9 Baseline Modal Splits and Travel Characteristics

9.1 Introduction

9.1.1 This chapter introduces the baseline modal splits which provide an overview of how supporters are currently travelling to the stadium for matches on both weekdays and weekends. The modal splits are based on the mode that the supporters used before they walked into the stadium, i.e. the penultimate mode. Only home (LFC) supporters were surveyed, with away supporters and staff not eligible for completion of the survey. The surveys were only concentrating on the supporter's trip to the stadium before the game, not travel from the stadium after final whistle.

9.1.2 As previously outlined in Chapter 2, a series of travel surveys were undertaken with supporters at the following matches:

- Weekday – Wednesday 4th December 2013, LFC vs. Norwich City. Kick off was at 19:45; and
- Weekend – Saturday 7th December 2013, LFC vs. West Ham United. Kick off was at 15:00.

9.1.3 For the purpose of this analysis, these matches are simply referred to as weekday and weekend respectively in this chapter.

9.2 Data analysis

9.2.1 A cleaning exercise was first undertaken on the data set to ensure that the data was accurate and made sense in the context of the questions, before analysis was undertaken to determine mode split.

9.2.2 The following points are of note from the cleaning exercise:

- The number of people in the party or the vehicle occupancy was used to multiply out the responses to increase the sample size for analysis. For example, a response from a supporter travelling by taxi with three other supporters represents a total of 4 supporters travelling to the match by taxi. Taxi drivers were not included in this occupancy calculation.
- For those who were interviewed and stated that they drove to the vicinity of the stadium, but the occupancy of their vehicle showed they had passengers, these passengers were multiplied out as car passengers, not car drivers. For example, a car driver who stated there were 4 people in the car (including the driver) translates to 1 car driver and 3 car passengers, rather than a straight multiple of 4 car drivers.
- Those whose last mode before walking to the stadium was stated as train, specifically alighting at Lime Street, were re-classified as walkers as in terms of accessing the ground, their travel to Lime Street is not relevant and classifying them as train would give an inaccurate perception of the use the local Merseyrail trains. Understanding their use is vital to enable the identification of future capacity concerns on the network in relation to the proposed expansion. Therefore, all those with a mode of 'train' are those who arrived into either Kirkdale, Sandhills or Bank Hall (which was listed as an 'other' station) and then

walked from these station to the stadium. Those travelling from Lime Street via another mode other than walking, for example they got a taxi would have a last mode before walking into the Stadium recorded as taxi. Likewise, those travelling from say Sandhills by Soccerbus or taxi will be classified by those modes respectively.

- Those who arrived by car were asked to indicate where they had parked, with an option included for being dropped off, i.e. the car was not parked. Therefore, any car passengers who indicated they were dropped off we re-allocated from the 'Car Passenger' category to the 'Dropped off' category. As part of this cleaning process, any car drivers who stated they were dropped off were also changed to dropped off as although seemingly unlikely, this action is possible e.g. supporter drives to drop off point where passenger then takes over driving once they have got out. The number of responses this related to is very low (only 11 responses over the two matches) in relation to the sample size.
- As outlined in Chapter 8, bus surveys were undertaken in relation to the utilisation of the 917 Service from St Johns Lane. This has presented us with the number of supporters who used this service to reach the stadium, which can be compared against the attendance figures for both matches. These percentages will then be separated from those who stated in the surveys that the mode they used prior to walking was bus from the City Centre to produce a separate category for the 917 bus from the other scheduled bus services (such as the 17 and 19).
- Given that Coaches and Mini-buses have shared characteristics – they both are required to park on Priory Road – they have been combined for the purpose of this review.

9.3 Survey response rate

9.3.1 For the weekday match, a total of 1,708 valid responses were collected over the three survey collection methods. This provided a baseline representation of 2,884 responses when the basic responses were multiplied out by the number in party or the vehicle occupancy. This represents 6.5% of supporters at the match (based on the recorded total attendance) being surveyed on the day.

9.3.2 For the weekend match, a total of 2,014 valid responses were collected over the three survey collection methods. This provided a baseline representation of 3,555 responses when the basic responses were multiplied out by the number in party or the vehicle occupancy. This represents 7.9% of supporters at the match (based on the recorded total attendance) being surveyed on the day.

9.3.3 To provide any further statistical significance, the survey sample would have to be substantially increased, therefore it is felt that the achieved response rates are acceptable and fit for purpose, enabling robust conclusions to be drawn from them. These therefore represent strong responses rates and provide some confidence that the results are reflective of existing conditions at the stadium.

9.4 Travel Characteristics

9.4.1 This section outlines some key findings from the survey results which provide background to the characteristics of supporter travel for weekday and weekend matches.

Ticket type

9.4.2 A review was undertaken of the type of ticket that the supporters held for each of the two surveyed matches to understand the proportions of ticket types against the actual ticket allocations. The outputs from this are provided below:

Table 9.1: Survey responses by ticket type

Ticket type	Weekday (% survey responses)	Weekend (% survey responses)
Hospitality	27.0%	24.8%
General Admission	71.8%	74.4%
Unknown / Not provided	1.2%	0.8%

Source: 2013 Survey Responses, Mott MacDonald.

9.4.3 These splits show that a good range of supporters were surveyed, with strong representation for all ticket types.

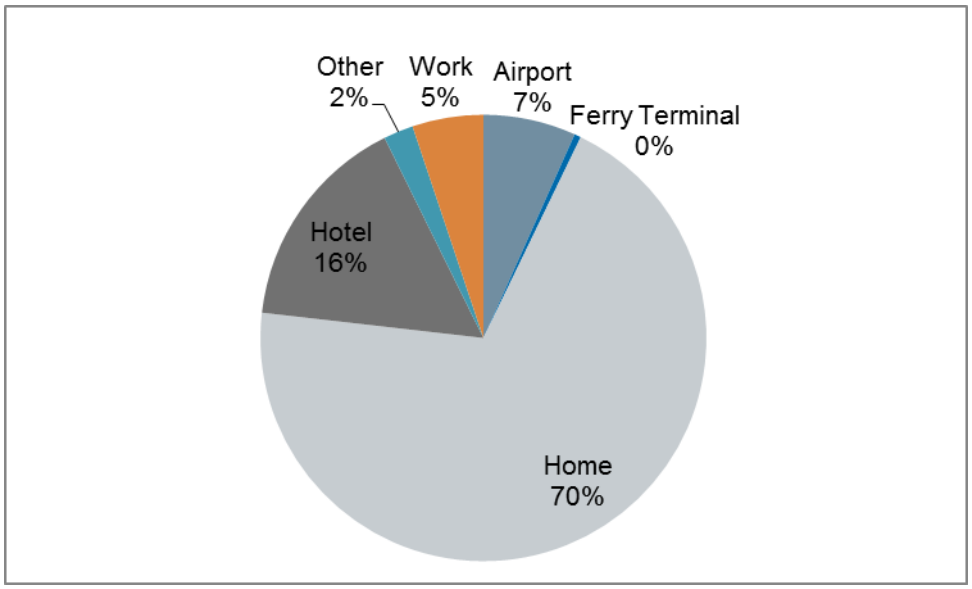
9.4.4 For the purposes of using these figures within this document, the modal splits have been analysed for each of the two ticket types separately before combining together to provide a weighting of each ticket type in relation to the number of general admission and hospitality tickets available to ensure the differenced are taken into consideration

Journey origin

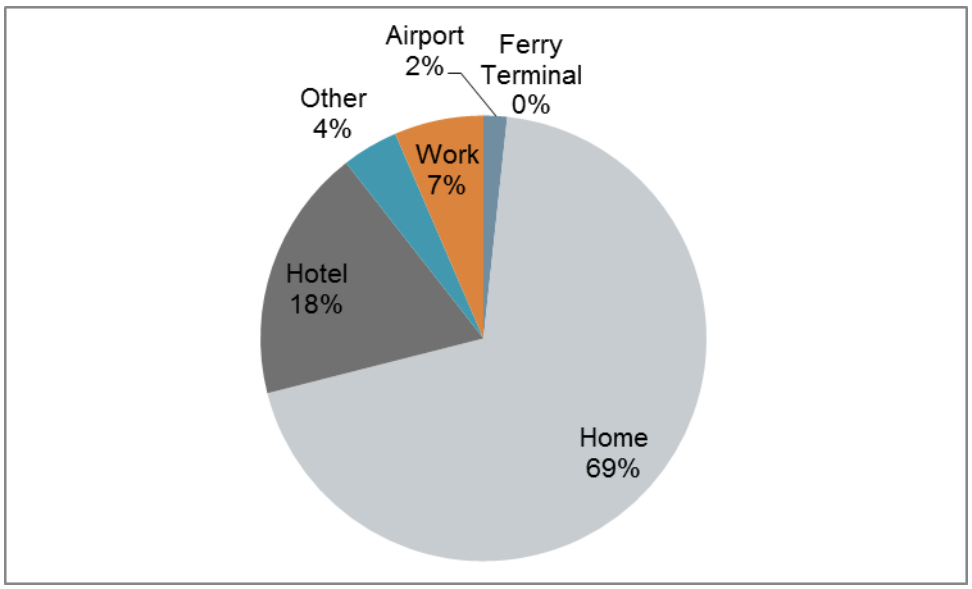
9.4.5 The question asking respondents “Where did you start your journey to Anfield Stadium today?” can be used to understand where the majority of journeys are commencing on match day. The question specifically asks for the respondent to provide an indication of where their journey started for the match day, ignoring any travel undertaken on the previous day. For example, a supporter who travelled from home to Liverpool the day before the match and stayed overnight in a hotel in the City Centre before travelling on to Anfield would base their journey on starting from the hotel and ignore their journey from home to the hotel the previous day. A review of the start destination by day is provided in the following charts.

Chart 9.1: Journey origin on match day of survey respondents by ticket type

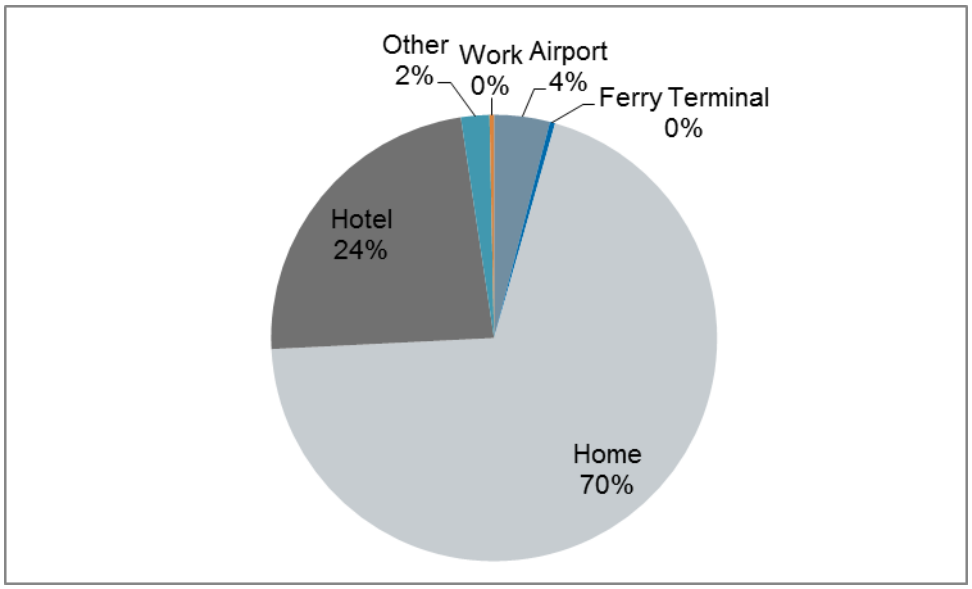
Weekday General Admission



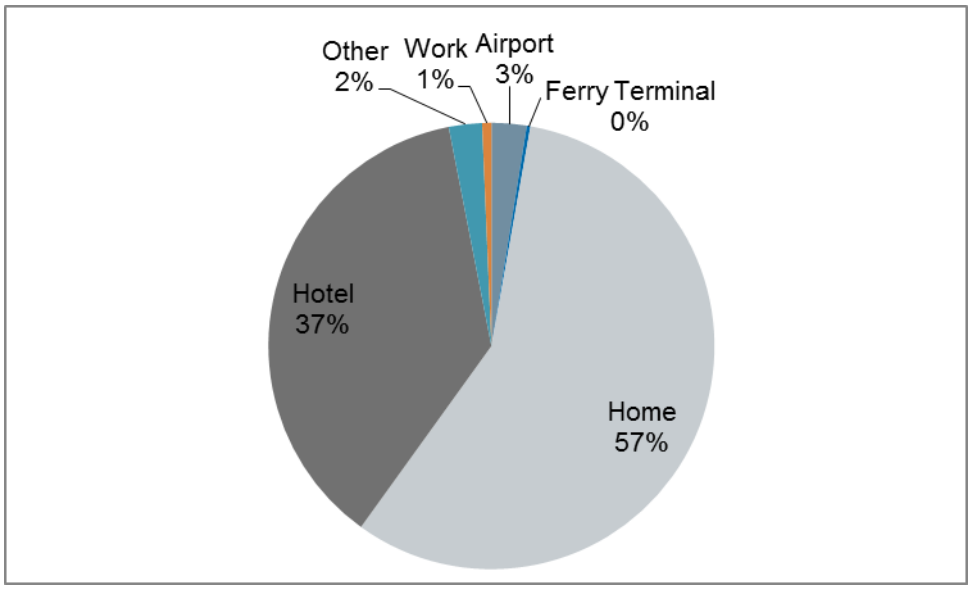
Weekday Hospitality



Weekend General Admission



Weekend Hospitality



9.4.6

9.4.7 Combining of these charts provides the following summary breakdown of the origins of supporters for both match days.

