



The Richard Parker Consultancy

CONSULTING ENGINEERS: TRAFFIC, HIGHWAYS & TRANSPORT

Brackley Investments Ltd.,

**Proposed 64-bed Care Home on land adjoining
Helmsley House,
Bartons Road,
Havant. PO9 5NB**

Application No. HDC APP/20/00761

TRANSPORT ASSESSMENT - SUPPLEMENTARY TRANSPORT INFORMATION

30th October 2020

1. The Hampshire County Council (HCC) consultation response received on 20th October 2020 sought further information on three matters; i) additional vehicle swept path tracking analysis within the site of delivery vehicles and the refuse vehicle, ii) clarification on the derivation of the trip rates used to assess the future trip generation from the site and iii) that three additional sites were included in the 'committed' schemes in derivation of the traffic flows used in the junction analysis. This short supplementary report address those three matters.

Swept-path – tracking analysis

2. Two further vehicle tracking swept paths tests have been undertaken to demonstrate the ability of vehicles to enter and leave the site in a forward direction. The main Transport Assessment included the tracking of an ambulance reversing towards the main entrance of the Care Home and now the tracking of a 7.5 tonne rigid delivery vehicle and a 3-axle 10m long refuse vehicle have been undertaken and are attached to this report. These vehicles are those most likely to be servicing the site with food deliveries arriving in small vans or rigid box vehicles. Similarly the refuse collections will be by a separate contract taken out by the Care Home operator using 10m long, 3-axle vehicles. These tracking diagrams are shown on Figures 13 and 14.
3. Each type of service vehicle will perform a 3-point turn in the service road before turning into the layby or reversing towards the rear of the building where the refuse bins are located.

Trip generation rates

4. HCC have queried the derivation of the trip generation rate used in the junction capacity analysis. Because there is nothing comparable in TRICS we used the trip rates from 5 existing homes in the south of England as a basis. These included three established Care

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Directors: IRM Parker BSc DipTE CEng MICE MCIT GV Parker

- Homes in Hampshire, one in West Sussex and one in Gloucestershire. The average of these five sets of trip rates gave an AM peak hour trip rate of 0.194 vehicle trips /bed and a PM peak hour trip rate of 0.178 vehicles per bed.
5. The trip rate used for Helmsley House was 0.200 vehicle trips per bed in the AM period and 0.165 vehicle trips per bed in the PM peak. The report incorrectly referred to adjustments related to local car ownership. The trip rate used should have been the average of the five trip rates from the established Care Homes.
 6. Adopting these average trip rates from the five Care Homes would have resulted in 12.4 vehicle trips in the AM peak and 11.1 vehicle trips in the PM peak compared with the 12.8 and 10.6 that were used. With rounding there would be no difference to the expected Care Home traffic figures input to the forecasting model.
 7. It is relevant to note that even if the maximum trip generation rate from any of the 5 examples quoted had been used that that would only have resulted in a total of 15.3 and 12.5 trips in each peak hour, an increase of 2.5 and 1.9 trips per hour respectively from the figures used. An insignificant amount.

Committed schemes

- 8 HCC have asked that three further committed schemes are included in the traffic forecasts used in the model. These are i) the former Colt International site adjoining New Lane some 850m to the west along Bartons Road, ii) the East Leigh House scheme 300m to the west along Bartons Road and iii) the major housing scheme on land adjoining Junction 2 of the A3(M) at Horndean. Dealing with these in order;

i) Colt International

This scheme for 100 dwellings was approved on 30th January 2019. Figures in the revised TA submitted with the application indicated that the development would generate some 18 vehicles per hour (split 7 / 11 by direction) in the AM peak along Bartons Road past the Bellway /Brookvale / Helmsley access and some 17 vehicles per hour (split 11/ 6) in the PM peak hour.

ii) East Leigh House

This scheme was approved in January 2017 for a net additional 9 dwellings and the conversion of the existing 400m² house to B1 offices. No Transport Statement nor any traffic figures were submitted with the application, which used an existing access onto Bartons Road. Based on figures used in both the Camp Field and our TA and allowing for the previous generation from the site this site would add some 6 vehicles per hour to Bartons Road (east) in each of the AM and PM peak periods.

iii) Land East of Horndean

This is a major regional development site for 800 house, some employment and a new primary school. The site lies in the East Hampshire DC area some 5km north of Bartons Road on the east side of Horndean, adjoining the A3(M). Despite the application being submitted in December 2018 the application is still undetermined.

The TA submitted with the application gives only traffic forecasts on the section of the B2149 close to Rowlands Castle, a point still 4km north of from Bartons Road. At that point (still north of Rowlands Castle) the forecast additional traffic on the B2149 from the TA is 27 and 58 vehicles per hour by direction in the AM peak hour and 56 and 36 vehicles per hour in the PM peak hour . This traffic then has numerous alternative routes to continue travelling south, namely along the B2148 towards Emsworth, the B2149 into Havant and the A27 or it may dissipate into local destinations. The amount of traffic likely to travel on an east/west Bartons Road link between these two roads 5km south of the site will be minimal as there are no significant destinations along this road. . We have assumed 10% of the forecast traffic on the B2149 at Rowlands Castle is likely to be on the section of Bartons Road near Helmsley House.

9. Overall, the additional traffic to add to the previously estimated committed traffic (shown on Figure 9 in the TA) is set out in the following table.

Traffic from additional committed schemes

site	AM peak			PM peak		
	Total	e'bound	w'bound	Total	e'bound	w'bound
Colt International site	18	7	11	17	11	6
East Leigh House	6	3	3	6	3	3
Land E of Horndean	9	3	6	10	6	4
total	33	13	20	33	20	13

This traffic has been added to the previous estimates of committed traffic (shown on Figure 9) and is set out on Figure 9A attached to this report.

10. Figures 11 and 12 in the TA were based on the committed traffic set out in Figure 9 and therefore have also been updated. Figure 11A sets out the 2025 traffic flows with all committed traffic flows and Figure 12A shows the 2025 forecast flows with all committed traffic and the full H.25 development.
11. The 2025 PICADY analysis of the new Bellway / Brookvale junction with Bartons Road has been repeated with this additional committed traffic included in the base traffic flows. The results are set out in the Table below. The PICADY output for each of the four tested situations (2025 AM and PM peak hour with and without the full Helmsley House H.25 development) is included with this report.

