

**Table 6.2 – Summary of Impact on Surrounding Roads and Junctions**

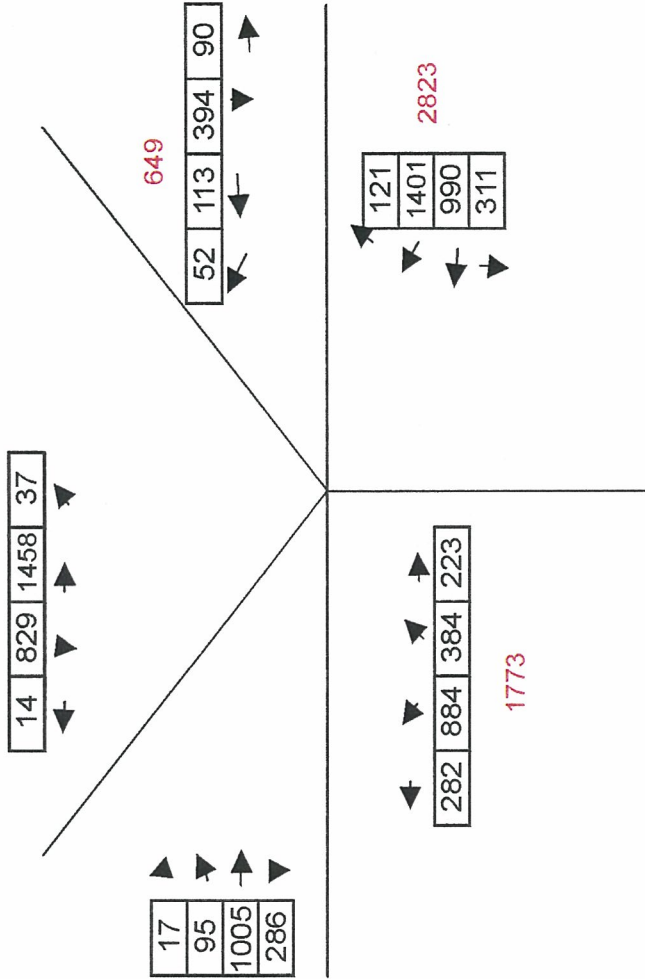
Link / Junction	Existing Conditions	Likely Impact
Five Lanes End Junction	2004 base of 8,986 daily movements. 17 recorded accidents in last 5 years.	See Section below
Site Access Junction		See Section below
6 Lanes End Junction	13 accidents in the last 5 years, 11 slight, 2 serious. Recently improved junction layout including road markings and signs.	Limited increase in traffic as a result of the development, with movements north and south on the A515 (turning traffic to be minimised). Little impact in terms of capacity. Recent safety measures have been introduced.
A515 / B5234 Jct	9 accidents in the last 5 years, all slight. 2004 base daily (2-way) flows of 3,484 on the A515 and 2,800 on B5234.	Limited increase in traffic as a result of the development with movements between the A515 North and B5234. Highest proportional increase in flows expected during off-peak periods when background traffic is lowest. Little impact in terms of junction capacity.
B5017 East	2004 base daily (2-way) flows of 5,599 vehicles east of Five Lanes End Junction.	Route for local employee trips to / from Burton and some strategic traffic from the A34 / A444. Limited increase in development traffic during the day.
B5017 West	Approx. 4,600 (2-way) movements near Five Lanes End Jct.	Minimal impact as development traffic will be routed via A515 and B5234 or B5017 (East). Marginal number of local trips may occur.
B5234 (between A515 and B5017)	2004 base daily (2-way) flows of 2,800 vehicles.	To provide access to the site via a new junction. Development impact greatest in off-peak periods when background traffic flows are lowest. Little impact in terms of link capacity.
A515 North (from B5234 to 6 Lanes End)	2004 base daily (2-way) flows of 3,484 vehicles.	Limited increase in traffic as a result of the development, with movements north and south on the A515.
Needwood Road	Sensitive unclassified road between B5016 and B5017.	Minimal impact as development traffic will be signed to other more appropriate routes. Development traffic restricted to minimal number of local employment trips.