Table 9.2: Journey Origins Summary (all ticket types)

Journey Origin	Weekday	Weekend
Airport	6.2%	3.9%
Ferry Terminal	0.4%	0.4%
Home	69.6%	68.6%
Hotel (City Centre)	16.1%	24.7%
Other	2.3%	2.1%
Work	5.3%	0.4%
Total	**100%**	**100%**

Source: 2013 Travel Surveys, Mott MacDonald.

Arrival profiles

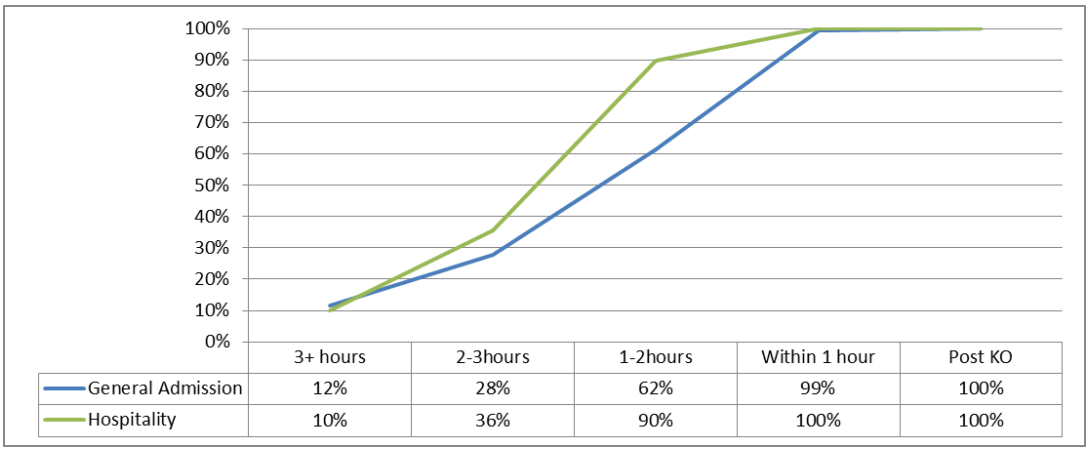
9.4.8 It is important to understand how far in advance supporters were arriving in the vicinity of the stadium as this provides an overview of dwell time, as well as demonstrating the spread of arrivals which is important for understanding the capacity of the individual modes. For example, those attending by bus are not all arriving at the same time, but their arrival times are distributed in the build-up to the game, which reduced the stress upon the network and ensures that services are not operating over capacity.

9.4.9 Arrival times are generally influenced by ticket type with the hospitality ticket holders likely to arrive several hours prior to kick off to take advantage of the hospitality services, such as having a sit-down meal or spending time in the bar. Similarly, observations show that some General Admission ticket holders are also arriving in the vicinity of the stadium early to visit the various drinking and takeaway establishments located along Walton Breck Road and slightly further afield.

9.4.10 In addition to these survey results with regards to arrival times in the vicinity, the turnstile entry data for the Stadium itself can also be used to analyse how the stadium begins to fill up prior to the match beginning. This data does not however provide an indication of whether the supporters arrived in the vicinity of the stadium earlier than their entry time into the stadium itself or if they simply came straight into the stadium from their starting origin. It does however provide a good comparison tool and enables further analysis of arrival profiles into the stadium itself.

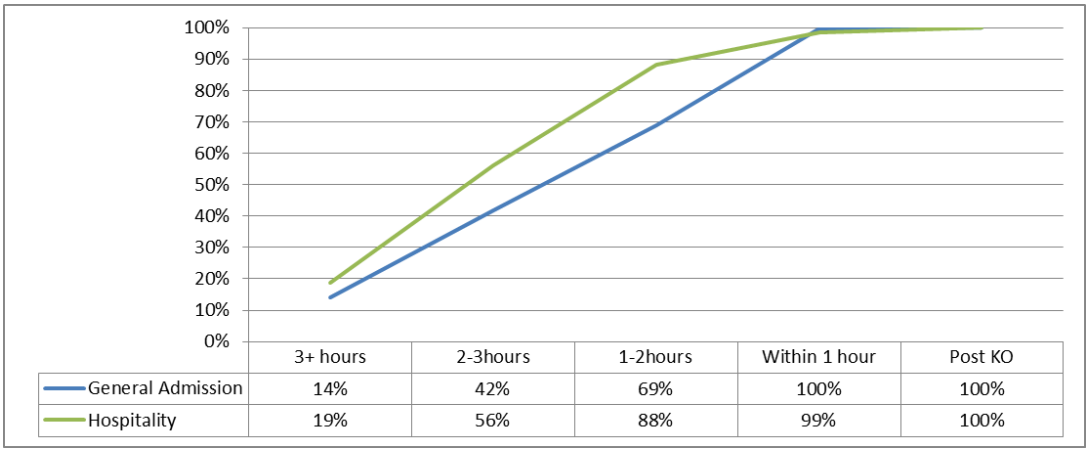
9.4.11 The following charts provide a breakdown of arrival time by ticket type for the two matches. General Admission ticket holders are permitted access to the stadium from 90 minutes prior to kick off. In comparison, Hospitality ticket holders are permitted to arrive at the stadium from 180 minutes prior to kick off.

Chart 9.2: Weekday arrival profiles



	3+ hours	2-3hours	1-2hours	Within 1 hour	Post KO
General Admission	12%	28%	62%	99%	100%
Hospitality	10%	36%	90%	100%	100%

Chart 9.3: Weekend arrival profiles



	3+ hours	2-3hours	1-2hours	Within 1 hour	Post KO
General Admission	14%	42%	69%	100%	100%
Hospitality	19%	56%	88%	99%	100%

9.4.12 The profiles for the hospitality ticket holders shows that for between 1 – 2 hours prior to kick off, around 90% of respondents with this ticket type are already in the vicinity of the stadium.

9.4.13 Arrival into the vicinity of the stadium is generally more dispersed for the weekend game for general admission ticket holders, with them more likely to arrive earlier for these matches compared to weekday matches where supporters are likely to be restricted in their arrival time due to other commitments, such as work.

9.5 2013 Baseline Modal Split

9.5.1 Supporters were asked to provide a breakdown by mode of their journey to the stadium, recording all modes used. Logically, the last mode has to be walking into the stadium – i.e. it is not possible to take the bus all the way to your seat!

9.5.2 The penultimate mode used is considered to be the most important for taking forward to calculate modal splits as it enables us to understand firstly how supporters travel to the stadium in the context of the surrounding transport options, and secondly it underpins an analysis of the capacity of the available surrounding transport options to understand their ability to accommodate additional supporters following the stadium expansion.

9.5.3 By taking the last mode before walking, it has been possible to identify modal splits for each of the two matches to demonstrate how supporters are travelling to the stadium on match days.

9.5.4 An example of how the results have been analysed is provided below based on the following scenario:

A supporter walked from home to their local station to catch a train to Lime Street station, then took a taxi towards Anfield, being dropped off on Walton Breck Road from where they walked to the stadium itself.

9.5.5 In this scenario this supporter is likely to have had their journey recorded as “Walk, Train, Taxi, Walk” with the mode before walking therefore being taxi. Hence in this analysis, this supporter has been assigned to the ‘taxi’ mode with any other supporters travelling with him in the taxi also being assigned to the taxi mode.

9.6 2013 Baseline Modal Split – Weekday

9.6.1 The following table provides a breakdown of the modal split for the weekday match for all ticket types. Car drivers and car passengers have been summed on the third row to give an indication of the number travelling by car (which was parked), regardless of whether they were driving or a passenger.

9.6.2 The percentage modal splits have then been applied against the total stadium home supporter capacity (42,296) to provide an indication of absolute numbers of supporters by mode for that match. These have been weighted to take into account the Hospitality and General Admission ticket types.

9.6.3 Given the robustness of the survey, this is an accepted methodology giving us a +/-2.5% confidence level that this is representative.

Table 9.3: Modal split for a weekday (all ticket types, weighted)

Mode	% travelling by mode based on survey responses	Number travelling to match based on existing capacity
Scheduled Regular Bus	5.0%	2,110
City Centre Express Bus (917)	1.2%	506
Car (passenger and driver combined)	63.6%	26,895
Coach and Mini Bus	1.5%	640
Dropped off	3.6%	1,540
Soccerbus	2.1%	880
Taxi	19.6%	8,302
Sandhills & Kirkdale (Train)	1.0%	426
City Centre and Local Area (Walk)	2.4%	998
TOTAL	**100%**	**42,296**

Source: 2013 Survey Responses, Mott MacDonald

9.6.4 It is clear that on weekdays, the dominant mode of travel is by car, with taxi's being the second most popular. Public transport combined (Buses, Train, Soccerbus) accounts for 9.3% of trips to the stadium on weekdays.

9.7 2013 Baseline Modal Split – Weekend

9.7.1 The following table provides the modal split for the weekend match, calculated in the same manner as the weekday and covering all ticket types also based on the total stadium home supporter capacity of 42,296.

Table 9.4: Modal split for a weekend (all ticket types, weighted)

Mode	% travelling by mode based on survey responses	Number travelling to match based on existing capacity
Scheduled Regular Bus	6.0%	2,524
City Centre Express Bus (917)	1.4%	603
Car (passenger and driver combined)	57.7%	24,417
Coach and Mini Bus	2.6%	1,104
Dropped off	3.5%	1,492
Soccerbus	2.7%	1,154
Taxi	23.7%	10,023
Sandhills & Kirkdale (Train)	0.5%	226
City Centre and Local Area (Walk)	1.8%	755
TOTAL	**100%**	**42,296**

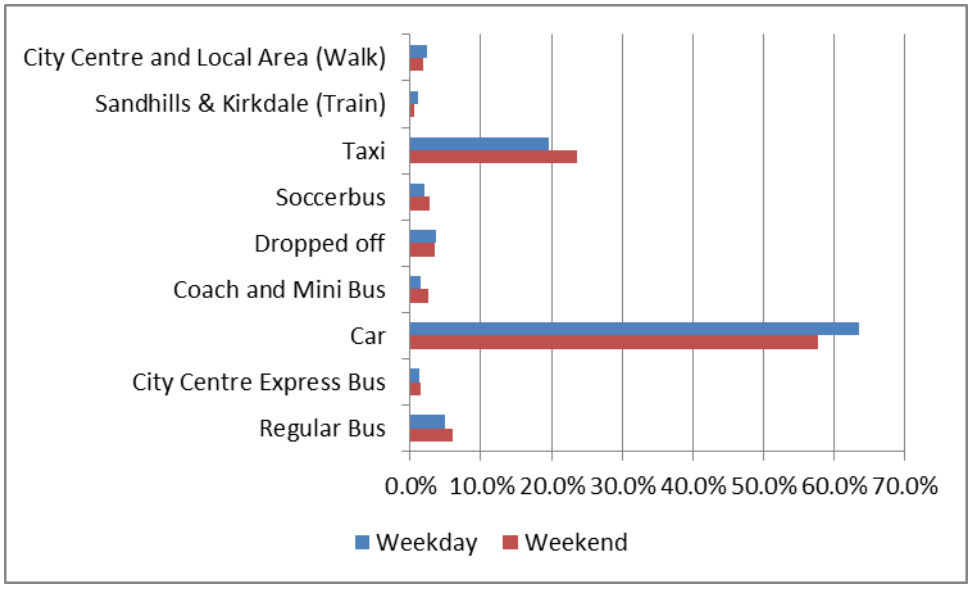
Source: 2013 Travel Surveys, Mott MacDonald

9.7.2 Similarly to the weekday modal split, car is the dominant mode, followed by taxi as the second. Car use is however lower for the weekend match than the weekday. Public transport (Buses, Train, and Soccerbus) accounts for 10.7% of supporters on weekend matches.

9.8 Comparison of 2013 weekday and weekend (all ticket types)

9.8.1 The following chart show the modal splits for the weekday and weekend as outlined in the preceding tables. By reviewing the data sets together it is possible to see the difference between the two days.

Chart 9.4: Weekday and Weekend (all ticket types) mode split comparison



9.8.2 This charts demonstrates a number of important points which are summarised below:

- Car is the dominant mode used to travel to Anfield for both weekday and weekend matches.
- The second most utilised mode for both days is the taxi, which incorporates licensed taxis, black cabs, mini cabs and the Taxi One service (which although operating as a bus service, is utilising taxi vehicles to do so). Taxis offer a relatively inexpensive mode of travel to Anfield, particularly if the cost is shared and there is a ready supply of taxis in convenient locations in the City Centre.
- Public transport use (Buses, Train, and Soccerbus) is higher for a weekend match than a weekday.
- In comparison to a weekday match, at weekends, there are less cars and more people using taxis or public transport to reach the matches, which when taken into consideration with the earlier arrival profile analysis would help to support the analogy that trips to weekend matches are often combined with visits to pubs and bars.

