

**APPENDIX C**

**PICADY ANALYSIS OF 2020 JUNCTION OPERATIONS  
WITH AND WITHOUT THE PROPOSED DEVELOPMENT**

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TRANSPORT RESEARCH LABORATORY

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

VPICADY/4 ANALYSIS PROGRAM  
RELEASE 2.0 (DEC 1996)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT  
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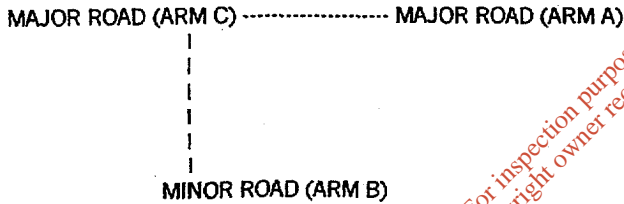
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RUN TITLE

\*\*\*\*\*  
R150 2020 Peak Hour Without Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY  
\*\*\*\*\*

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

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STREAM LABELLING CONVENTION  
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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 | 0.552 | 0.448 |  
 | 0.0 | 160.0 | 130.0 |  
 | ( 0.0) | ( 10.0) | ( 10.0) |  
 ARM B | 0.914 | 0.000 | 0.086 |  
 | 160.0 | 0.0 | 15.0 |  
 | ( 10.0) | ( 0.0) | ( 10.0) |  
 ARM C | 0.939 | 0.061 | 0.000 |  
 | 385.0 | 25.0 | 0.0 |  
 | ( 10.0) | ( 10.0) | ( 0.0) |

17.15 - 17.30  
 ARM A | 0.000 | 0.552 | 0.448 |  
 | 0.0 | 160.0 | 130.0 |  
 | ( 0.0) | ( 10.0) | ( 10.0) |  
 ARM B | 0.914 | 0.000 | 0.086 |  
 | 160.0 | 0.0 | 15.0 |  
 | ( 10.0) | ( 0.0) | ( 10.0) |  
 ARM C | 0.939 | 0.061 | 0.000 |  
 | 385.0 | 25.0 | 0.0 |  
 | ( 10.0) | ( 10.0) | ( 0.0) |

17.30 - 17.45  
 ARM A | 0.000 | 0.552 | 0.448 |  
 | 0.0 | 160.0 | 130.0 |  
 | ( 0.0) | ( 10.0) | ( 10.0) |  
 ARM B | 0.914 | 0.000 | 0.086 |  
 | 160.0 | 0.0 | 15.0 |  
 | ( 10.0) | ( 0.0) | ( 10.0) |  
 ARM C | 0.939 | 0.061 | 0.000 |  
 | 385.0 | 25.0 | 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				
	ARM A	0.000	0.552	0.448
		0.0	160.0	130.0
		( 0.0)	( 10.0)	( 10.0)
	ARM B	0.914	0.000	0.086
		160.0	0.0	15.0
		( 10.0)	( 0.0)	( 10.0)
	ARM C	0.939	0.061	0.000
		385.0	25.0	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 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-AC	2.92	8.12	0.360	0.0	0.6	7.8		
C-AB	0.78	13.40	0.058	0.0	0.1	1.4		
C-A	6.05							
A-B	2.66							
A-C	2.17							

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	2.92	8.12	0.360	0.6	0.6	8.3		
C-AB	0.79	13.40	0.059	0.1	0.1	1.4		
C-A	6.04							
A-B	2.66							
A-C	2.17							

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	2.92	8.12	0.360	0.6	0.6	8.4		
C-AB	0.79	13.40	0.059	0.1	0.1	1.4		
C-A	6.04							
A-B	2.66							
A-C	2.17							

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC	DELAY
(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/		
	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	SEGMENT	TIME	SEGMENT	
7.15-18.00									
B-AC	2.92	8.12	0.360	0.6	0.6	8.4			
C-AB	0.79	13.40	0.059	0.1	0.1	1.4			
C-A	6.04								
A-B	2.66								
A-C	2.17								

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

QUEUE FOR STREAM B-AC

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 C-AB

TIME SEGMENT	NO. OF	
ENDING	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	* QUEUEING *	* INCLUSIVE QUEUEING *
	* DELAY *	* DELAY *	
(VEH)	(VEH/H)	(MIN)	(MIN)
B-AC	175.2	32.8	32.8
C-AB	47.2	5.7	5.7
C-A	362.6		
A-B	159.9		
A-C	129.9		
	874.8	38.5	38.5

- \* 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

[Printed at 15:27:50 on 04-04-2001]

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RUN TITLE

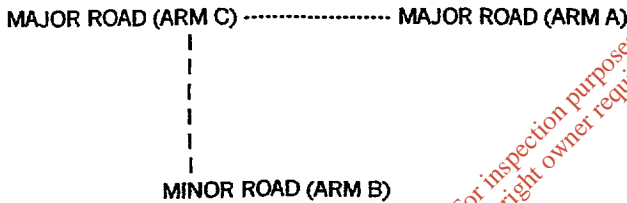
\*\*\*\*\*  
B/R150 2020 Peak Hour With Development

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.

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	0.555	0.445
	0.0	162.0	130.0
	( 0.0)	( 10.0)	( 10.0)
ARM B	0.917	0.000	0.083
	166.0	0.0	15.0
	( 10.0)	( 0.0)	( 10.0)
ARM C	0.939	0.061	0.000
	385.0	25.0	0.0
	( 10.0)	( 10.0)	( 0.0)

17.15 - 17.30 | | | | |  
ARM A	0.000	0.555	0.445
	0.0	162.0	130.0
	( 0.0)	( 10.0)	( 10.0)
ARM B	0.917	0.000	0.083
	166.0	0.0	15.0
	( 10.0)	( 0.0)	( 10.0)
ARM C	0.939	0.061	0.000
	385.0	25.0	0.0
	( 10.0)	( 10.0)	( 0.0)

17.30 - 17.45 | | | | |  
ARM A	0.000	0.555	0.445
	0.0	162.0	130.0
	( 0.0)	( 10.0)	( 10.0)
ARM B	0.917	0.000	0.083
	166.0	0.0	15.0
	( 10.0)	( 0.0)	( 10.0)
ARM C	0.939	0.061	0.000
	385.0	25.0	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				
	ARM A	0.000	0.555	0.445
		0.0	162.0	130.0
		( 0.0)	( 10.0)	( 10.0)
	ARM B	0.917	0.000	0.083
		166.0	0.0	15.0
		( 10.0)	( 0.0)	( 10.0)
	ARM C	0.939	0.061	0.000
		385.0	25.0	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 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-AC	3.02	8.11	0.372	0.0	0.6	8.2		
C-AB	0.78	13.39	0.059	0.0	0.1	1.4		
C-A	6.05							
A-B	2.69							
A-C	2.16							

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)
17.15-17.30								
B-AC	3.02	8.11	0.372	0.6	0.6	8.8		
C-AB	0.79	13.40	0.059	0.1	0.1	1.4		
C-A	6.04							
A-B	2.69							
A-C	2.16							

