

## 9. TRANSPORT

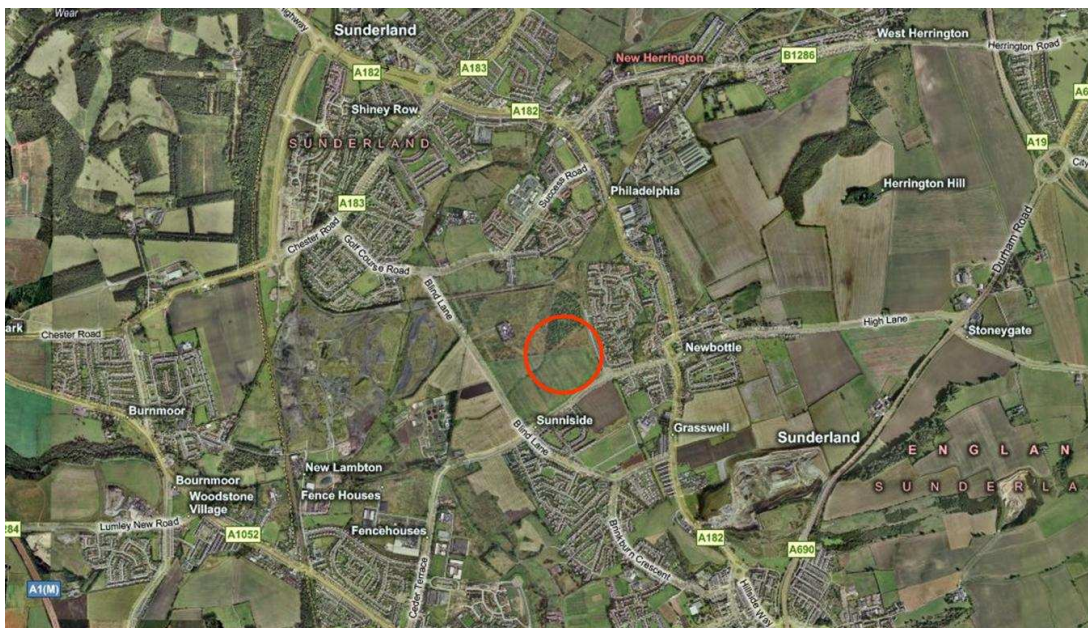
### 9.1 Introduction

#### *Background*

- 9.1.1 Tyne and Wear Youth Football League plans to develop a new, purpose built facility at Newbottle, Houghton-le-Spring, south west of the city of Sunderland.
- 9.1.2 This necessitates the provision of twenty seven-a-side pitches with associated changing, catering and parking facilities. The result of this is they would reduce the use of the Sunderland City Council (SCC) owned facility at Washington. Overall the effect of developing the Newbottle site would be to reduce the amount of travelling teams have to do to attend matches.
- 9.1.3 The planning application for the site was submitted to SCC in 2004, which was subsequently approved with conditions in April 2005. This Transport Assessment (TA) has been written to demonstrate the suitability of the proposals, in particular when considering the transportation impacts on the surroundings.

#### *Application site*

- 9.1.4 The site is located approximately 0.3miles west of the centre of the town of Newbottle, 1mile north of Houghton-le-Spring and 5.2miles south west of Sunderland, see Box 9.1.



Box 9.1 - Site location and surrounding road network.

- 9.1.5 To the south of the site is Coaley Lane, a derestricted local distributor road serving to link the town of Newbottle with the town of Fence Houses and on to the A1052.
- 9.1.6 Staddon Way is situated to the east of the proposed development which is approximately 11m wide. Staddon Way serves access to the existing housing estate which approximately accommodates 350 dwellings.
- 9.1.7 This road has been built to form part of the proposed Newbotte by-pass that travels from Coaley Lane in the south to the A183 in the north and incorporates a new junction at the Coaley Lane junction.
- 9.1.8 A public footpath runs from east to west across the centre of the site and forms part of the Houghton Footpath Number 60.

### ***Proposal***

- 9.1.9 It is proposed that the development is accessed from Staddon Way via a new junction located approximately 230m north of the junction. The junction would lead directly into the parking area which provides 118 car parking spaces (including 6 designated for disabled users) and three coach parking spaces as part of the phase 1 of the development see Appendix 9.1.
- 9.1.10 Phase 1 of the development consists of twenty seven-a-side pitches, associated changing and refreshment facilities, while Phase 2 would add the Headquarters building and additional senior pitches. However, as only Phase 1 has planning approval at present, the Client has instructed Jacobs Consultancy to consider Phase 1 only.
- 9.1.11 It is proposed that only twelve of the twenty seven-a-side pitches are used at any one time on a rotation basis. This would allow the pitches to 'recover' between uses and maintain the quality of the playing surface. As such, the TA will consider the development as consisting of 12 pitches only.

## **9.2 Methodology**

- 9.2.1 The TA will consider all impacts of the development and propose mitigation measures where appropriate.
- 9.2.2 The trip rate and likely trip profile for the development will be calculated and this used to understand the proposals impact on the surrounding road network. The access proposals and on-site parking levels will also be discussed and an assessment made on the surrounding road capacity. Furthermore, the accident record for the road network will be analysed and the impact of the development on road safety assessed.