9.9 Vehicle occupancy

9.9.1 Those who travelled by car or taxi were asked to state the total number of people in the vehicle travelling to the match (excluding the driver in the case of taxis). This has enabled a calculation of the average occupancy of the vehicles which is presented below breakdown by ticket type:

Table 9.5: Average occupancy of vehicles

Ticket type	Mode	Weekday occupancy	Weekend occupancy	Average
Hospitality	Car	2.68	2.62	2.65
	Taxi	2.49	2.38	2.44
General Admission	Car	2.26	2.44	2.35
	Taxi	2.26	2.50	2.38

Source: 2013 Travel Surveys, Mott MacDonald

9.9.2 The average occupancy figures for hospitality ticket holders is slightly higher than for other ticket holders, which is expected and reflects the social nature of attending a football match on a hospitality ticket.

9.10 Number of vehicles and parking locations

9.10.1 Applying the vehicle occupancy rates against the number of supporters travelling by car and taxi has enabled an approximation of the number of vehicles which will be expected to be travelling to the vicinity of the stadium on match days.

9.10.2 The surveys also asked car drivers and passengers to indicate if their vehicle had been parked on street or off street. When these vehicles are applied against the on-street and off-street parking splits, we can calculate the number of vehicles which were parked in each of the locations. The following tables provides a breakdown of these responses.

Table 9.6: Number of vehicles and parking location

Item	Weekday			Weekend		
	Hospitality	General Admission	Total	Hospitality	General Admission	Total vehicles
No. car users	2,773	24,121	26,895	1,961	22,456	24,417
Car occupancy	2.62	2.3	-	2.68	2.44	-
Total no. of vehicles	1,058	10,488	11,546	732	9,203	9,935
% parked off street	89.95%	64.40%	-	86.68%	61.20%	-
% parked on street	10.05%	35.60%	-	13.32%	38.80%	-
No. vehicles off street	952	6,754	7,706	634	5,632	6,267
No. vehicles on street	106	3,734	3,840	97	3,571	3,668

Source: 2013 Travel Surveys, Mott MacDonald

9.10.3 This shows that a large proportion of vehicles associated with the match are being parked off the street in private car parks within walking distance of the stadium.

9.10.4 For Hospitality ticket holders, this calculation shows that there are just over 1,000 hospitality vehicles in the area on weekdays, with a lower number of 730 on weekends which are currently accommodated within the private car parks within the stadium, on Stanley Park and Anfield Road.

Number of taxis

9.10.5 A similar exercise to that which was undertaken with vehicles can be done for taxi's to understand how many taxi trips it takes to move the existing supporters.

Table 9.7: Estimated number of taxi trips

Item	Weekday			Weekend		
	Hospitality	General Admission	Total	Hospitality	General Admission	Total vehicles
No. taxi users	885	8,489	9,374	1,534	8,489	10,023
Taxi occupancy	2.49	2.26	-	2.38	2.5	-
Total no. of taxi trips	355	3,756	4,112	645	3,396	4,040
No. trips per hour *(over 3 hour period)*	118	1,252	1,371	215	1,132	1,347

Source: 2013 Travel Surveys, Mott MacDonald

9.10.6 This calculation shows that there are multiple taxi trips being undertaken in the build-up to the game, which are shared over the licensed hackney cabs, mini cabs and other taxis from neighbouring local authority areas. When these trips are reviewed based on their distribution over the typical 3 hours arrival profile they are placed into context and appear more realistic and manageable.

9.11 Comparison of 2013 to 2008

9.11.1 In 2008, similar travel surveys were undertaken with home supporters for both a weekday and a weekend match to try to understand how they were travelling to the matches. The findings from the survey in the form of a weekend modal split were recorded in AS3 (Table 6.2.2) which was created after the previous 2008 planning permission.

9.11.2 These 2008 surveys were undertaken with season ticket holders by telephone after the game, using contact details which were supplied by the club. Importantly, supporters in 2008 were asked to state their 'main mode' of travel rather than the last one they used to travel to the stadium. It is not clear what the parameters were for 'main mode', for example this could be the mode used to cover the greatest distance, or the mode which took the longest amount of time.

9.11.3 Although this methodology is different to that used for this TA, the outputs from the 2008 surveys provided a weekend modal split which can be compared to the 2013 weekend split calculated earlier in this chapter to provide an indication of change over the time period.

9.11.4 The following table shows the weekend modal split for 2008 as presented in the final version of AS3 (Table 6.2.2) which can be compared to the existing (all ticket type) mode split displayed for a weekend in Table 9.3 for this TA to enable a comparison between then and now.

Table 9.8: 2008 Mode Split (AS3)

Mode	2008 modal split
Car	69,1%
Bus	4.4%
Rail	9.0%
Taxi	2.6%
Coach and Minibus	7.4%
Walk	7.6%
TOTAL	**100%**

Source: Access Strategy 3, Ove Arup and Partners, 2009

9.11.5 The key points from comparing the two mode split sets are summarised below:

- There has been a reduction in car use from 2008 to 2013 (69.1% to 56.2%), which co-insides with the introduction of the FMPZs, demonstrating their effectiveness at reducing car use and associated parking in the vicinity of the site;
- There has been a large increase in taxi usage from 2008 to 2013 (2.6% to 26.3%). One explanation behind this may be due to the definition of 'main mode' in 2008, for example someone travelling on a train for an hour into Lime Street then using a taxi to get to the stadium may classify their main mode as train (as out of the two modes it represents the greatest distance and longest time) and hence coming within the train classification, whereas for the 2013 surveys, they would have been classified in the taxi group;
- There has been a reduction in train use from 2008 to 2013 (9.0% to 0.48%), however this may also be due to the classification methods as previously outlined;
- Similarly to AS3 in 2008, no use of cycles or motorcycles was recorded.

9.12 Summary

9.12.1 This chapter has presented the baseline modal splits for both a weekday and weekend, and analysed this in the context of the number of existing seats at the stadium. These figures show that there are distinct differences between the way supporters travel on weekdays compared to weekends, with some further differences highlighted depending upon the type of ticket supporters hold.

9.12.2 Analysis comparing the 2013 results with the previous survey undertaken in 2008 as part of previous planning applications shows that there has been a modal shift, with a reduction in car use over this time, as well as an increase in the use of taxis to travel to matches. This demonstrates the effectiveness of the FMPZ as a measure to encourage alternative modes of travel.

9.12.3 This is likely linked to the reduction in the availability of on-street parking in close proximity to the stadium due to the implementation of the FMPZ and demonstrates acceptance from supporters for either parking further away from the stadium (outside the zone) and walking, or using parking facilities in the City Centre and travelling on to the stadium using a second mode.

9.12.4 This information will be used going towards to inform thinking about how the additional supporters will be accommodated from the proposed stadium expansion.

10 Proposed Development

10.1 Overview

10.1.1 This Transport Assessment is accompanying a planning application for the expansion of Anfield Stadium to increase the capacity of the stadium from c. 45,000 to c. 60,000. It is proposed that this expansion takes place over two phases, which are outlined in turn below.

10.1.2 The seating capacity of Anfield Stadium is proposed to be increased over two phases of work, with Phase 1 being completed in 2016. Phase 2 will follow the Phase 1 works, but at this time there is no fixed schedule of works.

10.1.3 Phase 1 for which full planning permission is being sought will expand the Main stand, and Phase 2, for which outline permission is being sought will expand the Anfield Road stand. These phases will see the following changes in capacity for each scenario:

Table 10.1: Capacity by scenario

Scenario	Hospitality	General Admission	Total
Existing	4,100	41,400	45,500
Phase 1 (Main stand)	8,730	45,070	53,800
Phase 2 (Anfield Road stand)	8,730	49,870	58,600

10.1.4 The characteristics of the development for the two phases is briefly outlined below to provide some context about the development, with further details presented in the accompanying planning and design report for this application.

Source: KSS Architects

10.1.5 The proposal takes into account external areas outside of the footprint of the main development, to include:

- New pedestrian link between Walton Breck Road and Stanley Park ('96 Avenue');
- New fan zones to the Southwest corner and behind the expanded Anfield Road Stand;
- Relocation of the Hillsborough Memorial and historic gates; and
- Non match-day wider circulation, uses and relationship to Stanley Park.

10.1.6 Further information on the proposed development has been submitted with other planning documents alongside with this TA.

10.2 Proposed Development Characteristics

10.2.1 Measures to support the development in terms of changes to transportation provisions and accessibility are recommended as part of this TA and are presented in Chapter 12.

10.2.2 Further detailed information on the proposed elements of the expansion in terms of the development characteristics can be found in the supporting planning documents.

10.3 Interaction with SRF

10.3.1 The proposed stadium development has been carefully considered and developed in consultation with the emerging SRF, given that the stadium is such a focal point in the Anfield area. The inter-relationship between the stadium and the adjacent development opportunities in terms of transport fits with the emerging SRF with pedestrian permeability and vehicle access points carefully reviewed.

10.4 Road closures

10.4.1 To help facilitate the stadium expansion a number of nearby roads will need to be permanently closed and stopped up. This will be necessary, firstly as the footprints of the Main and Anfield Road stands will increase, and secondly to facilitate improved pedestrian circulation around the stadium.

10.4.2 To accommodate the stadium expansion, the following roads are proposed to be closed;

- Lothair Road;
- Tinsley Street;
- A small length of Rockfield Road and Back Rockfield Road;
- Lake Street; and
- Back passageways to the rear of Lothair Road and Alroy Road.

10.4.3 A separate application for Anfield Road is proposed for it to be permanently closed and stopped up between Alroy Road and Skerries Road. A review of traffic flows along this road has confirmed that the majority of vehicles travelling along this are using the route as a short

cut and are not necessarily travelling to or from the area immediately affected by the road closure.

10.4.4 The closure of Anfield Road will mean that some local residents will have a slightly longer journey to reach certain destinations, however the number of affected properties is low and suitable alternative routes are available. To mitigate the impact of the closures, it is proposed to construct a new section of road between Alroy Road and Gilman Street which will facilitate a more convenient alternative route.

10.4.5 This section of new road and Gilman Street will be two-way, and will increase the permeability of the area and improve the connectivity of Anfield Road to Walton Breck Road. As part of this measure, the one-way directions of Alroy Road and Rockfield Street are proposed to be reversed which will further complement the accessibility of the area. These changes are shown in Figure 10.1.

10.4.6 Application for these highway closures are being made under the Section 247 of the Town and Country Planning Act 1990.

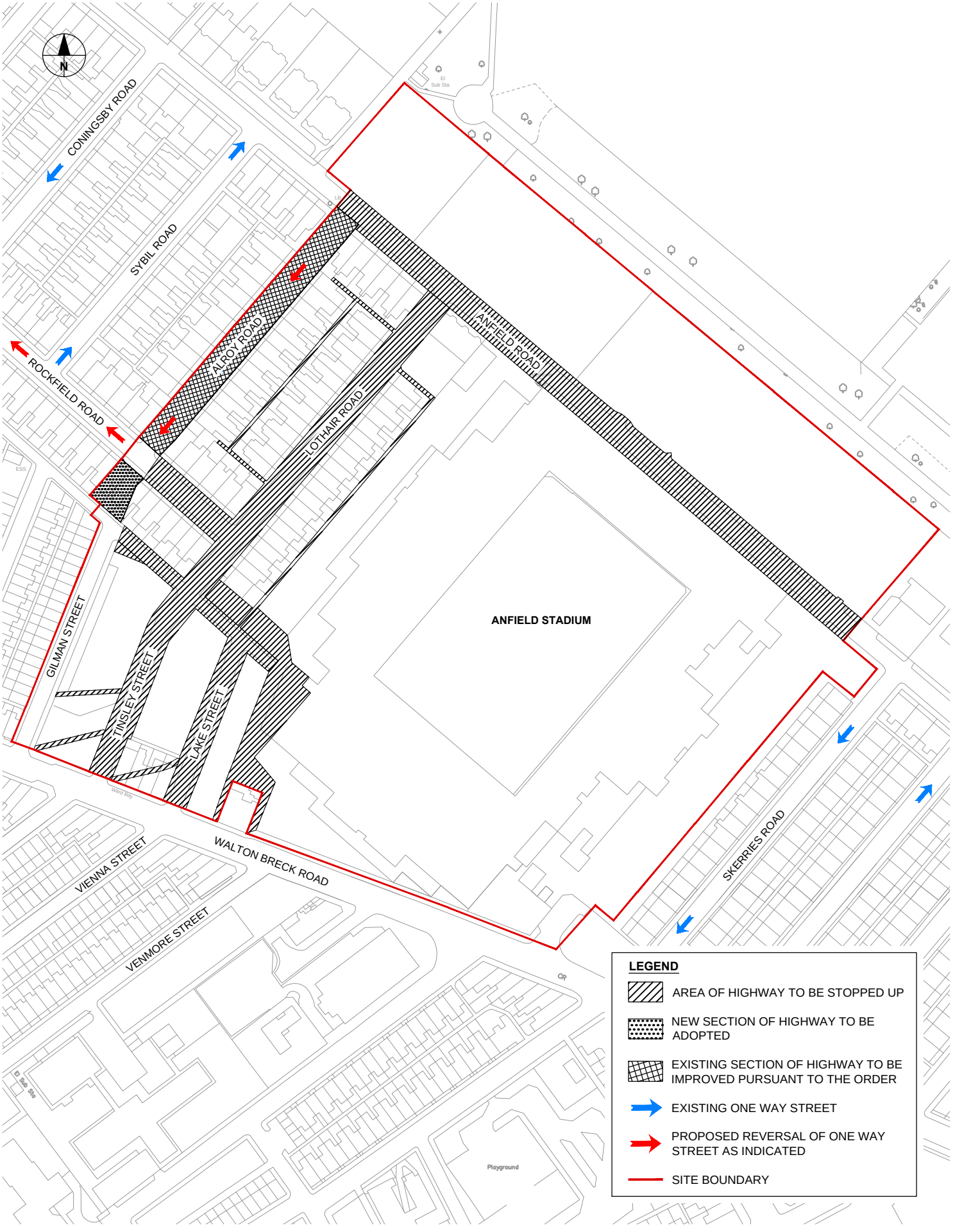


FIGURE 10.1 STOPPING UP AND EXTENT OF HIGHWAY OWNERSHIP

Mott MacDonald

10.5 Match day traffic management plan

10.5.1 A Match Day Traffic Management Plan will be in place following the development, which will seek to ensure that travel to the stadium is managed and co-ordinated. Further information on the proposed plan is provided in Chapter 12.

