



PROJECT MANAGEMENT LIMITED

*PROPOSED DEVELOPMENT AT
CARRANSTOWN, CO. MEATH*

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*TRAFFIC IMPACT ASSESSMENT
-ADDITIONAL INFORMATION*



Atkins McCarthy
CONSULTING ENGINEERS

APPENDIX A

RECORDED 2001 7-HOUR TRAFFIC COUNTS

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**R152 South of Proposed Development
& North of R150 Junction**

Time Period Commencing	Northbound vehicles	Southbound vehicles	Total vehicles
9.00	55	74	129
9.15	41	64	105
9.30	70	60	130
9.45	42	59	101
10.00	50	62	112
10.15	55	64	119
10.30	64	61	125
10.45	66	72	138
11.00	82	58	140
11.15	62	57	119
11.30	56	49	105
11.45	60	57	117
12.00	59	55	114
12.15	71	71	142
12.30	51	66	117
12.45	64	67	131
14.00	62	52	114
14.15	61	69	130
14.30	68	72	140
14.45	66	54	120
15.00	74	46	120
15.15	58	53	111
15.30	62	71	133
15.45	84	68	152
16.00	81	61	142
16.15	60	64	124
16.30	71	62	133
16.45	67	83	150
Total	1762	1751	3513

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**R150 East of N2 Junction
& West of Duleek**

Time Period Commencing	Northbound vehicles	Southbound vehicles	Total vehicles
9.00	41	38	79
9.15	34	36	70
9.30	26	37	63
9.45	29	24	53
10.00	32	29	61
10.15	31	35	66
10.30	24	31	55
10.45	34	41	75
11.00	39	34	73
11.15	27	34	61
11.30	30	27	57
11.45	33	31	64
12.00	26	29	55
12.15	35	28	63
12.30	31	36	67
12.45	38	33	71
14.00	26	42	68
14.15	28	37	65
14.30	32	26	58
14.45	36	29	65
15.00	39	38	77
15.15	29	34	63
15.30	19	32	51
15.45	34	26	60
16.00	28	29	57
16.15	36	33	69
16.30	31	37	68
16.45	38	32	70
Total	886	918	1804

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APPENDIX B

**PICADY ANALYSIS OF 2004 JUNCTION OPERATIONS
WITH AND WITHOUT THE PROPOSED DEVELOPMENT**

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

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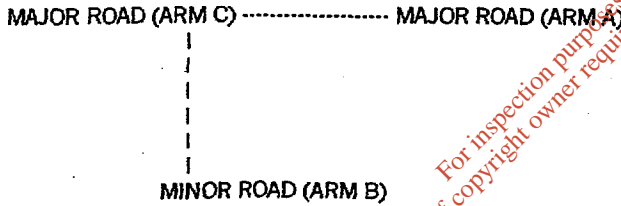
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IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

RUN TITLE

3/R150-2004-Peak-Hour-Without-Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS R153 West
ARM B IS R150
ARM C IS R153 East

STREAM LABELLING CONVENTION

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

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

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.50 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 200.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 200.0 M.
- VISIBILITY TO RIGHT	(VB-A) 200.0 M.
- LANE 1 WIDTH	(WB-C) 3.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.
- LENGTH OF FLARED SECTION	2 VEHS

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME FROM/TO ARM A ARM B ARM C

17.00 - 17.15
 ARM A | 0.000 | 0.558 | 0.442 |
 | 0.0 | 120.0 | 95.0 |
 | (0.0) | (10.0) | (10.0) |
 ARM B | 0.923 | 0.000 | 0.077 |
 | 120.0 | 0.0 | 10.0 |
 | (10.0) | (0.0) | (10.0) |
 ARM C | 0.934 | 0.066 | 0.000 |
 | 285.0 | 20.0 | 0.0 |
 | (10.0) | (10.0) | (0.0) |

17.15 - 17.30
 ARM A | 0.000 | 0.558 | 0.442 |
 | 0.0 | 120.0 | 95.0 |
 | (0.0) | (10.0) | (10.0) |
 ARM B | 0.923 | 0.000 | 0.077 |
 | 120.0 | 0.0 | 10.0 |
 | (10.0) | (0.0) | (10.0) |
 ARM C | 0.934 | 0.066 | 0.000 |
 | 285.0 | 20.0 | 0.0 |
 | (10.0) | (10.0) | (0.0) |

17.30 - 17.45
 ARM A | 0.000 | 0.558 | 0.442 |
 | 0.0 | 120.0 | 95.0 |
 | (0.0) | (10.0) | (10.0) |
 ARM B | 0.923 | 0.000 | 0.077 |
 | 120.0 | 0.0 | 10.0 |
 | (10.0) | (0.0) | (10.0) |
 ARM C | 0.934 | 0.066 | 0.000 |
 | 285.0 | 20.0 | 0.0 |
 | (10.0) | (10.0) | (0.0) |

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

TIME	FROM/TO	ARM A	ARM B	ARM C
17.45 - 18.00				
	ARMA	0.000	0.558	0.442
		0.0	120.0	95.0
		(0.0)	(10.0)	(10.0)
	ARMB	0.923	0.000	0.077
		120.0	0.0	10.0
		(10.0)	(0.0)	(10.0)
	ARMC	0.934	0.066	0.000
		285.0	20.0	0.0
		(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN START (PEDS/MIN)	END FLOW (VEHS)	DELAY QUEUE (VEHS)	GEOMETRIC DELAY (VEH.MIN/)
TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT
17.00-17.15							
B-AC	2.17	8.71	0.249	0.0	0.3	4.7	
C-AB	0.51	12.53	0.041	0.0	0.1	0.9	
CA	4.57						
A-B	2.00						
A-C	1.58						

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN START (PEDS/MIN)	END FLOW (VEHS)	DELAY QUEUE (VEHS)	GEOMETRIC DELAY (VEH.MIN/)
TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT
17.15-17.30							
B-AC	2.17	8.71	0.249	0.3	0.3	4.9	
C-AB	0.52	12.53	0.041	0.1	0.1	0.9	
CA	4.56						
CB	2.00						
CC	1.58						

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN START (PEDS/MIN)	END FLOW (VEHS)	DELAY QUEUE (VEHS)	GEOMETRIC DELAY (VEH.MIN/)
TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT	TIME SEGMENT
17.30-17.45							
B-AC	2.17	8.71	0.249	0.3	0.3	5.0	
C-AB	0.52	12.53	0.041	0.1	0.1	0.9	
CA	4.56						
AB	2.00						
AC	1.58						

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17:45-18:00								
B-AC	2.17	8.71	0.249		0.3	0.3	5.0	
C-AB	0.52	12.53	0.041		0.1	0.1	0.9	
C-A	4.56							
A-B	2.00							
A-C	1.58							

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
17.15	0.3
17.30	0.3
17.45	0.3
18.00	0.3

QUEUE FOR STREAM C-AB

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * * DELAY * (MIN)	* QUEUEING * * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * (MIN)	* INCLUSIVE QUEUEING * (MIN/VEH)
B-AC	130.2	130.2	19.5	0.15	19.5	0.15
C-AB	31.0	31.0	3.5	0.11	3.5	0.11
C-A	273.8	273.8				
A-B	119.9	119.9				
A-C	94.9	94.9				
ALL	649.8	649.8	23.1	0.04	23.1	0.04

* 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

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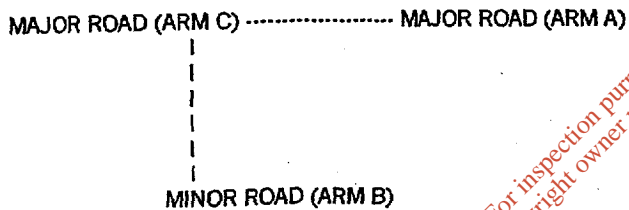
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PROGRAM TITLE

R150 2004 Peak Hour With Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS R153 West
ARM B IS R150
ARM C IS R153 East

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STREAM LABELLING CONVENTION

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

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

ETC.