### 9.3 Accident analysis and road safety

- 9.3.1 Safety of the new junction is guaranteed by condition 19 which requires the visibility splays to be agreed with the planning authority.
- 9.3.2 This section of the report analyses the accidents, which occurred in the immediate vicinity of the proposed development during the period of 1<sup>st</sup> January 2003 to 31<sup>st</sup> January 2007.
- 9.3.3 During the study period of 1<sup>st</sup> January 2003 to 31<sup>st</sup> January 2007 there were a total of 10 personal injury accidents, of which 1 resulted in a serious injury and the remaining 9 resulted in slight injuries. Drawing number JC2819A0/ACC/001 illustrating the accident locations can be found in Appendix 9.2.
- 9.3.4 Table 9.1 summarises the annual accident occurrences, and Table 9.2 summarises the total number of casualties.

<b>Table 9.1</b>				
<b>Annual accident occurrences</b>				
<b>Year</b>	<b>Slight</b>	<b>Serious</b>	<b>Fatal</b>	<b>Total</b>
<b>2003</b>	2	0	0	<b>2</b>
<b>2004</b>	2	1	0	<b>3</b>
<b>2005</b>	3	0	0	<b>3</b>
<b>2006</b>	0	0	0	<b>0</b>
<b>2007</b>	2	0	0	<b>2</b>
<b>Total</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>10</b>

<b>Table 9.2</b>				
<b>Annual casualty counts</b>				
<b>Year</b>	<b>Slight</b>	<b>Serious</b>	<b>Fatal</b>	<b>Total</b>
<b>2003</b>	2	0	0	<b>2</b>
<b>2004</b>	3	1	0	<b>4</b>
<b>2005</b>	3	0	0	<b>3</b>
<b>2006</b>	0	0	0	<b>0</b>
<b>2007</b>	2	0	0	<b>2</b>
<b>Total</b>	<b>10</b>	<b>1</b>	<b>0</b>	<b>11</b>

#### *Serious accident – 0898104*

- 9.3.5 This is the only serious personal injury accident that occurred, involving a vehicle travelling north east along Coaley Lane. A pedestrian on the nearside attempted to cross Coaley Lane and was struck by the moving vehicle.

*Slight accident – 0477405*

- 9.3.6 This slight personal injury accident involved a vehicle travelling south east on Blind Lane which has subsequently failed to give way at the junction and has collided with a vehicle travelling north east on Coaley Lane already negotiating the junction.

*Slight accident – 0050404*

- 9.3.7 A slight personal injury accident occurred when a vehicle south east on Blind Lane which has subsequently failed to give way at the junction and has collided with a vehicle travelling north east on Coaley Lane already negotiating the junction.

*Slight accident – 0230907*

- 9.3.8 Another slight personal injury accident occurred when a vehicle travelling south on Westleigh Road has subsequently failed to give way at the junction and has collided with a vehicle travelling west on Coaley Lane.

*Slight accident – 0456807*

- 9.3.9 An additional slight personal injury accident occurred when a vehicle travelling south east on Blind Lane which has subsequently failed to give way at the junction and has collided with a vehicle travelling north east on Coaley Lane already negotiating the junction.

*Slight accident – 0100205*

- 9.3.10 This slight personal injury accident occurred when a vehicle travelling north east on Coaley Lane which has subsequently failed to give way at the junction and has collided with a vehicle travelling north west on Blind Lane already negotiating the junction.

*Slight accident – 0265103*

- 9.3.11 Another slight personal injury accident involved a vehicle travelling south west on Coaley Lane which has subsequently failed to give way at the junction and has collided with a vehicle attempting to travel south east on Blind Lane already negotiating the junction.

*Slight accident – 0483004*

- 9.3.12 An additional slight personal injury accident occurred when a vehicle travelling north on Blind Lane which has subsequently failed to give way at the junction and has collided with a vehicle travelling south west of Coaley Lane already negotiating the junction.

*Slight accident – 0308403*

- 9.3.13 This slight personal injury accident occurred when a vehicle travelling south west on Coaley Lane which has subsequently failed to give way at the junction and has collided with a vehicle attempting to travel south west on Coaley Lane already negotiating the junction.

*Slight accident – 0150305*

- 9.3.14 The remaining slight injury accident involved a vehicle travelling south on Blind Lane which has subsequently failed to stop at the junction and has collided with a vehicle attempting to travel west on Coaley Lane.

**Summary**

- 9.3.15 During the study period no personal injury accidents were recorded along Staddon Way, which forms the link road to the proposed development. In addition, there were no personal injury accidents at the roundabout which links Coaley Lane and Staddon Way. During the site walk over survey in January, attention was paid to the mentality of drivers approaching this roundabout and the negotiating of it, and no problems were encountered.
- 9.3.16 There were no fatal accidents recorded during the study period.
- 9.3.17 Table 9.3 below illustrates the traffic accidents during the study period.

Table 9.3 Traffic accidents during the study period						
Accident Reference	Severity	Weather	Light	Date	Time	Number of Vehicles
0898104	Serious	Fine	Darkness: No street lighting	01/11/2004	17:25	1
0477405	Slight	Fine	Daylight: Street lights present	27/06/2005	08:22	2
0050404	Slight	Fine	Daylight: No street lighting	16/01/2004	15:45	2
0265103	Slight	Fine	Darkness: Street lights present and lit	29/03/2003	19:15	2
0230907	Slight	Fine	Daylight: Street lights present	05/04/2007	16:55	2
0456807	Slight	Raining	Daylight: Street lights present	06/07/2007	15:51	2
0100205	Slight	Fine	Darkness: Street lights present and lit	10/02/2005	18:10	2
0483004	Slight	Raining	Daylight: No street lighting	20/06/2004	11:40	2
0308403	Slight	Fine	Daylight: Street lights present	09/04/2003	11:55	3
0150305	Slight	Fine	Darkness: Street lights present and lit	25/02/2005	20:35	2

9.3.18 The junction, of Blind Lane and Coaley Lane, seems to experience the same accident trend with vehicles failing to give way to other vehicles at the junction with Blind Lane. Design improvements to reduce the potential for accidents at this location could be considered. These improvements could assess the need for improved road markings and signage on Blind Lane.