10.5.2 One of the proposed intervention measures is to formalise the closure of Walton Breck Road for 2 hours prior to kick off until 30 minutes after the final whistle to ensure the safety of pedestrians travelling to and from the stadium is not compromised by vehicles travelling along the road. Further details on this proposed are provided in Chapter 12

10.6 Parking

10.6.1 A range of parking is currently provided by LFC on match and non-match days, and it is proposed that this practice will continue to meet operational requirements that will be generated by the additional staff and spectators by the expanded stadium.

Car Parking

10.6.2 As outlined earlier in this report, the off-site parking numbers in close proximity to the stadium will be limited, and will need to be allocated between different user groups, including: hospitality; disabled; players and their close relatives; senior officials; and VIP guests. In addition, the Club will control access to several car parks more remote from the ground. The split of the future parking provision is again summarised in the following tables:

Table 10.2: Match day LFC controlled parking close to the stadium

	Existing		Phase 1		Phase 2	
Location	Standard	Disabled	Standard	Disabled	Standard	Disabled
Centenary Stand	33	-	33	-	33	-
Main Stand	12	-	35	3	35	3
Anfield Road	40	14	138	25	72	4
Stanley Park	970	30	955	45	934	66
Sub Total	*1055*	*44*	*1161*	*73*	*1074*	*73*
Disabled %		*4.00%*		*5.90%*		*6.40%*

Table 10.3: Match day LFC controlled parking remote from the stadium

Location	Existing		Phase 1		Phase 2	
	Standard	Disabled	Standard	Disabled	Standard	Disabled
Anfield Comp School	0	-	600	-	600	-
Anfield Primary	60	-	60	-	60	-
Pinehurst Primary	80	-	80	-	80	-
St Domingos	300	-	300	-	300	-
Sub Total	*440*	-	*1040*	-	*1040*	-

1.1.1 These two areas of parking summed together will mean that in Phase 1 there will be 2,201 parking spaces, with 73 additional spaces for disabled users close to the stadium. For Phase 2, these figures change to 2,114 and 73 respectively.

10.6.3 From the above tables it can be seen that disabled parking has been provided in the car parks closest to the ground, with the majority being allocated in Stanley Park. No disabled parking spaces are proposed in the remote car parks, due to their distances from the stadium. All of these spaces will be pre-booked and will be accessible by permit only.

10.6.4 Additional spaces adjacent to the Centenary Stand will be allocated to players and their close relatives (30 – 35 spaces).

Cycle Parking

10.6.5 At present, there is no dedicated cycle parking on-site or in the vicinity of the stadium, and from match day travel surveys no (zero) demand was identified for this mode of travel to the stadium. In discussions with the City Council, it has been agreed that secure cycle parking would be provided within the Main stand as part of the Phase 1 works. In total, 64 standard cycle parking spaces are proposed to be provided across 32 stands. The utilisation of these spaces will be reviewed by the Stadium Transport Working Group (see Chapter 12).

Motorcycle Parking

10.6.6 Similar to cycle parking, there is no motorcycle parking around the stadium, and again the travel surveys identified no travel demand for this mode. In discussions with the City Council, it is now proposed that those wishing to travel to the ground by motorcycle on match days will be granted access to Stanley Park and allowed to park their bikes for free. This area is constantly manned on match days, and should be a more secure area to leave motorbikes. Again this situation will be reviewed by the Stadium Transport Working Group.

10.7 Servicing

10.7.1 Servicing would occur via the access from Anfield Road, and be undertaken from within the undercroft.

10.8 Outside broadcast units

10.8.1 There will be a dedicated area of the OBU's to be situated which will ensure that they are able to detect the required satellite signal to broadcast.

10.9 Pedestrian circulation and accessibility

10.9.1 It is proposed that the south western corner of the site is opened up for pedestrian movements and provides public realm space, where interfaces with the proposed adjacent land uses on 'Plot 19' such as restaurants or bars can be promoted to help influence and increase supporter dwell time.

10.10 Summary

10.10.1 This chapter has provided a brief summary of the proposed development, noting that further information on the proposed development is provided in the relevant design planning submission documents.

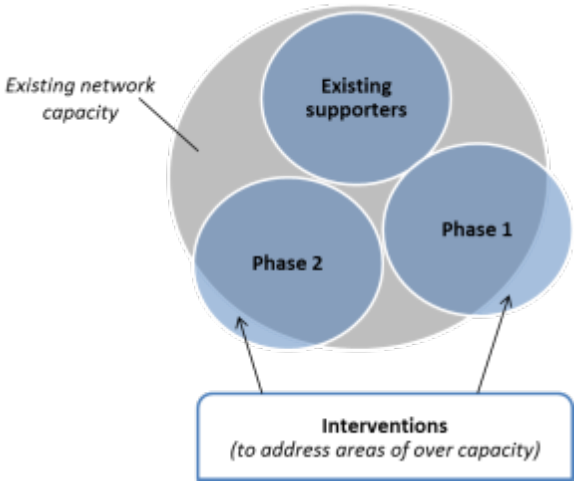
10.10.2 As part of the proposed development, there are several aspects which will seek to improve accessibility and movement to the stadium, including making the area immediately around the stadium being more permeable to pedestrians and controlling traffic access along Anfield Road and Walton Breck Road.

11 Phase 1 Modal Movements

11.1 Overview

11.1.1 This chapter analyses the capacity of the existing network in the context of the proposed additional trips which are expected from the stadium expansion for Phase 1. A range of calculations have been undertaken to determine how the additional supporters are likely to travel to the stadium (by mode), based on existing baseline movements.

11.1.2 The assessment has been compared against the earlier review of the capacity of the existing network for each mode (undertaken in Chapter 8) to identify areas where interventions or mitigation measures may be required to accommodate the additional supporter movements expected from the expansion in Phase 1.



11.1.3 As demonstrated in Chapter 9, a modal shift has already occurred since 2008 when planning permission was previously granted (for a 60,000 seater stadium), with a shift away from car use and an increase in the use of other modes, particularly taxi and bus.

11.1.4 It is likely that this has been facilitated through the parking restrictions introduced by the significant expansion of the FMPZs which restricts car use, and makes the mode less desirable and convenient.

11.1.5 The 2008 planning approval stated that the implementation of the FMPZ would effectively permit the development to be completed to enable the accommodation of up to 51,900 supporters, without the requirement for additional measures. The approach taken within this TA however seeks to demonstrate that all of the proposed additional capacity can be effectively accommodated without significant detrimental impact upon the transport network, rather than simply trying to accommodate the difference between 51,900 and the proposed capacity at the end of Phase 1 (53,796 total including away supporters, so a difference of just 1,896 supporters).

11.1.6 The assessment has concentrated on the supporter's arrival mode to the stadium vicinity as this is the trip upon which greatest influence on supporter travel to the stadium can be applied. For certain modes, the return trip is likely to be undertaken using the same mode, for example arriving by car and leaving by car, however it has been shown that post-match travel can shift mode for some journeys, such as the Soccerbus. Post-match departure from the stadium is discussed towards the end of this chapter.

11.2 Calculations Methodology

11.2.1 As designs for the expansion of the stadium are refined as part of the planning process, fluctuations to the proposed capacity of the stands have been experienced post to the undertaking of the calculations in this chapter. The proposed change has seen a reduction in the anticipated number of additional seats for Phase 1 (actual c.8,300 against a previous figure of c.8,500). The calculations in this chapter have been based on a 8,500 seat increase, and therefore represent the higher, worst case scenario of the two, reviewing the accommodation of up to 200 further seats than is actually to be provided, essentially providing a 200 person contingency. Given that the number of seats has reduced, rather than increased, the original calculations have remained valid, and have been left in this report to demonstrate that the additional supporters for Phase 1 can easily be accommodated in terms of transportation, even if a further 200 are taken into account over what is actually proposed.

11.2.2 To understand how the increase in capacity expected for Phase 1 will be accommodated on the network, within Chapter 8 we undertook a review of the spare capacities of each mode as it currently operates to assess its ability to support additional movements within existing services and facilities. It was demonstrated that spare capacity remained across all modes as they currently operated.

11.2.3 The absolute capacity of each mode as it currently operates is presented in the following tables with the spare capacity available for accommodating the expansion noted, taking into consideration existing supporters, non-match day use and varying vehicle sizes:

Table 11.1: Absolute baseline capacities by mode (no. people) for a weekday

Mode	Capacity assumptions	Maximum capacity (people)
Scheduled bus	104 services @ 55 occupancy - using 60% availability	3,432
City Centre Express Bus	8 services per hour @ average 70 occupancy over 1.5 hour period	1,080
Car	Undefined	Undefined
Coach and Mini Bus	35 coaches @ 50 occupancy	1,750
Dropped off	Unlimited	Unlimited
Soccerbus	24 services @ 90 capacity over 2 hour period	2,160
Taxi	Undefined	Undefined
Sandhills & Kirkdale (Train)	53 services (both directions, no double counting) @ 576 3 car occupancy with 60% capacity available for matches	18,317
City Centre and Local Area (Walk)	Unlimited	Unlimited

Table 11.2: Absolute baseline capacities by mode (no. people) for a weekend

Mode	Capacity assumptions	Maximum capacity (people)
Scheduled bus	126 Sunday services @ 70 occupancy using 60% availability	5,292
City Centre Express Bus	8 services per hour @ average 70 occupancy over 3 hour period	2,160
Car	Undefined	Undefined
Coach and Mini Bus	35 coaches @ 50 occupancy	1,750
Dropped off	Unlimited	Unlimited
Soccerbus	24 services @ 90 capacity over 2 hour period	2,160
Taxi	24 services	Undefined
Sandhills & Kirkdale (Train)	36 services (both directions, no double counting) @ 576 3 car occupancy with 60% capacity available for matches	12,442
City Centre and Local Area (Walk)	Unlimited	Unlimited

11.2.4 It is important to note the following about these maximum capacity assumptions:

- Unless otherwise stated, all of these capacities are based upon a 3 hour build up to a match and the service frequencies maximised where possible (such as for the Soccerbus and the City Centre Express service where no additional resources are required to do this).
- City Centre Bus – some scope to improve existing frequency to increase capacity to ensure each vehicle achieved 2 trips per hour.
- Scheduled bus –The capacity of these services is essentially capped by timetable arrangements. We have assumed only 60% of the total service capacity will be available for match day use with the remaining 40% consisting of a combination of non-match travel and routes which may not be as popular.

- Sandhills & Kirkdale (Train) – Similarly to the scheduled buses, the capacity of the rail services are controlled by the service timetable and are essentially capped. Services vary between 3 and 6 carriages, however we have assumed all will be operated with only 3 carriages and no double counting of services through the stations being included. It has also been assumed that 30% of this capacity will be reserved for non-match associated use.
- Soccerbus – This capacity has been calculated based on the observed peak frequency of the service (i.e. what it is capable of operating to) with the current frequency being operated on a demand basis, with buses only leaving once suitably full. This service only operates for 2 hours pre-match, but has the ability to operate 12 trips per hour using the 6 vehicles if required, and accommodate 90 passengers per load.
- Car, Dropped off, Taxi and City Centre and Local Area (Walk) all have indeterminate or undefinable maximum capacities.

11.2.5 The following tables provide an overview of the spare capacity by mode based upon how each mode currently operates once the existing supporters travelling to the stadium (as determined by the travel surveys) have been accounted for:

Table 11.3: Existing spare capacity in 2013 (Weekday)

Mode	Existing maximum capacity (people)	Existing users (supporters)	Remaining spare capacity (people)
Scheduled bus	3,432	2,110	1,322
City Centre Express Bus	1,080	506	574
Car	Undefined	26,895	Undefined
Coach and Mini Bus	1,750	640	1,110
Dropped off	Unlimited	1,540	Unlimited
Soccerbus*	2,160	880	1,280
Taxi	Undefined	8,302	Undefined
Sandhills & Kirkdale (Train)	18,317	426	17,890
City Centre and Local Area (Walk)	Unlimited	998	Unlimited

Table 11.4: Existing spare capacity in 2013 (Weekend)

Mode	Existing maximum capacity (people)	Existing users (supporters)	Remaining spare capacity (people)
Scheduled bus	5,292	2,524	2,768
City Centre Express Bus	2,160	603	1,557
Car	Undefined	24,417	Undefined
Coach and Mini Bus	1,750	1,104	646
Dropped off	Unlimited	1,492	Unlimited
Soccerbus	2,160	1,154	1,006
Taxi	Undefined	10,023	Undefined
Sandhills & Kirkdale (Train)	12,442	226	12,215
City Centre and Local Area (Walk)	Unlimited	755	Unlimited

11.2.6 This exercise demonstrates that even there is existing spare capacity on each of the definable modes to accommodate additional supporters.