***Impact on Five Lanes End Junction***

6.4 Existing flows at the junction were calculated by taking the results of a 1997 all day manual turning count and factoring these figures to 2004 (the year of opening) using NRTF ‘Central Growth’ rates. The results for daily, peak hour and off-peak movements are shown in Figures 6.1 to 6.5. These flows were then compared to total ‘with development’ flows using the distribution assumptions set out in Section 5. Table 6.3 shows the proportional increase in total flows over each time period.

1.127

2004 - Base Flows - All Day 2338



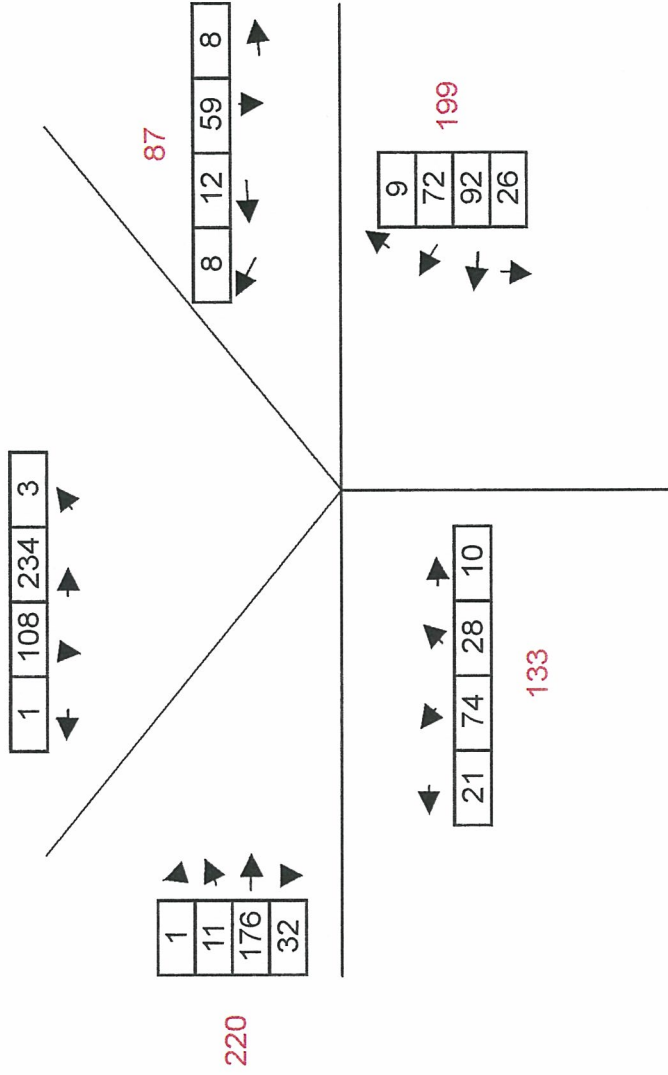
Project Title  
Drawing Title  
Dig No.

Byrkley Park  
Base (2004) Five Lanes End  
Turning Movements - Daily

Client  
Football Association  
Produced by  
WS Atkins  
Audience House, Five Ways  
Birmingham, B15 1DQ  
Tel: 0121 643 9621 Fax: 0121 643 9688