9.3.19 However, analysis of the accident record, as shown in Table 9.3, shows that the accidents occur mainly during the weekday peak hour periods. As only one accident has occurred during the proposed opening hours of Saturday and Sunday, 08:00 to 14:00, it can be concluded that the development would not adversely affect road safety and therefore no further analysis is warranted as part of this proposal though it could be considered as a separate issue by the Highways Authority.

#### **9.4 Construction vehicle movements**

9.4.1 Construction vehicle movements are controlled by condition 12 to safeguard amenity. This condition has been discharged. Condition 14 safeguards against mud being tracked onto the highway and has been discharged.

#### **9.5 Trip rate development**

##### ***Introduction***

9.5.1 The developer has provided information based on the current level of use at its Washington site. It is proposed that although the current Washington site would not close, a number of the games would relocate to the Newbottle site.

9.5.2 In order to obtain a “worst-case” scenario, this assessment will consider that all of the games have relocated to the new site. Therefore it can be assumed that the users current travel behaviour is likely to transfer with the games.

9.5.3 Furthermore, the developer is proposing to use only twelve of the twenty pitches in rotation at any one time, allowing the remaining pitches to “recover”.

9.5.4 It is therefore seen as appropriate that the “worst-case” scenario is developed from the trip rate information available at the old site and based on the use of twelve pitches at any one time.

##### ***Trip rate development***

9.5.5 The peak period for usage at the Washington site is Saturday mornings when 96 teams compete on the 12 pitches. The teams are split into groups of 24 with teams 1-48 playing between 09:00 and 11:15, and teams 49-96 playing between 11:20am

and 13:35. The Newbottle site would open between 08:30 and 14:00 on both Saturday and Sunday to suit this current arrangement.

- 9.5.6 As each team consists of seven players, the facility would cater for 672 players during the Saturday morning session, 336 per group. However from observation of the current usage at Washington, most of the players in the first groups do not stay to watch the second, and vice versa. Therefore there is likely to be three peak periods at the Newbottle site, between 08:30 and 09:35, between 10:45 and 11:55 and between 13:05 and 14:00, see Table 9.4. Of these, the highest peak is likely to be between 10:45 and 11:55 as the first set of teams would be leaving, as the second are arriving.
- 9.5.7 The developer has provided further information from the Washington site that estimates that two players per car arrive at the site. Using this figure for the Newbottle site equates to 168 vehicles on site per group and, using the methodology above, provides an estimate of 336 vehicle trips in the 10:45 to 11:55 peak (168 in/168 out).

"Session" time	Vehicles (2 players per car)		Total two-way trips
	In	Out	
0830-0900	84	0	84
0900-0935	84	0	84
0935-1010	0	0	0
1010-1045	0	0	0
1045-1120	84	84	168
1120-1155	84	84	168
1155-1230	0	0	0
1230-1305	0	0	0
1305-1335	0	84	84
1335-1400	0	84	84

- 9.5.8 Analysis of the TRICS database has provided similar football training/5-a-side sites around the country, and generated actual measured trip rates. These rates have then been used to estimate the trip rate for the proposed Newbottle site. Using this method, the TRICS database provides the estimate of the peak trip rate as between 19:00 and 20:00, with vehicle trips estimated at 106 (37 in/69 out), see Table 9.5.
- 9.5.9 However, as the Newbottle site is proposed to only open between 08:30 and 14:00 on a weekend, the TRICS information can be analysed and the trip rates adjusted to suit the shorter working day and the two-session arrangement. Table 9.6 demonstrates the estimated vehicle trips for the development. Using this method, the

TRICS database provides the estimate of the peak trip rate as between 11:00 and 12:00, with vehicle trips estimated at 221 (83 in/138 out).

Period		TRICS trip rates		Vehicle movements			Car park usage
		IN	OUT	IN	OUT	diff	
7	8	0	0	0	0	0	
8	9	0.2	0	2	0	2	2
9	10	3.286	0.643	39	8	32	34
10	11	2.375	1.542	29	19	10	44
11	12	1.417	1.458	17	17	0	44
12	13	1.417	2.833	17	34	-17	27
13	14	1.625	0.5	20	6	14	40
14	15	0.625	0.375	8	5	3	43
15	16	2.167	1.542	26	19	8	51
16	17	2.042	1.125	25	14	11	62
17	18	3.25	2.5	39	30	9	71
18	19	2.958	3.625	35	44	-8	63
19	20	3.083	5.75	37	69	-32	31
20	21	0.333	4	4	48	-44	-13
21	22	0.25	1.833	3	22	-19	-32
22	23	0	0	0	0	0	-32
23	24	0	0	0	0	0	-32