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)
17.30-17.45								
B-AC	3.02	8.11	0.372	0.6	0.6	8.8		
C-AB	0.79	13.40	0.059	0.1	0.1	1.4		
C-A	6.04							
A-B	2.69							
A-C	2.16							

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TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY
(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH/MIN/	(VEH/MIN/	
	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	SEGMENT)	TIME	SEGMENT)
17.00-18.00								
B-AC	3.02	8.11	0.372	0.6	0.6	8.8		
C-AB	0.79	13.40	0.059	0.1	0.1	1.4		
C-A	6.04							
A-B	2.69							
A-C	2.16							

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

QUEUE FOR STREAM B-AC

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 C-AB

TIME SEGMENT	NO. OF
ENDING	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	* QUEUEING *	* INCLUSIVE QUEUEING *
	* DELAY *	* DELAY *	
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	181.2	181.2	34.6   0.19   34.7   0.19
C-AB	47.2	47.2	5.7   0.12   5.7   0.12
C-A	362.6	362.6	
A-B	161.4	161.4	
A-C	129.6	129.6	
	882.0	882.0	40.3   0.05   40.3   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.

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END OF JOB

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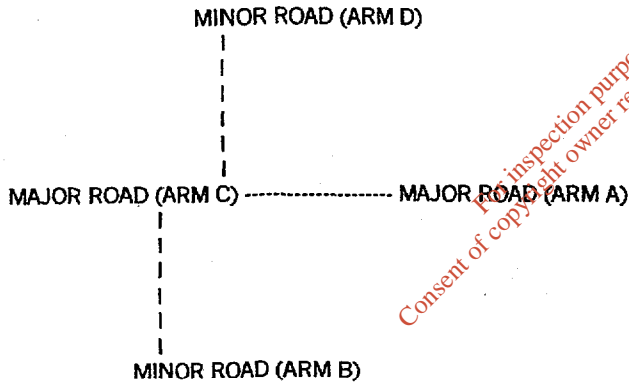
RUN TITLE

\*\*\*\*\*  
50 2020 PEAK HOUR WITH DEVELOPMENT

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

\*\*\*\*\*

INPUT DATA



*Consent of copyright owner required for any other use.*

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 | (W ) 11.50 M. | (W ) 11.50 M. |

CENTRAL RESERVE WIDTH | (WCR ) 0.00 M. | (WCR ) 0.00 M. |

MAJOR 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 |

MINOR 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 |

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 17.00 AND ENDS 18.00

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

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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	0.089	0.863	0.047
	0.0	47.0	455.0	25.0
	( 0.0)	( 16.0)	( 16.0)	( 16.0)
ARM B	0.354	0.000	0.221	0.425
	80.0	0.0	50.0	96.0
	( 16.0)	( 0.0)	( 16.0)	( 16.0)
ARM C	0.919	0.029	0.000	0.052
	790.0	25.0	0.0	45.0
	( 13.0)	( 13.0)	( 0.0)	( 13.0)
ARM D	0.099	0.704	0.197	0.000
	15.0	107.0	30.0	0.0
	( 10.0)	( 10.0)	( 10.0)	( 0.0)

5 - 17.30 | | | | | |  
ARM A	0.000	0.089	0.863	0.047
	0.0	47.0	455.0	25.0
	( 0.0)	( 16.0)	( 16.0)	( 16.0)
ARM B	0.354	0.000	0.221	0.425
	80.0	0.0	50.0	96.0
	( 16.0)	( 0.0)	( 16.0)	( 16.0)
ARM C	0.919	0.029	0.000	0.052
	790.0	25.0	0.0	45.0
	( 13.0)	( 13.0)	( 0.0)	( 13.0)
ARM D	0.099	0.704	0.197	0.000
	15.0	107.0	30.0	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	0.089	0.863	0.047
		0.0	47.0	455.0	25.0
		( 0.0)	( 16.0)	( 16.0)	( 16.0)
	ARM B	0.354	0.000	0.221	0.425
		80.0	0.0	50.0	96.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARM C	0.919	0.029	0.000	0.052
		790.0	25.0	0.0	45.0
		( 13.0)	( 13.0)	( 0.0)	( 13.0)
	ARM D	0.099	0.704	0.197	0.000
		15.0	107.0	30.0	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					
	ARMA	0.000	0.089	0.863	0.047
		0.0	47.0	455.0	25.0
		( 0.0)	( 16.0)	( 16.0)	( 16.0)
	ARM B	0.354	0.000	0.221	0.425
		80.0	0.0	50.0	96.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARM C	0.919	0.029	0.000	0.052
		790.0	25.0	0.0	45.0
		( 13.0)	( 13.0)	( 0.0)	( 13.0)
	ARM D	0.099	0.704	0.197	0.000
		15.0	107.0	30.0	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	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC	DELAY
	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/	
		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)		
17.00-17.15									
B-ACD	3.76	6.19	0.608	0.0	1.5	19.2			
A-B	0.78								
A-C	7.58								
A-D	0.42	6.56	0.063	0.0	0.1	1.0			
D-ABC	2.53	5.30	0.478	0.0	0.9	11.9			
C-D	0.75								
C-A	13.16								
C-B	0.42	8.31	0.050	0.0	0.1	0.8			

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								
B-ACD	3.76	6.18	0.609		1.5	1.5	22.2	
A-B	0.78							
A-C	7.58							
A-D	0.42	6.54	0.064		0.1	0.1	1.0	
D-ABC	2.53	5.28	0.479		0.9	0.9	13.3	
C-D	0.75							
C-A	13.16							
C-B	0.42	8.30	0.050		0.1	0.1	0.8	

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	3.76	6.18	0.609		1.5	1.5	22.7	
A-B	0.78							
A-C	7.58							
A-D	0.42	6.54	0.064		0.1	0.1	1.0	
D-ABC	2.53	5.28	0.479		0.9	0.9	13.5	
C-D	0.75							
C-A	13.16							
C-B	0.42	8.30	0.050		0.1	0.1	0.8	

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	3.76	6.18	0.609		1.5	1.5	22.9	
A-B	0.78							
A-C	7.58							
A-D	0.42	6.54	0.064		0.1	0.1	1.0	
D-ABC	2.53	5.28	0.479		0.9	0.9	13.6	
C-D	0.75							
C-A	13.16							
C-B	0.42	8.30	0.050		0.1	0.1	0.8	

QUEUE FOR STREAM B-ACD

TIME SEGMENT	NO. OF VEHICLES ENDING IN QUEUE
17.15	1.5 *
17.30	1.5 **
17.45	1.5 **
18.00	1.5 **

QUEUE FOR STREAM A-D

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

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QUEUE FOR STREAM D-ABC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.9 *
17.30	0.9 *
17.45	0.9 *
18.00	0.9 *

QUEUE FOR STREAM C-B

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 | \* QUEUEING \* | \* INCLUSIVE QUEUEING \* |  
 | \* DELAY \* | \* DELAY \* |