Revised PICADY analysis of the Bartons Road / Brookvale / Camp Field staggered junction

	2025 flows			
	with revised committed development only		with revised committed development and H.25	
	rfc	queue	rfc	queue
AM peak				
Bartons Road (east)	0.067	0.1	0.067	0.1
Bellway /Brookvale H.25 access	0.302	0.4	0.359	0.5
Bartons Road (west)	0.029	0.0	0.039	0.0
Crematorium /Camp field access	0.372	0.6	0.377	0.6
PM peak				
Bartons Road (east)	0.100	0.1	0.100	0.1
Bellway /Brookvale H25 access	0.164	0.2	0.199	0.2
Bartons Road (west)	0.087	0.1	0.098	0.1
Crematorium /Camp field access	0.202	0.3	0.203	0.2

where rfc = ratio of flow to capacity queue = maximum vehicles

13. The capacity modelling of the staggered junction indicates that in 2025 with a fully built-out Helmsley House site with all the committed development in the area there is no significant difference between the 'with' and 'without' Policy H.25 situations. The approach arm from the Bellway /Brookvale / Care Home approach has the highest flow to capacity ratio and even then it does not exceed 0.36 with average queue lengths of less than one vehicle.
14. This analysis indicates that the traffic impact of a fully developed H.25 site will have no noticeable impact on the expected traffic operating conditions in the vicinity of the site.

Richard Parker BSc, Dip TE, CEng, MICE, CMILT

Ref: 1009/9/K 30th October 2020

Attached - Figure 9A – AM and PM peak incremental traffic from all-committed development
Figure 11A – 2025 AM and PM peak with all committed traffic added in
Figure 12A - 2025 AM and PM peak with all committed traffic and fully developed H.25 site
PICADY output 2025 AM peak with all committed traffic
PICADY output 2025 AM peak with all committed traffic and fully developed H.25
PICADY output 2025 PM peak with all committed traffic
PICADY output 2025 PM peak with all committed traffic and fully developed H.25

separately: Figures 13 and 14 – swept path plots of delivery vehicle and refuse vehicle within site