Period		TRICS % trip rates		Vehicle movements			Car park usage
		IN	OUT	IN	OUT	diff	
8	9	24.73	8.42	83	28	55	55
9	10	24.73	24.21	83	81	2	57
10	11	17.20	2.11	58	7	51	107
11	12	24.73	41.05	83	138	-55	52
12	13	5.38	4.21	18	14	4	56
13	14	3.23	20.00	11	67	-56	0

### **Discussion**

- 9.5.10 As the development is only proposed to open on a weekend, the peak hour falls outside the normal commuter peak hours (08:00 to 09:00 and 17:00 to 18:00 Monday to Friday).
- 9.5.11 As the developer's figures are based on observation of the current operation that is to be relocated to Newbottle, it is considered that these are likely to be more appropriate than those provided by the TRICS database. However, it is noted that the



new site is better served by public transport and pedestrian links and therefore the new vehicular trip rate is likely to be lower than at present.

9.5.12 It is also noted that the information provided from the developer does not allow for any visiting coaches, mini-buses etc. These methods could transport up to 36 players per coach and as the development provides for three coach parking spaces, this would reduce the number of cars on site by up to 54 during the day. Car sharing is also common practice at similar sites and this would be promoted by the developer to reduce the trip rate further.

9.5.13 In summary, it is recommended that the peak hour of 11:00 to 12:00 on a Saturday is used to analyse the effects of traffic on the surrounding road network. The trip rate predicted for the development during this period is 336 vehicles (168 in/168 out)

## **9.6 Car parking analysis**

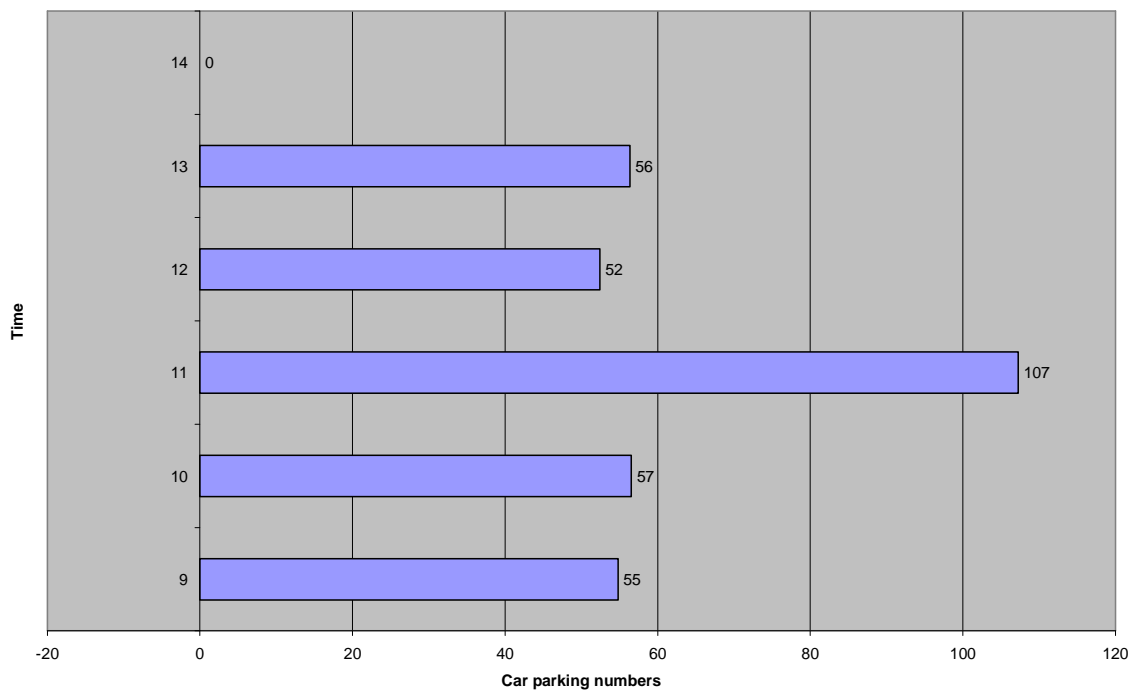
### ***Introduction***

9.6.1 Using the information provided by the TRICS database and the developer, the car park utilisation can be assessed. This information can then be used to assess the car parking demand and likely peak periods, allowing the provision of spaces to be assessed and ensure that adequate vehicle parking is provided within the site.

### ***Car parking analysis***

9.6.2 Condition 10 requires the parking facilities to be completed before the development is operational to prevent nuisance. Condition 11 guarantees the provision of cycle parking facilities.

9.6.3 As previously stated the development would not be operating a full day over the weekend, and therefore Table 9.6 is more relevant, showing a maximum usage of 107 vehicles. The predicted spread of usage from Table 9.6 is shown in Box 9.2.



**Box 9.2 – Estimated weekend car parking utilisation profile.**

### **Summary**

9.6.4 The analysis above demonstrates that even with no reduction for increased coach use, car sharing or public transport use the 118 car parking spaces provide enough room to ensure that there is spare capacity throughout the day. This would ensure that all parking for the development is kept on site and away from the public highway. It would also encourage people dropping players off at the development to do so inside the site boundary, further reducing disruption to the public highway.

## **9.7 Trip origin and distribution**

### **Introduction**

9.7.1 In order to identify the routes that users of the site are likely to travel along, an assessment was made based upon the location of the teams currently playing in the Tyne and Wear football League.