Figure 6.1

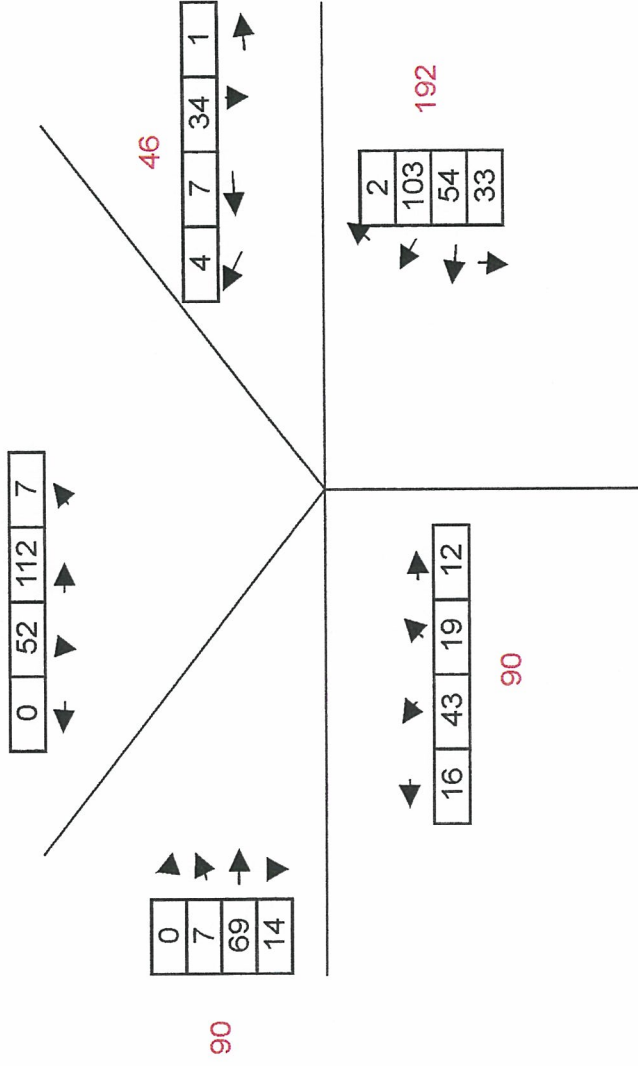
2004 - Base Flows AM Peak 346



Project Title	Byrkley Park	Client	Football Association
Drawing Title	Base (2004) Five Lanes End Turning Movements - AM Peak	Produced by	WS/ATKINS Architect House, Five Ways Birmingham, B15 1DJ Tel: 0121 643 9621 Fax: 0121 643 9689
Dwg No.	Figure 6.2		

1.108

### 2004 - Base Flows - AM Off Peak 171



Project Title  
Drawing Title  
Dig No.

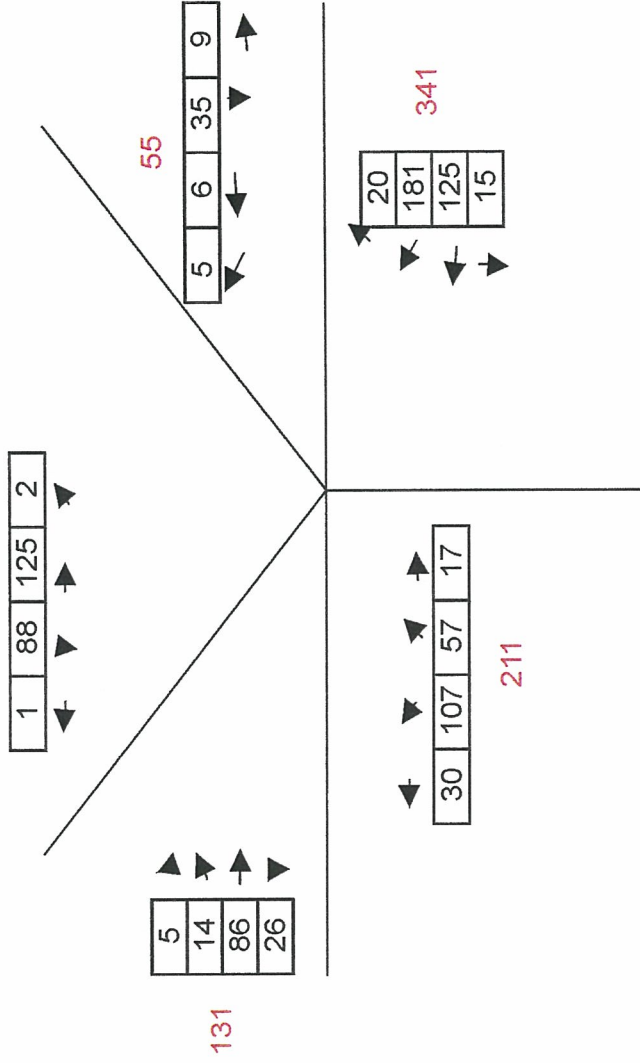
Client  
Produced by

Byrkley Park  
Base (2004) Five Lanes End  
Turning Movements - AM Off Peak  
Figure 6.3

Football Association  
WS/ATKINS  
Auchinleck House, Five Ways  
Birmingham, B15 1DJ  
Tel: 0121 643 9621 Fax: 0121 643 9688