FIGURE 9A
All committed development

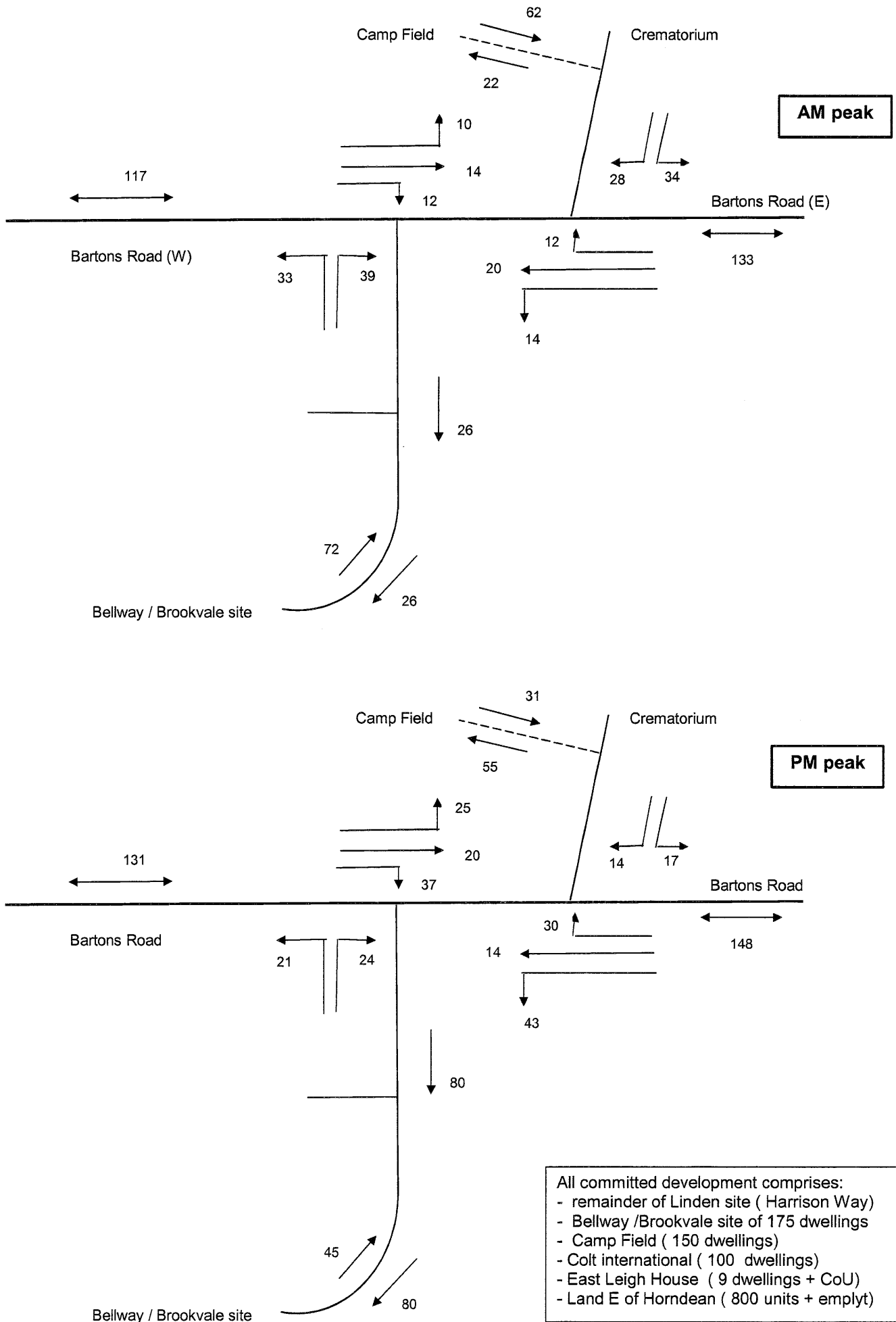


FIGURE 11A
2025 with all committed developments, AM and PM peak

