

## Ross McDonald

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**From:** Mark Peters  
**Sent:** 02 November 2016 16:50  
**To:** Ross McDonald  
**Subject:** FW: AFC Kingsford - Transport Assessment Scoping Statement

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**From:** Scott Lynch [<mailto:SLynch@aberdeencity.gov.uk>]  
**Sent:** 02 November 2016 16:46  
**To:** Mark Peters  
**Cc:** Kamran Syed; Gregor Whyte  
**Subject:** AFC Kingsford - Transport Assessment Scoping Statement

Mark,

I am emailing regarding the initial scoping statement that was prepared for the AFC Kingsford development. ACC have the following comments:

- Section 1.3.2 – This section mentions Prime Four – I was wondering what aspects of Prime Four have been considered as committed development?
- Section 1.4.1 – The TA should identify the parking arrangement proposed for, both, phase 1 and phase 2 of the development. Additionally, information should be provided as to the peak time of operation of the phase 1 development, as well as the associated number of vehicles this is likely to generate.
- Section 1.5 – The TA should highlight and discuss the internal movement of traffic within the site.
- Section 1.6.1 – What modelling software is proposed for the analysis of the three access junctions? The assessment of the junction should cover match day scenarios.

In addition to the above comments, it should be noted that the applicant will be required mitigate the strategic transport impact of the proposed development. There are two possible options for this:

1. Applicants undertake their own Transport Assessments to demonstrate that they can mitigate any strategic and local transport issues before they commence development, in line with national guidance and best practice.
2. An alternative contribution is agreed for a “Strategic transport infrastructure contribution”, for a transport intervention(s) directly related to the transport impact of the development, the mechanism of which shall be on a **case by case basis**.

If you have questions regarding any of the above, feel free to contact me.

Thanks,

Scott

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## Mark Peters

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**From:** Ross McDonald  
**Sent:** 15 December 2016 16:21  
**To:** Graham Russell  
**Cc:** Jason Gillespie; John.McDonald@transport.gov.scot; Hugh Murdoch; Peter MacCallum; Kenn Clark; Damian O'Reilly; SLynch@aberdeencity.gov.uk; Mark Peters; Alastair Scott-Kiddie; Bob McCracken  
**Subject:** 111644 AFC Kingsford, Transport Assessment Scoping Statement  
**Attachments:** 111644 Proposed Kingsford Stadium - Traffic Flow Network Diagrams Rev A....pdf  
**WAFJob:** 111644

Graham,

Thank you for your response to our Transport Assessment Scoping Statement for AFC's proposed new stadium at Kingsford. Your email confirms that you are generally in agreement with our proposed methodology, notwithstanding the need for some clarity on trip generation, trip distribution, and mode share. Please find attached a note and network diagrams which present the further information you have requested.

I look forward to a response from all authorities and am available to discuss this further as required.

Regards

Ross McDonald  
Technical Director

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**From:** Graham Russell [<mailto:Graham.Russell@jmp.co.uk>]  
**Sent:** 12 October 2016 16:54  
**To:** Mark Peters  
**Cc:** Jason Gillespie; [John.McDonald@transport.gov.scot](mailto:John.McDonald@transport.gov.scot); Hugh Murdoch; Peter MacCallum; Ross McDonald  
**Subject:** RE: 111644 AFC Kingsford, Transport Assessment Scoping Statement

Mark,

Thank you for your TA scoping statement. We have now finished reviewing this, and we would make the following comments on behalf of Transport Scotland.

One general comment we would make is that, whilst the general approach outlined in the Scoping Statement is acceptable in principle, further details of the TA parameters, particularly the trip generation, trip distribution, and mode share, will need to be submitted and agreed with the three roads authorities, prior to any work being undertaken on the TA. This is simply to avoid the risk of undertaking potentially abortive work.

As you'll probably be aware, Fairhurst undertook the Transport Assessment (August 2010) in support of the planning application for the previous proposal to re-locate Aberdeen FC to Loirston Loch. We would expect the TA work for the current proposals to be similar to what was undertaken for this previous study.

## **Guidelines & Policy**

As you've correctly stated, the TA should be carried out in accordance with Transport Scotland's 'Transport Assessment Guidance (June 2012)', SPP (Scottish Planning Policy) and PAN (Planning Advice Note) 75.

## **Development Proposals**

We note that the proposed development will consist of three main elements:

- Community & Sports Campus
- Football Academy
- 20,000 Seat Stadium

The first two elements will constitute Phase 1 (completed by 2018), and Phase 2 will involve the completion of the stadium by 2020.

We also note that your client submitted a Proposal of Application Notice (ref: 160853) in June to Aberdeen City Council for this development.

## **Site Access**

We note that the site will be accessed via three new junctions on the A944. As these are on the local road network, however, and therefore a matter primarily for Aberdeen City Council, we have no further comments to make regarding this.

## **Parking**

We note that it is intended to provide a maximum of 1 space per 15 seats, which would equate to a maximum of 1333 spaces – this is the maximum parking standard for stadia as detailed in SPP, and therefore acceptable. It will be important, however, to ensure that a car park management strategy is in place to limit the number of vehicles, particularly private cars, and to give priority to parking for coaches and buses for both home and away supporters. This will help minimise the level of trips made by private vehicles. We note that traffic management measures will be in place during match days, including a Controlled Parking Zone.

The TA should also take into consideration the use of Park & Ride sites in the Aberdeen area, in particular, the nearby 1000 space facility at Kingswells.