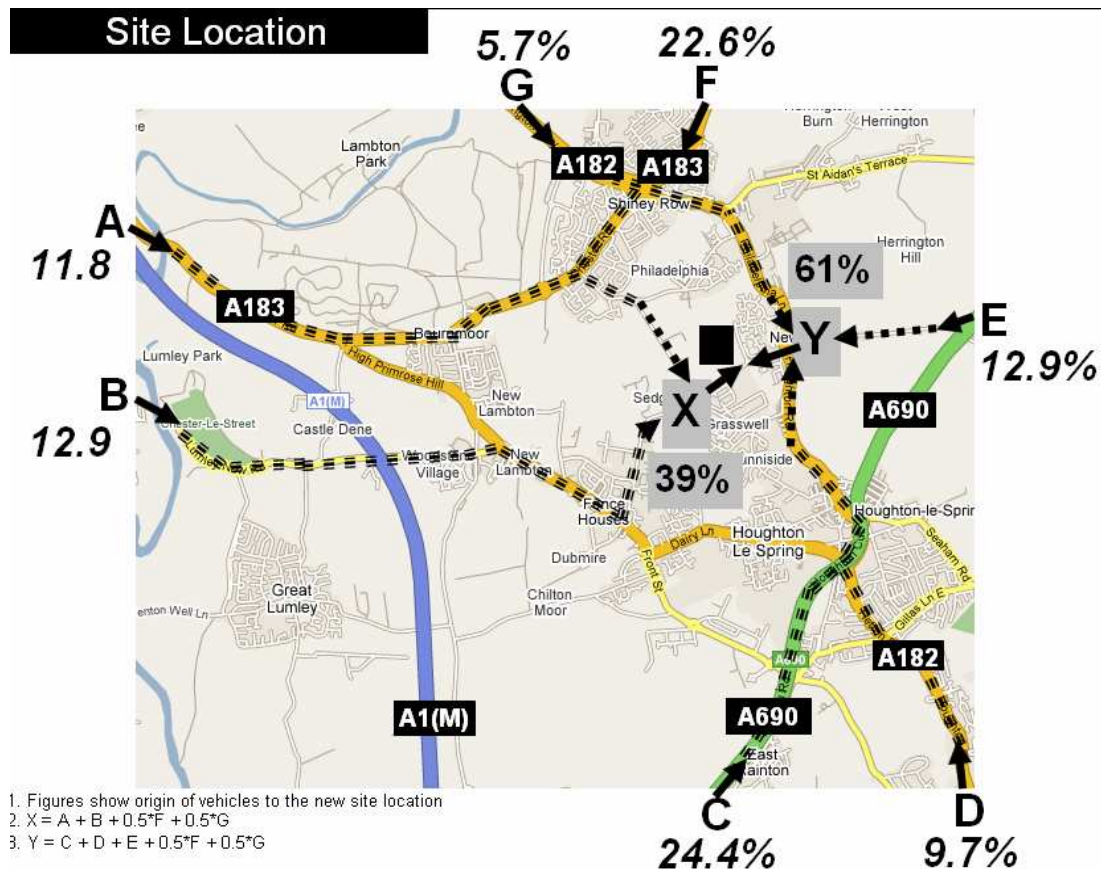
9.7.2 As stated previously, in order to obtain a “worst-case” assessment of the traffic impacts, it has been assumed that all matches currently played at Washington would be relocated to Newbottle.

### **Analysis**

9.7.3 Upon analysis of the Tyne & Wear League tables, in excess of 70 divisions were identified, each consisting of between four and thirty teams. In order to rationalise

this large number, an assessment was made on those clubs that have more than five teams in different divisions.

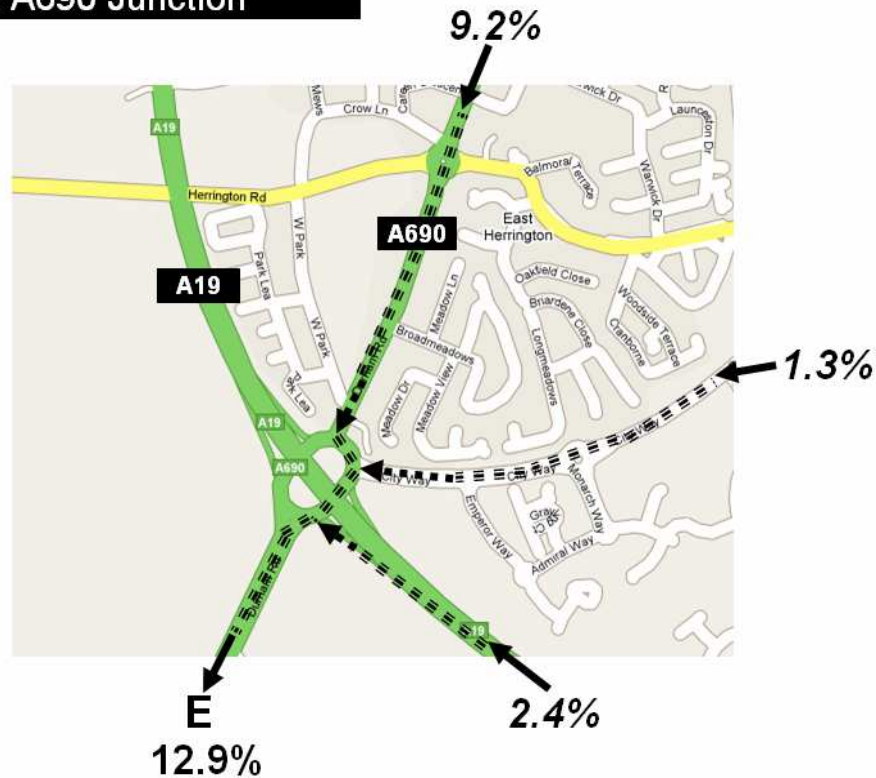
9.7.4 The location of these teams was then plotted onto a base map and the likely routes from their hometown to Newbottle overlaid onto it. Box 9.3 shows the routes into the site as a proportion of the total number of teams from the surrounding areas. The full assessment is presented in [Appendix 9.3](#).



