0.00	0.0		0.00
C-A	3.44								
A-B	1.25								
A-C	0.55								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
B-C	0.00	6.09	0.000		0.00	0.00	0.0		0.00
B-A	3.93	9.14	0.429		0.54	0.74	10.6		0.19
C-AB	0.00	8.76	0.000		0.00	0.00	0.0		0.00
C-A	4.11								
A-B	1.50								
A-C	0.66								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
B-C	0.00	5.87	0.000		0.00	0.00	0.0		0.00

M6 - Ashton Rd - 2031 Do Minimum.vpo

B-A	4.81	8.94	0.538	0.74	1.13	16.0	0.24
C-AB	0.00	8.67	0.000	0.00	0.00	0.0	0.00
C-A	5.03						
A-B	1.84						
A-C	0.81						

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
B-C	0.00	5.86	0.000		0.00	0.00	0.0		0.00
B-A	4.81	8.94	0.538		1.13	1.15	17.1		0.24
C-AB	0.00	8.67	0.000		0.00	0.00	0.0		0.00
C-A	5.03								
A-B	1.84								
A-C	0.81								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
B-C	0.00	6.08	0.000		0.00	0.00	0.0		0.00
B-A	3.93	9.14	0.429		1.15	0.77	12.1		0.19
C-AB	0.00	8.76	0.000		0.00	0.00	0.0		0.00
C-A	4.11								
A-B	1.50								
A-C	0.66								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-C	0.00	6.24	0.000		0.00	0.00	0.0		0.00
B-A	3.29	9.30	0.354		0.77	0.56	8.7		0.17
C-AB	0.00	8.83	0.000		0.00	0.00	0.0		0.00
C-A	3.44								
A-B	1.25								
A-C	0.55								

WARNING NO MARGI NAL ANALY S I S OF CAPACI T I E S AS MAJ O R ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT	NO. OF VEHI CLES I N 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	NO. OF VEHI CLES I N QUEUE
17.00	0.5 *
17.15	0.7 *
17.30	1.1 *
17.45	1.1 *
18.00	0.8 *
18.15	0.6 *

QUEUE FOR STREAM C-AB

TIME SEGMENT	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATI ON OVER WHOLE PERI OD

STREAM	TOTAL DEMAND		* QUEUEI NG DELAY *		* I NCLUSI VE QUEUEI NG DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-A	360.6	240.4	72.1	0.20	72.1	0.20
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	377.1	251.4				
A-B	137.6	91.8				
A-C	60.6	40.4				
ALL	936.0	624.0	72.1	0.08	72.1	0.08

* DELAY I S THAT OCCURRI NG ONLY WI TH I N THE TIME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TIME PERI OD
 * THESE WI LL ONLY BE SIGNI FICANTLY DI FFERENT I F THERE I S A LARGE QUEUE REMAI NI NG AT THE END OF THE TIME PERI OD.

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

* Due to the presence of a flare, data is not available

Intercept For Stream C-B	Slope For Stream A-C	Opposing Slope For Stream A-B
605.81	0.21	0.21

(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: M6 - Ashton Rd - 2031 AM Do Something

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

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW BEFORE PEAK	AT TOP OF PEAK	VEH/MI N AFTER PEAK
ARM A	15.00	45.00	75.00	9.91	14.87	9.91
ARM B	15.00	45.00	75.00	0.44	0.66	0.44
ARM C	15.00	45.00	75.00	0.99	1.48	0.99

Demand set: M6 - Ashton Rd - 2031 AM Do Something

TIME	TURNING PROPORTIONS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 08.00	ARM A	0.000 (0.0)	0.000 (5.0)	1.000 (793.0)
	ARM B	1.000 (35.0)	0.000 (0.0)	0.000 (5.0)
	ARM C	1.000 (79.0)	0.000 (0.0)	0.000 (5.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
07.45-08.00	0.00	5.41	0.000		0.00	0.00	0.0		0.00
B-C	0.00	5.41	0.000		0.00	0.00	0.0		0.00
B-A	0.44	7.23	0.061		0.00	0.06	0.9		0.15
C-AB	0.00	7.19	0.000		0.00	0.00	0.0		0.00
C-A	0.99								
A-B	0.00								
A-C	9.95								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.00-08.15	0.00	5.10	0.000		0.00	0.00	0.0		0.00
B-C	0.00	5.10	0.000		0.00	0.00	0.0		0.00
B-A	0.52	6.73	0.078		0.06	0.08	1.2		0.16
C-AB	0.00	6.81	0.000		0.00	0.00	0.0		0.00
C-A	1.18								
A-B	0.00								
A-C	11.88								