We note that you intend to provide cycle parking in accordance with Aberdeen City Council's guidelines. The national minimum standards in Transport Scotland's 'Cycling by Design' should also be taken into consideration.

As parking is an internal site layout matter, we would consider the final level of car and cycle parking provision, as well as the car park management strategy and Controlled Parking Zone, to be matters to be agreed with Aberdeen City Council.

## **Assessment Periods**

We note your intention to assess weekday evening periods (1830 to 1930 and 2130 to 2230 hours) and also Saturday afternoon periods (1345 to 1445 and 1645 to 1745 hours) to coincide with the main arrival and departure times of football matches at the stadium. These are considered to be acceptable.

We also note that you intend to assess the standard weekday AM and PM Peak hours for "*everyday traffic impact at peak times.*" As the use of the training facilities will be between 1000 and 1900 hours on weekdays, the PM Peak assessment will need to assess the traffic impact associated with these activities.

## **Assessment Year**

We note that you intend to carry out an assessment for 2023 (which is what Aberdeenshire Council's PARAMICS Model uses as a base year), by which time the development should be fully completed. This is considered to be acceptable.

### **Traffic Growth**

No mention is made of traffic growth, although we understand that this should be incorporated into the PARAMICS Model.

### **Committed Developments**

No mention is made of what committed developments should be included, which is something that would need to be agreed with both Aberdeen City and Aberdeenshire Councils.

We would point out that, since this site is not allocated for development in the Aberdeen City LDP, there will be a requirement for the TA to take into account all the committed and allocated developments in both the Aberdeen City and Aberdeenshire LDPs. It is understood that the PARAMICS Model already incorporates the Aberdeenshire LDP development trips.

### **Trip Generation / Mode Share**

Figures are provided detailing existing and proposed attendance figures for different types of matches. Further information will be required, however, as to how these translate into actual vehicle trips.

With regard to mode share, although reference should be made to current travel patterns to Pittodrie, the mode share for the new site in its edge-of-town, rural, location will be quite different from the existing city centre location of the current site. For example, whilst there will be some pedestrian trips at present to Pittodrie from city centre residents, it is likely there will be virtually no pedestrian trips for the new site, given its remoteness from settlements within reasonable walking distance.

### **Trip Distribution**

Your proposal to use season ticket holder postcode data as the basis for the trip distribution for the stadium trips is considered to be acceptable in principle. Details of this exercise should be forwarded for approval to the three roads authorities, prior to undertaking the TA.

Details will also need to be provided of the proposed trip distribution for the campus and academy elements of the development, which should be based on a population gravity model.

### **Network Impact**

A 5% threshold assessment would normally be required in order to determine the extent of trunk road network that would require detailed analysis. In this instance, however, we are satisfied that the AWPR Kingswells South Interchange is likely to represent the maximum extent of trunk road network that is likely to be significantly affected by the traffic impact of the proposed development.

We note that you intend to use Aberdeenshire Council's PARAMICS Model to assess the traffic impact of the development upon the AWPR – this is considered to be acceptable. A TD 22/06 merge / diverge assessment of the on / off slip roads at Kingswells South Interchange will also be required.

Given the absence of post-AWPR traffic flows for the weekday evening and Saturday afternoon assessment periods, your proposal to use ATC data to factor the weekday peak flows (similar to the proposed approach to obtain Saturday flows in connection with the Prime 4 retail development) is considered to be acceptable. As with the other TA parameters, details of this exercise should be forwarded for approval prior to undertaking the TA.

### **Potential Mitigation**

Any potential mitigation measures identified at trunk road junctions will require agreement in principle with Transport Scotland, compliance with DMRB standards, and also a Stage 1 Road Safety Audit. These will be required before Transport Scotland can make its formal planning consultation response to Aberdeen City Council in connection with any future planning application.

**Sustainable Transport Accessibility**

We note and welcome your intention to investigate the sustainable transport accessibility of the site. Given its relatively remote location in a largely rural area, it is likely that there will be a low level of public transport provision, and it will be important for the TA to identify opportunities and firm proposals for this to be improved, which will need to be agreed with Aberdeen City Council. It will be important that a public transport strategy, combined with the car park management strategy, is implemented in order to minimise the traffic impact of this development on the adjacent road network.

**Traffic Management**

You state that various elements of traffic management will be required in the vicinity of the proposed stadium on match days, which will include a Controlled Parking Zone, police traffic management etc. You also state that the TA will comment on all traffic management needs, including those requiring TROs.

We would point out that the TA should also enclose a letter from Police Scotland which confirms their agreement to undertake traffic management duties for the proposed development. Transport Scotland will also insist that a suitably worded condition be provided that requires a detailed traffic management strategy to be agreed in advance with Aberdeen City Council, Police Scotland, and Transport Scotland, before the development can become operational.

We trust the above comments are of assistance.

Regards

Graham Russell  
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**From:** Mark Peters [<mailto:mark.peters@fairhurst.co.uk>]  
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**Subject:** 111644 AFC Kingsford, Transport Assessment Scoping Statement

Gents,

Please find attached for your review, the Transport Assessment Scoping Statement prepared for the proposed stadium and training facilities for Aberdeen Football Club.

We look forward to receiving your comments / approval at the earliest opportunity. If you require any further information or clarification on any aspect of the Scoping Statement, please don't hesitate to contact Ross or myself.