11.2.7 Calculations in this chapter do not include away supporters, who represented 3,000 seats within the existing capacity for Premier League matches. This figure will not change following the phased developments. Away supporters have varying travel profiles for each match, influenced by where they are travelling from and the status of the match. As such there is no standard profile which can be applied against this ticket type and therefore the sub totalled highlighted figures presented below have been applied to calculations (as these exclude away supporters).

Table 11.5: Stadium capacity by seat numbers

Ticket Type		Existing	After Phase 1	After Phase 2
General Admission	Existing	38,288	38,288	42,288
	Additional	-	4,000	4800
Hospitality	Existing	4,008	4,008	8,508
	Additional	-	4,500	0
SUB TOTAL (applied in calculations)		**42,296**	**50,796**	**55,596**
Away supporters		*3,000*	*3,000*	*3,000*
Full Total		*45,296*	*53,796*	*58,596*

Source: Liverpool Football Club, 2014

11.2.8 For the purpose of this review, modal splits calculated by both day and ticket type have been used to establish a baseline supporter profile by mode against which each of the two phases can be assessed, with the additional capacity for Phase 1 consisting of just over 50% hospitality ticket holders, and the increase in Phase 2 being entirely General Admission based.

11.2.9 In Phase 1 we have applied the existing modal splits by each ticket type and day from the 2013 baseline (derived from the supporter surveys) against the increase in capacity, which is essentially an ‘As Existing’ approach. These splits are presented in the following table and have been derived from the all ticket types modal splits presented in Chapter 9, and split down by ticket type.

Table 11.6: Baseline 2013 modal splits by ticket type applied to Phase 1 capacity

	Weekday		Weekend	
Mode of Travel	Hospitality	General Admission	Hospitality	General Admission
Scheduled bus	1.24%	5.38%	3.74%	6.20%
City Centre Express Bus	0.30%	1.29%	0.91%	1.48%
Car	69.19%	63.00%	48.92%	58.65%
Coach and Mini Bus	0.77%	1.59%	0.79%	2.80%
Dropped off	3.85%	3.62%	5.78%	3.29%
Soccerbus	0.26%	2.27%	0.23%	2.99%
Taxi	22.08%	19.37%	38.28%	22.17%
Sandhills & Kirkdale (Train)	1.41%	0.97%	0.23%	0.57%
City Centre and Local Area (Walk)	0.90%	2.51%	1.13%	1.85%
Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Source: Travel Surveys, Mott MacDonald 2013

11.2.10 Essentially, the 2013 baseline proportions are extrapolated forwards to include the additional supporters for Phase 1, to assume that the additional supporters continue the current trend for travel and are not influenced by the intervention measures.

11.2.11 It is likely that there will be positive changes to the baseline modal split proportions prior to the completion of Phase 1 due to the suite of intervention measures (outlined later in Chapter 12) which are intended to be implemented in the build-up to the opening of the first phase. These will complement those already implemented since the last planning application, however we recognise that they will require 'bedding in time' between implementation and the commencement of Phase 1 before they are seen to be having an effect.

11.2.12 This approach in the first instance therefore does not seek to try to move supporters between modes, but instead attempts to accommodate them as per existing, before reviewing the requirements for encouraging modal shifts in light of any capacity constraints.

11.2.13 All calculations within this chapter assume a worst case scenario that 100% of additional seating capacity is utilised for the phase. This is in light of a review of historical Premier League match attendance figures which showed that the average attendance for the 2012/2013 season (19 matches) was actually 44,724 (98.3%) with the 85th percentile attendance being 98.9%.

11.3 Phase 1 demand and capacity review

11.3.1 Phase 1 is planned to be constructed and fully operational in time for the start of the 2016/17 season. As previously outlined, the majority of new movements for this phase (just over 50%) will be from new hospitality ticket holders, with an additional c.8,500 seats in total.

11.3.2 The following tables provide the anticipated numbers of people likely from the additional supporters for each mode by day of the week and ticket type, applying the existing mode splits as presented in the table above.

Table 11.7: Phase 1 additional movements - weekday

Mode of Travel	Hospitality		General Admission		Total additional people per mode
	Mode Split	People	Mode split	People	
Scheduled bus	5.38%	215	1.24%	56	271
City Centre Express Bus	1.29%	52	0.30%	14	65
Car	63.00%	2,520	69.19%	3,114	5,634
Coach and Mini Bus	1.59%	64	0.77%	35	98
Dropped off	3.62%	145	3.85%	173	318
Soccerbus	2.27%	91	0.26%	12	103
Taxi	19.37%	775	22.08%	994	1,768
Sandhills & Kirkdale (Train)	0.97%	39	1.41%	63	102
City Centre and Local Area (Walk)	2.51%	100	0.90%	41	141
Total	**100.00%**	**4,500**	**100.00%**	**4,000**	**8,500**

Table 11.8: Phase 1 additional movements - weekend

Mode of Travel	Hospitality		General Admission		Total additional people per mode
	Mode Split	People	Mode split	People	
Scheduled bus	3.74%	248	3.74%	168	416
City Centre Express Bus	0.91%	59	0.91%	41	100
Car	48.92%	2,346	48.92%	2,201	4,547
Coach and Mini Bus	0.79%	112	0.79%	36	148
Dropped off	5.78%	132	5.78%	260	392
Soccerbus	0.23%	120	0.23%	10	130
Taxi	38.28%	887	38.28%	1,723	2,609
Sandhills & Kirkdale (Train)	0.23%	23	0.23%	10	33
City Centre and Local Area (Walk)	1.13%	74	1.13%	51	125
Total	**100.00%**	**4,500**	**100.00%**	**4,000**	**8,500**

11.3.3 The above additional movements for cars and taxis can be quantified using the known occupancy figures for each ticket type and mode. This is presented in the following table.

Table 11.9: No. additional private vehicles for Phase 1 (Weekday)

Item	Hospitality	General Admission	Total vehicles
No. car users	3,114	2,520	5,634
Car occupancy	2.62	2.3	-
No. of vehicles	1,188	1,096	2,284
% parked off street	89.95%	64.40%	-
% parked on street	10.05%	35.60%	-
No. vehicles off street	1,069	706	1,775
No. vehicles on street	119	390	509

Table 11.10: No. additional private vehicles for Phase 1 (Weekend)

Item	Hospitality	General Admission	Total vehicles
No. car users	2,201	2,346	4,547
Car occupancy	2.68	2.44	-
No. of vehicles	821	961	1,783
% parked off street	86.68%	61.20%	-
% parked on street	13.32%	38.80%	-
No. vehicles off street	712	588	1,300
No. vehicles on street	109	373	482

11.3.4 These tables show that, focusing on the higher weekday figures, there is a requirement for a further 1,069 hospitality vehicles to be accommodated off-street taking the total off-street hospitality requirement to 2,021 (with 952 existing) for weekdays following the Phase 1 expansion. Under the existing 2013 scenario, not all of the hospitality ticket holders received permits for parking in the LFC controlled parking areas, with the remainder parking in other off-street car parks operated privately.

11.3.5 Across Stanley Park car park, the Comp site, Anfield Road and within the stadium, there are c.2,200 spaces available for Phase 1. This capacity could be able to theoretically accommodate the additional hospitality vehicles..

11.3.6 We are not deliberately providing parking to meet the full expected demand, instead setting a level of parking which will meet operational need.

11.3.7 The displacement from these car parks would be General Admission ticket holders who would be required to utilise remaining spare capacity within other (non LFC private operated) car parks in the area, park further afield outside the FMPZ or within the City Centre car parks, or alternatively seek an another way to travel. Essentially, by supressing supply to not meet demand, once the capacity is utilised (on a first come first served basis) supporters will be required to review their choice of travel. The Comp site has not always been available for parking and prior to that, supporters would have had to have parked in alternative locations or travel using a different mode. A reduction in the level of opportunistic parking in the area will

remove the attractor of speculative parking, positively influence the arrival profiles (as people arrive early to get a space) and encourage supporters to review their choice of travel mode or seek alternative parking locations.

11.3.8 For taxi use, the Phase 1 capacity increase equates to the following additional vehicle trips:

Table 11.11: No. of additional taxi movements for Phase 1 (Weekday)

Item	Hospitality	General Admission	Total vehicles
No. taxi users	994	775	1,768
Taxi occupancy	2.49	2.26	-
No. of taxi trips	399	343	742
No. trips per hour (over 3 hour period)	133	114	247

Table 11.12: No. of additional taxi movements for Phase 1 (Weekend)

Item	Hospitality	General Admission	Total vehicles
No. taxi users	1,723	887	2,609
Taxi occupancy	2.38	2.5	-
No. of taxi trips	724	355	1,079
No. trips per hour (over 3 hour period)	241	118	360

11.3.9 Consultation with the taxi operators has confirmed that they are comfortable with these figures and are confident that they are deliverable. Evidence of this support is available in Appendix B.

11.3.10 For the other modes, the number of vehicles is defined by the service frequencies – no additional vehicles are proposed for scheduled buses, City Centre Express Buses, Coaches or trains, with the spare capacity for these modes essentially being the remainder on the existing services. As such, the following table provides an overview of vehicle numbers for each mode of public transport as well as taxis and private cars for Phase 1.

Table 11.13: Net change in vehicle/trip numbers for Phase 1 (Weekday)

Mode of Travel	2013 Existing	After Phase 1	Net change
Scheduled bus	Defined by service frequency	No change to services	0
City Centre Express Bus	4 vehicles	4 vehicles	0
Car	11,546 vehicles	13,830 vehicles	2,284 vehicles
Soccerbus	6 vehicles	6 vehicles	0
Taxi	3,637 vehicle trips	4,379 vehicle trips	742 vehicle trips
Sandhills and Kirkdale (Train)	Defined by service frequency	No change to services	0

Table 11.14: Net change in vehicle/trip numbers for Phase 1 (Weekend)

Mode of Travel	2013 Existing	After Phase 1	Net change
Scheduled bus	Defined by service frequency	No change to services	0
City Centre Express Bus	4 vehicles	4 vehicles	0
Car	9,935 vehicles	11,718 vehicles	1,783 vehicles
Soccerbus	6 vehicles	6 vehicles	0
Taxi	4,040 vehicle trips	5,119 vehicle trips	1,079 vehicle trips
Sandhills and Kirkdale (Train)	Defined by service frequency	No change to services	0

11.3.11 Each mode will now be briefly discussed in light of these findings.

Car

11.3.12 The increase in car numbers is correlated to the increase in hospitality tickets during Phase 1, however proportions for both ticket types on both match day scenarios remain the same. The additional c.2,200 weekday and c.1,800 weekend vehicles are generally produced by hospitality ticket holders, given their share of the additional tickets for Phase 1. Of these figures, hospitality vehicles account for c.1,200 on weekdays and c.800 on weekends. Currently hospitality parking (such as on Stanley Park) is operating at c.80% capacity.

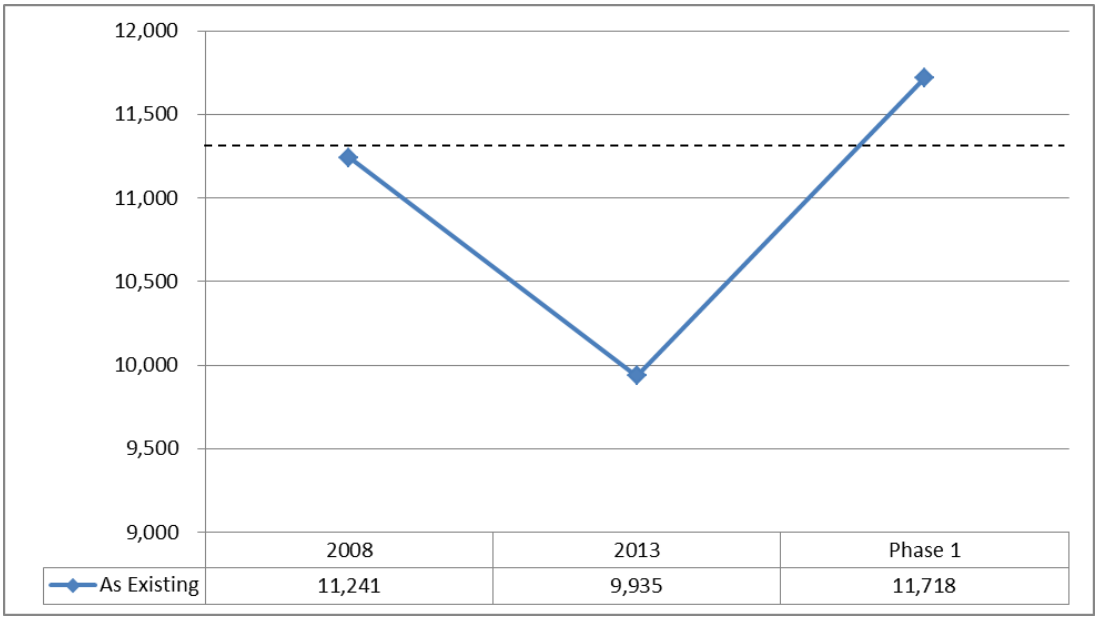
11.3.13 Earlier analysis showed that typically 85-90% of hospitality parking occurred off-street both in private off-site car parks, as well as within those supported by the club on Stanley Park and

on the former Comprehensive School site ('Comp site'), meaning there is unlikely to be a substantial increase in on-street parking as part of Phase 1 (as off-street is the preferred location for hospitality parking), with the FMPZ's also working to minimise this risk and control on-street parking in the local area.