METRIC DATA

DATA ITEM | MINOR ROAD B |

TOTAL MAJOR ROAD CARRIAGEWAY WIDTH | (W) 6.50 M. |

CENTRAL RESERVE WIDTH | (WCR) 0.00 M. |

MINOR ROAD RIGHT TURN - WIDTH | (WC-B) 2.20 M. |

- VISIBILITY | (VC-B) 200.0 M. |

- BLOCKS TRAFFIC | YES |

MINOR ROAD - VISIBILITY TO LEFT | (VB-C) 200.0 M. |

- VISIBILITY TO RIGHT | (VB-A) 200.0 M. |

- LANE 1 WIDTH | (WB-C) 3.50 M. |

- LANE 2 WIDTH | (WB-A) 0.00 M. |

- LENGTH OF FLARED SECTION | 2 VEHS |

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME FROM/TO ARM A ARM B ARM C

00 - 17.15
 ARM A | 0.000 | 0.562 | 0.438 |
 | 0.0 | 122.0 | 95.0 |
 | (0.0) | (10.0) | (10.0) |
 ARM B | 0.926 | 0.000 | 0.074 |
 | 126.0 | 0.0 | 10.0 |
 | (10.0) | (0.0) | (10.0) |
 ARM C | 0.934 | 0.066 | 0.000 |
 | 285.0 | 20.0 | 0.0 |
 | (10.0) | (10.0) | (0.0) |

7.15 - 17.30
 ARM A | 0.000 | 0.562 | 0.438 |
 | 0.0 | 122.0 | 95.0 |
 | (0.0) | (10.0) | (10.0) |
 ARM B | 0.926 | 0.000 | 0.074 |
 | 126.0 | 0.0 | 10.0 |
 | (10.0) | (0.0) | (10.0) |
 ARM C | 0.934 | 0.066 | 0.000 |
 | 285.0 | 20.0 | 0.0 |
 | (10.0) | (10.0) | (0.0) |

17.30 - 17.45
 ARM A | 0.000 | 0.562 | 0.438 |
 | 0.0 | 122.0 | 95.0 |
 | (0.0) | (10.0) | (10.0) |
 ARM B | 0.926 | 0.000 | 0.074 |
 | 126.0 | 0.0 | 10.0 |
 | (10.0) | (0.0) | (10.0) |
 ARM C | 0.934 | 0.066 | 0.000 |
 | 285.0 | 20.0 | 0.0 |
 | (10.0) | (10.0) | (0.0) |

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

TIME	FROM/TO	ARM A	ARM B	ARM C
45 - 18.00				
	ARM A	0.000	0.562	0.438
		0.0	122.0	95.0
		(0.0)	(10.0)	(10.0)
	ARM B	0.926	0.000	0.074
		126.0	0.0	10.0
		(10.0)	(0.0)	(10.0)
	ARM C	0.934	0.066	0.000
		285.0	20.0	0.0
		(10.0)	(10.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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)
7.00-17.15								
B-AC	2.27	8.70	0.261	0.0	0.3	5.0		
C-AB	0.52	12.52	0.041	0.0	0.1	0.9		
C-A	4.56							
A-B	2.03							
A-C	1.58							

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)
17.15-17.30								
B-AC	2.27	8.70	0.261	0.3	0.4	5.2		
C-AB	0.52	12.52	0.041	0.1	0.1	0.9		
C-A	4.56							
A-B	2.03							
A-C	1.58							

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)
17.30-17.45								
B-AC	2.27	8.70	0.261	0.4	0.4	5.3		
C-AB	0.52	12.52	0.041	0.1	0.1	0.9		
C-A	4.56							
A-B	2.03							
A-C	1.58							

	DEMAND (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)
-18.00								
2.27	8.70	0.261		0.4	0.4	5.3		
0.52	12.52	0.041		0.1	0.1	0.9		
4.56								
2.03								
1.58								

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

FOR STREAM B-AC

SEGMENT NO.	NO. OF VEHICLES IN QUEUE
5	0.3
30	0.4
15	0.4
30	0.4

FOR STREAM C-AB

SEGMENT NO.	NO. OF VEHICLES IN QUEUE
15	0.1
30	0.1
45	0.1
30	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	*QUEUEING* *DELAY* (MIN)	*QUEUEING* *DELAY* (MIN/VEH)	*INCLUSIVE QUEUEING* *DELAY* (MIN)	*INCLUSIVE QUEUEING* *DELAY* (MIN/VEH)
B-AC	136.2	136.2	20.8	0.15	20.8	0.15
B-AB	31.0	31.0	3.5	0.11	3.5	0.11
B-A	273.8	273.8				
B-B	121.8	121.8				
B	94.8	94.8				
A	657.6	657.6	24.3	0.04	24.3	0.04

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

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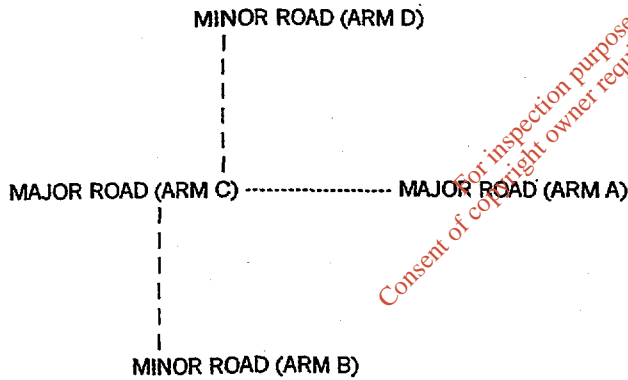
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RUN TITLE

R150 2004 PEAK HOUR WITHOUT DEVELOPMENT

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS N2 North
ARM B IS R150 East
ARM C IS N2 South
ARM D IS R150 West

STREAM LABELLING CONVENTION

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

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

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	1(W) 11.50 M.	1(W) 11.50 M.
CENTRAL RESERVE WIDTH	1(WCR) 0.00 M.	1(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	1(WC-B) 2.20 M.	1(WA-D) 2.20 M.
- VISIBILITY	1(VC-B) 250.0 M.	1(VA-D) 200.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	1(VB-C) 175.0 M.	1(VD-A) 250.0 M.
- VISIBILITY TO RIGHT	1(VB-A) 250.0 M.	1(VD-C) 175.0 M.
- LANE 1 WIDTH	1(WB-C) 3.50 M.	1(WD-A) 3.50 M.
- LANE 2 WIDTH	1(WB-A) 0.00 M.	1(WD-C) 0.00 M.
- LENGTH OF FLARED SECTION	2 VEHS	2 VEHS