Please be advised that Ross is currently on leave until the 17<sup>th</sup> October, so any queries up until then should be made to myself.

Thanks and best regards

Mark Peters, IEng BSc (Hons) MCIHT  
Principal Transportation Engineer

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**111644: Proposed Kingsford Stadium – Traffic Flow Network Diagrams Rev A  
14th December 2016****Introduction**

1. Fairhurst prepared a Transport Assessment (TA) Scoping Statement, which was issued by email to Aberdeen City Council (ACC), Aberdeenshire Council (AC) and Transport Scotland (TS) on 16th October, 2016. Scoping responses have been received from ACC and TS, seeking further information relating to detailed development traffic generation, distribution and assignment during match days and from other day-to-day uses at the stadium.
2. This note has been prepared to provide the further information requested. The proposals seek to establish a broad approach to travel planning and assessment of transport demands for different match scenarios. There will be variations on a game to game basis depending on match day circumstances and attendances, and specific match day transport arrangements for future games would be based accordingly on those specific requirements, once factors such as ticket sales are known.

**Base Weekday AM and PM Traffic Flows**

3. The baseline traffic comprises two sets of traffic flows obtained from:
  - The Aberdeenshire Council 2023 Westhill Paramics Model, received from Aberdeenshire Council
  - Proposed Prime Four Phase 5 Retail Park Development at Kingswells – Transport Assessment Report (prepared by Fairhurst)
4. Figure A1 and Figure A2, contained in Appendix A, illustrate the base Weekday AM and PM peak hour traffic flows that we propose to use. The flows at the AWPR Kingswells South junction and other junctions to the west of it have been obtained from the 2023 Westhill Paramics Model. The 2023 Westhill Paramics model does not extend east of the AWPR Kingswells South junction. Therefore traffic flows at junctions to the east of the AWPR junction have been derived from the proposed Prime Four Phase 5 Retail Park (ACC Planning Ref: 161429/PPP) Transport Assessment (Fairhurst Report Reference: 99241 TA02).
5. The Aberdeenshire Council's 2023 Westhill Paramics model future matrices have been derived from 2014 surveys and Aberdeenshire committed developments and other Local Development Plan (LDP) sites. Table 1 identifies Aberdeenshire committed developments and LDP Phase 1 sites which are included in the 2023 Westhill Paramics models, including vehicle trip generation:

Development	LDP Ref	AM Peak Period (07:00 – 10:00)		PM Peak Period (15:00 – 19:00)	
		IN	OUT	IN	OUT
Committed Developments					
Silvertrees	Com.	315	108	106	309
Arnhall Phase 2 Extension	Com.	293	38	47	299
Broadshade Phase 1	Com.	57	139	172	118
Subsea 7 Extension	Com.	140	15	20	143
LDP Phase 1 Developments					
Broadshade Phase 1	H1	44	106	131	90
Ben View	H2	5	11	14	9
Arnhall Phase 3	E2	1,873	206	268	1,912
Total		2,727	623	758	2,880

**Table 1: Westhill Paramics Model Committed and LDP Traffic Growth to 2023**

6. The proposed Prime Four Phase 5 Retail Park development is for a mixed use commercial development of up to 30,000m<sup>2</sup> GFA retail units and other ancillary uses. The Prime Four Phase 5 TA base flows include an allowance for the following committed developments:
  - Countesswells New Community Development
  - Prime Four Business Park ‘Phases 1 to 3’ Development
  - Maidencraig Housing Development
  - Arnhall Phase 3 Development
  
7. The Weekday AM and PM peak hour Prime Four Phase 5 Retail development flows are illustrated by Figure A3 and Figure A4 contained in Appendix A. These figures reflect that there is a consented office development for circa 17,000sqm GFA at Ardene House, within the red line boundary for the proposed retail park, which would be replaced by the retail park proposal.
  
8. The proposed Phase 5 Retail development Saturday peak hour is defined as 15:00 – 16:00, which coincides with Saturday football match times. The Saturday retail development traffic for 14:00 – 15:00 and 17:00 – 18:00 has been estimated using vehicle trip rates extracted from the TRICS database. Table 2 illustrates the vehicle trip generation for the food and non-food retails elements for the Prime Four Phase 5 Retail Park.

	Saturday (14:00 – 15:00)				Saturday (17:00 – 18:00)			
	Trip Rates		Trips		Trip Rates		Trips	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Food (3,716m <sup>2</sup> )	4.366	4.233	162	157	3.938	4.52	146	168
Non-Food (26,013m <sup>2</sup> )	2.102	1.98	547	515	0.939	1.331	244	346

**Table 2: Prime Four Phase 5 Retail – Saturday Vehicle Trip Generation**

- Table 3 summarises the vehicle trip generation by taking account of pass-by and linked trips to the development.