11.3.14 After Phase 1, it is anticipated that based on a scenario of no change to modal splits, the total number of vehicles would rise to 11,718 on a Saturday which when directly compared to 2008 (which saw 11,241 vehicles), is only slightly higher, but not substantially, given that there has been no change in the proportion of car use for Phase 1 from existing, just an absolute increase of additional supporters. Therefore we expect parking to be static compared to 2008, with the same number of vehicles on the wider network as was experienced then prior to any increase in capacity.

11.3.15 This can be seen in the following chart:

Chart 11.1: Change in vehicle numbers 2008 to 2013 to Phase 1 (Weekend)



11.3.16 It should be noted that the proportion still remains lower than 2008, with an average of 57.7% modal share for car use in 2013 compared to 69.1% in 2008 on weekends. No weekday comparable figures were provided within AS3.

11.3.17 This therefore demonstrates that the previous interventions have had a positive impact upon modal choice by reducing car use. It is likely that this shift would be continued during the build-up to and operation of Phase 1, with the estimated car use figures presented above potentially being lower than anticipated.

Scheduled buses

11.3.18 The scheduled bus services are required to operate to a pre-approved timetable, with no changes to frequencies or service routes permitted without prior approval. This therefore means that changes to these services are not permitted specifically to accommodate match day supporters, meaning any increased usage of the services will have to be absorbed within the existing timetable arrangements, taking into consideration non-match day users.

City Centre Express match day bus

11.3.19 For the City Centre Express Service, given that this is a match day specific service, there is scope to alter the capacity through changes to frequency as the current frequency is driven by demand rather than by a specified timetable. This is a proposed intervention measure (presented in Chapter 12) which would likely be initiated in Phase 1, however it has been assumed for this analysis that changes will not be recognised until Phase 2, to ensure that in an as existing scenario, demand from supporters can still be accommodated on the current vehicles provided for the service.

11.3.20 Discussions with the operators (Arriva and Stagecoach) have been very positive with both companies expressing support for changes to the service. Both have provided letters stating this which can be found in Appendix B.

Soccerbus

11.3.21 Analysis of the existing Soccerbus service demonstrated that there was some spare capacity available on services across the whole operating period and that because the frequency operates in response to demand, the service is not currently running an optimal service, with a higher frequency possible.

11.3.22 There are 6 vehicles which currently take it in turns to complete a round trip to the stadium once they are full (or semi full) of passengers. If the peak period frequency which was observed (2 trips each per vehicle per hour) was applied, the number of services would increase to 12 per hour, and in turn increase capacity on the mode without the requirement for extra resources. This is anticipated to happen in response to changes in demand.

Taxi

11.3.23 It is anticipated that Phase 1 would result in c.700 and c.1,100 additional taxi trips on weekdays and weekends respectively. If this is reviewed in the context of the arrival distribution, it is easier to comprehend the actual movements with the dissipation of trips over the build-up, supporting multiple trips by single vehicles.

11.3.24 If the taxi numbers are applied against the arrival profile of supporters by hour, this correlates to the following taxi movements (vehicles) in the build-up to a match:

Table 11.15: Movement profile of proposed taxi users (no. vehicle trips) for Phase 1

Day	Ticket type	3+ hours	2-3 hours	1-2 hours	Within 1 hour	Total
Weekday	Hospitality	24	148	189	38	*399*
	General Admission	72	52	113	106	*343*
Weekend	Hospitality	207	265	190	62	*724*
	General Admission	102	130	93	30	*355*

11.3.25 This shows that the required taxi movements, when distributed over the 3 hour build up to the match are reasonable given that multiple trips per hour are possible and taking into consideration the size of the available taxi fleet.

11.3.26 It is important to note that many taxis do not use the ranks near to the stadium; preferring to pick up supporters on their dispersal away from the stadium after a match.

11.3.27 Consultation with operators and representatives of the taxi fleet confirmed that they would be able to accommodate the additional supporter movements on the existing network, with spare capacity remaining available.

Sandhills and Kirkdale (Train)

11.3.28 No adverse impacts are expected on the rail services at Sandhills or Kirkdale given the amount of capacity that is available upon the network. Significant spare capacity remains without the requirement for any changes to existing service frequencies. The minimum capacity of each service has been used in this assessment (i.e. all 3 car services) which means on services operating with 6 cars would provide further capacity.

Coaches and Minibus

11.3.29 The existing home supporter coaches which were observed parking along Priory Road all had existing capacity remaining within them, with scope to increase usage of these existing services rather than advocating additional ones. Intervention measure 3 however would seek to facilitate additional coaches which would provide further capacity for this mode.

11.4 Post-match travel

11.4.1 It is assumed that some modes of transport would require the same return mode to be used, for example, those who arrive by car are most likely to depart by car after the match. This is also likely to be the same for bus and especially train users who are likely to have bought a return ticket.

11.4.2 Some supporters however may switch mode for travel after a match, for example getting a taxi to the match and then walking back towards the City Centre or using the express bus service.

11.4.3 This has been observed to be the case with the Soccerbus with approximately 20% fewer supporters leaving by the mode than which arrived on it.

11.4.4 Observations show that typically post-match, the vicinity of the stadium clears quickly, with post-match spare capacity observed on both the Soccerbus Service and the City Centre Express (917) bus service, with empty vehicles remaining.

11.4.5 An increase in supporters for Phase 1 will not likely impact upon post-match movements, given that a large proportion of the tickets are for hospitality supporters who do not immediately leave the stadium following a match, so removing their movements from the equation immediately post-match.

11.4.6 The remaining General Admission users would either be accommodated on existing services which may require a wait time, or alternatively if they did not wish to wait, they are likely to begin walking towards the City Centre or stations, as appears to be the case with those using the Soccerbus to reach the match but walking on the return trip.

11.5 Phase 1 Summary

11.5.1 It has been assumed that the proposed Phase 1 interventions measures would take time to become effective, therefore to ensure that in the interim, the additional supporters can still be accommodated, an ‘As Existing’ approach has been applied which sees the existing travel patterns simply extrapolated forwards to also cover the additional supporters for Phase 1.

11.5.2 A review of capacities (for the modes which are definable) showed that there was significant capacity available to accommodate the additional supporters anticipated for Phase 1 on public transport, with increases in demand influencing frequencies of match-specific modes which increased capacity without increasing resource.

11.5.3 For private vehicles, the majority of additional cars associated with Phase 1 are from Hospitality ticket holders who would be eligible for permits to enable parking within the LFC operated car parks, therefore removing their likelihood of parking in other off-street areas, displacing General Admission supporters.

11.5.4 The FMPZ will continue to ensure that on-street parking is deterred, with the circumference of the zone pushing people toward parking in the city centre. Since 2008 to 2013, this has appeared to be the case with a noted increase in journeys starting from the city centre, as well as a substantial decrease in the number of people arriving by car. This trend is anticipated to continue into Phase 1, with the proposed increase in car numbers considered acceptable, and more or less in line with those previously experienced in 2008.

11.5.5 Therefore it is felt that the expansion planned for Phase 1 is deliverable based on a worst case scenario of no change to travel from existing movements, with impacts upon the network able to be managed and accommodated without having a detrimental impact upon either the local residents or other network users not associated with match day travel.

11.5.6 The introduction and operation of a range of dwell time initiatives will also seek to disperse the arrival and departure profiles of supporters, so reducing the concentration of the impact and pressure upon the surrounding transport network.

11.5.7 A summary of the total numbers of people by mode following the completion of Phase 1 is provided in the tables below for both a weekday and a weekend:

Table 11.16: Weekday number of people by mode summary – Phase 1 (and baseline)

	General Admission		Hospitality		All Ticket Types	
Mode of Travel	Mode Split	People	Mode Split	People	Total	Difference from Existing
Scheduled bus	5.38%	2,275	1.24%	105	2,381	271
City Centre Express Bus	1.29%	546	0.30%	26	571	65
Car	63.00%	26,641	69.19%	5,887	32,528	5,634
Coach and Mini Bus	1.59%	672	0.77%	66	738	98
Dropped off	3.62%	1,531	3.85%	328	1,858	318
Soccerbus	2.27%	960	0.26%	22	982	103
Taxi	19.37%	8,192	22.08%	1,879	10,071	1,768
Sandhills & Kirkdale (Train)	0.97%	409	1.41%	120	529	102
City Centre and Local Area (Walk)	2.51%	1,062	0.90%	77	1,139	141
Total	**100%**	**42,288**	**100%**	**8,508**	**50,796**	**8,500**

Table 11.17: Weekend number of people by mode summary – Phase 1

	General Admission		Hospitality		All Ticket Types	
Mode of Travel	Mode Split	People	Mode Split	People	Total	Difference from Existing
Scheduled bus	6.20%	2,622	3.74%	318	2,940	416
City Centre Express Bus	1.48%	626	0.91%	77	703	100
Car	58.65%	24,802	48.92%	4,162	28,964	4,547
Coach and Mini Bus	2.80%	1,184	0.79%	67	1,252	148
Dropped off	3.29%	1,392	5.78%	491	1,883	392
Soccerbus	2.99%	1,264	0.23%	19	1,283	130
Taxi	22.17%	9,376	38.28%	3,257	12,633	2,609
Sandhills & Kirkdale (Train)	0.57%	240	0.23%	19	259	33
City Centre and Local Area (Walk)	1.85%	2,622	3.74%	318	2,940	125
Total	**100%**	**42,288**	**100%**	**8,508**	**50,796**	**8,500**

12 Proposed Interventions and Strategy

12.1 Introduction

12.1.1 To enable the realisation of the proposed development and likely access movements associated with the additional capacity, a set of co-ordinated transport interventions are proposed. These include a mix of physical measures which will require on-the ground works, and promotional measures targeted at making visitors to the stadium aware of travel opportunities.

12.1.2 This section discusses the interventions which need to be implemented to accommodate the additional capacity associated with the proposed stadium expansion. These measures have been discussed and agreed with the relevant parties to ensure they are deliverable.

12.1.3 The interventions are organised over a series of five sub-strategies which include:

- Traffic Management;
- Public Transport;
- Parking;
- Pedestrians; and
- Marketing and promotion.

12.1.4 Together these organise by theme the approach being taken to facilitating additional supporters across the travel modes and promoting modal choice. These interventions will influence how supporters will travel to the stadium, positively impacting modal shares for Phase 2, enabling a set of target modal shares to be developed as part of the overall strategy.

12.1.5 The proposed measures are to be implemented at one of two stages depending upon their purpose and requirement for being operational or discharged in relation to the phases and the numbers of additional supporters they will attract:

- Before the opening of Phase 1; or
- Before the opening of Phase 2.

12.2 Previous Intervention Measures

12.2.1 There has been a significant amount of historic work which has already been undertaken as part of the previous 'recent' planning permission in 2008 for the relocation of Anfield Stadium. These are summarised in the table below to outline the work the club has already undertaken to facilitate further capacity.

Table 12.1: Summary of previous measures

Intervention		Status	Sub-Strategy
1	Football Match Parking Zone	Completed	Traffic Management
2	Signage Contribution	Completed	Traffic Management
3	Footway improvements on Utting Avenue and Priory Road	Completed	Pedestrian
4	Signalisation of Utting Avenue / Priory Road junction	Completed	Traffic Management
5	New pelican crossing on Walton Lane (at Tetlow Street)	Completed	Pedestrian
6	Variable Message Signs on Strategic Approach Routes	Completed	Traffic Management
7	St Domingo's coach park	Completed	Traffic Management
8	New traffic signals at Walton Breck / Everton Valley junction	Completed	Traffic Management
9	Upgrade of traffic signals at Stanley Road / Lambeth Road junction	Completed	Public Transport
10	Coach parking lay-by on Priory Road	Completed	Public Transport

12.2.2 It is clear from the following plan that these measures are not solely concentrated in the immediate vicinity of the stadium but instead seek to support and facilitate a much wider sphere of movement and support a variety of modes.