**Box 9.3 – Estimated trip proportions based on club location**

9.7.5 As the development is relatively close to the A19/A690 junction, the Highways Agency has been consulted. They have confirmed that an analysis of this junction is also necessary. Box 9.4 shows the predicted trip distribution though this junction during the weekend peak. This information is also included within [Appendix 9.3](#).

## A19 & A690 Junction



Box 9.4 – Estimated trip proportions through the HA network based on club location.

### *Discussion*

- 9.7.6 The following section will allocate the predicted trip rates onto the distributions generated here. However it is important to note that this is based upon a number of assumptions that help to develop the “worst-case” assessment of the road network.
- 9.7.7 From the analysis the two key junctions can be identified. These are the Coley Lane / Staddon Way roundabout as 100% of development traffic passes through this junction; and the A19/A690 roundabout, identified by the Highways Agency as their key concern but shown here as experiencing only 12.9% of the development traffic.

## 9.8 Traffic flows and capacity

### *Introduction*

- 9.8.1 In order to assess the capacity of the road network an assessment can be made based upon a route’s number of lanes, width and gradient. This formula is found in the Design Manual for Roads and Bridges, Volume 13, Section 1, Part 5.

9.8.2 This formula, along with the trip rates and distribution generated in the previous sections can be used to assess the capacity of the road network and the development's impact upon it.

9.8.3 The traditional peak periods of 1200-1300 and 1300-1400 have been assessed along with the predicted development peak period of 1100-1200 in order to give a full understanding of the likely impacts.

### ***Current traffic flows***

9.8.4 Manual peak hour traffic count surveys were undertaken in January 2008 along Coaley Lane to give an indication of the existing flows along this route. The surveys were conducted on all three arms of the Coaley Lane/Staddon Way roundabout in order to produce a representative assessment of the flows along these routes as well as turning count information at the roundabout. It is recognised that these surveys were not undertaken during a "neutral month", but no flow information was available from Sunderland City Council at the time of writing.

9.8.5 In this situation the measured traffic flows can be factored up to a "neutral" month by assessing the flows against others in the area. In this case the Automated Traffic Counter (ATC) on the A19 between the A690 and A183 was used to obtain traffic flow information, see [Appendix 9.4](#). This monthly flow information was then analysed and the multiplication factor between traffic flows in January to those in the "neutral" months obtained.

9.8.6 This factor of 1.0259 was then used to multiply the surveyed flows to obtain "neutral" flows. This analysis has again been conducted to create a "worst-case" scenario as the factors obtained on the A19 are likely to be higher than those of the C-class road it is being used to assess. The flows along Coaley Lane are presented as part of Table 9.7.

9.8.7 Staddon Way currently serves a housing estate with approximately 350 dwellings. Using the TRICS database the existing flows along Staddon Way can be estimated for the time periods in question. The results are also presented as part of Table 9.7.

9.8.8 The trip rate analysis for the development has predicted the likely flows generated by the development directly onto Staddon Way. These are also included within Table 9.7.