1.108

2004 - Base Flows - PM Peak 216



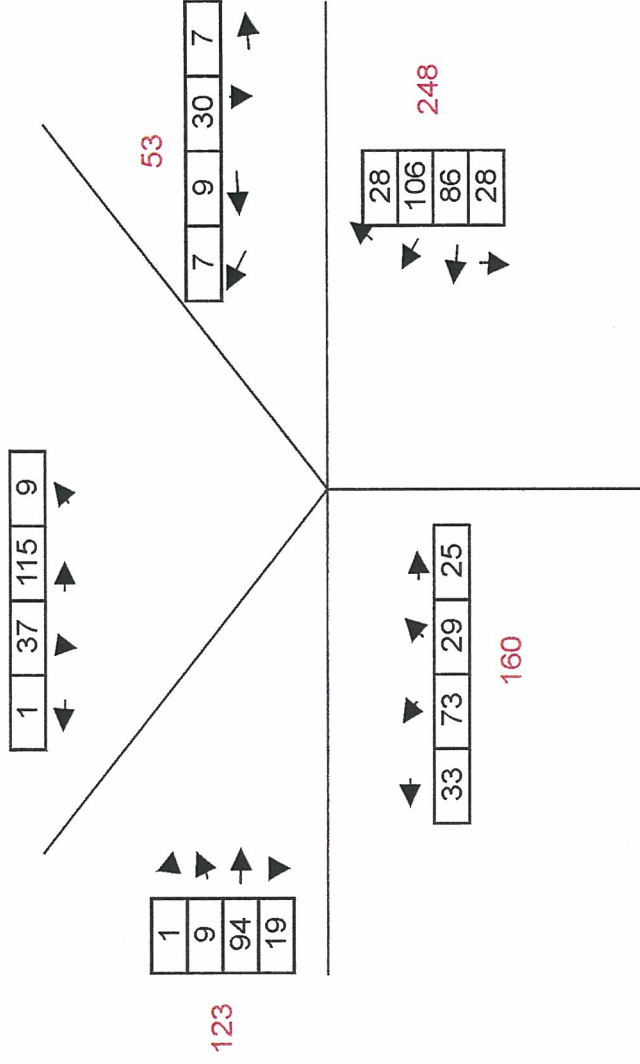
Project Title  
Drawing Title  
Dwg No.

Byrkley Park  
Base (2004) Five Lanes End  
Turning Movements - PM Peak  
Figure 6.4

Client  
Football Association  
Produced by  
WS Atkins  
Auchinleck House, Five Ways  
Birmingham, B15 1DJ  
Tel: 0121 643 9621 Fax: 0121 643 9699

1.108

2004 - Base Flows PM Off Peak 162



Project Title

Byrkley Park

Client

Football Association

Drawing Title

Base (2004) Five Lanes End  
Turning Movements - PM Off Peak

Produced by



Architect-House, Five Ways  
Birmingham, B15 1DJ  
Tel: 0121 843 9621 Fax: 0121 843 9689

Dwg No.

Figure 6.5

**Table 6.3 – Proportional Increase in traffic movements at Five Lanes End Junction**

Total Movements	Daily	AM		PM	
		Peak	Off Peak	Peak	Off Peak
Base Flows (2003)	8986	985	589	954	746
Development Trips	268	53	24	53	24
Base+Dev. Flows 70% Office 37.5% Players	9254	1038	613	1007	770
% Increase	<b>3%</b>	<b>5%</b>	<b>4%</b>	<b>6%</b>	<b>3%</b>

6.5 The greatest impact will occur during the PM off-peak period, when traffic levels will increase by 6% as a result of the development. Looking at the day as a whole, overall traffic levels will increase by 3% as a result of the development. These figures are based on the assumption that 70% of office / permanent residential traffic and 37.5% of ‘players’ traffic passes through the junction. Table 6.4 below shows, for comparison, the impact of movements if the distribution of ‘players’ traffic was weighted as 62.5% passing through the junction. As can be seen, the proportional increase in development traffic rises in both the a.m. off peak hour (to 7%) and p.m. off peak hour (6%).

