APPENDIX BGH 11

TRL LIMITED

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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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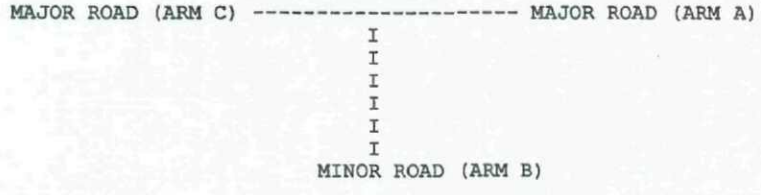
un with file:-
Y:\2007\07-376 to 07-400\07-399 Station Road,Wombwell, Barnsley\Valley Road Predicted AM Peak.vpi"
rive-on-the-left) at 15:15:44 on Monday, 11 February 2008

UN INFORMATION
****

RUN TITLE: Valley Road, Wombwell Predicted AM Peak
LOCATION: Wombwell, Barnsley
DATE: 01/02/08
CLIENT: Redkite Property Management
ENUMERATOR: cappleton [CAPPLETON01]
JOB NUMBER: 07-399
STATUS:
ESCRIPTION:

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



RM A IS STATION ROAD (WEST)
RM B IS VALLEY ROAD
RM C IS STATION ROAD (EAST)

TREAM 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)	7.80 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	120.0 M.
- BLOCKS TRAFFIC		YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	64.0 M.
- VISIBILITY TO RIGHT	(VB-A)	60.0 M.
- LANE 1 WIDTH	(WB-C)	5.00 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

SLOPES AND INTERCEPT

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

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
794.21	0.28	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
633.92	0.27	0.11	0.17	0.38

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

B These values do not allow for any site specific corrections

RAFFIC DEMAND DATA

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

Demand set: Valley Road, Wombwell Predicted AM Peak

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	4.66	6.99	4.66
ARM B	15.00	45.00	75.00	1.09	1.63	1.09
ARM C	15.00	45.00	75.00	5.53	8.29	5.53

TURNING PROPORTIONS
TURNING COUNTS (VEH/HR)
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.421	0.579
		0.0	157.0	216.0
		(0.0)	(4.5)	(3.2)
	ARM B	0.759	0.000	0.241
		66.0	0.0	21.0
		(15.1)	(0.0)	(5.2)
	ARM C	0.905	0.095	0.000
		400.0	42.0	0.0
		(3.8)	(2.4)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.09	8.10	0.135		0.00	0.15	2.2		0.14
C-AB	0.84	12.69	0.066		0.00	0.11	1.6		0.08
C-A	4.71								
A-B	1.97								
A-C	2.71								

TRL VIEWER 3.1 AD Y:\2007\07-376 to 07-400\07-399 Station Road,Wombwell, Barnsley\Valley Road Predi

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.30	7.76	0.168		0.15	0.20	2.9		0.15
C-AB	1.14	13.24	0.086		0.11	0.16	2.5		0.08
C-A	5.48								
A-B	2.35								
A-C	3.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.60	7.28	0.219		0.20	0.28	4.0		0.18
C-AB	1.60	13.91	0.115		0.16	0.26	3.9		0.08
C-A	6.51								
A-B	2.88								
A-C	3.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.60	7.28	0.219		0.28	0.28	4.2		0.18
C-AB	1.60	13.91	0.115		0.26	0.26	4.0		0.08
C-A	6.51								
A-B	2.88								
A-C	3.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.30	7.76	0.168		0.28	0.20	3.2		0.16
C-AB	1.14	13.24	0.086		0.26	0.17	2.6		0.08
C-A	5.48								
A-B	2.35								
A-C	3.24								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.09	8.10	0.135		0.20	0.16	2.4		0.14
C-AB	0.84	12.69	0.066		0.17	0.11	1.7		0.08
C-A	4.71								
A-B	1.97								
A-C	2.71								

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

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.2
08.45	0.2
09.00	0.3
09.15	0.3
09.30	0.2
09.45	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.1
08.45	0.2
09.00	0.3
09.15	0.3
09.30	0.2
09.45	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	119.7	79.8	18.9	0.16	18.9	0.16
C-AB	107.3	71.6	16.3	0.15	16.3	0.15
C-A	501.0	334.0				
A-B	216.1	144.1				
A-C	297.3	198.2				
ALL	1241.5	827.7	35.2	0.03	35.2	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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Printed at 15:15:55 on 11/02/2008]