9.8.9 The full analysis of the junctions is included as Appendix 9.5.

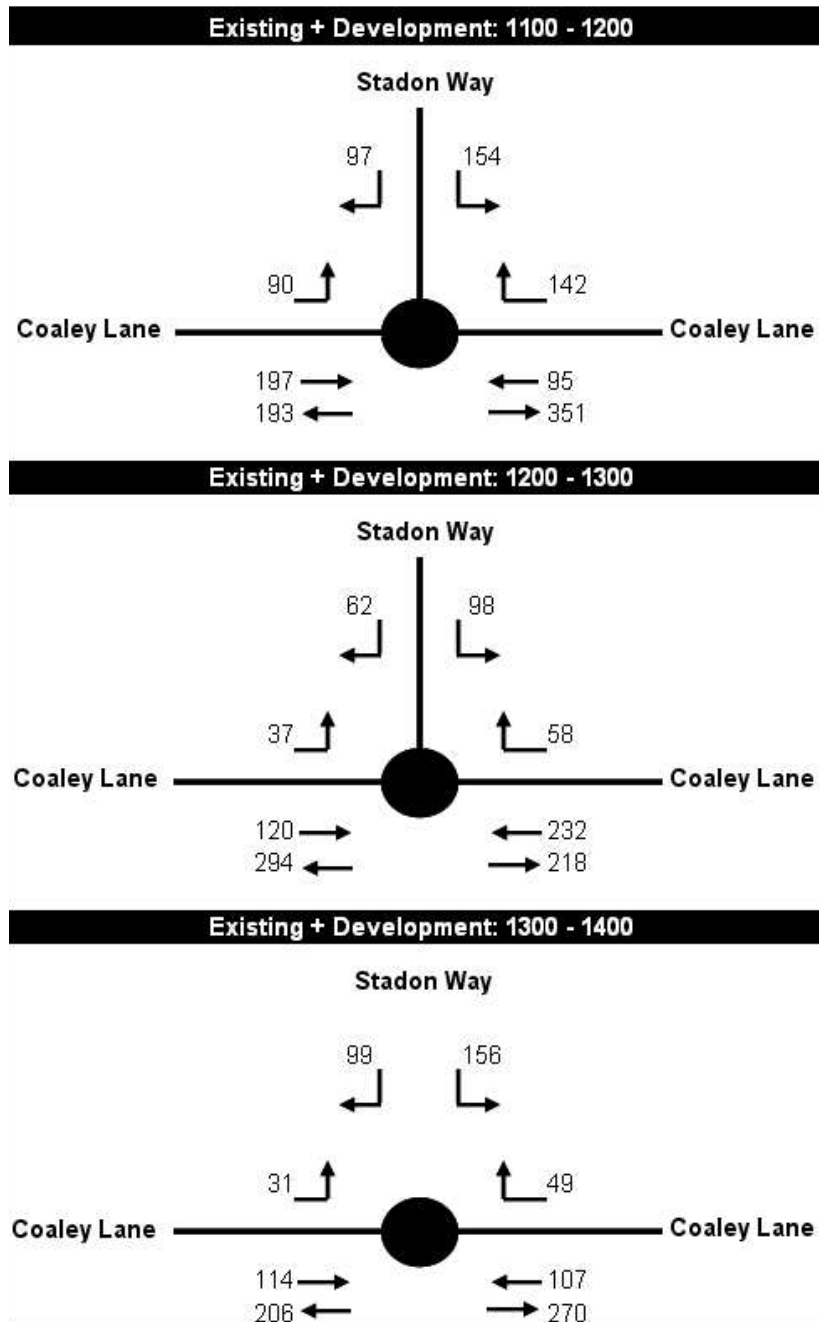
<b>Table 9.7</b>				
<b>Current traffic flows and predicted development flows</b>				
<b>Existing (January)</b>				
	Staddon Way		Coaley Lane	
	NB	SB	EB	WB
1100 - 1200	62	81	223	124
1200 - 1300	92	74	163	272
1300 - 1400	78	85	150	143
<i>Increased by a factor of</i>			<b>1.0259</b>	<b>%</b>
<b>Existing (Adjusted)</b>				
	Staddon Way		Coaley Lane	
	NB	SB	EB	WB
1100 - 1200	64	83	229	127
1200 - 1300	94	76	167	279
1300 - 1400	80	87	154	147
<b>Development</b>				
Onto Staddon Way at the roundabout				
	NB	SB		
1100 - 1200	168	168		
1200 - 1300	0	84		
1300 - 1400	0	168		

### **Current and development flows**

9.8.10 Using the information in Table 9.7, and the distribution generated in the previous section, the flows on the network once the development is open can be calculated. Table 9.8 demonstrates the predicted flows on Staddon Way and Coaley Lane as well as the additional traffic put through the Highways Agency's A19/A690 junction.

<b>Table 9.8</b>									
<b>Predicted flows following the development</b>									
<b>Existing + Development</b>									
	Staddon Way		Coaley Lane						
	NB	SB	EB	WB					
1100 - 1200	232	251	397	295					
1200 - 1300	94	160	219	312					
1300 - 1400	80	255	257	212					
<b>A19/A690 Junction - Development Only</b>									
	A690 (Southern)		A19		A690 (Northern)		City Way		
	NB	SB	NB	SB	NB	SB	EB	WB	
1100 - 1200	22	22	4	4	15	15	2	2	
1200 - 1300	11	0	0	2	8	0	1	0	
1300 - 1400	22	0	0	4	15	0	2	0	

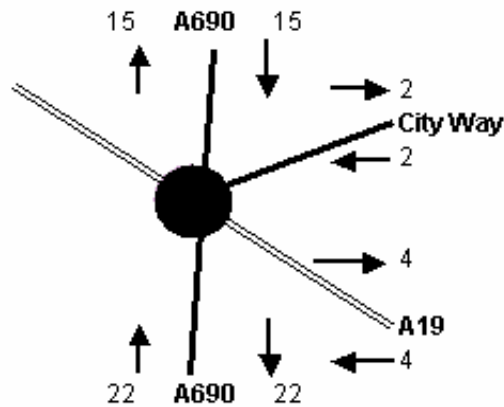
9.8.11 Presented pictorially, the traffic flows following the development for the three assessed time periods for the local road network can be seen in Box 9.5.



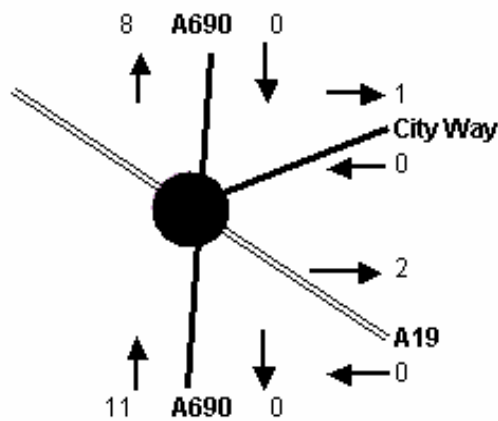
Box 9.5 – Traffic flows on the local road network.

9.8.12 Box 9.6 shows the flows that the Highways Agency's A19/A690 junction would experience during the three weekend peak periods assessed.