**Table 6.4 – Proportional Increase in traffic movements at Five Lanes End Junction**

Total Movements	Daily	AM		PM	
		Peak	Off Peak	Peak	Off Peak
Base Flows (2003)	8986	985	589	954	746
Development trips	368	53	42	53	42
Base+Dev. Flows 70% Office 62.5% Players	9354	1038	631	1007	788
% Increase	<b>4%</b>	<b>5%</b>	<b>7%</b>	<b>6%</b>	<b>6%</b>

6.6 Clearly the development proposal will have limited impact on the Five Lanes End junction in terms of increasing traffic levels passing through the junction. The proportional increase in traffic flows throughout the day will be minimal, with the greatest impact occurring during off-peak hours.

6.7 Circular 1/97, 'Planning Obligations' sets out the Government's guidance in relation to section 106 obligations relating to financial contributions and states that local authorities should only seek to negotiate with developers to provide or contribute towards facilities when:

- (i) They are needed to enable the development to go ahead
- (ii) They are directly related to the proposal
- (iii) They would not have been necessary but for the development.

6.8 In addition, such obligations should be, '...fairly and reasonably related in scale and kind to the proposed development, as well as being reasonable in all other respects' (Circular 1/97, para. B12). In respect of these points, it should be noted that:

- (i) The Five Lanes End junction is remote from the site and highway improvements to it related to capacity are not needed to enable access to the development. The development will result in only a limited increase in traffic flows through the junction (4% throughout the day as a whole) and will not affect its capacity (i.e. cause unacceptable queues and delays). Improvements related to capacity are therefore not a pre-requisite for development to proceed.
- (ii) Improvements at the junction are only related insofar as a small increase in traffic passing through the junction will occur.
- (iii) Accident statistics and discussion with the County Council have indicated an accident problem at the junction.

6.9 As set out above, the level of traffic generated by this development will have little impact on the capacity of the local highway network. There are, however, a number of areas locally that have a poor accident record, including Five Lanes End junction, although the County Council have not implemented safety related improvements at this particular location.

6.10 The Football Association have agreed to make a payment of £250,000 as a financial contribution towards the provision of highway safety improvements on the local



network in the vicinity of the site, commensurate with the increase in overall traffic levels as a result of this development and relevant to the site. This payment will be index linked in accordance with the current Section 106 agreement dated 16<sup>th</sup> July 1992 (which was renewed by the section 106 Agreement dated 6 March 1997).

### ***Site Access Junction***

6.11 The proposed access junction will involve some local widening (site side only) in order to create an access with:

- A 3.5 metre wide right turn lane (ghost island)
- 4.5m x 215 metre visibility splays. Given the long and straight nature of the road, this visibility distance can easily be created in each direction.

6.12 A PICADY junction model was created using an indicative junction layout plan to assess the impact of traffic movements at the junction at the year of opening and 15 years after (2019). Full junction Output is provided in Appendix 1 (2004) and Appendix 2 (2019). The results are summarised in the tables below:

**Table 6.5 – Site Access Junction Performance in 2004 (Selected time periods only)**

Time Period	Movement	RFC	End Queue (vehs)	Delay (veh.min / time segment)
<b>AM PEAK</b> 0815 – 0830	Site access to main road.	0	0	0
	Right turn into site.	0.036	0	0.5
<b>AM OFF PEAK</b> 1015 – 1030	Site access to main road.	0.055	0.1	0.9
	Right turn into site.	0.033	0	0.5
<b>PM PEAK</b> 1715 – 1730	Site access to main road.	0.138	0.1	2.3
	Right turn into site.	0	0	0
<b>PM OFF PEAK</b> 1415 – 1430	Site access to main road.	0.057	0.1	0.9
	Right turn into site.	0.034	0	0.5

6.13 As can be seen from the results, the junction will operate well below capacity in each time period. These results reflect the rural nature of the road and its low background traffic levels. In addition development traffic, spread throughout the day as described in Section 5 above, will have very little impact in terms of numbers of vehicles using the access.

6.14 The table below summarises the junction impact in 2019, 15 years after opening of the development. NRTF 'Central' growth factors were used to factor background traffic levels to 2019.