TIME	DEMAND (VEH/MI N)	CAPACITY (VEH/MI N)	DEMAND/CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRIC DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30	0.00	4.67	0.000		0.00	0.00	0.0		0.00
B-C	0.00	4.67	0.000		0.00	0.00	0.0		0.00
B-A	0.64	6.04	0.106		0.08	0.12	1.7		0.19
C-AB	0.00	6.27	0.000		0.00	0.00	0.0		0.00
C-A	1.45								
A-B	0.00								
A-C	14.55								

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY
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	(VEH/MI N)	(VEH/MI N)	CAPACI TY (RFC)	M6 - Ashton Rd FLOW (PEDS/MI N)	- 2031 QUEUE (VEHS)	Do Something QUEUE (VEHS)	No CALA (VEH. MI N/ TIME SEGMENT)	Relocati on. (VEH. MI N/ TIME SEGMENT)	PER ARRIVING VEHICLE (MI N)
08.30-08.45									
B-C	0.00	4.67	0.000		0.00	0.00	0.0	0.00	
B-A	0.64	6.04	0.106		0.12	0.12	1.8	0.19	
C-AB	0.00	6.27	0.000		0.00	0.00	0.0	0.00	
C-A	1.45								
A-B	0.00								
A-C	14.55								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
08.45-09.00									
B-C	0.00	5.10	0.000		0.00	0.00	0.0		0.00
B-A	0.52	6.73	0.078		0.12	0.09	1.3		0.16
C-AB	0.00	6.81	0.000		0.00	0.00	0.0		0.00
C-A	1.18								
A-B	0.00								
A-C	11.88								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MI N)
09.00-09.15									
B-C	0.00	5.41	0.000		0.00	0.00	0.0		0.00
B-A	0.44	7.23	0.061		0.09	0.07	1.0		0.15
C-AB	0.00	7.19	0.000		0.00	0.00	0.0		0.00
C-A	0.99								
A-B	0.00								
A-C	9.95								

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

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-AB

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 * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-A	48.2	32.1	7.9	0.17	7.9	0.17
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	108.7	72.5				
A-B	0.0	0.0				
A-C	1091.5	727.7				
ALL	1248.4	832.3	7.9	0.01	7.9	0.01

* 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 RUN*****

SLOPES AND INTERCEPT

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

Intercept For STREAM B-C	Slope For STREAM A-C	Opposing Slope For STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For Stream B-A	Slope For Stream A-C	Opposing Slope For Stream A-B	Opposing Slope For Stream C-A	Opposing Slope For Stream C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For Stream C-B	Slope For Stream A-C	Opposing Slope For Stream A-B
605.81	0.21	0.21

(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: M6 - Ashton Rd - 2031 PM Do Something

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF FLOW STARTS TO RISE	MINUTES FROM TOP OF PEAK IS REACHED	MINUTES FROM START WHEN FLOW STOPS FALLING	RATE BEFORE PEAK	RATE AT TOP OF PEAK	RATE AFTER PEAK
ARM A	15.00	45.00	75.00	1.74	2.61	1.74
ARM B	15.00	45.00	75.00	3.28	4.91	3.28
ARM C	15.00	45.00	75.00	5.57	8.36	5.57