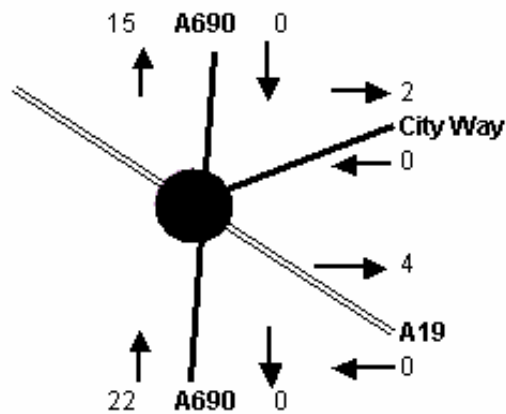
**A19/A690 Junction 1100 - 1200**



**A19/A690 Junction 1200 - 1300**



**A19/A690 Junction 1300 - 1400**



Box 9.6 – Traffic flows on the local road network during peak periods.

## 9.9 Link capacity

9.9.1 Upon analysis of the above information, it can be seen that the surrounding local road network experiences what appears to be some fairly significant traffic flow



increases. While it is noted that these increases are most notable due to the lightly trafficked nature of these routes, a link capacity assessment has been carried out to ensure that the development does not increase traffic flows beyond the capacity of the network.

9.9.2 As stated previously, the formula found in the DMRB Volume 13 Section 1 Part 5 can be used to find a theoretical maximum capacity of a road based upon its lane number, lane width and gradient. Using this formula gives a maximum value for one-way traffic on Staddon Way as 2015 vehicles per hour and Coaley Lane as 1980 vehicles per hour.

9.9.3 As shown in Table 9.8 the maximum one-way flow on Staddon Way reaches 255 in the weekend 1300-1400 time period, significantly less than the 2015 capacity of the road. Similarly the maximum flow on Coaley Lane reaches 397 on the weekend 1100-1200 period, significantly less than the 1980 vehicles this road has the capacity for.

### ***Discussion***

9.9.4 This section has demonstrated the impact on the road network that the proposed development would have in terms of traffic flow and network capacity.

9.9.5 It has been demonstrated that the flows on the surrounding road network would have a fairly large increase when compared to the very low traffic flows currently using the network. However, when considered in relation to the maximum capacity of the road network, the increase is relatively low and all links operate well within capacity.

9.9.6 The traffic flows through the Highways Agency's A19/A690 junction have also been calculated. This equates to a maximum of 22 vehicles in the weekend peak period and as this is an off-peak period for the Trunk Road network, the junction would experience no detrimental impact as a result of the development.

### **9.10 Conclusion**

9.10.1 Construction vehicle impacts the design of the junction and the provision of parking for vehicles and bicycles are controlled by planning conditions.

9.10.2 The operational impacts are assessed in terms of road safety, highway capacity and adequacy of parking facilities.

9.10.3 The proposed development is for a twenty-pitch development incorporating changing, canteen and storage facilities. It is proposed that the development only open from 0830 to 1400 on Saturdays and Sundays. This TA has considered the development

and its impact on the surrounding road network, including the Highways Agency's Trunk Road Network.

- 9.10.4 The developer has provided information regarding the current usage of a similar site at Washington. In order to obtain a "worst-case" scenario, it has been assumed that all the existing activities at Washington are to be relocated to the Newbottle site upon its opening. Therefore the supplied data has been used to assess the likely trip rates, car parking requirements and impacts of the new site. The TRICS database has also been consulted and trip rates for similar sites obtained and compared to the developers information.
- 9.10.5 The TRICS database offers lower trip rates and car parking requirements than the developer has suggested. However, as the developer has based their information upon actual observation of the current operation, this information has been used to provide 'worst-case' assessments of any other impacts that the development may cause.
- 9.10.6 It has been calculated that, in the peak hour, the development would generated a trip rate of 336 vehicle movements (168 in/168 out). This has been used to assess the car parking requirements for a development of this size and also the resultant traffic flows and capacity of the road network.
- 9.10.7 The proposed parking facility has been assessed to ensure that the development provides enough parking to encourage onsite parking and protect against parking on the public highway.
- 9.10.8 The developer is proposing 118 car and 3 coach parking spaces on site. The assessment of car park utilisation has demonstrated that the maximum that would be used during the peak period is 107.
- 9.10.9 The provision of 118 spaces is therefore deemed to be sufficient to provide enough parking for the peak periods while the excess spaces would encourage drop-offs to occur within the site boundary rather than on the public highway.
- 9.10.10 There are a number of factors that are likely to reduce the rate trip rate and the car parking usage, including increased coach use, car sharing and public transport provision, but in order to ensure a robust analysis of all impacts caused by the development it is recommended that the higher figures for both trip rates and car park utilisation are used.
- 9.10.11 The surrounding road network has been assessed in terms of traffic flow and capacity. It has been demonstrated that the local road network would operate at between approximately 12% capacity (Staddon Way) and 20% capacity (Coaley Lane) following opening of the development.

- 9.10.12 At the Highways Agency's A19/A690 junction the additional traffic equates to 12 vehicles (one-way flow) on the weekend peak hour. This figure is deemed as insignificant when compared to the 26030 vehicles that the A19 accommodates during an average day.
- 9.10.13 It can therefore be concluded that the development causes no significant detrimental impact on either the local or strategic road network.