	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-ACD	225.6	225.6	87.0	0.39	87.2	0.39
A-B	47.0	47.0				
A-C	454.8	454.8				
A-D	25.0	25.0	4.0	0.16	4.0	0.16
D-ABC	151.8	151.8	52.4	0.34	52.4	0.35
C-D	45.0	45.0				
C-A	789.8	789.8				
C-B	25.0	25.0	3.1	0.13	3.1	0.13
ALL	1764.0	1764.0	146.5	0.08	146.8	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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TRANSPORT RESEARCH LABORATORY

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

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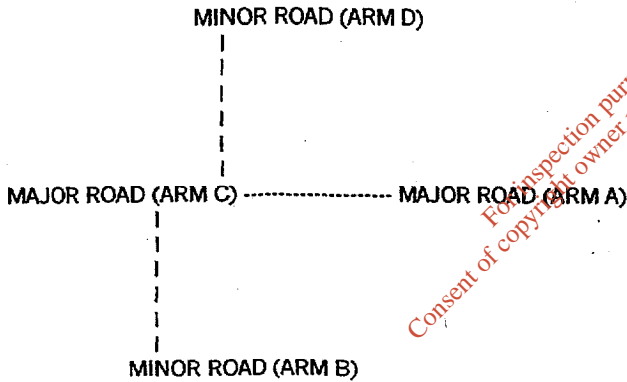
RUN TITLE

\*\*\*\*\*  
50 2020 PEAK HOUR WITHOUT DEVELOPMENT

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

\*\*\*\*\*

INPUT DATA



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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    | (W ) 11.50 M. | (W ) 11.50 M. |  
CENTRAL RESERVE WIDTH                    | (WCR) 0.00 M. | (WCR) 0.00 M. |  
-----  
MAJOR 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        |  
-----  
MINOR 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 |  
-----

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	0.086	0.867	0.048
		0.0	45.0	455.0	25.0
		( 0.0)	( 16.0)	( 16.0)	( 16.0)
	ARM B	0.349	0.000	0.233	0.419
		75.0	0.0	50.0	90.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARM C	0.919	0.029	0.000	0.052
		790.0	25.0	0.0	45.0
		( 13.0)	( 13.0)	( 0.0)	( 13.0)
	ARM D	0.100	0.700	0.200	0.000
		15.0	105.0	30.0	0.0
		( 10.0)	( 10.0)	( 10.0)	( 0.0)

15 - 17.30					
	ARM A	0.000	0.086	0.867	0.048
		0.0	45.0	455.0	25.0
		( 0.0)	( 16.0)	( 16.0)	( 16.0)
	ARM B	0.349	0.000	0.233	0.419
		75.0	0.0	50.0	90.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARM C	0.919	0.029	0.000	0.052
		790.0	25.0	0.0	45.0
		( 13.0)	( 13.0)	( 0.0)	( 13.0)
	ARM D	0.100	0.700	0.200	0.000
		15.0	105.0	30.0	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	0.086	0.867	0.048
		0.0	45.0	455.0	25.0
		( 0.0)	( 16.0)	( 16.0)	( 16.0)
	ARM B	0.349	0.000	0.233	0.419
		75.0	0.0	50.0	90.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARM C	0.919	0.029	0.000	0.052
		790.0	25.0	0.0	45.0
		( 13.0)	( 13.0)	( 0.0)	( 13.0)
	ARM D	0.100	0.700	0.200	0.000
		15.0	105.0	30.0	0.0
		( 10.0)	( 10.0)	( 10.0)	( 0.0)

17.45 - 18.00					
	ARM A	0.000	0.086	0.867	0.048
		0.0	45.0	455.0	25.0
		( 0.0)	( 16.0)	( 16.0)	( 16.0)
	ARM B	0.349	0.000	0.233	0.419
		75.0	0.0	50.0	90.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARM C	0.919	0.029	0.000	0.052
		790.0	25.0	0.0	45.0
		( 13.0)	( 13.0)	( 0.0)	( 13.0)
	ARM D	0.100	0.700	0.200	0.000
		15.0	105.0	30.0	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

ME	DEMAND	CAPACITY	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
(H/MIN)	(VEH/MIN)	(VEH/MIN)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	(VEH.MIN/ TIME SEGMENT)	(VEH.MIN/ TIME SEGMENT)
00	0.15							
B-ACD	3.58	6.22	0.575	0.0	1.3	17.1		
C-B	0.75							
A-C	7.58							
D	0.42	6.60	0.063	0.0	0.1	1.0		
D-ABC	2.50	5.33	0.469	0.0	0.8	11.5		
C-D	0.75							
C-A	13.16							
B	0.42	8.32	0.050	0.0	0.1	0.8		

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

MARGINAL CHANGE:	MAJOR RD. LANE WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (.1M)	VISIBILITY (AHEAD FOR MAJOR) (M)	TO RIGHT VISIBILITY (M)
B-ACD	0.093	0.020	0.017	0.004	0.005
C-B	0.102	0.015		0.008	
D-ABC	0.081	0.022	0.017	0.003	0.005
A-D	0.083	0.022		0.006	

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

7.15-17.30								
B-ACD	3.58	6.22	0.576	1.3	1.3	19.6		
A-B	0.75							
A-C	7.58							
A-D	0.42	6.58	0.063	0.1	0.1	1.0		
D-ABC	2.50	5.32	0.470	0.8	0.9	12.9		
C-D	0.75							
C-A	13.16							
C-B	0.42	8.31	0.050	0.1	0.1	0.8		

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

MARGINAL CHANGE:	MAJOR RD. LANE WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (.1M)	VISIBILITY (AHEAD FOR MAJOR) (M)	TO RIGHT VISIBILITY (M)
B-ACD	0.093	0.020	0.017	0.004	0.005
C-B	0.102	0.015		0.008	
D-ABC	0.081	0.022	0.017	0.003	0.005
A-D	0.083	0.022		0.006	

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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)
7.45								
B-ACD	3.58	6.22	0.576		1.3	1.3	19.9	
A-B	0.75							
A-C	7.58							
A-D	0.42	6.58	0.063		0.1	0.1	1.0	
D-ABC	2.50	5.32	0.470		0.9	0.9	13.1	
C-D	0.75							
C-A	13.16							
C-B	0.42	8.31	0.050		0.1	0.1	0.8	

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

MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	CENT RES (.1M)	VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR)	TO RIGHT
B-ACD	0.093	0.020	0.017	0.004	0.005		
C-B	0.102	0.015		0.008			
D-ABC	0.081	0.022	0.017	0.003	0.005		
A-D	0.083	0.022		0.006			

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	3.58	6.22	0.576		1.3	1.3	20.0	
A-B	0.75							
A-C	7.58							
A-D	0.42	6.58	0.063		0.1	0.1	1.0	
D-ABC	2.50	5.32	0.470		0.9	0.9	13.1	
C-D	0.75							
C-A	13.16							
C-B	0.42	8.31	0.050		0.1	0.1	0.8	

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

MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	CENT RES (.1M)	VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR)	TO RIGHT
B-ACD	0.093	0.020	0.017	0.004	0.005		
C-B	0.102	0.015		0.008			
D-ABC	0.081	0.022	0.017	0.003	0.005		
A-D	0.083	0.022		0.006			