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.30 - 17.45					
	ARM A	0.000	0.100	0.850	0.050
		0.0	40.0	340.0	20.0
		(0.0)	(16.0)	(16.0)	(16.0)
	ARM B	0.364	0.000	0.242	0.394
		60.0	0.0	40.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.913	0.031	0.000	0.055
		580.0	20.0	0.0	35.0
		(13.0)	(13.0)	(0.0)	(13.0)
	ARM D	0.091	0.682	0.227	0.000
		10.0	75.0	25.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
15-18:00					
	ARM A	0.000	0.100	0.850	0.050
		0.0	40.0	340.0	20.0
		(0.0)	(16.0)	(16.0)	(16.0)
	ARM B	0.364	0.000	0.242	0.394
		60.0	0.0	40.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.913	0.031	0.000	0.055
		580.0	20.0	0.0	35.0
		(13.0)	(13.0)	(0.0)	(13.0)
	ARM D	0.091	0.682	0.227	0.000
		10.0	75.0	25.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TIME	DEMAND	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15								
B-ACD	2.75	7.38	0.373	0.0	0.6	8.2		
A-B	0.65							
A-C	5.53							
A-D	0.32	7.46	0.044	0.0	0.0	0.7		
D-ABC	1.83	6.67	0.274	0.0	0.4	5.3		
C-D	0.58							
C-A	9.66							
C-B	0.33	8.91	0.037	0.0	0.0	0.6		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30								
B-ACD	2.75	7.38	0.373	0.6	0.6	8.8		
A-B	0.65							
A-C	5.53							
A-D	0.32	7.45	0.044	0.0	0.0	0.7		
D-ABC	1.83	6.67	0.274	0.4	0.4	5.6		
C-D	0.58							
C-A	9.66							
C-B	0.33	8.91	0.037	0.0	0.0	0.6		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45								
B-ACD	2.75	7.38	0.373	0.6	0.6	8.8		
A-B	0.65							
A-C	5.53							
A-D	0.32	7.45	0.044	0.0	0.0	0.7		
D-ABC	1.83	6.67	0.274	0.4	0.4	5.6		
C-D	0.58							
C-A	9.66							
C-B	0.33	8.91	0.037	0.0	0.0	0.6		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00								
B-ACD	2.75	7.38	0.373	0.6	0.6	8.9		
A-B	0.65							
A-C	5.53							
A-D	0.32	7.45	0.044	0.0	0.0	0.7		
D-ABC	1.83	6.67	0.274	0.4	0.4	5.6		
C-D	0.58							
C-A	9.66							
C-B	0.33	8.91	0.037	0.0	0.0	0.6		

QUEUE FOR STREAM B-ACD

TIME SEGMENT	NO. OF ENDING VEHICLES IN QUEUE
17.15	0.6 *
17.30	0.6 *
17.45	0.6 *
18.00	0.6 *

QUEUE FOR STREAM A-D

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

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.00 - 17.15					
	ARMA	0.000	0.100	0.850	0.050
		0.0	40.0	340.0	20.0
		(0.0)	(16.0)	(16.0)	(16.0)
	ARMB	0.364	0.000	0.242	0.394
		60.0	0.0	40.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARMC	0.913	0.031	0.000	0.055
		580.0	20.0	0.0	35.0
		(13.0)	(13.0)	(0.0)	(13.0)
	ARMD	0.091	0.682	0.227	0.000
		10.0	75.0	25.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
15 - 17:30					
	ARMA	0.000	0.100	0.850	0.050
		0.0	40.0	340.0	20.0
		(0.0)	(16.0)	(16.0)	(16.0)
	ARMB	0.364	0.000	0.242	0.394
		60.0	0.0	40.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARMC	0.913	0.031	0.000	0.055
		580.0	20.0	0.0	35.0
		(13.0)	(13.0)	(0.0)	(13.0)
	ARMD	0.091	0.682	0.227	0.000
		10.0	75.0	25.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

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QUEUE FOR STREAM D-ABC

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
17.15	0.4
17.30	0.4
17.45	0.4
18.00	0.4

QUEUE FOR STREAM C-B

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * (MIN)	* QUEUEING * (MIN/VEH)	* INCLUSIVE QUEUEING * (MIN)	* INCLUSIVE QUEUEING * (MIN/VEH)
B-ACD	165.0	165.0	34.6	0.21	34.7	0.21
A-B	39.0	39.0				
A-C	331.5	331.5				
A-D	19.5	19.5	2.7	0.14	2.7	0.14
D-ABC	109.8	109.8	22.1	0.20	22.1	0.20
C-D	35.0	35.0				
C-A	579.8	579.8				
C-B	20.0	20.0	2.3	0.12	2.3	0.12
ALL	1299.6	1299.6	61.7	0.05	61.8	0.05

- * 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.

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END OF JOB

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

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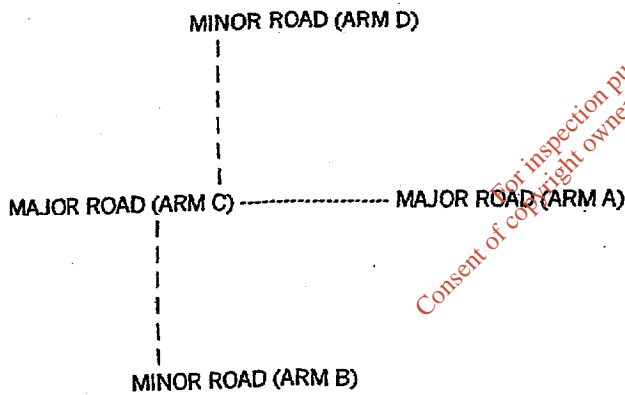
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TITLE

2004 PEAK HOUR WITH DEVELOPMENT

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



RM A IS N2 North
RM B IS R150 East
RM C IS N2 South
RM D IS R150 West

STREAM LABELLING CONVENTION

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

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

ETC.

TRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
MAJOR ROAD CARRIAGEWAY WIDTH	(W) 11.50 M.	(W) 11.50 M.
TRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
OR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.	(WA-D) 2.20 M.
- VISIBILITY	(VC-B) 250.0 M.	(VA-D) 200.0 M.
- BLOCKS TRAFFIC	NO	NO
OR ROAD - VISIBILITY TO LEFT	(VB-C) 175.0 M.	(VD-A) 250.0 M.
- VISIBILITY TO RIGHT	(VB-A) 250.0 M.	(VD-C) 175.0 M.
- LANE 1 WIDTH	(WB-C) 3.50 M.	(WD-A) 3.50 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.	(WD-C) 0.00 M.
- LENGTH OF FLARED SECTION	2 VEHS	2 VEHS

DEMAND DATA

PERIOD BEGINS 17.00 AND ENDS 18.00

NGTH OF TIME PERIOD - 60 MINUTES.
NGTH OF TIME SEGMENT - 15 MINUTES.

MAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME | FROM/TO | ARM A | ARM B | ARM C | ARM D |

10-17.15 | | | | | |
ARMA	0.000	0.104	0.846	0.050
	0.0	42.0	340.0	20.0
	(0.0)	(16.0)	(16.0)	(16.0)
ARMB	0.369	0.000	0.227	0.403
	65.0	0.0	40.0	71.0
	(16.0)	(0.0)	(16.0)	(16.0)
ARMC	0.913	0.031	0.000	0.055
	580.0	20.0	0.0	35.0
	(13.0)	(13.0)	(0.0)	(13.0)
ARMD	0.089	0.688	0.223	0.000
	10.0	77.0	25.0	0.0
	(10.0)	(10.0)	(10.0)	(0.0)

17.30 | | | | | |
ARMA	0.000	0.104	0.846	0.050
	0.0	42.0	340.0	20.0
	(0.0)	(16.0)	(16.0)	(16.0)
ARMB	0.369	0.000	0.227	0.403
	65.0	0.0	40.0	71.0
	(16.0)	(0.0)	(16.0)	(16.0)
ARMC	0.913	0.031	0.000	0.055
	580.0	20.0	0.0	35.0
	(13.0)	(13.0)	(0.0)	(13.0)
ARMD	0.089	0.688	0.223	0.000
	10.0	77.0	25.0	0.0
	(10.0)	(10.0)	(10.0)	(0.0)

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

TIME FROM/TO | ARM A | ARM B | ARM C | ARM D |

10-17.45

ARM A	0.000	0.104	0.846	0.050
	0.0	42.0	340.0	20.0
	(0.0)	(16.0)	(16.0)	(16.0)
ARM B	0.369	0.000	0.227	0.403
	65.0	0.0	40.0	71.0
	(16.0)	(0.0)	(16.0)	(16.0)
ARM C	0.913	0.031	0.000	0.055
	580.0	20.0	0.0	35.0
	(13.0)	(13.0)	(0.0)	(13.0)
ARM D	0.089	0.688	0.223	0.000
	10.0	77.0	25.0	0.0
	(10.0)	(10.0)	(10.0)	(0.0)