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

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 INTERIM(MAR 2006)

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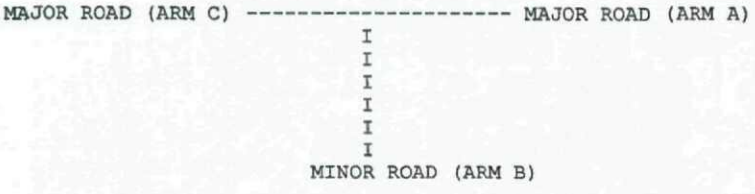
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Valley Road Predicted PM Peak.vpi"
(Drive-on-the-left) at 13:07:06 on Monday, 4 February 2008

RUN INFORMATION
****

RUN TITLE: Valley Road, Wombwell Predicted PM Peak
LOCATION: Wombwell, Barnsley
DATE: 01/02/08
CLIENT: Redkite Property Management
ENUMERATOR: cappleton [CAPPLETON01]
JOB NUMBER: 07-399
STATUS:
DESCRIPTION:

MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS STATION ROAD (WEST)
ARM B IS VALLEY ROAD
ARM C IS STATION ROAD (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)	7.80 M.	
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	
- VISIBILITY	(VC-B)	120.0 M.	
- BLOCKS TRAFFIC		YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	64.0 M.	
- VISIBILITY TO RIGHT	(VB-A)	60.0 M.	
- LANE 1 WIDTH	(WB-C)	5.00 M.	
- LANE 2 WIDTH	(WB-A)	0.00 M.	

SLOPES AND INTERCEPT

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

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
794.21	0.28	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
633.92	0.27	0.11	0.17	0.38

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
643.46	0.23	0.23

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

RAFFIC DEMAND DATA

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

Demand set: Valley Road, Wombwell Predicte

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.99	10.48	6.99
ARM B	15.00	45.00	75.00	2.10	3.15	2.10
ARM C	15.00	45.00	75.00	3.58	5.36	3.58

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.15 - 17.45	ARM A	0.000	0.091	0.909
		0.0	51.0	508.0
		(0.0)	(5.9)	(1.0)
	ARM B	0.732	0.000	0.268
		123.0	0.0	45.0
		(2.4)	(0.0)	(0.0)
	ARM C	0.909	0.091	0.000
		260.0	26.0	0.0
		(2.3)	(0.0)	(0.0)

JRN 'G PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

HE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-AC	2.11	8.58	0.246		0.00	0.32	4.6		0.15
C-AB	0.45	11.32	0.040		0.00	0.06	0.8		0.09
C-A	3.14								
A-B	0.64								
A-C	6.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-AC	2.52	8.11	0.310		0.32	0.44	6.4		0.18
C-AB	0.58	11.46	0.050		0.06	0.08	1.2		0.09
C-A	3.71								
A-B	0.76								
A-C	7.61								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	3.08	7.46	0.413		0.44	0.69	9.8		0.23
C-AB	0.78	11.68	0.067		0.08	0.11	1.7		0.09
C-A	4.47								
A-B	0.94								
A-C	9.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
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C-A	4.47								
A-B	0.94								
A-C	9.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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B-AC	2.52	8.11	0.310		0.70	0.46	7.1		0.18
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A-C	7.61								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
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B-AC	2.11	8.58	0.246		0.46	0.33	5.1		0.15
C-AB	0.45	11.32	0.040		0.08	0.06	0.9		0.09
C-A	3.14								
A-B	0.64								
A-C	6.37								

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	
16.30	0.3	
16.45	0.4	
17.00	0.7	*
17.15	0.7	*
17.30	0.5	
17.45	0.3	

UEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.30	0.1
16.45	0.1
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	231.2	154.2	43.5	0.19	43.5	0.19
C-AB	54.3	36.2	7.4	0.14	7.4	0.14
C-A	339.3	226.2				
A-B	70.2	46.8				
( )	699.2	466.1				
ALL	1394.3	929.5	50.9	0.04	50.9	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.

ND OF JOB

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

Printed at 13:07:13 on 04/02/2008]