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QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.3 *
17.30	1.3 *
17.45	1.3 *
18.00	1.3 *

QUEUE FOR STREAM A-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	NO. OF VEHICLES IN QUEUE
.15	0.8 *
.30	0.9 *
.45	0.9 *
1.00	0.9 *

QUEUE FOR STREAM C-B

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
7.15	0.1
7.30	0.1
7.45	0.1
3.00	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* DELAY (MIN)	*INCLUSIVE QUEUEING* DELAY (MIN/VEH)
B-ACD	214.8	214.8	76.6	0.36	76.8	0.36
A-B	45.0	45.0				
A-C	455.0	455.0				
A-D	25.0	25.0	4.0	0.16	4.0	0.16
D-ABC	150.0	150.0	50.6	0.34	50.6	0.34
C-D	45.0	45.0				
C-A	789.8	789.8				
C-B	25.0	25.0	3.1	0.12	3.1	0.12
ALL	1749.6	1749.6	134.3	0.08	134.5	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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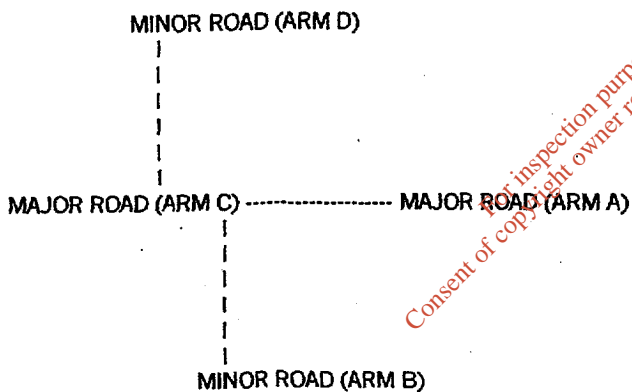
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RUN TITLE

\*\*\*\*\*  
52 2020 PEAK HOUR WITH DEVELOPMENT

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



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 |

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.00 - 17.15	ARMA	0.000	0.028	0.963	0.009
		0.0	15.0	515.0	5.0
		( 0.0)	( 16.0)	( 16.0)	( 10.0)
	ARM B	0.114	0.000	0.795	0.091
		25.0	0.0	174.0	20.0
		( 14.0)	( 0.0)	( 14.0)	( 10.0)
	ARM C	0.712	0.279	0.000	0.010
		745.0	292.0	0.0	10.0
		( 13.0)	( 16.0)	( 0.0)	( 10.0)
	ARM D	0.200	0.400	0.400	0.000
		5.0	10.0	10.0	0.0
		( 10.0)	( 10.0)	( 10.0)	( 0.0)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
17.15 - 17.30	ARMA	0.000	0.028	0.963	0.009
		0.0	15.0	515.0	5.0
		( 0.0)	( 16.0)	( 16.0)	( 10.0)
	ARM B	0.114	0.000	0.795	0.091
		25.0	0.0	174.0	20.0
		( 14.0)	( 0.0)	( 14.0)	( 10.0)
	ARM C	0.712	0.279	0.000	0.010
		745.0	292.0	0.0	10.0
		( 13.0)	( 16.0)	( 0.0)	( 10.0)
	ARM D	0.200	0.400	0.400	0.000
		5.0	10.0	10.0	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	0.028	0.963	0.009
		0.0	15.0	515.0	5.0
		( 0.0)	( 16.0)	( 16.0)	( 10.0)
	ARM B	0.114	0.000	0.795	0.091
		25.0	0.0	174.0	20.0
		( 14.0)	( 0.0)	( 14.0)	( 10.0)
	ARM C	0.712	0.279	0.000	0.010
		745.0	292.0	0.0	10.0
		( 13.0)	( 16.0)	( 0.0)	( 10.0)
	ARM D	0.200	0.400	0.400	0.000
		5.0	10.0	10.0	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					
	ARMA	0.000	0.028	0.963	0.009
		0.0	15.0	515.0	5.0
		( 0.0)	( 16.0)	( 16.0)	( 10.0)
	ARM B	0.114	0.000	0.795	0.091
		25.0	0.0	174.0	20.0
		( 14.0)	( 0.0)	( 14.0)	( 10.0)
	ARM C	0.712	0.279	0.000	0.010
		745.0	292.0	0.0	10.0
		( 13.0)	( 16.0)	( 0.0)	( 10.0)
	ARM D	0.200	0.400	0.400	0.000
		5.0	10.0	10.0	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/
17.00-17.15								
B-CD	3.23	8.98	0.360	0.0	0.6	7.9		
B-A	0.42	3.82	0.109	0.0	0.1	1.7		
A-B	0.25							
A-C	8.59							
A-D	0.08							
AB-C (11.45)								
AB-D (0.41)	7.03	0.059		0.0	0.1	0.9		
D-ABC	0.42	4.86	0.086	0.0	0.1	1.3		
C-D	0.17							
C-A	12.40							
C-B	4.86							
CD-A (12.49)								
CD-B (5.03)	9.01	0.558		0.0	1.2	16.7		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
7.15-7.30								
3-CD	3.23	8.97	0.361	0.6	0.6	8.3		
3-A	0.42	3.79	0.110	0.1	0.1	1.8		
A-B	0.25							
A-C	8.59							
A-D	0.08							
B-C (11.49)								
B-D (0.42)	7.03	0.059		0.1	0.1	0.9		
D-ABC	0.42	4.85	0.087	0.1	0.1	1.4		
C-D	0.17							
C-A	12.40							
C-B	4.86							
CD-A (12.49)								
CD-B (5.03)	9.01	0.558		1.2	1.2	18.5		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45								
B-CD	3.23	8.97	0.361	0.6	0.6	8.4		
B-A	0.42	3.79	0.110	0.1	0.1	1.8		
A-B	0.25							
A-C	8.59							
A-D	0.08							
AB-C (11.49)								
AB-D (0.42)	7.03	0.059		0.1	0.1	0.9		
D-ABC	0.42	4.85	0.087	0.1	0.1	1.4		
C-D	0.17							
C-A	12.40							
C-B	4.86							
CD-A (12.49)								
CD-B (5.03)	9.01	0.558		1.2	1.2	18.7		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00								
B-CD	3.23	8.97	0.361	0.6	0.6	8.4		
B-A	0.42	3.79	0.110	0.1	0.1	1.8		
A-B	0.25							
A-C	8.59							
A-D	0.08							
AB-C (11.49)								
AB-D (0.42)	7.03	0.059		0.1	0.1	0.9		
D-ABC	0.42	4.85	0.087	0.1	0.1	1.4		
C-D	0.17							
C-A	12.40							
C-B	4.86							
CD-A (12.49)								
CD-B (5.03)	9.01	0.558		1.2	1.3	18.7		

QUEUE FOR STREAM B-CD

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

Consent of the Department of Transportation required for any other use.