18:00

ARM A	0.000	0.104	0.846	0.050
	0.0	42.0	340.0	20.0
	(0.0)	(16.0)	(16.0)	(16.0)
ARM B	0.369	0.000	0.227	0.403
	65.0	0.0	40.0	71.0
	(16.0)	(0.0)	(16.0)	(16.0)
ARM C	0.913	0.031	0.000	0.055
	580.0	20.0	0.0	35.0
	(13.0)	(13.0)	(0.0)	(13.0)
ARM D	0.089	0.688	0.223	0.000
	10.0	77.0	25.0	0.0
	(10.0)	(10.0)	(10.0)	(0.0)

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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PES/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15								
B-ACD	2.93	7.33	0.399		0.0	0.6	9.1	
A-B	0.68							
A-C	5.52							
A-D	0.32	7.42	0.044		0.0	0.0	0.7	
D-ABC	1.86	6.64	0.280		0.0	0.4	5.4	
C-D	0.58							
C-A	9.66							
C-B	0.33	8.90	0.037		0.0	0.0	0.6	

	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN (PEDS/MIN)	START (VEHS)	END (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
-17.30								
D	2.93	7.33	0.400		0.6	0.7	9.8	
	0.68							
	5.52							
3C	1.86	6.63	0.281		0.0	0.4	5.8	
	0.32	7.41	0.044				0.7	
	0.58							
	9.66							
	0.33	8.90	0.037		0.0	0.0	0.6	

	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN (PEDS/MIN)	START (VEHS)	END (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
0-17.45								
CD	2.93	7.33	0.400		0.7	0.7	9.9	
	0.68							
	5.52							
	0.32	7.41	0.044		0.0	0.0	0.7	
	1.86	6.63	0.281		0.4	0.4	5.8	
	0.58							
A	9.66							
B	0.33	8.90	0.037		0.0	0.0	0.6	

	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN (PEDS/MIN)	START (VEHS)	END (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
45-18.00								
ACD	2.93	7.33	0.400		0.7	0.7	9.9	
B	0.68							
C	5.52							
D	0.32	7.41	0.044		0.0	0.0	0.7	
ABC	1.86	6.63	0.281		0.4	0.4	5.8	
D	0.58							
A	9.66							
B	0.33	8.90	0.037		0.0	0.0	0.6	

QUEUE FOR STREAM B-ACD

TIME SEGMENT	NO. OF ENDING VEHICLES IN QUEUE
7.15	0.6 *
7.30	0.7 *
7.45	0.7 *
8.00	0.7 *

QUEUE FOR STREAM A-D

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

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FOR STREAM D-ABC

SEGMENT NO. OF
 VEHICLES
 IN QUEUE

0.4
0.4
0.4
0.4

FOR STREAM C-B

SEGMENT NO. OF
 VEHICLES
 IN QUEUE

5 0.0
0 0.0
5 0.0
10 0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

	SEGMENT	TOTAL DEMAND	*QUEUEING*	*INCLUSIVE QUEUEING*	*DELAY*	*DELAY*
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
ACD	175.8	175.8	38.7	0.22	38.7	0.22
B	40.9	40.9				
C	331.4	331.4				
D	19.5	19.5	2.7	0.14	2.7	0.14
ABC	111.6	111.6	22.8	0.20	22.8	0.20
D	35.0	35.0				
A	579.8	579.8				
B	20.0	20.0	2.3	0.12	2.3	0.12
LL	1314.0	1314.0	66.5	0.05	66.6	0.05

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.

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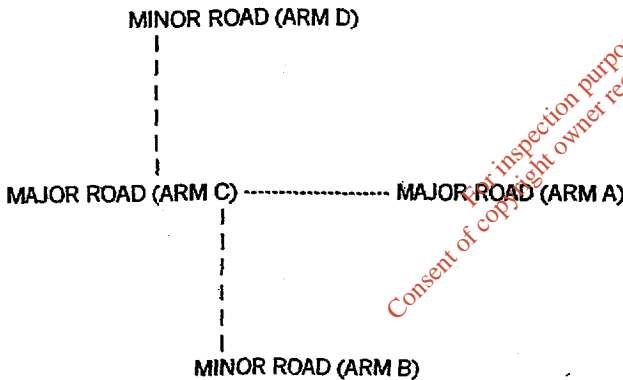
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RUN TITLE

R152-2004-PEAK-HOUR-WITHOUT-DEVELOPMENT

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



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ARM A IS N2 North
ARM B IS R152
ARM C IS N2 South
ARM D IS County Road

STREAM LABELLING CONVENTION

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

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 10.00 M.	(W) 10.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.00 M.	(WA-D) 3.00 M.
- VISIBILITY	(VC-B) 250.0 M.	(VA-D) 200.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 250.0 M.	(VD-A) 250.0 M.
- VISIBILITY TO RIGHT	(VB-A) 250.0 M.	(VD-C) 175.0 M.
- LANE 1 WIDTH	(WB-C) 3.00 M.	(WD-A) 2.90 M.
- LANE 2 WIDTH	(WB-A) 3.00 M.	(WD-C) 0.00 M.
- LENGTH OF FLARED SECTION	4 VEHS	1 VEHS

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.00 - 17.15					
	ARM A	0.000	0.025	0.962	0.013
		0.0	10.0	385.0	5.0
		(0.0)	(16.0)	(16.0)	(10.0)
	ARM B	0.125	0.000	0.750	0.125
		20.0	0.0	120.0	20.0
		(14.0)	(0.0)	(14.0)	(10.0)
	ARM C	0.701	0.292	0.000	0.006
		540.0	225.0	0.0	5.0
		(13.0)	(16.0)	(0.0)	(10.0)
	ARM D	0.333	0.333	0.333	0.000
		5.0	5.0	5.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

15-17-30					
	ARM A	0.000	0.025	0.962	0.013
		0.0	10.0	385.0	5.0
		(0.0)	(16.0)	(16.0)	(10.0)
	ARM B	0.125	0.000	0.750	0.125
		20.0	0.0	120.0	20.0
		(14.0)	(0.0)	(14.0)	(10.0)
	ARM C	0.701	0.292	0.000	0.006
		540.0	225.0	0.0	5.0
		(13.0)	(16.0)	(0.0)	(10.0)
	ARM D	0.333	0.333	0.333	0.000
		5.0	5.0	5.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.30 - 17.45	ARM A	0.000	0.025	0.962	0.013
		0.0	10.0	385.0	5.0
		(0.0)	(16.0)	(16.0)	(10.0)
	ARM B	0.125	0.000	0.750	0.125
		20.0	0.0	120.0	20.0
		(14.0)	(0.0)	(14.0)	(10.0)
	ARM C	0.701	0.292	0.000	0.006
		540.0	225.0	0.0	5.0
		(13.0)	(16.0)	(0.0)	(10.0)
	ARM D	0.333	0.333	0.333	0.000
		5.0	5.0	5.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.45 - 18.00	ARM A	0.000	0.025	0.962	0.013
		0.0	10.0	385.0	5.0
		(0.0)	(16.0)	(16.0)	(10.0)
	ARM B	0.125	0.000	0.750	0.125
		20.0	0.0	120.0	20.0
		(14.0)	(0.0)	(14.0)	(10.0)
	ARM C	0.701	0.292	0.000	0.006
		540.0	225.0	0.0	5.0
		(13.0)	(16.0)	(0.0)	(10.0)
	ARM D	0.333	0.333	0.333	0.000
		5.0	5.0	5.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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)
17.00-17.15								
B-CD	2.34	9.67	0.241		0.0	0.3	4.5	
B-A	0.33	5.47	0.061		0.0	0.1	0.9	
A-B	0.16							
A-C	6.33							
A-D	0.08							
AB-C (8.32)								
AB-D (0.41)	8.17	0.051			0.0	0.1	0.8	
D-ABC	0.25	6.67	0.037		0.0	0.0	0.6	
C-D	0.08							
C-A	9.00							
C-B	3.75							
CD-A (9.08)								
CD-B (3.83)	9.59	0.399			0.0	0.7	9.3	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/)	GEOMETRIC DELAY (VEH.MIN/)
7.15-17.30								
B-CD	2.34	9.67	0.242	0.3	0.3	4.7		
B-A	0.33	5.45	0.061	0.1	0.1	1.0		
A-B	0.16							
A-C	6.33							
A-D	0.08							
AB-C	(8.34)							
AB-D	(0.42)	8.17	0.051	0.1	0.1	0.8		
D-ABC	0.25	6.67	0.037	0.0	0.0	0.6		
C-D	0.08							
C-A	9.00							
C-B	3.75							
CD-A	(9.08)							
CD-B	(3.83)	9.59	0.400	0.7	0.7	9.8		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/)	GEOMETRIC DELAY (VEH.MIN/)
17.15-17.45								
B-CD	2.34	9.67	0.242	0.3	0.3	4.8		
B-A	0.33	5.45	0.061	0.1	0.1	1.0		
A-B	0.16							
A-C	6.33							
A-D	0.08							
AB-C	(8.34)							
AB-D	(0.42)	8.17	0.051	0.1	0.1	0.8		
D-ABC	0.25	6.67	0.037	0.0	0.0	0.6		
C-D	0.08							
C-A	9.00							
C-B	3.75							
CD-A	(9.08)							
CD-B	(3.83)	9.59	0.400	0.7	0.7	9.9		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/)	GEOMETRIC DELAY (VEH.MIN/)
17.45-18.00								
B-CD	2.34	9.67	0.242	0.3	0.3	4.8		
B-A	0.33	5.45	0.061	0.1	0.1	1.0		
A-B	0.16							
A-C	6.33							
A-D	0.08							
AB-C	(8.34)							
AB-D	(0.42)	8.17	0.051	0.1	0.1	0.8		
D-ABC	0.25	6.67	0.037	0.0	0.0	0.6		
C-D	0.08							
C-A	9.00							
C-B	3.75							
CD-A	(9.08)							
CD-B	(3.83)	9.59	0.400	0.7	0.7	9.9		