	Saturday (14:00 – 15:00)		Saturday (17:00 – 18:00)	
	IN	OUT	IN	OUT
Food Retail	162	157	146	168
Non – Food Retail	547	515	244	346
Overall External Trips	709	672	390	514
10% Pass-by Trips	71	67	39	51
10% Internal Linked Trips	71	67	39	51
New Development Trips	567	538	312	412

**Table 3: New Vehicle Trips for Retail Development**

- Figure A5 and Figure A6, contained in Appendix A, illustrate the Saturday Retail development traffic during football match arrival (13:45 – 14:45) and departure (16:45 – 17:45) periods on match day.
- As noted previously, the AC Westhill 2023 Paramics Model accounts for all LDP sites in the Westhill settlement of Aberdeenshire. Similarly, the baseline flows in the Prime Four Phase 5 TA account for all nearby allocated sites in the 2012 Adopted Aberdeen Local Development Plan.
- In addition, TS has requested that the Kingsford Stadium TA should also take account of the proposed 2016 Aberdeen LDP Site OP63 ‘Prime Four Business Park Phase 5 Extension’, which is a 13 hectare employment land site.
- Development details on Site OP63 (Prime Four Phase 4) are yet to be established, however for the purposes of the Kingsford Stadium TA, it has been assumed that the site can accommodate up to 40,000 square metres of Class 4 Office development. Table 4 summarises the vehicle trip generation for the site, using the agreed vehicle trip rates for TAs that supported the planning applications for the existing and committed developments at Prime Four Business Park.

	AM Peak			PM Peak		
	IN	OUT	TOTAL	IN	OUT	TOTAL
Agreed Office Trip Rates	1.421	0.271	<b>1.692</b>	0.188	1.137	<b>1.325</b>
40,000 m <sup>2</sup> Office Vehicle Trips	568	108	<b>676</b>	75	455	<b>530</b>

**Table 4: Proposed 2016 ALDP Site OP63 – Vehicle Trip Generation**

14. Figure A7 and Figure A8 illustrates the Weekday AM and PM peak hour vehicle trip distribution on the adjacent road network. It has been assumed that the Phase 4 site would be accessed from the existing Prime Four Business Park accesses from the A944 and the C89 Kingswells Distribution Road. Figure A9 and Figure A10, contained in Appendix A, subsequently illustrate assignment of OP63 vehicle trips on the adjacent network during the Weekday AM and PM peak hours respectively.
15. Not all trips associated with the OP63 site would be new to the network. For example some trips would be associated with the future Countesswells residential development and would already have been accounted for within the Countesswells traffic figures included in Figures A1 and A2. The TA for Kingsford Stadium does not consider the detailed relationship between trips from trip producer and trip attractor developments, so an element of ‘double counting’ will exist. This will lead to a robust assessment of traffic conditions at match times.
16. The Kingsford TA makes use of 2 data sources in order to satisfy the requirements of Aberdeenshire and Aberdeen City Councils with regard to impacts on their respective road networks. This makes use of the data that is currently available. Aberdeen City Council are currently leading on a study which will update the future year traffic predictions across the area allowing for opening of the Aberdeen Western Peripheral Route. The study will take into account all proposed LDP sites within the proposed new Aberdeenshire and Aberdeen City Local Development Plans. The study will also take account of the relationship between trip producer and trip attractor developments in order to eliminate ‘double counting’ effects. The study is not expected to be complete until the end of February 2017. In the interim, Fairhurst consider that traffic analysis based on the Westhill 2023 Paramics model data will over estimate queuing and delay at the AWPR Kingswells Roundabout.
17. Figure A11 and Figure A12, contained in Appendix A, illustrate the future year ‘Base plus Committed Development’ flows during Weekday AM and PM peak hours, allowing for the Prime Four Phase 4 (OP63) office allocation and Prime Four Phase 5 retail proposals.

18. As the Kingsford Stadium TA will consider traffic associated with committed developments, the traffic analysis section will also take account of known road improvements that are proposed in connection with committed developments. This includes some improvements to Kingswells Roundabout and the AWPR Kingswells South Roundabout.

### **Match Day Base Traffic Flows**

19. The Kingsford Stadium TA Scoping Statement noted that the match day background traffic would be established from the Weekday PM peak hour traffic by applying factors derived from Automatic Traffic Counts (ATC) survey undertaken at key locations on the A944 Corridor during 3<sup>rd</sup> – 11<sup>th</sup> September 2016 inclusive. The traffic flow network diagrams contained in Appendix A of the Scoping Statement provided the estimated reductions in background A944 traffic flows at match times in comparison to the average weekday network PM peak hour (16:30 – 17:30). The match day arrivals before kick-off and departures after the game are defined as:
- Weekday Evening Arrivals Before Kick-Off : 18:30 - 19:30
  - Weekday Evening Departures After Game : 21:30 - 22:30
  - Saturday Arrivals Before Kick-Off : 13:45 - 14:45
  - Saturday Departures After Game : 16:45 - 17:45
20. As noted above, it has been agreed that the future year Saturday base traffic flows (beyond opening of the AWPR) would be derived from the Weekday PM 'Base plus Committed' development peak hour flows. However, included in AC's 2023 Westhill Paramics model traffic are a number of committed developments and LDP sites which are mainly employment based. By their nature, a significant level of these new employment trips which have been applied to weekday peak hours will not be on the network on weekends. To give an accurate representation of future year weekend traffic flow much of the new employment trips need to be removed from the 2023 Westhill Paramics model before the resultant flows are then factored to represent Saturday conditions.
21. AC has provided Fairhurst sections of draft report for the 2023 Westhill Paramics Model Development. The report provides a summary a peak hour flow comparison between the 2014 Traffic Surveys and the 2023 LDP Traffic Modelling, specifically on the A944. The report indicates at 'Table 2.3 : PM Peak Hour Flow Comparison' that *'there is a predicted increase of 84% in the eastbound traffic flow towards Aberdeen and 27% westbound towards Westhill in the PM peak hour'*.