QUEUE FOR STREAM B-A

ENDING	NO. OF VEHICLES IN QUEUE
.15	0.1
.30	0.1
.45	0.1
1.00	0.1

QUEUE FOR STREAM AB-D

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 D-ABC

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 CD-B

ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.2 *
17.30	1.2 *
17.45	1.2 *
18.00	1.3 *

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-----  
 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD  
 -----

TREAM	TOTAL DEMAND	* QUEUEING *	* INCLUSIVE QUEUEING *
	* DELAY *	* DELAY *	
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
3-CD	194.0	194.0	33.0   0.17   33.0   0.17
3-A	25.0	25.0	7.2   0.29   7.2   0.29
A-B	15.0	15.0	
A-C	515.2	515.2	
A-D	5.0	5.0	
B-C	(688.7)	(688.7)	
B-D	(24.9)	(24.9)	3.7   0.15   3.7   0.15
D-ABC	25.2	25.2	5.6   0.22   5.6   0.22
C-D	10.0	10.0	
C-A	744.1	744.1	
C-B	291.7	291.7	
CD-A	(749.2)	(749.2)	
CD-B	(301.7)	(301.7)	72.6   0.24   72.7   0.24
ALL	1825.2	1825.2	122.0   0.07   122.1   0.07

-----  
 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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TRANSPORT RESEARCH LABORATORY

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

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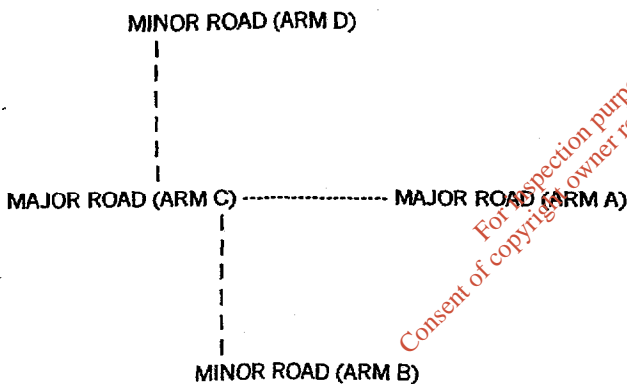
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R152 2020 PEAK HOUR WITHOUT DEVELOPMENT

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.



OMETRIC DATA

DATA ITEM	MINOR ROAD B	MINOR ROAD D
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	1 (W ) 10.00 M.	1 (W ) 10.00 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) 200.0 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) 250.0 M.	1 (VD-C) 175.0 M.
- LANE 1 WIDTH	1 (WB-C) 3.00 M.	1 (WD-A) 2.90 M.
- LANE 2 WIDTH	1 (WB-A) 3.00 M.	1 (WD-C) 0.00 M.
- LENGTH OF FLARED SECTION	4 VEHS	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 | ARM D |

7.00 - 17.15 | | | | | |  
ARM A	0.000	0.028	0.963	0.009
	0.0	15.0	515.0	5.0
	( 0.0)	( 16.0)	( 16.0)	( 10.0)
ARM B	0.116	0.000	0.791	0.093
	25.0	0.0	170.0	20.0
	( 14.0)	( 0.0)	( 14.0)	( 10.0)
ARM C	0.713	0.278	0.000	0.010
	745.0	290.0	0.0	10.0
	( 13.0)	( 16.0)	( 0.0)	( 10.0)
ARM D	0.200	0.400	0.400	0.000
	5.0	10.0	10.0	0.0
	( 10.0)	( 10.0)	( 10.0)	( 0.0)

- 17.30 | | | | | |  
 | ARM A | 0.000 | 0.028 | 0.963 | 0.009 |  
 | | 0.0 | 15.0 | 515.0 | 5.0 |  
 | | ( 0.0) | ( 16.0) | ( 16.0) | ( 10.0) |  
 | | | | | |  
 | ARM B | 0.116 | 0.000 | 0.791 | 0.093 |  
 | | 25.0 | 0.0 | 170.0 | 20.0 |  
 | | ( 14.0) | ( 0.0) | ( 14.0) | ( 10.0) |  
 | | | | | |  
 | ARM C | 0.713 | 0.278 | 0.000 | 0.010 |  
 | | 745.0 | 290.0 | 0.0 | 10.0 |  
 | | ( 13.0) | ( 16.0) | ( 0.0) | ( 10.0) |  
 | | | | | |  
 | ARM D | 0.200 | 0.400 | 0.400 | 0.000 |  
 | | 5.0 | 10.0 | 10.0 | 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	0.028	0.963	0.009
		0.0	15.0	515.0	5.0
		( 0.0)	( 16.0)	( 16.0)	( 10.0)
	ARM B	0.116	0.000	0.791	0.093
		25.0	0.0	170.0	20.0
		( 14.0)	( 0.0)	( 14.0)	( 10.0)
	ARM C	0.713	0.278	0.000	0.010
		745.0	290.0	0.0	10.0
		( 13.0)	( 16.0)	( 0.0)	( 10.0)
	ARM D	0.200	0.400	0.400	0.000
		5.0	10.0	10.0	0.0
		( 10.0)	( 10.0)	( 10.0)	( 0.0)

17.45 - 18.00					
	ARM A	0.000	0.028	0.963	0.009
		0.0	15.0	515.0	5.0
		( 0.0)	( 16.0)	( 16.0)	( 10.0)
	ARM B	0.116	0.000	0.791	0.093
		25.0	0.0	170.0	20.0
		( 14.0)	( 0.0)	( 14.0)	( 10.0)
	ARM C	0.713	0.278	0.000	0.010
		745.0	290.0	0.0	10.0
		( 13.0)	( 16.0)	( 0.0)	( 10.0)
	ARM D	0.200	0.400	0.400	0.000
		5.0	10.0	10.0	0.0
		( 10.0)	( 10.0)	( 10.0)	( 0.0)

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

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN (PEDS/MIN)	START FLOW (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
00-17.15								
B-CD	3.16	8.98	0.352		0.0	0.5	7.6	
A	0.42	3.83	0.109		0.0	0.1	1.7	
B	0.25							
C	8.59							
D	0.08							
3-C (11.39)								
3-D (0.41)	7.04	0.059		0.0	0.1	0.9		
ABC	0.42	4.87	0.086		0.0	0.1	1.3	
D	0.17							
A	12.42							
B	4.83							
D-A (12.50)								
D-B (5.00)	9.01	0.555		0.0	1.2	16.6		

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

MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	RES VIS TO LEFT (.1M)	MAJOR RD. WIDTH (M)	TO RIGHT VISIBILITY (M)
B-CD	0.102	0.013			0.008
A	0.044	0.038	0.026	0.002	0.004
B	0.104	0.014		0.008	
ABC	0.053	0.026	0.017	0.002	0.003
AB-D	0.077	0.025		0.006	

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

17.15-17.30								
B-CD	3.16	8.97	0.353		0.5	0.5	8.1	
B-A	0.42	3.80	0.110		0.1	0.1	1.8	
A-B	0.25							
A-C	8.59							
A-D	0.08							
AB-C (11.42)								
AB-D (0.42)	7.04	0.059		0.1	0.1	0.9		
D-ABC	0.42	4.86	0.086		0.1	0.1	1.4	
C-D	0.17							
C-A	12.42							
C-B	4.83							
CD-A (12.50)								
CD-B (5.00)	9.01	0.555		1.2	1.2	18.2		