QUEUE FOR STREAM B-CD

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

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FOR STREAM B-A

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
7.15	0.1
7.30	0.1
7.45	0.1
8.00	0.1

FOR STREAM AB-D

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
7.15	0.1
7.30	0.1
7.45	0.1
8.00	0.1

FOR STREAM D-ABC

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
17.30	0.0
17.45	0.0
18.00	0.0

FOR STREAM CD-B

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
17.15	0.7 *
17.30	0.7 *
17.45	0.7 *
18.00	0.7 *

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING *		* INCLUSIVE QUEUEING *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
3-CD	140.2	140.2	18.8	0.13	18.8	0.13
3-A	20.0	20.0	3.8	0.19	3.8	0.19
1-B	9.9	9.9				
1-C	380.0	380.0				
1-D	4.9	4.9				
B-C	(499.9)	(499.9)				
B-D	(24.9)	(24.9)	3.2	0.13	3.2	0.13
D-ABC	15.0	15.0	2.3	0.15	2.3	0.15
D-D	5.0	5.0				
D-A	539.9	539.9				
D-B	224.9	224.9				
D-A	(544.8)	(544.8)				
D-B	(229.9)	(229.9)	38.9	0.17	38.9	0.17
ALL	1339.8	1339.8	67.0	0.05	67.0	0.05

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

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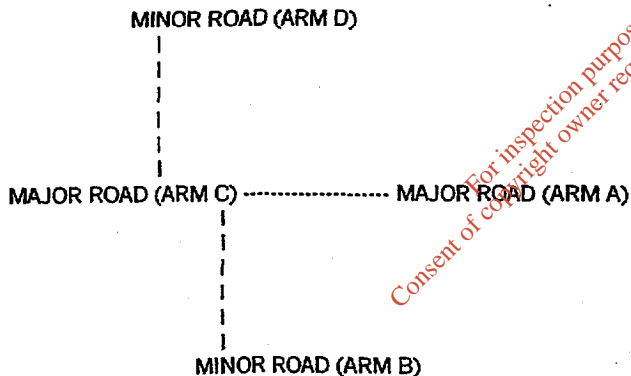
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RUN TITLE

152-2004-PEAK HOUR WITH DEVELOPMENT

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



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ARM A IS N2 North
ARM B IS R152
ARM C IS N2 South
ARM D IS County Road

STREAM LABELLING CONVENTION

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

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 10.00 M.	(W) 10.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 3.00 M.	(WA-D) 3.00 M.
- VISIBILITY	(VC-B) 250.0 M.	(VA-D) 200.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 250.0 M.	(VD-A) 250.0 M.
- VISIBILITY TO RIGHT	(VB-A) 250.0 M.	(VD-C) 175.0 M.
- LANE 1 WIDTH	(WB-C) 3.00 M.	(WD-A) 2.90 M.
- LANE 2 WIDTH	(WB-A) 3.00 M.	(WD-C) 0.00 M.
- LENGTH OF FLARED SECTION	4 VEHS	1 VEHS

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00
 LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.
 DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.00 - 17.15					
	ARMA	0.000	0.025	0.962	0.013
		0.0	10.0	385.0	5.0
		(0.0)	(16.0)	(16.0)	(10.0)
	ARM B	0.122	0.000	0.756	0.122
		20.0	0.0	124.0	20.0
		(14.0)	(0.0)	(14.0)	(10.0)
	ARM C	0.699	0.294	0.000	0.006
		540.0	227.0	0.0	5.0
		(13.0)	(16.0)	(0.0)	(10.0)
	ARM D	0.333	0.333	0.333	0.000
		5.0	5.0	5.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

15 - 17.30					
	ARMA	0.000	0.025	0.962	0.013
		0.0	10.0	385.0	5.0
		(0.0)	(16.0)	(16.0)	(10.0)
	ARM B	0.122	0.000	0.756	0.122
		20.0	0.0	124.0	20.0
		(14.0)	(0.0)	(14.0)	(10.0)
	ARM C	0.699	0.294	0.000	0.006
		540.0	227.0	0.0	5.0
		(13.0)	(16.0)	(0.0)	(10.0)
	ARM D	0.333	0.333	0.333	0.000
		5.0	5.0	5.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

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TURNING PROPORTIONS TURNING COUNTS (PERCENTAGE OF H.V.S)					
TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.30 - 17.45					
	ARMA	0.000	0.025	0.962	0.013
		0.0	10.0	385.0	5.0
		(0.0)	(16.0)	(16.0)	(10.0)
	ARMB	0.122	0.000	0.756	0.122
		20.0	0.0	124.0	20.0
		(14.0)	(0.0)	(14.0)	(10.0)
	ARMC	0.699	0.294	0.000	0.006
		540.0	227.0	0.0	5.0
		(13.0)	(16.0)	(0.0)	(10.0)
	ARMD	0.333	0.333	0.333	0.000
		5.0	5.0	5.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

17.45 - 18.00					
	ARMA	0.000	0.025	0.962	0.013
		0.0	10.0	385.0	5.0
		(0.0)	(16.0)	(16.0)	(10.0)
	ARMB	0.122	0.000	0.756	0.122
		20.0	0.0	124.0	20.0
		(14.0)	(0.0)	(14.0)	(10.0)
	ARMC	0.699	0.294	0.000	0.006
		540.0	227.0	0.0	5.0
		(13.0)	(16.0)	(0.0)	(10.0)
	ARMD	0.333	0.333	0.333	0.000
		5.0	5.0	5.0	0.0
		(10.0)	(10.0)	(10.0)	(0.0)