22. The majority of the additional trips expected to be on the network during the peak hours in 2023 are mainly commuter trips to/from employment site as evidenced in Table 1 of this report. The 84% increase in eastbound traffic equates to 1107 vehicles whilst the 27% increase in westbound traffic equates to 394 vehicles. The main contributors to the future traffic increases are the employment developments at Silvertrees, Subsea 7 extension, Arnhall Phase 2 and Arnhall Phase 3.
23. Most of the additional commuter traffic is unlikely to be on the network at weekends. Fairhurst do not consider that any of the Aberdeenshire committed development / LDP sites has the potential to generating significant levels of traffic on the A944 at weekends.
24. The existing Prime Four Boulevard provides some indication of the traffic reductions between the Weekday PM peak hour and Saturday traffic flows. Figures A19 and A20 show about an 80% percent reduction in traffic flows on the Prime Four Boulevard when comparing the Weekday PM peak hour (16:30 – 17:30) to Saturday flows. It is worthy to note that the Prime Four Business Park has a hotel with leisure facilities, which generates some trips on a Saturday.
25. On that basis, Fairhurst consider that it is reasonable to discount 80% of the additional A944 eastbound traffic and 50% of the additional A944 westbound traffic from the 2023 Westhill Weekday PM peak hour flows before applying the factors derived from the ATC surveys to represent Saturday traffic flows. Figure A13, contained in Appendix A, illustrates the estimated eastbound and westbound traffic reductions based on a  $1107 \times 0.8 = 886$  reduction eastbound and  $394 \times 0.5 = 197$  reduction westbound. The reductions in traffic have been assigned pro rata to the employment developments noted in Table 1, by making appropriate reductions to traffic flows on the B9119 and Endeavour Drive.
26. Figure A13 also shows PM peak hour traffic flow associated with the committed Ardene House office development (established from the Prime Four Phase 5 TA) which also needs to be subtracted from the network.
27. Figure A14 illustrates the updated Weekday PM peak hour traffic that would be utilised to estimate the Saturday traffic during the pre-match (13:45 – 14:45) and post-match (16:45 – 17:45) travel times. This has been developed from Figure A2 by firstly subtracting the traffic flows shown on Figure A13. Some traffic may be generated by Prime Four Phase 4 (OP63) on a Saturday, so 20% of the Prime Four Phase 4 PM peak hour traffic (Figure A10) is also reflected in Figure A14. This follows the same

principle of 80% reduction to employment trips that has been applied to Aberdeenshire committed developments.

28. Figure A15 and Figure A16, in Appendix A, summarise the A944 background flows for weekday evening pre-match and post-match travel times as a percentage of the Weekday PM peak hour traffic. Figure A17 and Figure A18 provides the corresponding future year flows on the adjacent network during the weekday match day arrival and departure times respectively, derived by applying the factors from Figure A15 and A16 to Figure A12.
29. Figure A19 and Figure A20, in Appendix A, summarise the A944 background flows for Saturday pre-match and post-match travel times as a percentage of the Weekday PM peak hour traffic. Figure A21 and Figure A22 provides the corresponding future year flows on the adjacent network during the Saturday match day arrival and departure times respectively, derived by applying the factors from Figure A19 and A20 to Figure A14.
30. Figure A23 and Figure A24 provide the 'Base plus Prime Four Retail' traffic during the pre-match and post-match travel times on a Saturday by adding traffic from Figs A21 and A5, and also Figs A22 and A6.

#### **Match Day Stadium Traffic**

31. Traffic associated with match days in the vicinity of the proposed stadium will be generated by:
  - On-site parking for hospitality and corporate guests
  - On-site parking for other supporters
  - Off-site parking for supporters in designated areas at Arnhall Business Park
  - Arrivals and departures by taxis
  - Arrivals and departures at the Kingswells Park and Ride (P&R) Site
  - Shuttle buses from P&R Sites (Kingswells, Dyce, Bridge of Don) and City Centre pick-up points
  - Arrivals and departures by home supporter coaches
  - Arrivals and departures by away supporter coaches and some cars
  - Arrivals and departures by additional Public Service Vehicles from Aberdeen City Centre

32. The Kingsford Stadium TA Scoping Statement notes that the TA would consider three match day scenarios based on differing attendance values and splits between home and away supporters. These are, Domestic (excluding Old Firm), Old Firm, and European Games. Table 5 shows the attendances being considered for each match scenario. These should be viewed in the context that average total attendance at competitive games over the last 3 full seasons at Pittodrie has been 13,153.

Match Type	Average Home Support	Average Away Support	Average Total Support
Domestic (ex. Old Firm) Game	13,750	500	14,250
Old Firm	17,000	3,000	20,000
European	19,500	500	20,000

**Table 5: Match Day Attendance Scenarios**

**Match Day mode Share**

33. A survey of Supporter Group members by Dons Supporters Together was conducted in August 2016, which received 2,556 responses. Table 6 shows how respondents currently travel to Pittodrie, compared with how they would prefer to travel to Kingsford.

Travel Mode	Pittodrie	Kingsford
Car	56%	50%
Bus	16%	34%
Walk	21%	9%
Other	7%	7%

**Table 6: Supporter Survey Travel Modes**

34. The survey suggests that less people would travel to Kingsford by car than they currently do to Pittodrie. Supporters would endorse a mode shift towards bus transport. A reduction in the number of people who currently walk to Pittodrie would be balanced by increased bus use to Kingsford.