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

MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	RES VIS TO LEFT (.1M)	MAJOR RD. WIDTH (M)	TO RIGHT VISIBILITY (M)
B-CD	0.102	0.013			0.008
B-A	0.043	0.038	0.026	0.002	0.003
CD-B	0.104	0.014		0.008	
D-ABC	0.053	0.026	0.017	0.002	0.003
AB-D	0.077	0.025		0.006	

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ME	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-CD	3.16	8.97	0.353	0.5	0.5	8.1		
B-A	0.42	3.80	0.110	0.1	0.1	1.8		
A-B	0.25							
A-C	8.59							
A-D	0.08							
B-C (11.42)								
B-D (0.42)	7.04	0.059		0.1	0.1	0.9		
D-ABC	0.42	4.86	0.086	0.1	0.1	1.4		
C-D	0.17							
C-A	12.42							
C-B	4.83							
D-A (12.50)								
D-B (5.00)	9.01	0.555		1.2	1.2	18.4		

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

MARGINAL CHANGE:	MAJOR RD. LANE WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (.1M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT (M)
B-CD	0.102	0.013			0.008
B-A	0.043	0.038	0.026	0.002	0.003
A-B	0.104	0.014		0.008	
D-ABC	0.053	0.026	0.017	0.002	0.003
AB-D	0.077	0.025		0.006	

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-CD	3.16	8.97	0.353	0.5	0.5	8.1		
B-A	0.42	3.80	0.110	0.1	0.1	1.8		
A-B	0.25							
A-C	8.59							
A-D	0.08							
AB-C (11.42)								
AB-D (0.42)	7.04	0.059		0.1	0.1	0.9		
D-ABC	0.42	4.86	0.086	0.1	0.1	1.4		
C-D	0.17							
C-A	12.42							
C-B	4.83							
CD-A (12.50)								
CD-B (5.00)	9.01	0.555		1.2	1.2	18.5		

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

MARGINAL CHANGE:	MAJOR RD. LANE WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (.1M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT (M)
B-CD	0.102	0.013			0.008
B-A	0.043	0.038	0.026	0.002	0.003
CD-B	0.104	0.014		0.008	
D-ABC	0.053	0.026	0.017	0.002	0.003
AB-D	0.077	0.025		0.006	

QUEUE FOR STREAM B-CD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.5 *
17.30	0.5 *
17.45	0.5 *
18.00	0.5 *

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QUE 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

QUE FOR STREAM AB-D

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

QUE FOR STREAM D-ABC

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

QUE FOR STREAM CD-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	1.2 *
17.30	1.2 *
17.45	1.2 *
18.00	1.2 *

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QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

REAM	TOTAL DEMAND	* QUEUEING *	* INCLUSIVE QUEUEING *
	* DELAY *	* DELAY *	
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
-CD	189.8	189.8	31.9   0.17   31.9   0.17
-A	25.0	25.0	7.1   0.29   7.1   0.29
-B	15.0	15.0	
-C	515.2	515.2	
-D	5.0	5.0	
B-C	(684.5)	(684.5)	
B-D	(24.9)	(24.9)	3.7   0.15   3.7   0.15
-ABC	25.2	25.2	5.5   0.22   5.5   0.22
-D	10.0	10.0	
-A	745.1	745.1	
-B	290.1	290.1	
D-A	(750.2)	(750.2)	
D-B	(300.1)	(300.1)	71.7   0.24   71.8   0.24
ALL	1820.4	1820.4	120.0   0.07   120.1   0.07

DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.  
 NCLUSIVE 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.

ND OF JOB

rinted at 15:30:11 on 04-04-2001]

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

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RUN TITLE

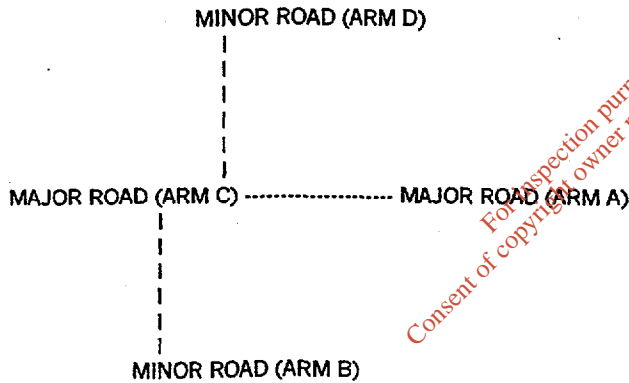
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R150 2020 Peak Hour without Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

\*\*\*\*\*

INPUT DATA



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.



OMETRIC 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

RAFFIC DEMAND DATA

IME PERIOD BEGINS 17.00 AND ENDS 18.00

ENGTH OF TIME PERIOD - 60 MINUTES.  
 ENGH 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	ARM D
17.00 - 17.15					
	ARM A	0.000	0.041	0.443	0.515
		0.0	20.0	215.0	250.0
		( 0.0)	( 14.0)	( 14.0)	( 14.0)
	ARM B	0.095	0.000	0.095	0.810
		10.0	0.0	10.0	85.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARM C	0.923	0.046	0.000	0.031
		300.0	15.0	0.0	10.0
		( 14.0)	( 14.0)	( 0.0)	( 14.0)
	ARM D	0.774	0.177	0.048	0.000
		240.0	55.0	15.0	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	0.041	0.443	0.515
		0.0	20.0	215.0	250.0
		( 0.0)	( 14.0)	( 14.0)	( 14.0)
	ARM B	0.095	0.000	0.095	0.810
		10.0	0.0	10.0	85.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARM C	0.923	0.046	0.000	0.031
		300.0	15.0	0.0	10.0
		( 14.0)	( 14.0)	( 0.0)	( 14.0)
	ARM D	0.774	0.177	0.048	0.000
		240.0	55.0	15.0	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					
	ARMA	0.000	0.041	0.443	0.515
		0.0	20.0	215.0	250.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.095	0.000	0.095	0.810
		10.0	0.0	10.0	85.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.923	0.046	0.000	0.031
		300.0	15.0	0.0	10.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.774	0.177	0.048	0.000
		240.0	55.0	15.0	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					
	ARMA	0.000	0.041	0.443	0.515
		0.0	20.0	215.0	250.0
		(0.0)	(14.0)	(14.0)	(14.0)
	ARM B	0.095	0.000	0.095	0.810
		10.0	0.0	10.0	85.0
		(16.0)	(0.0)	(16.0)	(16.0)
	ARM C	0.923	0.046	0.000	0.031
		300.0	15.0	0.0	10.0
		(14.0)	(14.0)	(0.0)	(14.0)
	ARM D	0.774	0.177	0.048	0.000
		240.0	55.0	15.0	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)
17.00-17.15								
B-ACD	1.75	7.88	0.222		0.0	0.3	4.0	
A-B	0.33							
A-C	3.58							
A-D	4.16	9.46	0.440		0.0	0.8	10.8	
D-ABC	5.17	9.14	0.565		0.0	1.3	17.2	
C-D	0.17							
C-A	5.00							
C-B	0.25	9.95	0.025		0.0	0.0	0.4	