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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY TIME SEGMENT (VEH.MIN/)	GEOMETRIC DELAY TIME SEGMENT (VEH.MIN/)
17.00-17.15								
B-CD	2.41	9.67	0.249	0.0	0.3	4.7		
B-A	0.33	5.46	0.061	0.0	0.1	0.9		
A-B	0.16							
A-C	6.33							
A-D	0.08							
AB-C	(8.39)							
AB-D	(0.41)	8.17	0.051	0.0	0.1	0.8		
D-ABC	0.25	6.66	0.038	0.0	0.0	0.6		
C-D	0.08							
C-A	9.00							
C-B	3.78							
CD-A	(9.08)							
CD-B	(3.86)	9.59	0.403	0.0	0.7	9.4		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30								
B-CD	2.41	9.67	0.249	0.3	0.3	4.9		
B-A	0.33	5.44	0.061	0.1	0.1	1.0		
A-B	0.16							
A-C	6.33							
A-D	0.08							
AB-C (8.40)								
AB-D (0.42)	8.17	0.051		0.1	0.1	0.8		
D-ABC	0.25	6.65	0.038	0.0	0.0	0.6		
C-D	0.08							
C-A	9.00							
C-B	3.78							
CD-A (9.08)								
CD-B (3.86)	9.59	0.403		0.7	0.7	10.0		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45								
B-CD	2.41	9.67	0.249	0.3	0.3	4.9		
B-A	0.33	5.44	0.061	0.1	0.1	1.0		
A-B	0.16							
A-C	6.33							
A-D	0.08							
AB-C (8.40)								
AB-D (0.42)	8.17	0.051		0.1	0.1	0.8		
D-ABC	0.25	6.65	0.038	0.0	0.0	0.6		
C-D	0.08							
C-A	9.00							
C-B	3.78							
CD-A (9.08)								
CD-B (3.86)	9.59	0.403		0.7	0.7	10.0		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00								
B-CD	2.41	9.67	0.249	0.3	0.3	5.0		
B-A	0.33	5.44	0.061	0.1	0.1	1.0		
A-B	0.16							
A-C	6.33							
A-D	0.08							
AB-C (8.40)								
AB-D (0.42)	8.17	0.051		0.1	0.1	0.8		
D-ABC	0.25	6.65	0.038	0.0	0.0	0.6		
C-D	0.08							
C-A	9.00							
C-B	3.78							
CD-A (9.08)								
CD-B (3.86)	9.59	0.403		0.7	0.7	10.1		

QUEUE FOR STREAM B-CD

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

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QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
7.15	0.1
7.30	0.1
7.45	0.1
8.00	0.1

QUEUE FOR STREAM AB-D

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

QUEUE FOR STREAM D-ABC

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

QUEUE FOR STREAM CD-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.7 *
17.30	0.7 *
17.45	0.7 *
18.00	0.7 *

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 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING *	* INCLUSIVE QUEUEING *
	* DELAY *	* DELAY *	
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-CD	144.4	144.4	19.5 0.14 19.5 0.14
B-A	20.0	20.0	3.8 0.19 3.8 0.19
A-B	9.9	9.9	
A-C	380.0	380.0	
A-D	4.9	4.9	
AB-C	(504.0)	(504.0)	
AB-D	(24.9)	(24.9)	3.2 0.13 3.2 0.13
D-ABC	15.0	15.0	2.3 0.15 2.3 0.15
C-D	5.0	5.0	
CA	539.7	539.7	
C-B	226.9	226.9	
CD-A	(544.7)	(544.7)	
CD-B	(231.9)	(231.9)	39.5 0.17 39.5 0.17
ALL	1345.8	1345.8	68.3 0.05 68.3 0.05

* 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

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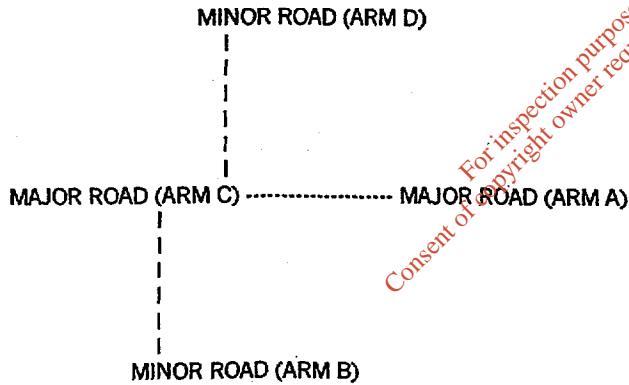
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MAIN TITLE

R150-2004 Peak Hour without Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



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- ARM A IS R152 (north)
- ARM B IS R150 (east)
- ARM C IS R152 (south)
- ARM D IS R150 (west)

STREAM LABELLING CONVENTION

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

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

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	7.00 M.	7.00 M.
CENTRAL RESERVE WIDTH	0.00 M.	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	3.00 M.	3.00 M.
- VISIBILITY	250.0 M.	250.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	250.0 M.	250.0 M.
- VISIBILITY TO RIGHT	150.0 M.	250.0 M.
- LANE 1 WIDTH	4.00 M.	4.00 M.
- LANE 2 WIDTH	0.00 M.	0.00 M.
- LENGTH OF FLARED SECTION	1 VEHS	1 VEHS

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.00 - 17.15					
	ARM A	0.000	0.041	0.425	0.534
		0.0	15.0	155.0	195.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.067	0.000	0.067	0.867
		5.0	0.0	5.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.938	0.042	0.000	0.021
		225.0	10.0	0.0	5.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.787	0.170	0.043	0.000
		185.0	40.0	10.0	0.0
		(16.0)	(16.0)	(16.0)	(0.0)

15 - 17.30					
	ARM A	0.000	0.041	0.425	0.534
		0.0	15.0	155.0	195.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.067	0.000	0.067	0.867
		5.0	0.0	5.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.938	0.042	0.000	0.021
		225.0	10.0	0.0	5.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.787	0.170	0.043	0.000
		185.0	40.0	10.0	0.0
		(16.0)	(16.0)	(16.0)	(0.0)

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.30 - 17.45					
	ARM A	0.000	0.041	0.425	0.534
		0.0	15.0	155.0	195.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.067	0.000	0.067	0.867
		5.0	0.0	5.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.938	0.042	0.000	0.021
		225.0	10.0	0.0	5.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.787	0.170	0.043	0.000
		185.0	40.0	10.0	0.0
		(16.0)	(16.0)	(16.0)	(0.0)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.45 - 18.00					
	ARM A	0.000	0.041	0.425	0.534
		0.0	15.0	155.0	195.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.067	0.000	0.067	0.867
		5.0	0.0	5.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.938	0.042	0.000	0.021
		225.0	10.0	0.0	5.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.787	0.170	0.043	0.000
		185.0	40.0	10.0	0.0
		(16.0)	(16.0)	(16.0)	(0.0)

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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TIME	DEMAND	CAPACITY	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PESDS/MIN)	PEDESTRIAN QUEUE (VEHS)	START TIME	END TIME	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/)
17.00-17.15									
B-ACD	1.25	8.71	0.144		0.0 0.2	2.4			
A-B	0.18								
A-C	1.88								
A-D	2.36	9.97	0.237		0.0 0.3	4.4			
D-ABC	3.92	10.20	0.384		0.0 0.6	8.7			
C-D	0.08								
C-A	3.75								
C-B	0.17	10.58	0.016		0.0 0.0	0.2			

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)
17.15-17.30								
B-ACD	1.25	8.70	0.144		0.2	0.2	2.5	
A-B	0.18							
A-C	1.88							
A-D	2.36	9.97	0.237		0.3	0.3	4.6	
D-ABC	3.92	10.20	0.384		0.6	0.6	9.3	
C-D	0.08							
C-A	3.75							
C-B	0.17	10.58	0.016		0.0	0.0	0.2	

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)
17.30-17.45								
B-ACD	1.25	8.70	0.144		0.2	0.2	2.5	
A-B	0.18							
A-C	1.88							
A-D	2.36	9.97	0.237		0.3	0.3	4.6	
D-ABC	3.92	10.20	0.384		0.6	0.6	9.3	
C-D	0.08							
C-A	3.75							
C-B	0.17	10.58	0.016		0.0	0.0	0.2	