35. We propose to base match day transport plans broadly in accordance with the supporter survey response for Kingsford, for an attendance of 13,750 home fans. However we consider that 9% is excessive for walking trips when considering the local catchment and fan base. Only 4.1% of season ticket holders live within the AB32 6 postcode, which includes houses within a reasonable walking distance from the stadium.

36. Table 7 shows the mode share that we propose to apply to match day transport plans.

Home Support	Car	Bus			Walk	Cycle	Other	Total
		Public Service	Supporter Coaches	Special Bus Services				
	<b>48.0%</b>	<b>11.0%</b>	<b>11.5%</b>	<b>20.0%</b>	<b>2.5%</b>	<b>0.6%</b>	<b>6.4%</b>	<b>100%</b>
13,750	6600	1513	1581	2750	344	83	880	13750

**Table 7: General Match Day Travel Modes**

37. The mode share shown in Table 7 is generally in line with how survey respondents would prefer to travel to Kingsford, whilst also balancing policy and site characteristics. Over the last 3 full seasons, home attendance at 75% of games at Pittodrie has been less than 13,750 so the mode share shown in Table 7 would accommodate most matches. Occasional matches with higher attendances would attract a higher level of bus, walking and other trips.

38. The car mode share shown in Table 7 is based on an average of 3 people travelling per car, and allows for 2,200 car parking spaces. This comprises of 1,600 car parking spaces on-site and 600 designated car parking spaces off-site within Arnhall Business Park. Council car parking standards suggest a maximum allowance of only 1,333 car parking spaces on site. Fairhurst consider that 1,600 spaces is more aligned with supporter requirements and is still significantly less than the demand for parking which is currently generated by matches played at Pittodrie.

39. The detailed mode share and vehicle requirements associated with each match scenario is contained in Appendix B.

**Match Day Traffic Distribution**

40. Aberdeen Football Club (AFC) has around 10,000 season ticket holders, which represents about 80% of the home support at an average game. Using the season ticket holder postcode data, distribution patterns for home supporters attending matches have been established and illustrated on Figure B1 contained in Appendix B.

41. In order to accommodate the different vehicle movements, three access junctions are proposed from the A944, comprising:

- Main Vehicle Site Access (middle access)
- Shuttle Bus Access (eastern access)
- Supporter Buses / Car Park 1 Access (western access)

42. The main vehicle site access will operate as a left in / left out junction for everyday use of the stadium, with removable bollards to close the A944 central reserve. On match days the central reserve would be opened in order to allow all movements at the junction, under traffic management.
43. Figure C1, contained in Appendix C, illustrates the distribution of match day traffic travelling to the on-site car parking provision at the stadium. The distribution is based on the season ticket holder postcode data shown on Figure B1. The following assumptions have been made in establishing the trip distribution:
- Supporters from the A90 north and A947 corridors will arrive via the AWPR southbound off-slip road
  - Supporters from the A90 south corridor will arrive via the AWPR northbound off-slip road
  - Supporters from the A93 east and west corridors will arrive via the B9119
  - Supporters from the A944 west and the A96 corridors will arrive via Westhill Drive and the A944 West.
44. There would 1600 car parking spaces on-site for corporate and supporter parking. This would comprise around 300 spaces for corporate guests and staff etc, and 1300 spaces for general supporter parking. Figure C2, contained in Appendix C, illustrates the arrivals of 1300 supporter cars with on-site parking permits before kick-off. Corporate clients and hospitality ticket holders would arrive about 2-3 hours before kick-off and therefore have been discounted from the peak travel by general supporter traffic, which would typically arrive an hour before kick-off.
45. A further 600 designated 'off-site' car parking spaces are planned within Arnhall Business Park (ABP) for supporters. This will be managed by AFC, following agreements with relevant businesses within ABP. Figure C3 and Figure C4, contained in Appendix C, illustrate the distribution and assignment of football traffic arriving at ABP prior to kick-off. Arrivals from the north and east would route via the AWPR North and the A944 East. Vehicles travelling from the A90 South, A93 Corridor, A96 West and A944 West would route to ABP via the B9119 south.
46. Drop-off and pick-ups for taxis and other vehicles would occur within Arnhall Business Park. Figure C5, contained in Appendix C, illustrates the assignment of taxis and other drop-offs prior to kick-off as established for the Domestic (excluding Old Firm) match mode share in Appendix B.

47. A key component of the stadium proposal is provision of shuttle buses from the P&R sites within Aberdeen City. Shuttle bus services will generally only be required from the Park & Ride sites at Kingswells and Dyce, with additional city centre pick-up points. For big European matches, shuttle bus services will also be required from the Bridge of Don Park & Ride site. The shuttle bus services will route directly to and from the stadium with allocated drop-off and pick-up zones provided within the stadium complex. Figure B2 to Figure B4, contained in Appendix B, illustrate the shuttle bus provision at each Park & Ride site and the estimated number of cars that would be parked at each based upon an average of 3 supporters per car. There may be future potential for further Park & Ride options to the south of the city.
48. Figure C6, contained in Appendix C, illustrates the development traffic arrivals for a Domestic (excluding Old Firm) game travelling to the Kingswells P&R site.
49. Figure C7, contained in Appendix C, illustrates the number of shuttle bus journeys from the Park & Ride sites at Kingswells and Dyce, and from within the city centre.
50. Figures C8 and C9, contained in Appendix C, illustrate the arrivals of 'Home' and 'Away' supporter coaches.
51. Stagecoach services X17 and X18 serve the Westhill area from within the City. Stagecoach have confirmed that access to these services can increase on match days with the provision of at least an additional 10 buses operating across both service routes. Figure C10 illustrates the additional services that would be provided during match days.
52. Figure C11 and Figure C12, contained in Appendix C, summarises arrivals and departures of cars and bus/coaches on match day prior to kick-off. Figure C13 provides the overall vehicle arrivals/departures in passenger car units (pcus).
53. The match day departures, after the game, essentially represent the reverse of the arrivals before kick-off. It has been assumed that all vehicles would use the same roads whilst travelling in the opposite direction. Figure C14 to Figure C26 illustrates all departures on match day after the game.
54. Similar networks have been developed for Old Firm and European Game scenarios.
55. Figures D1 to D26, contained in Appendix D, illustrate the traffic flow network diagrams for an Old Firm Game scenario.
56. Figures E1 to E26, contained in Appendix E, illustrates the traffic flow network diagrams for a capacity European Game scenario.