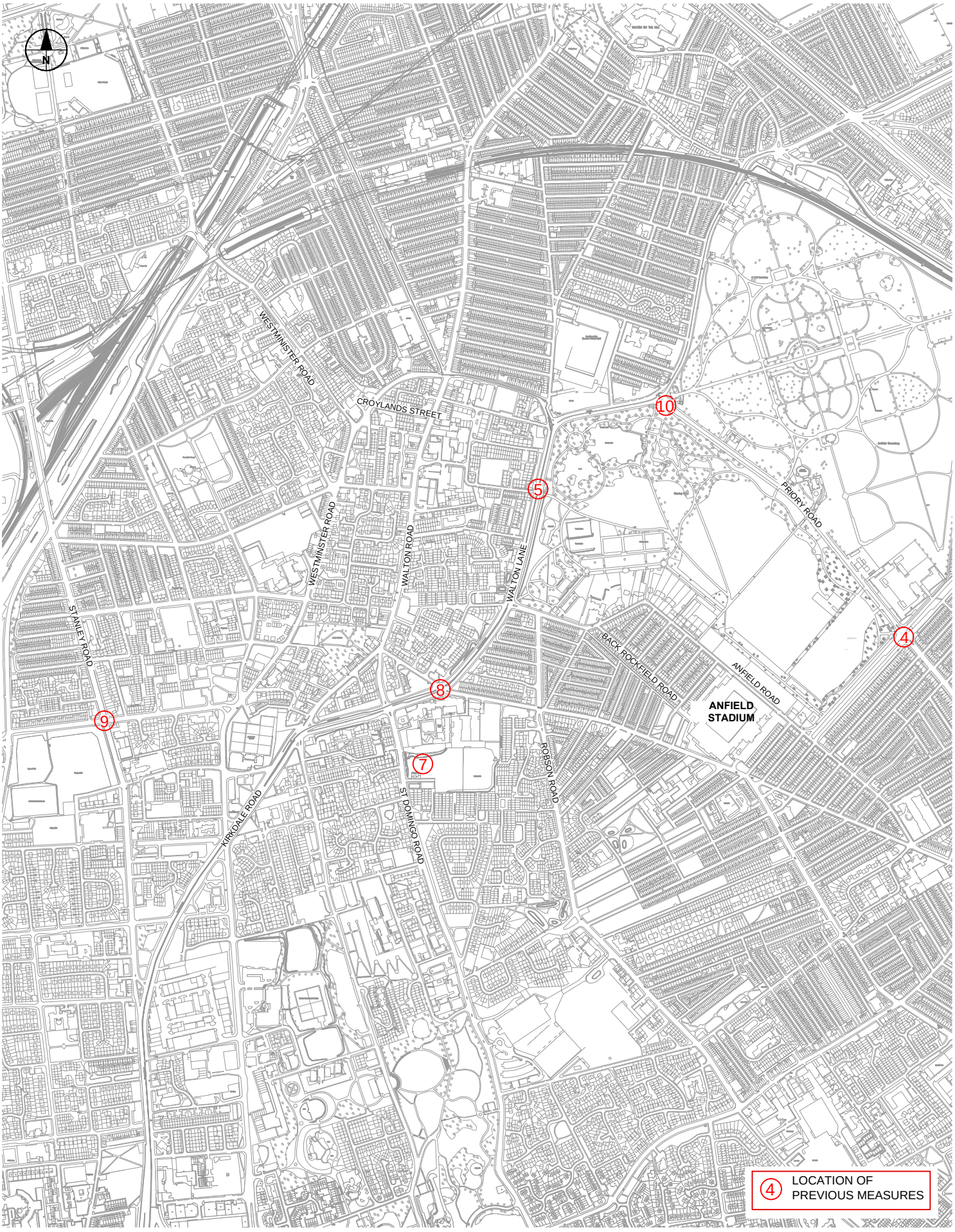


FIGURE 12.1 PLAN OF PREVIOUS MEASURES

Mott MacDonald

12.3 Proposed Intervention Measures

12.3.1 The following table provides an overview of the proposed interventions, their sub-category and their implementation stage, in terms of which phase they will be implemented prior to the start of, with Phase 1 being prior to the start of the 2016/17 season and Phase 2 to be determined.

Table 12.2: Proposed interventions overview

No.	Intervention Title	Sub-Strategy	Implementation prior to:	
			Phase 1	Phase 2
1	Formalisation of Walton Breck Road road closure Traffic Regulation Order (TRO)	Traffic Management	✓	
1.1	Sleepers Hill taxi drop off / pick up area	Traffic Management	✓	
1.2	Oakfield Road taxi drop off / pick up area	Traffic Management	✓	
1.3	Arkles Lane taxi drop off / pick up area	Traffic Management	✓	
1.4	Anfield Road taxi drop off / pick up area	Traffic Management	✓	
1.5	Various taxi pick-up locations	Traffic Management	✓	
1.6	Robson Street bus stands	Public Transport	✓	
1.7	Existing bus stop signage to diversion routes	Public Transport	✓	
1.8	Additional traffic management personnel	All Strategies	✓	
2	Route diversions for scheduled bus services during road closure	Public Transport	✓	
3	Extension to coach parking facilities	Public Transport		✓
4	Structure to City Centre express services before and after matches	Public Transport	✓	
5	Improved Soccerbus Service to / from Sandhills	Public Transport	✓	
6	Disabled drop off area and disabled parking	Traffic Management / Parking	✓	
7	Extension to parking restrictions along Walton Breck Road at the junction with Everton Valley Road	Parking	✓	
8	Additional cycle parking facilities	Parking	✓	
9	Pedestrian Access Improvements in vicinity of stadium	Pedestrian	✓	
10	Walk route to City Centre	Pedestrian	✓	
11	Walk route to Sandhills	Pedestrian	✓	
12	Walk route to Kirkdale	Pedestrian	✓	
13	Integrated match day ticketing	Marketing and Promotion / Public Transport	✓	
14	Marketing strategy for transport access options	Marketing and Promotion	✓	
15	Dwell time initiatives	Marketing and Promotion	✓	
16	Staff Travel Plan	Marketing and Promotion	✓	
17	Transport Working Group	Marketing and Promotion	✓	

12.3.2 Each of these interventions are outlined in turn within the remainder of this chapter.

12.4 Measure 1: Formalisation of Walton Breck Road road closure TRO

Background

12.4.1 Walton Breck Road bounds the southern border of Anfield Stadium and provides a link between Everton Valley and Oakfield Road, which are two of the main roads which supporters utilise when travelling to Anfield from the City Centre and areas to the south of the stadium. Walton Breck Road is currently a single lane carriageway with footways on each side.

12.4.2 There are a number of food and retail outlets located along the road, with the remaining frontages occupied by residential dwellings. A number of bus services operate along this route past the stadium, and there are six bus stops located along Walton Breck Road between the junctions with Robson Street and Oakfield Road.

12.4.3 The footways along Walton Breck Road cannot accommodate the large number of supporters which walk along it in order to access the stadium. Supporters therefore walk along the carriageway whilst the road is still open to general traffic. This conflict between pedestrians and traffic is a safety concern and a number of 'near misses' were observed by Mott MacDonald staff whilst undertaking match day surveys.

12.4.4 Once at the stadium, many supporters currently congregate on the grass area bounded by Walton Breck Road, Lake Street and Tinsley Street, in order to socialise before the game and make use of the food facilities provided along Walton Breck Road. Crowds observed assembling as early as four hours prior to the kick off time.

12.4.5 This results in a continual flow of pedestrians attempting to cross the road and small groups of supporters gathering along the road side. As the road is still open, general traffic and bus services have to weave through these pods of supporters which again creates safety concerns.

12.4.6 Walton Breck Road currently shuts approximately thirty minutes prior to kick off, however this is dependent on crowd volumes and is assessed on the day by match day stewards operating on the ground and the Police. The road is reopened for the duration of the match, before closing again prior to the final whistle. After the match the road is closed until the majority of the crowd has dispersed, typically around 15 - 30 minutes after the match has ended.

12.4.7 The inconsistent nature of when Walton Breck Road is closed is a real problem for transport operators as they are unable to plan in advance for the closure. Consequently, currently scheduled buses are often stationary for an extended period of time, which not only causes delays for passengers, but takes many hours for buses to get back to time table.

12.4.8 Plans of the existing Traffic Management Plan were presented earlier in Chapter 7.

Intervention

12.4.9 A new traffic management plan is proposed for the area which includes a number of additional road closures, informal taxi drop off/pick up areas, dedicated disabled drop off areas and new bus stops/stands for express services to and from the City Centre. The proposed pre-match and post-match traffic management schemes can be seen in the next figure, followed by a more detailed explanation of each measure required to ensure the successful operation of the traffic management plan.

12.4.10 In addition to the measures discussed later in this section of the Transport Assessment it is proposed to close Walton Breck Road 2 hours prior to kick off time until thirty minutes after the final whistle has been blown. This plan will be implemented and overseen by the football club stewards.