**Table 6.6 – Site Access Junction Performance in 2019 (selected time periods only)**

Time Period	Movement	RFC	End Queue (vehs)	Delay (veh.min / time segment)
<b>AM PEAK</b> 0815 – 0830	Site access to main road.	0	0	0
	Right turn into site.	0.36	0	0.5
<b>AM OFF PEAK</b> 1015 – 1030	Site access to main road.	0.56	0.1	0.9
	Right turn into site.	0.033	0	0.5
<b>PM PEAK</b> 1715 – 1730	Site access to main road.	0.142	0.2	2.4
	Right turn into site.	0	0	0
<b>PM OFF PEAK</b> 1415 – 1430	Site access to main road.	0.058	0.1	0.9
	Right turn into site.	0.036	0	0.6

6.15 As can be seen from the results, the junction will still perform satisfactorily 15 years after the date of opening, with no unacceptable queues and delays.

## 7. CONCLUSIONS

- 7.1 The proposal will provide a 'National Football Centre' to be used for educational courses as well as training of individual teams, including the senior international squad on 3 or 4 occasions during the year. For the rest of the time, the site will be in full time use by other teams, squads and educational courses throughout the year. There will be approximately 75 staff employed on the site and 3 homes for permanent residential staff. The site will have 150 room accommodation, with capacity for rooms to be used as twin enabling a total maximum of 300 bed spaces.
- 7.2 The site is situated at Byrkley Park, a location several kilometres west of Burton-on-Trent and is not served by public transport, walking or cycling routes. The roads immediately around the site comprise of 60 mph single carriageway links. The site will be accessed from a new junction on the B5234. Discussions with both Staffordshire County Council and East Staffordshire Borough Council identified an accident problem at the Five Lanes End junction, to the east of the proposed site access. The accident issue was confirmed by records purchased from Staffordshire County Council.
- 7.3 Trips to the site will be made by players, coaches and their staff as well as office based staff (living off the site) and permanent residential staff. Due to the location of the site and nature of the facility, the majority of trips will be made by either private car or coach / minibus, although it is anticipated that some will car share while others will be chauffeur driven or travel by train then use a taxi from the station.
- 7.4 The nature of the facility is such that trips to the site by players, coaches and their staff will be determined by training patterns and will take place between off-peak periods during the day. Office staff living off the site will tend to arrive and depart during traditional peak hours on the network, while residential staff will make trips throughout the day, rather than at peak times.
- 7.5 Assumptions about trip generation represent a worst case scenario. The length of stay will vary between 2 and 10 days and therefore trips by players will not be made on a daily basis. As training courses are residential, there will be little coming or going

during peak times. Figures for trip generation also assume that all players arrive in their own cars, which is perhaps appropriate only for some of the England training sessions. It is anticipated that many other teams / squads will arrive by their own organised transport (e.g. coach or mini-bus).

- 7.6 Players will arrive from all over the country. Local signage will then direct them to the site on the most appropriate routes. An appropriate signing strategy is currently being developed in consultation with Staffordshire County Council and East Staffordshire Borough Council.
- 7.7 The development will result in slight increases in traffic levels on surrounding roads, particularly during off-peak periods. The percentage increases appear large when viewed against the low background traffic levels at these times. The development will not create queues and delays at junctions surrounding the site. The site access performs well within its capacity at both the year of opening (2004) and 15 years hence.
- 7.8 Trips as a result of the development will increase flows at the Five Lanes End junction and other surrounding junctions, although not sufficiently to cause capacity concerns. It is acknowledged that an accident problem exists at the Five Lanes End junction in particular and that the County Council has recognised the need for highway safety improvements. The Football Association have agreed to make a financial contribution as previously stated in paragraph 6.10 towards road safety improvements in the vicinity of the site relevant to the development, commensurate with the scale of development impact and in accordance with the advice contained within Circular 1/97, 'Planning Obligations'.

## Appendix 1

### Site Access PICADY – Full Junction Output 2004

TRL LIMITED

(C) COPYRIGHT 2001

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

PICADY 4.1 ANALYSIS PROGRAM  
RELEASE 3.0 (MAR 2001)

ADAPTED FROM PICADY/3 WHICH IS CROWN COPYRIGHT  
BY PERMISSION OF THE CONTROLLER OF HMSO

-----  
THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS  
IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:- "k:\664\A) Current Projects\BV6525 - F A\SiteAccess04AM.vpi" at 17:39:15 on Wednesday, 30 May 2001

RUN TITLE  
\*\*\*\*\*

FA Byrkley Park Site Access Junction 2004 AM Peak

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

INPUT DATA  
-----

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)  
I  
I  
I  
I  
I  
I  
MINOR ROAD (ARM B)