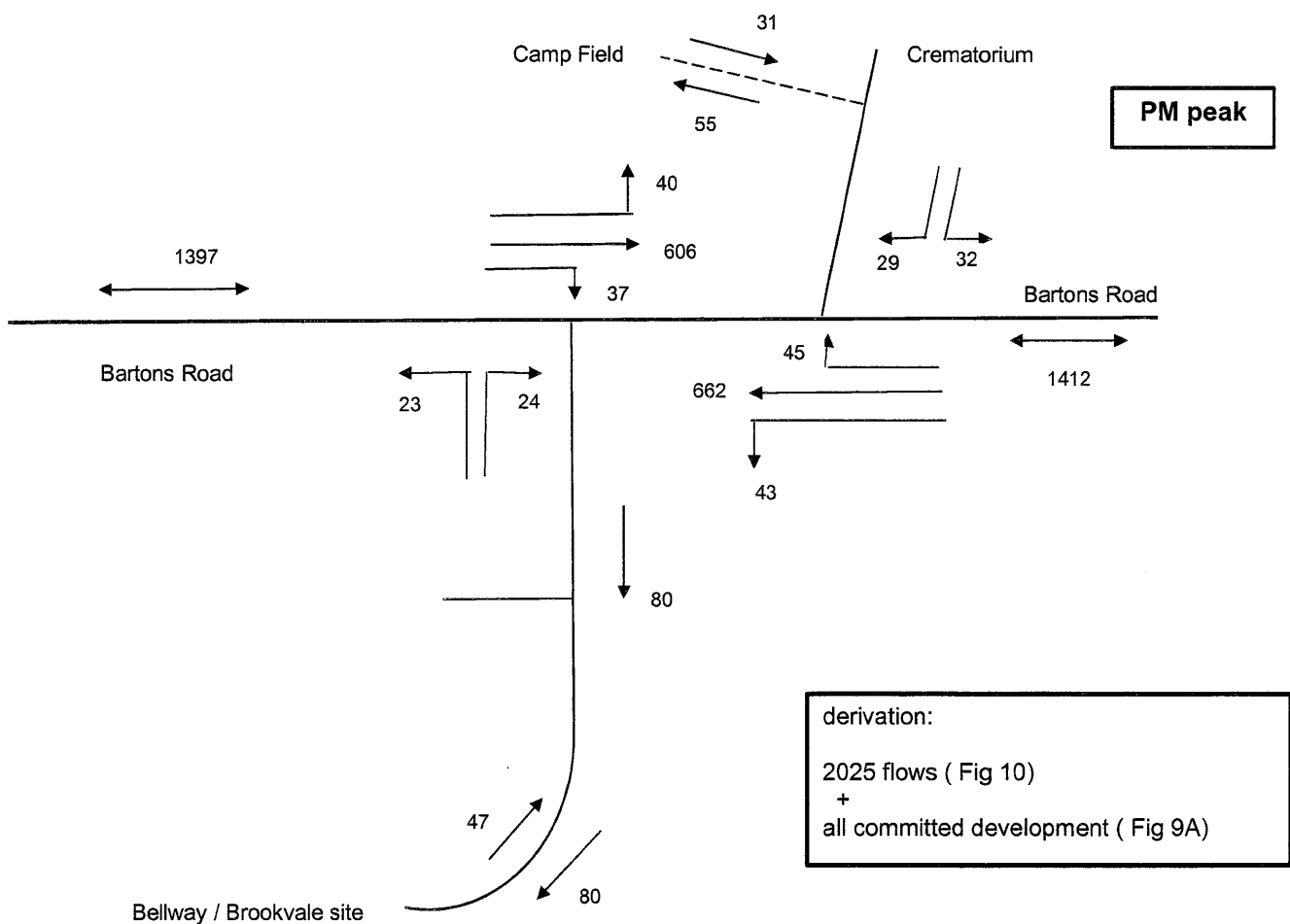
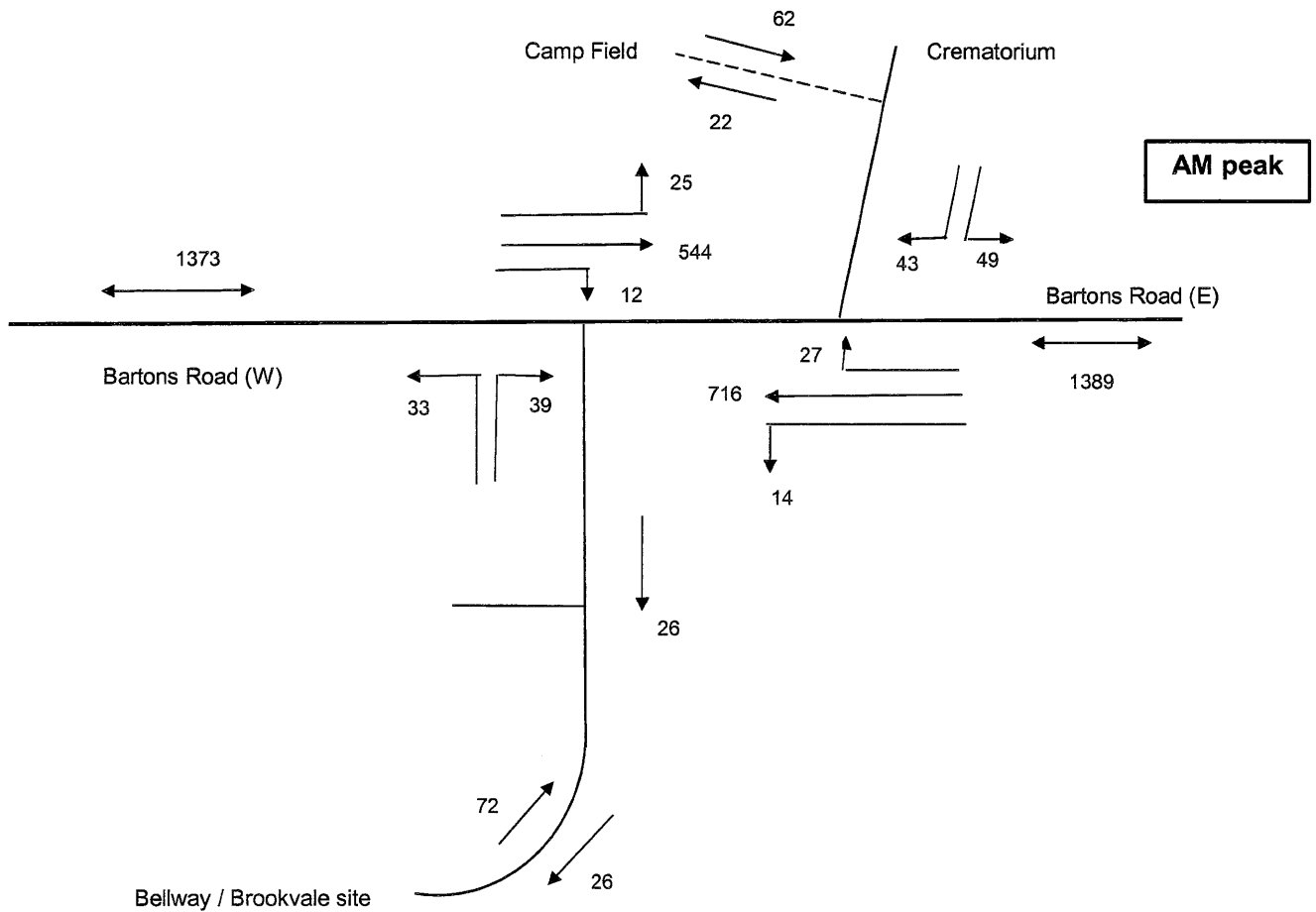
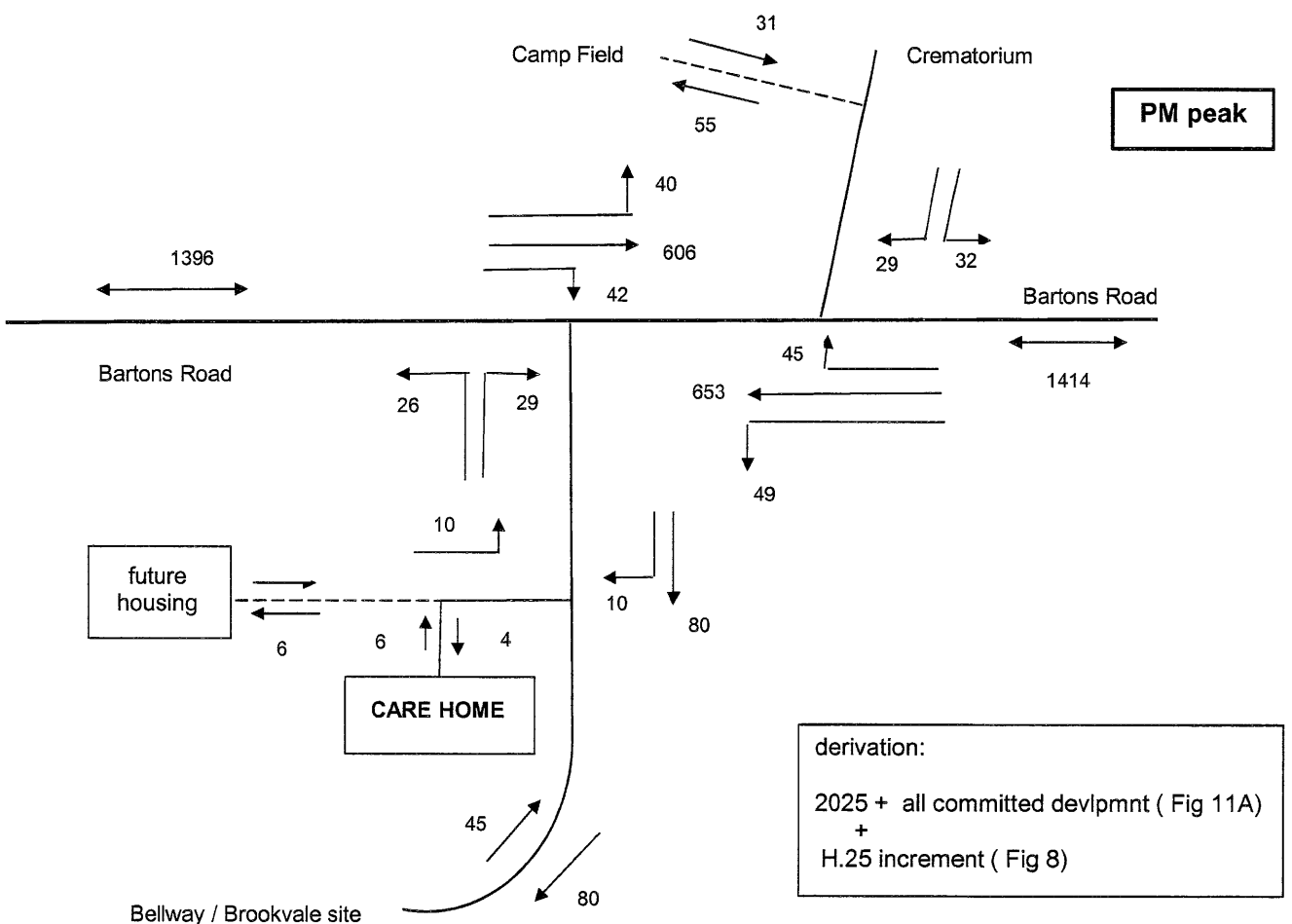
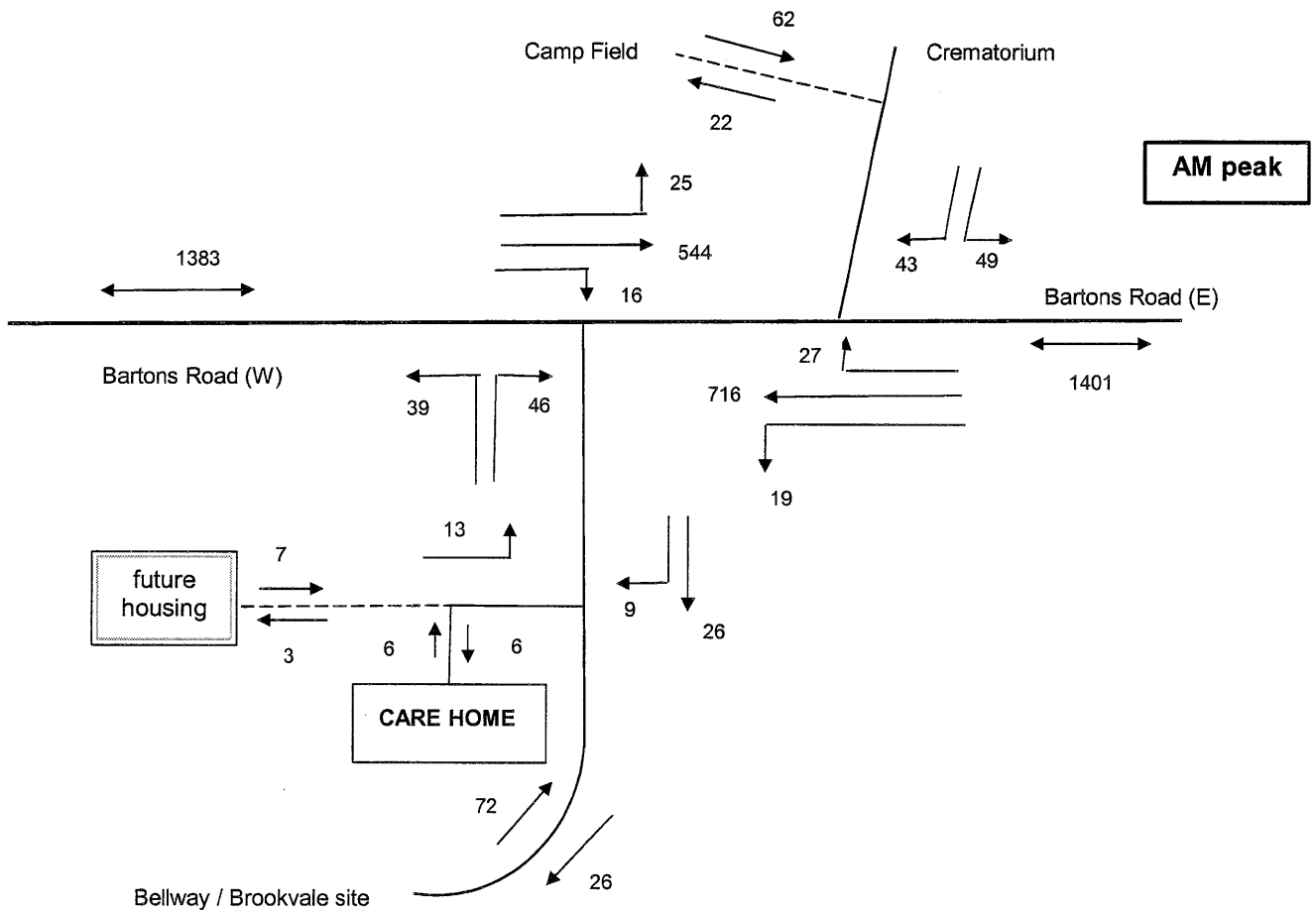