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)
17.45-18.00								
B-ACD	1.25	8.70	0.144		0.2	0.2	2.5	
A-B	0.18							
A-C	1.88							
A-D	2.36	9.97	0.237		0.3	0.3	4.6	
D-ABC	3.92	10.20	0.384		0.6	0.6	9.3	
C-D	0.08							
C-A	3.75							
C-B	0.17	10.58	0.016		0.0	0.0	0.2	

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QUEUE FOR STREAM B-ACD

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

QUEUE FOR STREAM A-D

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

QUEUE FOR STREAM D-ABC

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
17.15	0.6 *
17.30	0.6 *
17.45	0.6 *
18.00	0.6 *

QUEUE FOR STREAM C-B

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

TEAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * (MIN)	* QUEUEING * (MIN/VEH)	* INCLUSIVE QUEUEING * (MIN)	* INCLUSIVE QUEUEING * (MIN/VEH)
B-ACD	75.0	75.0	9.9	0.13	9.9	0.13
A-B	10.9	10.9				
A-C	112.6	112.6				
A-D	141.7	141.7	18.3	0.13	18.3	0.13
D-ABC	235.2	235.2	36.6	0.16	36.6	0.16
C-D	5.0	5.0				
C-A	225.0	225.0				
C-B	10.0	10.0	1.0	0.10	1.0	0.10
ALL	815.4	815.4	65.8	0.08	65.8	0.08

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* 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.

OF JOB

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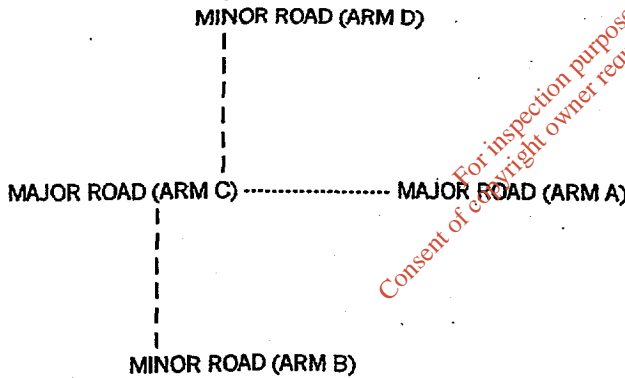
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RUN TITLE

2/R150-2004-Peak-Hour-with-Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



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ARM A IS R152 (north)
ARM B IS R150 (east)
ARM C IS R152 (south)
ARM D IS R150 (west)

STREAM LABELLING CONVENTION

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

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	1 (W) 7.00 M.	1 (W) 7.00 M.
CENTRAL RESERVE WIDTH	1 (WCR) 0.00 M.	1 (WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	1 (WC-B) 3.00 M.	1 (WA-D) 3.00 M.
- VISIBILITY	1 (VC-B) 250.0 M.	1 (VA-D) 250.0 M.
- BLOCKS TRAFFIC	NO	NO
MINOR ROAD - VISIBILITY TO LEFT	1 (VB-C) 250.0 M.	1 (VD-A) 250.0 M.
- VISIBILITY TO RIGHT	1 (VB-A) 150.0 M.	1 (VD-C) 250.0 M.
- LANE 1 WIDTH	1 (WB-C) 4.00 M.	1 (WD-A) 4.00 M.
- LANE 2 WIDTH	1 (WB-A) 0.00 M.	1 (WD-C) 0.00 M.
- LENGTH OF FLARED SECTION	1 VEHS	1 VEHS

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

LENGTH OF TIME PERIOD - 60 MINUTES.
 LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.00 - 17.15					
	ARM A	0.000	0.039	0.418	0.542
		0.0	15.0	159.0	206.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.067	0.000	0.067	0.867
		5.0	0.0	5.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.938	0.041	0.000	0.021
		227.0	10.0	0.0	5.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.791	0.167	0.042	0.000
		189.0	40.0	10.0	0.0
		(16.0)	(16.0)	(16.0)	(0.0)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
15 - 17.30					
	ARM A	0.000	0.039	0.418	0.542
		0.0	15.0	159.0	206.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.067	0.000	0.067	0.867
		5.0	0.0	5.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.938	0.041	0.000	0.021
		227.0	10.0	0.0	5.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.791	0.167	0.042	0.000
		189.0	40.0	10.0	0.0
		(16.0)	(16.0)	(16.0)	(0.0)

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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.30 - 17.45					
	ARM A	0.000	0.039	0.418	0.542
		0.0	15.0	159.0	206.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.067	0.000	0.067	0.867
		5.0	0.0	5.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.938	0.041	0.000	0.021
		227.0	10.0	0.0	5.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.791	0.167	0.042	0.000
		189.0	40.0	10.0	0.0
		(16.0)	(16.0)	(16.0)	(0.0)

45 - 18.00					
	ARM A	0.000	0.039	0.418	0.542
		0.0	15.0	159.0	206.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.067	0.000	0.067	0.867
		5.0	0.0	5.0	65.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.938	0.041	0.000	0.021
		227.0	10.0	0.0	5.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.791	0.167	0.042	0.000
		189.0	40.0	10.0	0.0
		(16.0)	(16.0)	(16.0)	(0.0)

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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
 THE TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS
 THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

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)
00-17.15								
B-ACD	1.25	8.68	0.144	0.0	0.2	2.4		
A-B	0.18							
A-C	1.95							
A-D	2.53	9.96	0.254	0.0	0.3	4.8		
D-ABC	3.99	10.17	0.392	0.0	0.6	9.0		
C-D	0.08							
C-A	3.78							
C-B	0.17	10.56	0.016	0.0	0.0	0.2		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	MAJOR RD. LANE WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (M)	VISIBILITY (AHEAD FOR MAJOR) TO RIGHT (M)
B-ACD	0.142	0.005	0.017	0.006
C-B	0.120	0.005	0.010	
D-ABC	0.132	0.010	0.018	0.005
A-D	0.114	0.008	0.009	

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)
------	---------------------	-----------------------	------------------------------	----------------------------------	--------------------------	------------------------	-------------------------------------	---

17.15-17.30								
B-ACD	1.25	8.67	0.144	0.2	0.2	2.5		
A-B	0.18							
A-C	1.95							
A-D	2.53	9.96	0.254	0.3	0.3	5.1		
D-ABC	3.99	10.17	0.392	0.6	0.6	9.6		
C-D	0.08							
C-A	3.78							
C-B	0.17	10.56	0.016	0.0	0.0	0.2		

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	MAJOR RD. LANE WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (M)	VISIBILITY (AHEAD FOR MAJOR) TO RIGHT (M)
B-ACD	0.142	0.005	0.017	0.006
C-B	0.120	0.005	0.010	
D-ABC	0.131	0.010	0.018	0.005
A-D	0.114	0.008	0.009	

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN (PEDS/MIN)	START FLOW (VEHS)	END QUEUE (VEHS)	DELAY TIME (VEH.MIN/	GEOMETRIC DELAY TIME (VEH.MIN/
17.00-17.45								
B-ACD	1.25	8.67	0.144		0.2	0.2	2.5	
A-B	0.18							
A-C	1.95							
A-D	2.53	9.96	0.254		0.3	0.3	5.1	
D-ABC	3.99	10.17	0.392		0.6	0.6	9.6	
C-D	0.08							
C-A	3.78							
C-B	0.17	10.56	0.016		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (M)	VISIBILITY (M)	(AHEAD FOR MAJOR)	TO RIGHT
B-ACD	0.142	0.005	0.017	0.006	0.009		
C-B	0.120	0.005		0.010			
D-ABC	0.131	0.010	0.018	0.005	0.007		
A-D	0.114	0.008		0.009			