ARM A IS B5234 East  
ARM B IS Site Access  
ARM C IS B5234 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  
-----

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I ( W )	10.50 M.	I
I	CENTRAL RESERVE WIDTH	I (WCR )	0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I (WC-B)	3.50 M.	I
I	- VISIBILITY	I (VC-B)	215.0 M.	I
I	- BLOCKS TRAFFIC	I	NO	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I (VB-C)	215.0 M.	I
I	- VISIBILITY TO RIGHT	I (VB-A)	215.0 M.	I
I	- LANE 1 WIDTH	I (WB-C)	3.50 M.	I
I	- LANE 2 WIDTH	I (WB-A)	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

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	2.25	3.38	2.25
ARM B	15.00	45.00	75.00	0.00	0.00	0.00
ARM C	15.00	45.00	75.00	3.03	4.54	3.03

TIME	TURNING PROPORTIONS			
	FROM/TO	ARM A	ARM B	ARM C
07.45 - 09.15	ARM A	0.000	0.294	0.706
		0.0	53.0	127.0
		( 0.0)	( 10.0)	( 10.0)
	ARM B	0.000	0.000	0.000
		I???????	I???????	I???????
		( 10.0)	( 0.0)	( 10.0)
	ARM C	0.909	0.091	0.000
		220.0	22.0	0.0
		( 10.0)	( 10.0)	( 0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

DEFAULT PROPORTIONS OF HEAVY VEHICLES ARE USED

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-AC	0.00	10.48	0.000		0.0	0.0	0.0	
C-A	2.75							
C-B	0.28	11.52	0.024		0.0	0.0	0.4	
A-B	0.66							
A-C	1.59							
EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:								
MARGINAL CHANGE:	LANE WIDTH (.1M)	MAJOR RD. WIDTH (.1M)	CENT RES WIDTH (.1M)	VIS TO LEFT (AHEAD FOR MAJOR) (M)	VISIBILITY TO RIGHT (M)			
B-AC	0.150	0.004	0.017	0.006	0.009			
C-B	0.121	0.003		0.011				

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	08.00-08.15									I
I	B-AC	0.00	10.32	0.000		0.0	0.0	0.0		I
I	C-A	3.28								I
I	C-B	0.33	11.41	0.029		0.0	0.0	0.4		I
I	A-B	0.79								I
I	A-C	1.90								I
I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY				I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT				I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)				I
I										I
I	B-AC	0.147	0.005	0.017	0.006	0.009				I
I	C-B	0.120	0.004		0.010					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	08.15-08.30									I
I	B-AC	0.00	10.10	0.000		0.0	0.0	0.0		I
I	C-A	4.02								I
I	C-B	0.40	11.26	0.036		0.0	0.0	0.5		I
I	A-B	0.97								I
I	A-C	2.32								I
I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY				I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT				I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)				I
I										I
I	B-AC	0.143	0.006	0.017	0.006	0.008				I
I	C-B	0.118	0.005		0.010					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	08.30-08.45									I
I	B-AC	0.00	10.10	0.000		0.0	0.0	0.0		I
I	C-A	4.02								I
I	C-B	0.40	11.26	0.036		0.0	0.0	0.6		I
I	A-B	0.97								I
I	A-C	2.32								I
I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY				I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT				I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)				I
I										I
I	B-AC	0.143	0.006	0.017	0.006	0.008				I
I	C-B	0.118	0.005		0.010					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	08.45-09.00									I
I	B-AC	0.00	10.32	0.000		0.0	0.0	0.0		I
I	C-A	3.28								I
I	C-B	0.33	11.41	0.029		0.0	0.0	0.5		I
I	A-B	0.79								I
I	A-C	1.90								I
I	EFFECT ON CAPACITY (PCU/MIN) OF MARGINAL CHANGES IN:									I
I			MAJOR RD.	CENT RES	VIS TO LEFT	VISIBILITY				I
I	MARGINAL	LANE WIDTH	WIDTH	WIDTH	(AHEAD FOR MAJOR)	TO RIGHT				I
I	CHANGE:	(.1M)	(.1M)	(.1M)	(M)	(M)				I
I										I
I	B-AC	0.147	0.005	0.017	0.006	0.009				I
I	C-B	0.120	0.004		0.010					I