FIGURE 12A
2025 all committed development and fully developed H.25



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**2025 AM peak hour
+
all committed
schemes (revised)**

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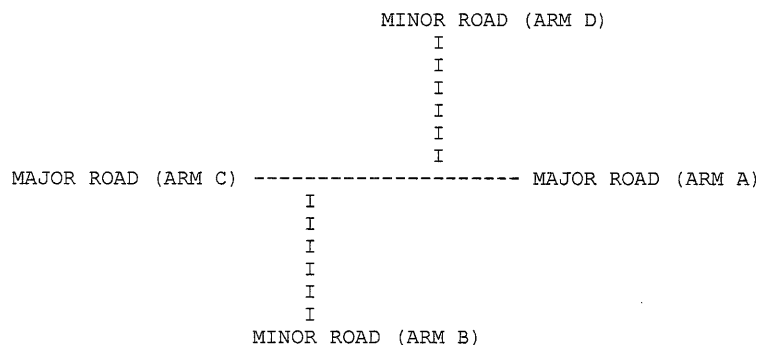
Run with file:- "C:\Picady data\Barrtons Road 2025 all cmmtted AM peak.vpi" (drive-on-the-left) at 16:17:26 on Thurs

RUN TITLE

Bartons Road staggered T 2025 + revised all committed AM peak

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Bartons road (east)
ARM B IS Bellway / Brookvale access
ARM C IS Bartons road (west)
ARM D IS Crematorium + Camp fField

STREAM LABELLING CONVENTION

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

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

ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 6.50 M.	I	(W) 6.50 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I	(WCR) 0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 3.00 M.	I	(WA-D) 3.00 M.	I
I	- VISIBILITY	I	(VC-B) 100.0 M.	I	(VA-D) 120.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 100.0 M.	I	(VD-A) 70.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 120.0 M.	I	(VD-C) 120.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 3.00 M.	I	(WD-A) 3.40 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	NUMBER OF MINUTES FROM START WHEN			I	RATE OF FLOW (VEH/MIN)			I
I	ARM	I	FLOW STARTS	I	TOP OF PEAK	I	FLOW STOPS	I	BEFORE
I	I	I	TO RISE	I	IS REACHED	I	FALLING	I	AT TOP
I	I	I		I		I		I	AFTER
I	ARM A	I	15.00	I	45.00	I	75.00	I	9.46
I	ARM B	I	15.00	I	45.00	I	75.00	I	0.90
I	ARM C	I	15.00	I	45.00	I	75.00	I	7.26
I	ARM D	I	15.00	I	45.00	I	75.00	I	1.15

I	TURNING PROPORTIONS				I
I	TURNING COUNTS (VEH/HR)				I
I	(PERCENTAGE OF H.V.S)				I
I					I
I	TIME	I	FROM/TO	I	ARM A
I	07.45 - 09.15	I		I	
I		I	ARM A	I	0.000
I		I		I	0.018
I		I		I	0.946
I		I		I	0.036
I		I		I	0.0
I		I	(0.0)	I	(0.0)
I		I		I	(5.0)
I		I		I	(0.0)
I		I	ARM B	I	0.542
I		I		I	0.000
I		I		I	0.458
I		I		I	0.000
I		I		I	39.0
I		I	(0.0)	I	(0.0)
I		I		I	(0.0)
I		I	ARM C	I	0.936
I		I		I	0.021
I		I		I	0.000
I		I		I	0.043
I		I		I	544.0
I		I	(50.0)	I	(0.0)
I		I		I	(0.0)
I		I	ARM D	I	0.533
I		I		I	0.000
I		I		I	0.467
I		I		I	0.000
I		I		I	49.0
I		I	(0.0)	I	(0.0)
I		I		I	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

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)
07.45-08.00								
B-ACD	0.90	6.44	0.140		0.0	0.2	2.3	
A-B	0.17							
A-C	8.95							
A-D	0.34	8.74	0.039		0.0	0.0	0.6	
D-ABC	1.15	6.73	0.171		0.0	0.2	2.9	
C-D	0.31							
C-A	6.80							
C-B	0.15	8.82	0.017		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)
08.00-08.15								
B-ACD	1.07	5.60	0.192		0.2	0.2	3.4	
A-B	0.21							
A-C	10.69							
A-D	0.40	8.17	0.049		0.0	0.1	0.8	
D-ABC	1.37	5.84	0.235		0.2	0.3	4.4	
C-D	0.37							
C-A	8.12							
C-B	0.18	8.30	0.022		0.0	0.0	0.3	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
B-ACD	1.32	4.37	0.302		0.2	0.4	5.9	
A-B	0.26							
A-C	13.09							
A-D	0.49	7.39	0.067		0.1	0.1	1.0	
D-ABC	1.68	4.52	0.372		0.3	0.6	8.0	
C-D	0.46							
C-A	9.94							
C-B	0.22	7.60	0.029		0.0	0.0	0.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.30-08.45								
B-ACD	1.32	4.36	0.302		0.4	0.4	6.3	
A-B	0.26							
A-C	13.09							
A-D	0.49	7.39	0.067		0.1	0.1	1.1	
D-ABC	1.68	4.52	0.372		0.6	0.6	8.7	
C-D	0.46							
C-A	9.94							
C-B	0.22	7.59	0.029		0.0	0.0	0.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.45-09.00								
B-ACD	1.07	5.59	0.192		0.4	0.2	3.8	
A-B	0.21							
A-C	10.69							
A-D	0.40	8.17	0.049		0.1	0.1	0.8	
D-ABC	1.37	5.83	0.235		0.6	0.3	5.0	
C-D	0.37							
C-A	8.12							
C-B	0.18	8.30	0.022		0.0	0.0	0.3	

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	09.00-09.15									I
I	B-ACD	0.90	6.44	0.140		0.2	0.2	2.6		I
I	A-B	0.17								I
I	A-C	8.95								I
I	A-D	0.34	8.74	0.039		0.1	0.0	0.6		I
I	D-ABC	1.15	6.72	0.171		0.3	0.2	3.3		I
I	C-D	0.31								I
I	C-A	6.80								I
I	C-B	0.15	8.81	0.017		0.0	0.0	0.3		I

QUEUE FOR STREAM B-ACD

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

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.0

QUEUE FOR STREAM D-ABC

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

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	TOTAL DEMAND		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
		(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
I	B-ACD	I 98.7	I 65.8	I 24.3	I 0.25	I 24.3	I 0.25
I	A-B	I 19.2	I 12.8	I	I	I	I
I	A-C	I 981.8	I 654.5	I	I	I	I
I	A-D	I 37.0	I 24.7	I 4.9	I 0.13	I 4.9	I 0.13
I	D-ABC	I 126.2	I 84.1	I 32.2	I 0.25	I 32.2	I 0.25
I	C-D	I 34.3	I 22.9	I	I	I	I
I	C-A	I 745.9	I 497.3	I	I	I	I
I	C-B	I 16.5	I 11.0	I 2.1	I 0.12	I 2.1	I 0.12
I	ALL	I 2059.6	I 1373.0	I 63.4	I 0.03	I 63.4	I 0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .

* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.

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

END OF JOB

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

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**2025 AM peak hour
+
all committed schemes
+
fully developed H25**

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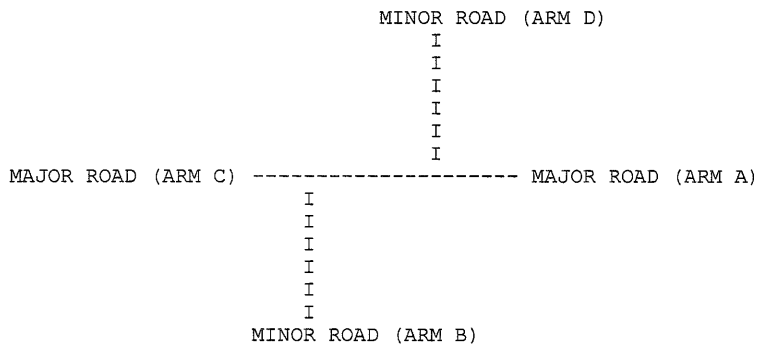
Run with file:- "C:\Picady data\Barrtons Road 2025 all cmmtted +H25 AM peak.vpi" (drive-on-the-left) at 16:24:34 on

RUN TITLE

Bartons Road staggered T 2025 + revised committed + H25 AM peak

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Bartons road (east)
ARM B IS Bellway / Brookvale access
ARM C IS Bartons road (west)
ARM D IS Crematorium + Camp fField

STREAM LABELLING CONVENTION

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

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

ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 6.50 M.	I	(W) 6.50 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I	(WCR) 0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 3.00 M.	I	(WA-D) 3.00 M.	I
I	- VISIBILITY	I	(VC-B) 100.0 M.	I	(VA-D) 120.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 100.0 M.	I	(VD-A) 70.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 120.0 M.	I	(VD-C) 120.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 3.00 M.	I	(WD-A) 3.40 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I	ARM	I FLOW STARTS I TOP OF PEAK I FLOW STOPS	I	BEFORE I AT TOP I AFTER	I
I	I	I TO RISE I IS REACHED I FALLING	I	PEAK I OF PEAK I PEAK	I
I	ARM A	I 15.00 I 45.00 I 75.00	I	9.52 I 14.29 I 9.52	I
I	ARM B	I 15.00 I 45.00 I 75.00	I	1.06 I 1.59 I 1.06	I
I	ARM C	I 15.00 I 45.00 I 75.00	I	7.31 I 10.97 I 7.31	I
I	ARM D	I 15.00 I 45.00 I 75.00	I	1.15 I 1.72 I 1.15	I

		TURNING PROPORTIONS								
		TURNING COUNTS (VEH/HR)								
		(PERCENTAGE OF H.V.S)								
	TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D				
	07.45 - 09.15									
		ARM A	0.000	0.025	0.940	0.035				
			0.0	19.0	716.0	27.0				
			(0.0)	(0.0)	(5.0)	(0.0)				
		ARM B	0.541	0.000	0.459	0.000				
			46.0	0.0	39.0	0.0				
			(0.0)	(0.0)	(0.0)	(0.0)				
		ARM C	0.930	0.027	0.000	0.043				
			544.0	16.0	0.0	25.0				
			(50.0)	(0.0)	(0.0)	(0.0)				
		ARM D	0.533	0.000	0.467	0.000				
			49.0	0.0	43.0	0.0				
			(0.0)	(0.0)	(0.0)	(0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

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)
07.45-08.00								
B-ACD	1.06	6.42	0.166		0.0	0.2	2.8	
A-B	0.24							
A-C	8.95							
A-D	0.34	8.72	0.039		0.0	0.0	0.6	
D-ABC	1.15	6.69	0.172		0.0	0.2	2.9	
C-D	0.31							
C-A	6.80							
C-B	0.20	8.80	0.023		0.0	0.0	0.3	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15								
B-ACD	1.27	5.57	0.228		0.2	0.3	4.2	
A-B	0.28							
A-C	10.69							
A-D	0.40	8.15	0.049		0.0	0.1	0.8	
D-ABC	1.37	5.80	0.237		0.2	0.3	4.4	
C-D	0.37							
C-A	8.12							
C-B	0.24	8.28	0.029		0.0	0.0	0.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.15-08.30								
B-ACD	1.55	4.33	0.359		0.3	0.5	7.6	
A-B	0.35							
A-C	13.09							
A-D	0.49	7.36	0.067		0.1	0.1	1.0	
D-ABC	1.68	4.46	0.377		0.3	0.6	8.2	
C-D	0.46							
C-A	9.94							
C-B	0.29	7.57	0.039		0.0	0.0	0.6	

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)
08.30-08.45								
B-ACD	1.55	4.33	0.359		0.5	0.6	8.2	
A-B	0.35							
A-C	13.09							
A-D	0.49	7.35	0.067		0.1	0.1	1.1	
D-ABC	1.68	4.46	0.377		0.6	0.6	8.8	
C-D	0.46							
C-A	9.94							
C-B	0.29	7.57	0.039		0.0	0.0	0.6	

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)
08.45-09.00								
B-ACD	1.27	5.57	0.228		0.6	0.3	4.8	
A-B	0.28							
A-C	10.69							
A-D	0.40	8.14	0.049		0.1	0.1	0.8	
D-ABC	1.37	5.79	0.237		0.6	0.3	5.0	
C-D	0.37							
C-A	8.12							
C-B	0.24	8.28	0.029		0.0	0.0	0.5	

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	09.00-09.15									I
I	B-ACD	1.06	6.42	0.166		0.3	0.2	3.1		I
I	A-B	0.24								I
I	A-C	8.95								I
I	A-D	0.34	8.72	0.039		0.1	0.0	0.6		I
I	D-ABC	1.15	6.69	0.172		0.3	0.2	3.3		I
I	C-D	0.31								I
I	C-A	6.80								I
I	C-B	0.20	8.80	0.023		0.0	0.0	0.4		I

QUEUE FOR STREAM B-ACD

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.2	
08.15	0.3	
08.30	0.5	*
08.45	0.6	*
09.00	0.3	
09.15	0.2	

QUEUE FOR STREAM A-D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.0	
08.15	0.1	
08.30	0.1	
08.45	0.1	
09.00	0.1	
09.15	0.0	

QUEUE FOR STREAM D-ABC

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

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.00	0.0	
08.15	0.0	
08.30	0.0	
08.45	0.0	
09.00	0.0	
09.15	0.0	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING *	* INCLUSIVE QUEUEING *
		* DELAY *	* DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-ACD	116.6	30.6	0.26
A-B	26.1		
A-C	981.8		
A-D	37.0	4.9	0.13
D-ABC	126.2	32.6	0.26
C-D	34.3		
C-A	745.9		
C-B	21.9	2.8	0.13
ALL	2089.7	70.9	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .

* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.

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

END OF JOB

***** PICADY 4 run completed.

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

[Printed at 16:24:46 on 29/10/2020]

STREAM LABELLING CONVENTION

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 6.50 M.	I	(W) 6.50 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I	(WCR) 0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 3.00 M.	I	(WA-D) 3.00 M.	I
I	- VISIBILITY	I	(VC-B) 100.0 M.	I	(VA-D) 120.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 100.0 M.	I	(VD-A) 70.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 120.0 M.	I	(VD-C) 120.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 3.00 M.	I	(WD-A) 3.40 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.

LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I	ARM	I FLOW STARTS I TOP OF PEAK I FLOW STOPS	I	BEFORE I AT TOP I AFTER	I
I	I	I TO RISE I IS REACHED I FALLING	I	PEAK I OF PEAK I PEAK	I
I	ARM A	I 15.00 I 45.00 I 75.00	I	9.38 I 14.06 I 9.38	I
I	ARM B	I 15.00 I 45.00 I 75.00	I	0.56 I 0.84 I 0.56	I
I	ARM C	I 15.00 I 45.00 I 75.00	I	8.54 I 12.81 I 8.54	I
I	ARM D	I 15.00 I 45.00 I 75.00	I	0.76 I 1.14 I 0.76	I

		TURNING PROPORTIONS							
		TURNING COUNTS (VEH/HR)							
		(PERCENTAGE OF H.V.S)							
TIME		FROM/TO	ARM A	ARM B	ARM C	ARM D			
16.45 - 18.15									
	ARM A	0.000	0.057	0.883	0.060				
		0.0	43.0	662.0	45.0				
		(0.0)	(0.0)	(5.0)	(0.0)				
	ARM B	0.533	0.000	0.467	0.000				
		24.0	0.0	21.0	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				
	ARM C	0.887	0.054	0.000	0.059				
		606.0	37.0	0.0	40.0				
		(5.0)	(0.0)	(0.0)	(0.0)				
	ARM D	0.525	0.000	0.475	0.000				
		32.0	0.0	29.0	0.0				
		(0.0)	(0.0)	(0.0)	(0.0)				

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

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)
16.45-17.00								
B-ACD	0.56	6.85	0.082		0.0	0.1	1.3	
A-B	0.54							
A-C	8.27							
A-D	0.56	9.34	0.060		0.0	0.1	0.9	
D-ABC	0.76	7.35	0.104		0.0	0.1	1.6	
C-D	0.50							
C-A	7.57							
C-B	0.46	8.95	0.052		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)
17.00-17.15								
B-ACD	0.67	6.10	0.110		0.1	0.1	1.8	
A-B	0.64							
A-C	9.88							
A-D	0.67	8.89	0.076		0.1	0.1	1.2	
D-ABC	0.91	6.61	0.138		0.1	0.2	2.3	
C-D	0.60							
C-A	9.05							
C-B	0.55	8.47	0.065		0.1	0.1	1.0	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.15-17.30								
B-ACD	0.82	5.03	0.164		0.1	0.2	2.8	
A-B	0.79							
A-C	12.10							
A-D	0.82	8.26	0.100		0.1	0.1	1.6	
D-ABC	1.12	5.52	0.202		0.2	0.2	3.6	
C-D	0.73							
C-A	11.08							
C-B	0.68	7.80	0.087		0.1	0.1	1.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.30-17.45								
B-ACD	0.82	5.03	0.164		0.2	0.2	2.9	
A-B	0.79							
A-C	12.10							
A-D	0.82	8.26	0.100		0.1	0.1	1.6	
D-ABC	1.12	5.52	0.202		0.2	0.3	3.7	
C-D	0.73							
C-A	11.08							
C-B	0.68	7.80	0.087		0.1	0.1	1.4	

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
17.45-18.00								
B-ACD	0.67	6.10	0.110		0.2	0.1	2.0	
A-B	0.64							
A-C	9.88							
A-D	0.67	8.88	0.076		0.1	0.1	1.3	
D-ABC	0.91	6.60	0.138		0.3	0.2	2.5	
C-D	0.60							
C-A	9.05							
C-B	0.55	8.47	0.065		0.1	0.1	1.1	

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	18.00-18.15									I
I	B-ACD	0.56	6.85	0.082		0.1	0.1	1.4		I
I	A-B	0.54								I
I	A-C	8.27								I
I	A-D	0.56	9.34	0.060		0.1	0.1	1.0		I
I	D-ABC	0.76	7.35	0.104		0.2	0.1	1.8		I
I	C-D	0.50								I
I	C-A	7.57								I
I	C-B	0.46	8.95	0.052		0.1	0.1	0.8		I
I										I

QUEUE FOR STREAM B-ACD

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

QUEUE FOR STREAM A-D

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

QUEUE FOR STREAM D-ABC

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

QUEUE FOR STREAM C-B

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND		I	* QUEUEING *		I	* INCLUSIVE QUEUEING *		I
I		I			I	* DELAY *		I	* DELAY *		I
I		I			I			I			I
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I	(MIN)	(MIN/VEH)	I
I	B-ACD	I	61.7	I 41.1	I	12.1	I 0.20	I	12.1	I 0.20	I
I	A-B	I	59.0	I 39.3	I		I	I		I	I
I	A-C	I	907.7	I 605.2	I		I	I		I	I
I	A-D	I	61.7	I 41.1	I	7.6	I 0.12	I	7.6	I 0.12	I
I	D-ABC	I	83.6	I 55.8	I	15.6	I 0.19	I	15.6	I 0.19	I
I	C-D	I	54.8	I 36.6	I		I	I		I	I
I	C-A	I	831.0	I 554.0	I		I	I		I	I
I	C-B	I	50.7	I 33.8	I	6.5	I 0.13	I	6.5	I 0.13	I
I	ALL	I	2110.3	I 1406.9	I	41.8	I 0.02	I	41.8	I 0.02	I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .

* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.