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-ACD	1.75	7.88	0.222	0.3	0.3	4.2		
A-B	0.33							
A-C	3.58							
A-D	4.16	9.45	0.441	0.8	0.8	11.6		
D-ABC	5.17	9.13	0.566	1.3	1.3	19.0		
C-D	0.17							
C-A	5.00							
C-B	0.25	9.94	0.025	0.0	0.0	0.4		

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)
17.30-17.45								
B-ACD	1.75	7.88	0.222	0.3	0.3	4.3		
A-B	0.33							
A-C	3.58							
A-D	4.16	9.45	0.441	0.8	0.8	11.7		
D-ABC	5.17	9.13	0.566	1.3	1.3	19.3		
C-D	0.17							
C-A	5.00							
C-B	0.25	9.94	0.025	0.0	0.0	0.4		

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)
17.45-18.00								
B-ACD	1.75	7.88	0.222	0.3	0.3	4.3		
A-B	0.33							
A-C	3.58							
A-D	4.16	9.45	0.441	0.8	0.8	11.7		
D-ABC	5.17	9.13	0.566	1.3	1.3	19.4		
C-D	0.17							
C-A	5.00							
C-B	0.25	9.94	0.025	0.0	0.0	0.4		

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QUEUE FOR STREAM B-ACD

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 A-D

TIME SEGMENT	NO. OF ENDING VEHICLES IN QUEUE
17.15	0.8 *
17.30	0.8 *
17.45	0.8 *
18.00	0.8 *

QUEUE FOR STREAM D-ABC

TIME SEGMENT	NO. OF VEHICLES IN QUEUE
17.15	1.3 *
17.30	1.3 *
17.45	1.3 *
18.00	1.3 *

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 \* QUEUEING \* INCLUSIVE QUEUEING \*

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * (MIN)	* QUEUEING * (MIN/VEH)	INCLUSIVE QUEUEING * (MIN)	INCLUSIVE QUEUEING * (MIN/VEH)
B-ACD	105.0	105.0	16.8	0.16	16.8	0.16
A-B	20.0	20.0				
A-C	214.9	214.9				
A-D	249.9	249.9	45.9	0.18	45.9	0.18
D-ABC	310.2	310.2	74.9	0.24	75.0	0.24
C-D	10.0	10.0				
C-A	300.2	300.2				
C-B	15.0	15.0	1.5	0.10	1.5	0.10
ALL	1225.2	1225.2	139.2	0.11	139.3	0.11

\* 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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PRIORITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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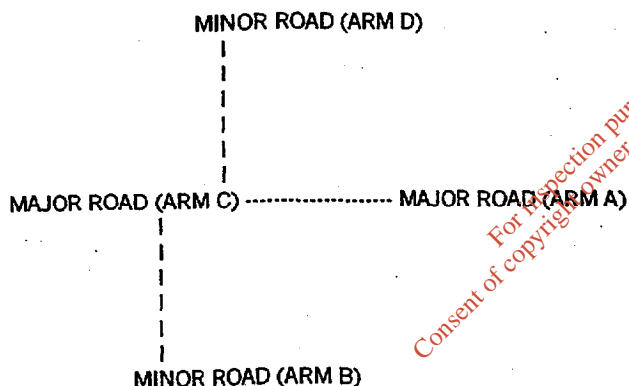
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R150 2020 Peak Hour with Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

\*\*\*\*\*

INPUT DATA



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.

OMETRIC 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

RAFFIC 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 |

7.00 - 17.15

ARM	0.000	0.040	0.438	0.522
ARMA	0.0	20.0	219.0	261.0
	(0.0)	(14.0)	(14.0)	(14.0)
ARM	0.095	0.000	0.095	0.810
ARMB	10.0	0.0	10.0	85.0
	(16.0)	(0.0)	(16.0)	(16.0)
ARM	0.924	0.046	0.000	0.031
ARMC	302.0	15.0	0.0	10.0
	(14.0)	(14.0)	(0.0)	(14.0)
ARM	0.777	0.175	0.048	0.000
ARMD	244.0	55.0	15.0	0.0
	(16.0)	(16.0)	(16.0)	(0.0)

- 17.30

ARM	0.000	0.040	0.438	0.522
ARMA	0.0	20.0	219.0	261.0
	(0.0)	(14.0)	(14.0)	(14.0)
ARM	0.095	0.000	0.095	0.810
ARMB	10.0	0.0	10.0	85.0
	(16.0)	(0.0)	(16.0)	(16.0)
ARM	0.924	0.046	0.000	0.031
ARMC	302.0	15.0	0.0	10.0
	(14.0)	(14.0)	(0.0)	(14.0)
ARM	0.777	0.175	0.048	0.000
ARMD	244.0	55.0	15.0	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

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
7.30 - 17.45					
	ARMA	0.000	0.040	0.438	0.522
		0.0	20.0	219.0	261.0
		( 0.0)	( 14.0)	( 14.0)	( 14.0)
	ARMB	0.095	0.000	0.095	0.810
		10.0	0.0	10.0	85.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARMC	0.924	0.046	0.000	0.031
		302.0	15.0	0.0	10.0
		( 14.0)	( 14.0)	( 0.0)	( 14.0)
	ARMD	0.777	0.175	0.048	0.000
		244.0	55.0	15.0	0.0
		( 16.0)	( 16.0)	( 16.0)	( 0.0)

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
18.00					
	ARMA	0.000	0.040	0.438	0.522
		0.0	20.0	219.0	261.0
		( 0.0)	( 14.0)	( 14.0)	( 14.0)
	ARMB	0.095	0.000	0.095	0.810
		10.0	0.0	10.0	85.0
		( 16.0)	( 0.0)	( 16.0)	( 16.0)
	ARMC	0.924	0.046	0.000	0.031
		302.0	15.0	0.0	10.0
		( 14.0)	( 14.0)	( 0.0)	( 14.0)
	ARMD	0.777	0.175	0.048	0.000
		244.0	55.0	15.0	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 FLOW (VEHS)	END QUEUE (VEHS)	DELAY TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ I TIME SEGMENT)
7.00-7.15								
B-ACD	1.75	7.86	0.223	0.0	0.3	4.0		
A-B	0.33							
A-C	3.65							
A-D	4.35	9.45	0.460	0.0	0.8	11.7		
D-ABC	5.24	9.10	0.576	0.0	1.3	17.9		
C-D	0.17							
C-A	5.03							
C-B	0.25	9.93	0.025	0.0	0.0	0.4		

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

MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	MAJOR RD. VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT
B-ACD	0.127	0.008	0.017	0.005	0.008	
C-B	0.113	0.008		0.009		
D-ABC	0.103	0.016	0.018	0.004	0.006	
A-D	0.108	0.010		0.009		