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN (PEDS/MIN)	START FLOW (VEHS)	END QUEUE (VEHS)	DELAY TIME (VEH.MIN/	GEOMETRIC DELAY TIME (VEH.MIN/
------	---------------------	-----------------------	------------------------------	--------------------------	-------------------------	------------------------	----------------------------	--------------------------------------

17.45-18.00								
B-ACD	1.25	8.67	0.144		0.2	0.2	2.5	
A-B	0.18							
A-C	1.95							
A-D	2.53	9.96	0.254		0.3	0.3	5.1	
D-ABC	3.99	10.17	0.392		0.6	0.6	9.6	
C-D	0.08							
C-A	3.78							
C-B	0.17	10.56	0.016		0.0	0.0	0.2	

EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:

MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	WIDTH (M)	VISIBILITY (M)	(AHEAD FOR MAJOR)	TO RIGHT
B-ACD	0.142	0.005	0.017	0.006	0.009		
C-B	0.120	0.005		0.010			
D-ABC	0.131	0.010	0.018	0.005	0.007		
A-D	0.114	0.008		0.009			

QUEUE FOR STREAM B-ACD

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

QUEUE FOR STREAM A-D

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

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QUEUE FOR STREAM D-ABC

SEGMENT	NO. OF VEHICLES	IN QUEUE
7.15	0.6	*
7.30	0.6	*
7.45	0.6	*
8.00	0.6	*

QUEUE FOR STREAM C-B

SEGMENT	NO. OF VEHICLES	IN QUEUE
7.15	0.0	
7.30	0.0	
7.45	0.0	
8.00	0.0	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY (MIN)	* QUEUEING * DELAY (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY (MIN)	* INCLUSIVE QUEUEING * DELAY (MIN/VEH)
B-ACD	75.0	75.0	9.9	0.13	9.9	0.13
A-B	11.1	11.1				
A-C	117.2	117.2				
A-D	151.9	151.9	20.1	0.13	20.1	0.13
D-ABC	239.4	239.4	37.8	0.16	37.9	0.16
C-D	5.0	5.0				
C-A	226.8	226.8				
C-B	10.0	10.0	1.0	0.10	1.0	0.10
ALL	836.4	836.4	68.8	0.08	68.9	0.08

* 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.

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END OF JOB

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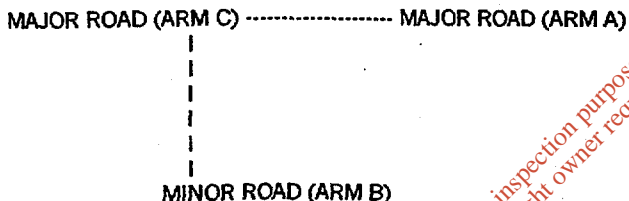
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RUN TITLE

2/Proposed Entrance 2004 Peak Hour with Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS R152 (south)
ARM B IS Proposed Entrance
ARM C IS R152 (north)

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STREAM LABELLING CONVENTION

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

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

ETC.

OMETRIC DATA

DATA ITEM | MINOR ROAD B |

TOTAL MAJOR ROAD CARRIAGEWAY WIDTH | (W) 7.00 M. |

CENTRAL RESERVE WIDTH | (WCR) 0.00 M. |

MAJOR ROAD RIGHT TURN - WIDTH | (WC-B) 3.00 M. |

- VISIBILITY | (VC-B) 250.0 M. |

- BLOCKS TRAFFIC | NO |

MINOR ROAD - VISIBILITY TO LEFT | (VB-C) 250.0 M. |

- VISIBILITY TO RIGHT | (VB-A) 250.0 M. |

- LANE 1 WIDTH | (WB-C) 3.50 M. |

- LANE 2 WIDTH | (WB-A) 0.00 M. |

- LENGTH OF FLARED SECTION | 1 VEHS |

RAFFIC DEMAND DATA

IME PERIOD BEGINS 17.00 AND ENDS 18.00

ENGTH OF TIME PERIOD - 60 MINUTES.

ENGTH OF TIME SEGMENT - 15 MINUTES.

EMAND FLOW PROFILES ARE INPUT DIRECTLY.

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

TIME	FROM/TO	ARM A	ARM B	ARM C
7.00 - 17.15				
	ARMA	0.000	0.014	0.986
		0.0	6.0	415.0
		(0.0)	(53.0)	(14.0)
	ARMB	0.349	0.000	0.651
		15.0	0.0	28.0
		(23.0)	(0.0)	(23.0)
	ARMC	0.971	0.029	0.000
		365.0	11.0	0.0
		(14.0)	(53.0)	(0.0)

17.15 - 17.30				
	ARMA	0.000	0.014	0.986
		0.0	6.0	415.0
		(0.0)	(53.0)	(14.0)
	ARMB	0.349	0.000	0.651
		15.0	0.0	28.0
		(23.0)	(0.0)	(23.0)
	ARMC	0.971	0.029	0.000
		365.0	11.0	0.0
		(14.0)	(53.0)	(0.0)

17.30 - 17.45				
	ARMA	0.000	0.014	0.986
		0.0	6.0	415.0
		(0.0)	(53.0)	(14.0)
	ARMB	0.349	0.000	0.651
		15.0	0.0	28.0
		(23.0)	(0.0)	(23.0)
	ARMC	0.971	0.029	0.000
		365.0	11.0	0.0
		(14.0)	(53.0)	(0.0)

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

TIME	FROM/TO	ARM A	ARM B	ARM C
7.45 - 18.00	ARM A	0.000	0.014	0.986
		0.0	6.0	415.0
		(0.0)	(53.0)	(14.0)
	ARM B	0.349	0.000	0.651
		15.0	0.0	28.0
		(23.0)	(0.0)	(23.0)
	ARM C	0.971	0.029	0.000
		365.0	11.0	0.0
		(14.0)	(53.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

TURNING PROPORTIONS USED VARY BETWEEN TIME SEGMENTS

PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	DEMAND/ PEDESTRIAN FLOW (VEHS)	PEDESTRIAN QUEUE (VEHS)	START TIME	END TIME	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15									
B-AC	0.72	8.06	0.089	0.0	0.1	1.4			
C-A	6.09								
C-B	0.18	6.99	0.026	0.0	0.0	0.4			
A-B	0.10								
A-C	6.92								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	DEMAND/ PEDESTRIAN FLOW (VEHS)	PEDESTRIAN QUEUE (VEHS)	START TIME	END TIME	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30									
B-AC	0.72	8.06	0.089	0.1	0.1	1.5			
C-A	6.09								
C-B	0.18	6.99	0.026	0.0	0.0	0.4			
A-B	0.10								
A-C	6.92								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	DEMAND/ PEDESTRIAN FLOW (VEHS)	PEDESTRIAN QUEUE (VEHS)	START TIME	END TIME	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45									
B-AC	0.72	8.06	0.089	0.1	0.1	1.5			
C-A	6.09								
C-B	0.18	6.99	0.026	0.0	0.0	0.4			
A-B	0.10								
A-C	6.92								

TIME (VEH/MIN)	DEMAND (VEH/MIN)	CAPACITY (RFC)	DEMAND/ CAPACITY (PEDS/MIN)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE TIME	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ I TIME SEGMENT)
18.00								
B-AC	0.72	8.06	0.089	0.1	0.1	1.5		
C-A	6.09							
C-B	0.18	6.99	0.026	0.0	0.0	0.4		
A-B	0.10							
A-C	6.92							

QUEUE FOR STREAM B-AC

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

QUEUE FOR STREAM C-B

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * (MIN)	* QUEUEING * (MIN/VEH)	* INCLUSIVE QUEUEING * (MIN)	* INCLUSIVE QUEUEING * (MIN/VEH)
B-AC	43.2	43.2	5.8	0.13	5.8	0.13
C-A	365.2	365.2				
C-B	11.0	11.0	1.6	0.14	1.6	0.14
A-B	6.0	6.0				
A-C	415.2	415.2				
ALL	840.6	840.6	7.4	0.01	7.4	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 JOB

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