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

END OF JOB

***** PICADY 4 run completed.

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

[Printed at 16:22:52 on 29/10/2020]

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

PICADY 4.1 ANALYSIS PROGRAM
RELEASE 4.0 (NOV 2003)

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**2025 PM peak hour
+
all committed schemes
+
fully developed H25**

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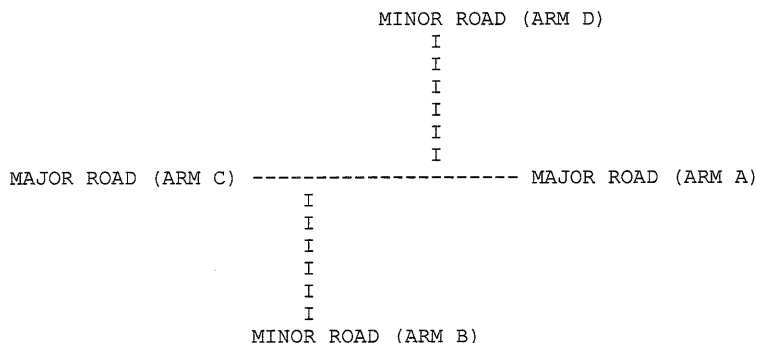
Run with file:- "C:\Picady data\Barrtons Road 2025 all cmmtted +H25 PM peak.vpi" (drive-on-the-left) at 16:26:52 on

RUN TITLE

Bartons Road staggered T 2025 + revised committed + H25 PM peak

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Bartons road (east)
ARM B IS Bellway / Brookvale access
ARM C IS Bartons road (west)
ARM D IS Crematorium + Camp fField

STREAM LABELLING CONVENTION

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

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

ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I	MINOR ROAD D	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 6.50 M.	I	(W) 6.50 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I	(WCR) 0.00 M.	I
I		I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 3.00 M.	I	(WA-D) 3.00 M.	I
I	- VISIBILITY	I	(VC-B) 100.0 M.	I	(VA-D) 120.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I	NO	I
I		I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 100.0 M.	I	(VD-A) 70.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 120.0 M.	I	(VD-C) 120.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 3.00 M.	I	(WD-A) 3.40 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I	(WD-C) 0.00 M.	I

TRAFFIC DEMAND DATA

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

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

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	I	I	I	I	I	I	I	I
I	ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK		
I	I	I	I	I	I	I	I	I	I
I	ARM A	15.00	45.00	75.00	9.34	14.01	9.34		
I	ARM B	15.00	45.00	75.00	0.69	1.03	0.69		
I	ARM C	15.00	45.00	75.00	8.60	12.90	8.60		
I	ARM D	15.00	45.00	75.00	0.76	1.14	0.76		

I	I	I	I	I	I	I	I	I	I
I		TURNING PROPORTIONS							
I		TURNING COUNTS (VEH/HR)							
I		(PERCENTAGE OF H.V.S)							
I	TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D			
I	16.45 - 18.15	I	I	I	I	I	I	I	I
I		I	ARM A	I	I	I	I	I	I
I		I	0.000	0.066	0.874	0.060			
I		I	0.0	49.0	653.0	45.0			
I		I	(0.0)	(0.0)	(5.0)	(0.0)			
I		I	I	I	I	I	I	I	I
I		I	ARM B	I	I	I	I	I	I
I		I	0.527	0.000	0.473	0.000			
I		I	29.0	0.0	26.0	0.0			
I		I	(0.0)	(0.0)	(0.0)	(0.0)			
I		I	I	I	I	I	I	I	I
I		I	ARM C	I	I	I	I	I	I
I		I	0.881	0.061	0.000	0.058			
I		I	606.0	42.0	0.0	40.0			
I		I	(5.0)	(0.0)	(0.0)	(0.0)			
I		I	I	I	I	I	I	I	I
I		I	ARM D	I	I	I	I	I	I
I		I	0.525	0.000	0.475	0.000			
I		I	32.0	0.0	29.0	0.0			
I		I	(0.0)	(0.0)	(0.0)	(0.0)			
I		I	I	I	I	I	I	I	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	16.45-17.00									I
I	B-ACD	0.69	6.88	0.100		0.0	0.1	1.6		I
I	A-B	0.61								I
I	A-C	8.16								I
I	A-D	0.56	9.32	0.060		0.0	0.1	0.9		I
I	D-ABC	0.76	7.34	0.104		0.0	0.1	1.7		I
I	C-D	0.50								I
I	C-A	7.57								I
I	C-B	0.52	8.96	0.059		0.0	0.1	0.9		I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	17.00-17.15									I
I	B-ACD	0.82	6.13	0.134		0.1	0.2	2.2		I
I	A-B	0.73								I
I	A-C	9.75								I
I	A-D	0.67	8.87	0.076		0.1	0.1	1.2		I
I	D-ABC	0.91	6.59	0.138		0.1	0.2	2.3		I
I	C-D	0.60								I
I	C-A	9.05								I
I	C-B	0.63	8.48	0.074		0.1	0.1	1.2		I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	17.15-17.30									I
I	B-ACD	1.01	5.05	0.199		0.2	0.2	3.5		I
I	A-B	0.90								I
I	A-C	11.94								I
I	A-D	0.82	8.24	0.100		0.1	0.1	1.6		I
I	D-ABC	1.12	5.50	0.203		0.2	0.2	3.6		I
I	C-D	0.73								I
I	C-A	11.08								I
I	C-B	0.77	7.81	0.098		0.1	0.1	1.6		I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	17.30-17.45									I
I	B-ACD	1.01	5.05	0.199		0.2	0.2	3.7		I
I	A-B	0.90								I
I	A-C	11.94								I
I	A-D	0.82	8.24	0.100		0.1	0.1	1.7		I
I	D-ABC	1.12	5.50	0.203		0.2	0.3	3.8		I
I	C-D	0.73								I
I	C-A	11.08								I
I	C-B	0.77	7.81	0.098		0.1	0.1	1.6		I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	17.45-18.00									I
I	B-ACD	0.82	6.13	0.134		0.2	0.2	2.4		I
I	A-B	0.73								I
I	A-C	9.75								I
I	A-D	0.67	8.86	0.076		0.1	0.1	1.3		I
I	D-ABC	0.91	6.59	0.138		0.3	0.2	2.5		I
I	C-D	0.60								I
I	C-A	9.05								I
I	C-B	0.63	8.48	0.074		0.1	0.1	1.2		I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	I
I	18.00-18.15									I
I	B-ACD	0.69	6.87	0.100		0.2	0.1	1.7		I
I	A-B	0.61								I
I	A-C	8.16								I
I	A-D	0.56	9.32	0.060		0.1	0.1	1.0		I
I	D-ABC	0.76	7.33	0.104		0.2	0.1	1.8		I
I	C-D	0.50								I
I	C-A	7.57								I
I	C-B	0.52	8.96	0.059		0.1	0.1	1.0		I
I										I

QUEUE FOR STREAM B-ACD

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

QUEUE FOR STREAM A-D

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

QUEUE FOR STREAM D-ABC

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

QUEUE FOR STREAM C-B

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

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND	* QUEUEING *	* INCLUSIVE QUEUEING *
		* DELAY *	* DELAY *
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
(VEH)	(VEH/H)	(MIN)	(MIN/VEH)
B-ACD	75.4	50.3	15.1
A-B	67.2	44.8	I
A-C	895.4	596.9	I
A-D	61.7	41.1	7.6
D-ABC	83.6	55.8	15.7
C-D	54.8	36.6	I
C-A	831.0	554.0	I
C-B	57.6	38.4	7.5
ALL	2126.7	1417.8	45.9

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .

* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.

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

END OF JOB

***** PICADY 4 run completed.

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