**Base plus Stadium Development Traffic**

57. Figure A25 and Figure A26, contained in Appendix A, illustrates the match day 'Arrivals' and 'Departures' for a Domestic (excluding Old Firm) game.
58. The match day 'Base plus Stadium Development' traffic is contained in Appendix A and thus defined as:
- Figure A25 – Domestic (excluding Old Firm) Match Day Arrivals (excluding corporate guests) in pcus
  - Figure A26 – Domestic (excluding Old Firm) Match Day Departures (excluding corporate guests) in pcus
  - Figure A27 - Base plus Domestic (excluding Old Firm) Game Arrivals - Weekday PM (18:30 - 19:30)
  - Figure A28 - Base plus Domestic (excluding Old Firm) Game Arrivals – Saturday (13:45 - 14:45)
  - Figure A29 - Base plus Domestic (excluding Old Firm) Game Departures - Weekday PM (21:30 - 22:30)
  - Figure A30 - Base plus Domestic (excluding Old Firm) Game Departures – Saturday (16:45 - 17:45)
  - Figure A31 – Old Firm Match Day Arrivals (excluding corporate guests) in pcus
  - Figure A32 – Old Firm Match Day Departures (excluding corporate guests) in pcus
  - Figure A33 - Base plus Old Firm Game Arrivals - Weekday PM (18:30 - 19:30)
  - Figure A34 - Base plus Old Firm Game Arrivals – Saturday (13:45 - 14:45)
  - Figure A35 - Base plus Old Firm Game Departures - Weekday PM (21:30 - 22:30)
  - Figure A36 - Base plus Old Firm Game Departures – Saturday (16:45 - 17:45)
  - Figure A37 – European Match Day Arrivals (excluding corporate guests) in pcus
  - Figure A38 – European Match Day Departures (excluding corporate guests) in pcus
  - Figure A39 - Base plus European Game Arrivals - Weekday PM (18:30 - 19:30)
  - Figure A40 - Base plus European Game Departures - Weekday PM (21:30 - 22:30)

**Other Uses – Training Facilities**

59. The training facilities at Kingsford will be used by AFC providing a central location for the first team, Under 20 team, Youth Academy, and AFC Community Trust to train. This will generate some trips during weekday network peak periods. Currently the teams associated with AFC train at various separate locations including Countesswells, Balgownie and Aberdeen Sport Village. Table 8 identifies the teams that will regularly use the training facilities, including expected times of use.

Team	Players	Support Staff	General Training Times
First Team	24	12	Mon to Fri 10:00 – 15:30
Under 20s	20		
Youth Academy	126	16	Mon to Fri 16:00 – 19:00 Sat / Sun

**Table 8: Regular Use of the AFC Kingsford Training Facilities**

60. The first team and U20 players will use the training facility Monday to Friday. The 44 players and 12 support staff will generally arrive shortly before 10:00 and leave just after 15:30 each day. During most weeks the first team have a day off on Wednesdays so would not be at the complex. Additionally, they leave at around 13:00 on Fridays. The first team do not train on Saturdays or Sundays, with weekends accommodating football matches.
61. The U20 training programme generally mirrors the first team, with the exception that they play matches midweek (usually on a Tuesday), during the afternoon or evening. The U20 team need to play their homes matches in a licensed stadium, so they travel to Peterhead, Brechin or Montrose. That trend would continue.
62. Consequently, traffic generated by first team and U20 team would generally be outwith the weekday network peak periods, with players arriving after 09:00 and leaving before 16:00.
63. The Youth Academy comprises players at 7 levels: U10, U11, U12, U13, U14, U15 and U17. Each age group comprises around 18 players, with 2 coaches assigned to each age group and one medical staff member also available per training session. Players in the Youth Academy generally train on 3 weekday evenings per week, but not all players train on the same days. Matches are normally played across Saturdays and Sundays, with kick off times ranging between 12:00 and 15:00. At weekends half of the age groups would play at home and half would play away. Away players would either

arrive in coaches or mini buses. Matches can attract around 30 spectators depending on match, weather and times.

64. Table 9 provides details of the existing weekday training schedule for the Youth Academy. This may be subject to change at Kingsford to allow better facility management, but it gives a good estimate of likely travel demands during weekday peak times.