Demand set: M6 - Ashton Rd - 2031 PM Do Something

TIME	TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H. V. S)			
	FROM/TO	ARM A	ARM B	ARM C
16.45 - 17.00	ARM A	0.000	0.719	0.281
		(0.0)	(100.0)	(39.0)
	ARM B	1.000	0.000	0.000
		(262.0)	(0.0)	(0.0)
	ARM C	1.000	0.000	0.000
		(446.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
16.45-17.00									
B-C	0.00	6.24	0.000		0.00	0.00	0.0		0.00
B-A	3.29	8.98	0.366		0.00	0.57	8.0		0.17
C-AB	0.00	8.84	0.000		0.00	0.00	0.0		0.00
C-A	5.60								
A-B	1.25								
A-C	0.49								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.00-17.15									
B-C	0.00	6.07	0.000		0.00	0.00	0.0		0.00
B-A	3.93	8.77	0.448		0.57	0.79	11.4		0.21
C-AB	0.00	8.78	0.000		0.00	0.00	0.0		0.00
C-A	6.68								
A-B	1.50								
A-C	0.58								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TIME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.15-17.30									
B-C	0.00	5.83	0.000		0.00	0.00	0.0		0.00

M6 - Ashton Rd - 2031 Do Something No CALA Relocati on.vpo

B-A	4.81	8.48	0.567	0.79	1.26	17.7	0.27
C-AB	0.00	8.68	0.000	0.00	0.00	0.0	0.00
C-A	8.18						
A-B	1.84						
A-C	0.72						

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.30-17.45									
B-C	0.00	5.82	0.000		0.00	0.00	0.0		0.00
B-A	4.81	8.48	0.567		1.26	1.28	19.1		0.27
C-AB	0.00	8.68	0.000		0.00	0.00	0.0		0.00
C-A	8.18								
A-B	1.84								
A-C	0.72								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
17.45-18.00									
B-C	0.00	6.06	0.000		0.00	0.00	0.0		0.00
B-A	3.93	8.77	0.448		1.28	0.83	13.1		0.21
C-AB	0.00	8.78	0.000		0.00	0.00	0.0		0.00
C-A	6.68								
A-B	1.50								
A-C	0.58								

TIME	DEMAND (VEH/MI N)	CAPACI TY (VEH/MI N)	DEMAND/ CAPACI TY (RFC)	PEDESTRI AN FLOW (PEDS/MI N)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH. MI N/ TI ME SEGMENT)	GEOMETRI C DELAY (VEH. MI N/ TI ME SEGMENT)	AVERAGE DELAY PER ARRIVI NG VEHI CLE (MI N)
18.00-18.15									
B-C	0.00	6.23	0.000		0.00	0.00	0.0		0.00
B-A	3.29	8.98	0.366		0.83	0.59	9.2		0.18
C-AB	0.00	8.84	0.000		0.00	0.00	0.0		0.00
C-A	5.60								
A-B	1.25								
A-C	0.49								

WARNING NO MARGI NAL ANALY S I S OF CAPACI T I E S AS MAJ O R ROAD BLOCKI NG MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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 ENDI NG	NO. OF VEHI CLES I N QUEUE
17.00	0.6 *
17.15	0.8 *
17.30	1.3 *
17.45	1.3 *
18.00	0.8 *
18.15	0.6 *

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDI NG	NO. OF VEHI CLES I N 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

QUEUEI NG DELAY I NFORMATI ON OVER WHOLE PERI OD

STREAM	TOTAL DEMAND		* QUEUEI NG * DELAY *		* I NCLUSI VE QUEUEI NG * DELAY *	
	(VEH)	(VEH/H)	(MI N)	(MI N/VEH)	(MI N)	(MI N/VEH)
B-C	0.0	0.0	0.0	0.00	0.0	0.00
B-A	360.6	240.4	78.6	0.22	78.6	0.22
C-AB	0.0	0.0	0.0	0.00	0.0	0.00
C-A	613.9	409.3				
A-B	137.6	91.8				
A-C	53.7	35.8				
ALL	1165.8	777.2	78.6	0.07	78.6	0.07

* DELAY I S THAT OCCURRI NG ONLY WI TH I N THE TI ME PERI OD
 * I NCLUSI VE DELAY I NCLUDES DELAY SUFFERED BY VEHI CLES
 WHI CH ARE STI LL QUEUEI NG AFTER THE END OF THE TI ME PERI OD
 * THESE WI LL ONLY BE SI GNI FICANTLY DI FFERENT I F THERE I S
 A LARGE QUEUE REMAI NI NG AT THE END OF THE TI ME PERI OD.

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