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START FLOW (VEHS)	END QUEUE (VEHS)	DELAY TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ I TIME SEGMENT)
7.15-17.30								
B-ACD	1.75	7.85	0.223	0.3	0.3	4.3		
A-B	0.33							
A-C	3.65							
A-D	4.35	9.45	0.460	0.8	0.8	12.6		
D-ABC	5.24	9.09	0.577	1.3	1.3	19.8		
C-D	0.17							
C-A	5.03							
C-B	0.25	9.92	0.025	0.0	0.0	0.4		

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

MARGINAL CHANGE:	LANE WIDTH (.1M)	WIDTH (.1M)	WIDTH (.1M)	MAJOR RD. VIS TO LEFT (M)	VISIBILITY (M)	(AHEAD FOR MAJOR) TO RIGHT
B-ACD	0.127	0.008	0.017	0.005	0.008	
C-B	0.113	0.008		0.009		
D-ABC	0.102	0.016	0.018	0.004	0.006	
A-D	0.108	0.010		0.009		

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ME	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)
7.45								
B-ACD	1.75	7.85	0.223		0.3	0.3	4.3	
A-B	0.33							
A-C	3.65							
A-D	4.35	9.45	0.460		0.8	0.8	12.7	
D-ABC	5.24	9.08	0.577		1.3	1.3	20.1	
C-D	0.17							
C-A	5.03							
C-B	0.25	9.92	0.025		0.0	0.0	0.4	

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

MARGINAL CHANGE:	MAJOR RD. LANE WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (.1M)	VISIBILITY (AHEAD FOR MAJOR) WIDTH (M)	TO RIGHT WIDTH (M)
B-ACD	0.127	0.008	0.017	0.005	0.008
C-B	0.113	0.008		0.009	
D-ABC	0.102	0.016	0.018	0.004	0.006
A-D	0.108	0.010		0.009	

ME	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)
----	---------------------	-----------------------	------------------------------	----------------------------------	--------------------------	------------------------	-------------------------------------	---

7.45-18.00								
B-ACD	1.75	7.85	0.223		0.3	0.3	4.3	
A-B	0.33							
A-C	3.65							
A-D	4.35	9.45	0.460		0.8	0.8	12.7	
D-ABC	5.24	9.08	0.577		1.3	1.3	20.2	
C-D	0.17							
C-A	5.03							
C-B	0.25	9.92	0.025		0.0	0.0	0.4	

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

MARGINAL CHANGE:	MAJOR RD. LANE WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT WIDTH (.1M)	VISIBILITY (AHEAD FOR MAJOR) WIDTH (M)	TO RIGHT WIDTH (M)
B-ACD	0.127	0.008	0.017	0.005	0.008
C-B	0.113	0.008		0.009	
D-ABC	0.102	0.016	0.018	0.004	0.006
A-D	0.108	0.010		0.009	

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QUEUE FOR STREAM B-ACD

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 A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.15	0.8 *
17.30	0.8 *
17.45	0.8 *
18.00	0.8 *

EUE FOR STREAM D-ABC

TIME	SEGMENT NO. OF VEHICLES IN QUEUE
7.15	1.3 *
7.30	1.3 *
7.45	1.3 *
8.00	1.3 *

EUE FOR STREAM C-B

TIME	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* (MIN)	*QUEUEING* (MIN/VEH)	*INCLUSIVE QUEUEING* (MIN)	*INCLUSIVE QUEUEING* (MIN/VEH)
B-ACD	105.0	105.0	16.9	0.16	16.9	0.16
A-B	20.0	20.0				
A-C	218.9	218.9				
A-D	260.9	260.9	49.6	0.19	49.7	0.19
D-ABC	314.4	314.4	78.0	0.25	78.1	0.25
C-D	10.0	10.0				
C-A	302.0	302.0				
C-B	15.0	15.0	1.5	0.10	1.5	0.10
ALL	1246.2	1246.2	146.1	0.12	146.2	0.12

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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TRANSPORT RESEARCH LABORATORY

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

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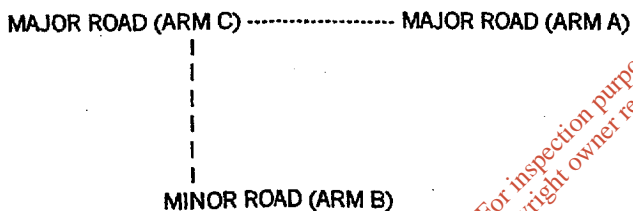
Proposed Entrance 2020 Peak Hour with Development

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

\*\*\*\*\*

INPUT DATA

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

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STREAM LABELLING CONVENTION

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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 ) 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 |

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	0.011	0.989
	0.0	6.0	550.0
	( 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	0.978	0.022	0.000
	485.0	11.0	0.0
	( 14.0)	( 53.0)	( 0.0)

17.15 - 17.30 | | | | |  
ARM A	0.000	0.011	0.989
	0.0	6.0	550.0
	( 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	0.978	0.022	0.000
	485.0	11.0	0.0
	( 14.0)	( 53.0)	( 0.0)

17.30 - 17.45 | | | | |  
ARM A	0.000	0.011	0.989
	0.0	6.0	550.0
	( 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	0.978	0.022	0.000
	485.0	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	0.011	0.989
		0.0	6.0	550.0
		( 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	0.978	0.022	0.000
		485.0	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)	PEDESTRIAN FLOW (VEHS)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.00-17.15								
B-AC	0.72	7.17	0.100	0.0	0.1	1.6		
C-A	8.09							
C-B	0.18	6.50	0.028	0.0	0.0	0.4		
A-B	0.10							
A-C	9.17							

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-AC	0.72	7.17	0.100	0.1	0.1	1.7		
C-A	8.09							
C-B	0.18	6.50	0.028	0.0	0.0	0.4		
A-B	0.10							
A-C	9.17							

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-AC	0.72	7.17	0.100	0.1	0.1	1.7		
C-A	8.09							
C-B	0.18	6.50	0.028	0.0	0.0	0.4		
A-B	0.10							
A-C	9.17							



TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC	DELAY
(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	(VEH.MIN/		
	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	SEGMENT)	TIME	SEGMENT)	
7.45-18.00									
B-AC	0.72	7.17	0.100	0.1	0.1	1.7			
C-A	8.09								
C-B	0.18	6.50	0.028	0.0	0.0	0.4			
A-B	0.10								
A-C	9.17								

JEUE FOR STREAM B-AC

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

JEUE FOR STREAM C-B

TIME SEGMENT	NO. OF
ENDING	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	* QUEUEING *	* INCLUSIVE QUEUEING *
	* DELAY *	* DELAY *	
	(VEH)	(VEH/H)	(MIN)
	(VEH/H)	(MIN)	(MIN/VEH)
B-AC	43.2	43.2	6.6
C-A	485.2	485.2	0.15
C-B	11.0	11.0	1.7
A-B	6.0	6.0	0.16
A-C	550.2	550.2	0.16
ALL	11095.6	11095.6	8.3

- \* 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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