Day	Age Groups	Times	Number of Users
Monday	U10, U11, U12	16:30 – 18:00	61
Tuesday	SFA Performance School Kids	16:00 – 17:30	31
	U13, U14, U15, U17	17:30 – 19:00	81
Wednesday	U10, U11, U12	16:30 – 18:00	61
Thursday	SFA Performance School Kids	16:00 – 17:30	31
	U10, U11, U12	16:30 – 18:00	61
	U13, U14, U15, U17	18:00 – 19:00	81
Friday	SFA Performance School Kids	16:00 – 17:30	31
	U13, U14, U15, U17	17:30 – 19:00	81

**Table 9: Youth Academy Training Patterns**

65. Many youth academy players live in towns within Aberdeenshire, and it is common for lift sharing to occur where parents will take turns to drive a car load of players from the same town to the training facilities. Some parents will remain to watch the training sessions, whilst others will use the time for activities such as shopping
66. The training also includes a specialised programme on Tuesday, Thursday and Friday for 31 children on the Scottish Football Association (SFA) Performance School programme. AFC collect these children by bus from school at Hazlehead and transport them for training. At the Kingsford complex they would continue to be collected by bus.
67. The weekday PM peak hour on the A944 network adjacent to the proposed training facility occurs between 16:30 – 17:30. The Youth Academy would generate travel demands during the PM peak hour.
68. Based on current training schedules, on Tuesdays, Thursdays and Fridays 72 children and 9 team support staff would be attracted to the facility and would likely arrive between 17:00 and 17:15 for a 17:30 start.

- 69. There would be 20 general office staff at the stadium working from 09:00 to 17:00. Assuming 70% of staff drive to work, that would generate 14 vehicles arriving in the Weekday AM and departing during the Weekday PM peak hours.
- 70. As noted in paragraph 68 above, there is potential for 81 Youth Academy kids and supporting staff to arrive for training sessions during the Weekday PM peak hour. There is also potential for lift sharing and travel by other modes, therefore assuming a 70% car driver mode share, that could generate 57 vehicles during the Weekday PM peak hour. Some parents would leave and return for pick up around 17:45, which is outside the PM peak hour. Assuming 50% of the parent drop-offs leave during the PM peak hour, this would result in about 25 outbound vehicle trips.
- 71. The SFA Performance School kids section finishes at 17:30, therefore there is potential for arrivals for pick-up during the Weekday PM peak hour. Assuming a 70% car driver mode share results in an inbound vehicle trip generation of about 22 vehicles in the Weekday PM peak hour. Departures would occur outwith the PM peak hour.
- 72. Table 10 below summarises the typical vehicle trip generation from other uses during the Weekday AM and PM peak hours.

	Weekday AM Peak Hour			Weekday PM Peak Hour		
	IN	OUT	TOTAL	IN	OUT	TOTAL
General Staff	14	0	<b>14</b>	0	14	<b>14</b>
Youth Academy (Staff / Kids)	0	0	<b>0</b>	55	25	<b>80</b>
SFA Performance Kids	0	0	<b>0</b>	22	0	<b>22</b>
<b>Total</b>	14	0	<b>14</b>	77	39	<b>116</b>

**Table 10: Vehicle Trip Generation for Other Daily Uses**

- 73. Table 10 shows that the development would generate very little traffic during the Weekday AM peak hour. Therefore, it is proposed that only an assessment of everyday Weekday PM Peak hour traffic be carried out.
- 74. TS has requested that the proposed trip distribution for the campus and academy elements of the development should be based on a population gravity model. The TA for the proposed Prime Four Phase 5 Retail Park makes use of a gravity model based on simple population / distance information. The gravity model is based on projected 2022 population figures for key suburbs and settlements in Aberdeen City and Aberdeenshire Council areas. It is anticipated that staff and kids using the stadium campus would be drawn from these same areas. Fairhurst propose to use that gravity

model to represent travel for everyday use of the stadium development. The resultant distribution is contained in Appendix F.

75. For normal day to day operation only the main central access would be used, giving easy access to the stadium and training facilities. The access would operate as a left in / left out junction for everyday use of the stadium.
76. Consequently, Figures F1 to F3 contained in Appendix F illustrates the trip distribution and assignment of vehicle trips associated with other daily uses of the campus.
77. Fairhurst has undertaken threshold assessment to ascertain the traffic impact of vehicle generated by other daily uses on the campus. The base traffic levels are derived from future year 'Base plus Committed Development' flows during Weekday AM and PM peak hours, illustrated by Figure A11 and Figure A12, contained in Appendix A.
78. Figure F4 and Figure F5, contained in Appendix F, illustrate the Weekday AM and PM threshold assessment results.
79. The most onerous development traffic impact on the study area occurs in the Weekday PM Peak hour. The development impact on the AWPR Northbound and Southbound Slip Roads are estimated as 0.8%. The A944 East and West approaches are predicted to experience development impact of 1.9% and 1.4% respectively.
80. The A944 / B9119 Six Mile Fork junction experiences the greatest impact, with the A944 East and West approaches experiencing 2.8% and 5.6% respectively. The A944 East approach to the Arnhall Roundabout is predicted to experience development impact of 3.5%.
81. In accordance with established practice, junctions that experience a development traffic increase above 5% (on congested networks) on any approach would be included within a TA study area.
82. Therefore, for the other daily uses on the campus, it is proposed that the A944 / B9119 Six Mile Fork junction should be the only junction assessed for capacity in the TA.
83. Figure F6 and Figure F7, contained in Appendix F, illustrate 'Base plus Committed plus Other Daily Uses Traffic' for the Weekday AM and PM peak hours respectively.