12.4.11 A copy of the full proposed traffic management plan is provided in Appendix C.

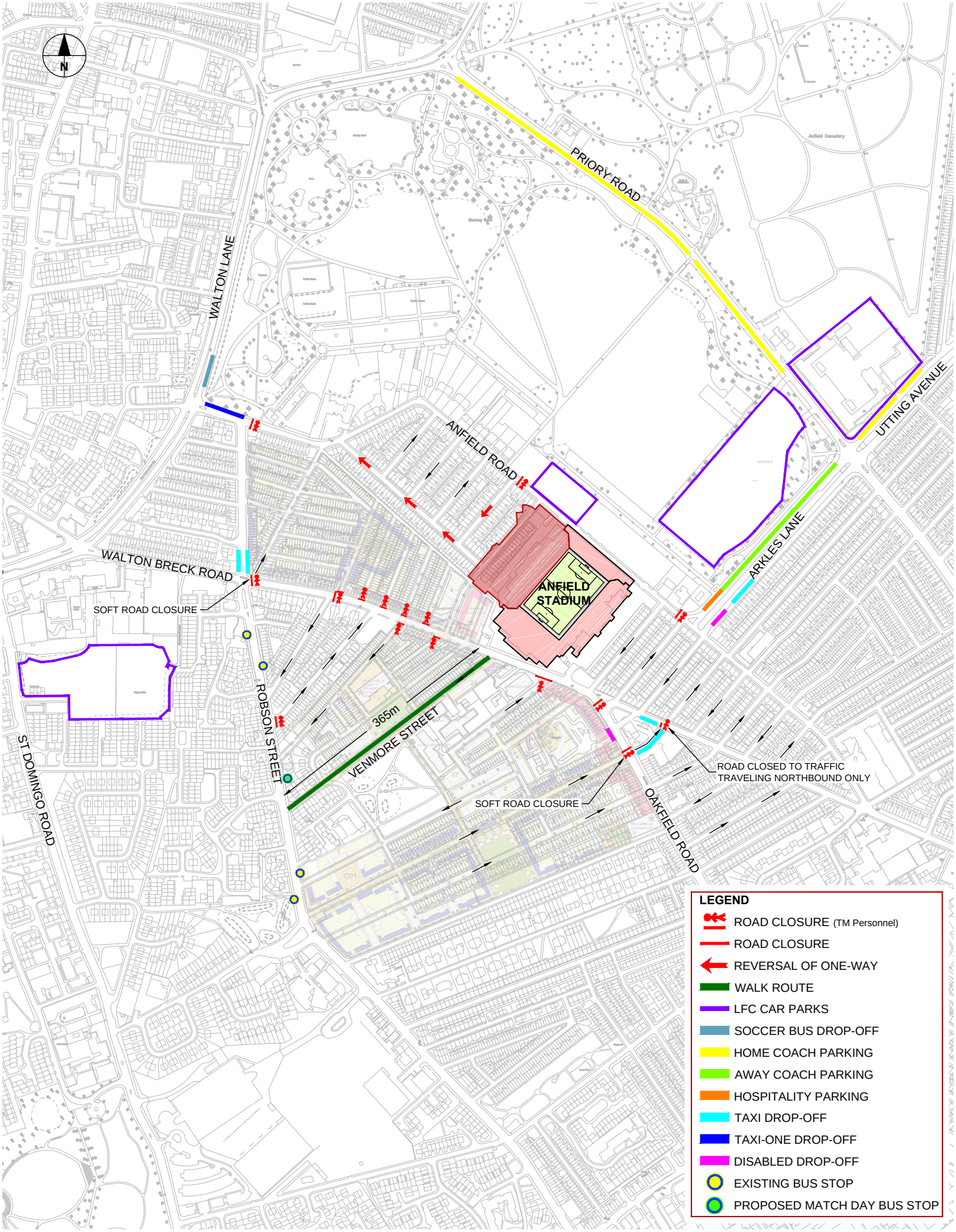


FIGURE 12.2 PROPOSED PRE-MATCH TRAFFIC MANAGEMENT PLAN

Mott MacDonald

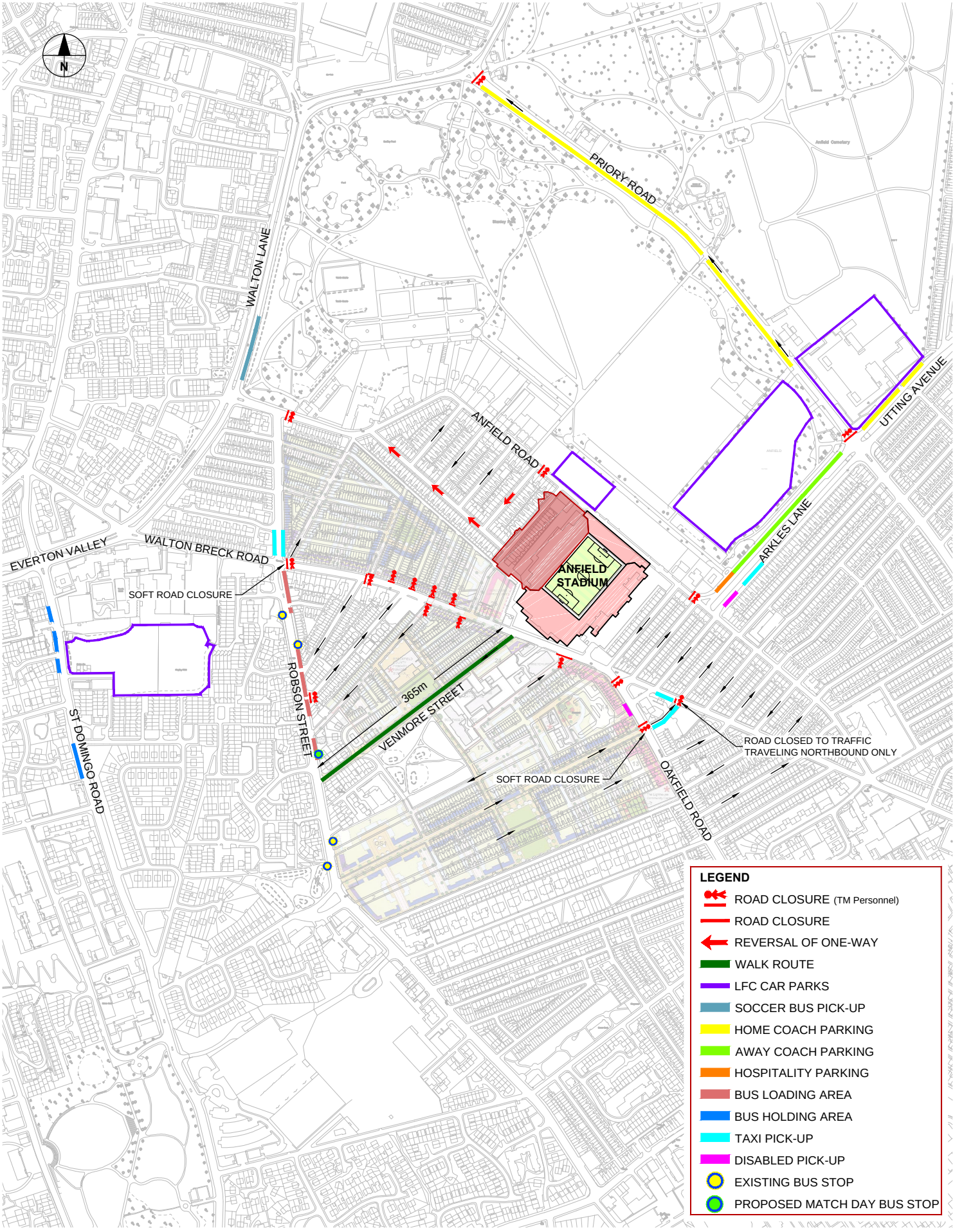


FIGURE 12.3 PROPOSED POST-MATCH TRAFFIC MANAGEMENT PLAN

Mott MacDonald

12.5 Measure 1.1: Sleepers Hill taxi drop off/pick up area

Background

12.5.1 The transport surveys have shown that taxi travel (hackney and private hire) is one of the most important modes for accessing the ground. Observations on-site and discussions with taxi operators show that every possible road is used by taxis dropping off supporters and picking up after the match.

12.5.2 It would be impractical to provide formal facilities for this number of vehicles for their use only on match days. However, operators have requested that a location be identified which people can walk towards, and be fairly confident that there will be a taxi waiting – especially for hospitality guests who will be leaving the stadium much later than general admission.

12.5.3 Along Sleepers Hill, existing restrictions are in place from the FMPZ as well as double yellow lines to prevent match day parking, and the road currently acts as an informal pick up point post-match with private vehicle noted waiting for supporters. This intervention seeks to remove the informal pick-ups and waiting from the street and formalise taxi pick up points for after the match to facilitate efficient dissipation of supporters following final whistle.

Intervention

12.5.4 Formally marked taxi ranks are proposed to be located at the southern end of Sleepers Hill, along with the associated ‘no stopping except taxis’ TRO which will be in close proximity to the point where Walton Breck Road will be temporarily closed. This area is currently restricted with double yellow lines and this intervention, restricted to match day taxi use, will allow taxis to drop off supporters arriving at the match before making their trip back to the City Centre.

12.5.5 The marked residential parking bays located along Sleepers Hill are all to be retained as part of this intervention, with none of these bays anticipated to be impacted upon. The proposal for this measure has been discussed and agreed with LCC Parking Services.

12.5.6 Note that many thousands of people currently travel to and from the match by taxi from the city centre or other areas. No formal facilities are currently provided in the Anfield area to facilitate this transport movement, and therefore this intervention is intended to give supporters a more certain knowledge on where a waiting taxi maybe found. However, the existing practice of supporters hailing a taxi whilst walking away from the ground will still be the predominant method of gaining access to this mode.

FIGURE 12.4 PROPOSED INFORMAL TAXI WAITING, PICK UP AND DROP OFF AREA - SLEEPERS HILL

Mott MacDonald

12.6 Measure 1.2: Oakfield Road taxi drop off/pick up area

Background

12.6.1 Oakfield Road is located to the south of the stadium and is a popular drop off and pick up point for supporters who wish to travel to Anfield Stadium, however there are no dedicated drop off and pick up facilities for taxis.

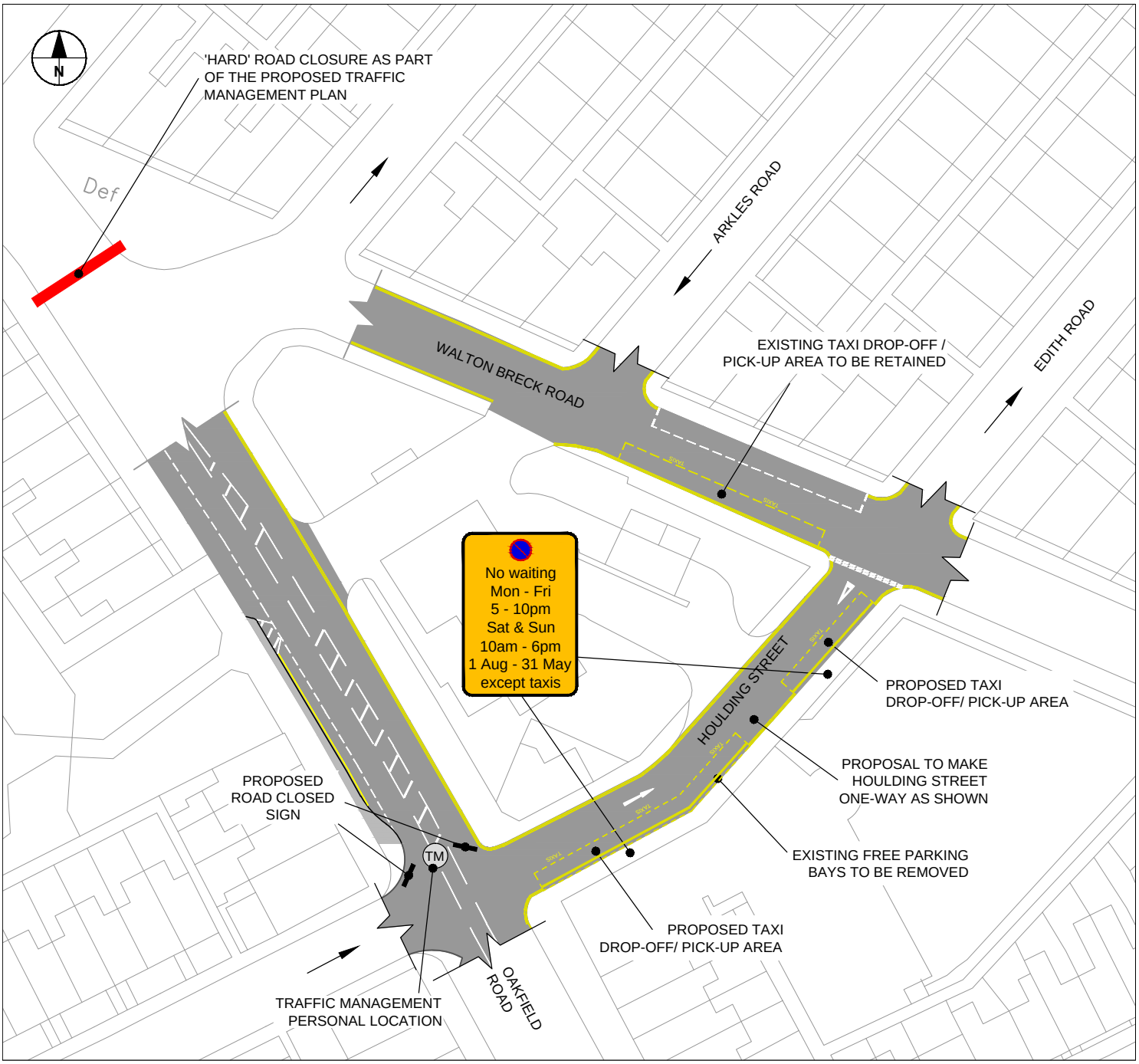
12.6.2 Prior to matches Oakfield Road becomes heavily congested with a mixture of supporters walking to the match and taxis trying to drop passengers off as close as possible to the stadium. This often results in taxis performing a U-turn along Oakfield Road amongst pedestrians to allow them to get back to the City Centre to pick up more passengers.

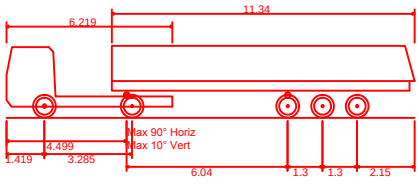
Intervention

12.6.3 Houlding Street, which currently operates as a two way street, is to become a one-way street with traffic travelling from west to east. This would provide sufficient space to accommodate a taxi rank on the southern side of the carriageway. The proposal for this measure has been discussed and agreed with LCC Parking Services.

12.6.4 Before kick-off, taxis would travel along Oakfield Road before turning right onto Houlding Avenue, where they could drop off passengers. The taxis would then take a further right onto Walton Breck Road (outside of the temporary road closure) travelling southbound back towards the City Centre. After the match taxis would be allowed to queue within the taxi rank in order to serve supporters.

12.6.5 Access to the petrol station by fuel tankers can be still maintained from the proposed one-way system on Houlding Street together with the presence of the additional parking bays on the southern side. This movement has been confirmed by the undertaking of a swept path analysis which is shown together with details of the scheme in the following figure.





Oil Tanker	
Overall Length	15.289m
Overall Width	2.500m
Overall Body Height	2.704m
Min Body Ground Clearance	0.419m
Track Width	2.450m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	6.670m

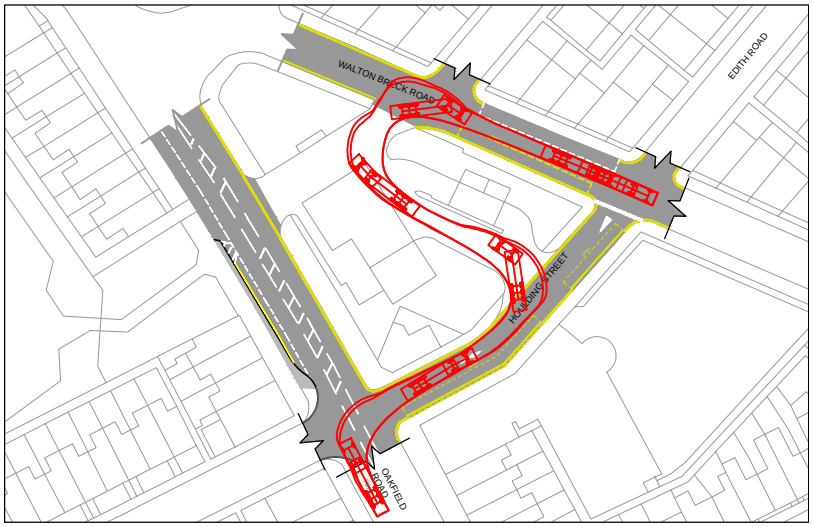


FIGURE 12.5 PROPOSED INFORMAL TAXI WAITING, PICK UP AND DROP OFF AREA - OAKFIELD ROAD

Mott MacDonald

12.7 Measure 1.3: Arkles Lane taxi drop off/pick up area

Background

12.7.1 As previously discussed, taxis are the most popular mode of transport after the car for travel to the stadium, however there is a shortage of suitable, formal drop off and pick up points in the vicinity of the stadium from which these services can operate.

12.7.2 Arkles Lane is currently used for away coach parking on the northern side of the separated carriageway.

Intervention

12.7.3 There are currently a number of free parking bays located along Arkles Lane, between the existing bus stop and disabled parking bay. This section of parking is to be reallocated to a taxi rank. The proposal for this measure has been discussed and agreed with LCC Parking Services.

12.7.4 In similar fashion to the previous schemes, taxis would be able to drop off supporters at this location prior to the game, before continuing to collect their next fare. After the match, taxis would be allowed to queue in the rank in order to await the supporters wishing to travel away from the stadium, by taxi, after the final whistle.

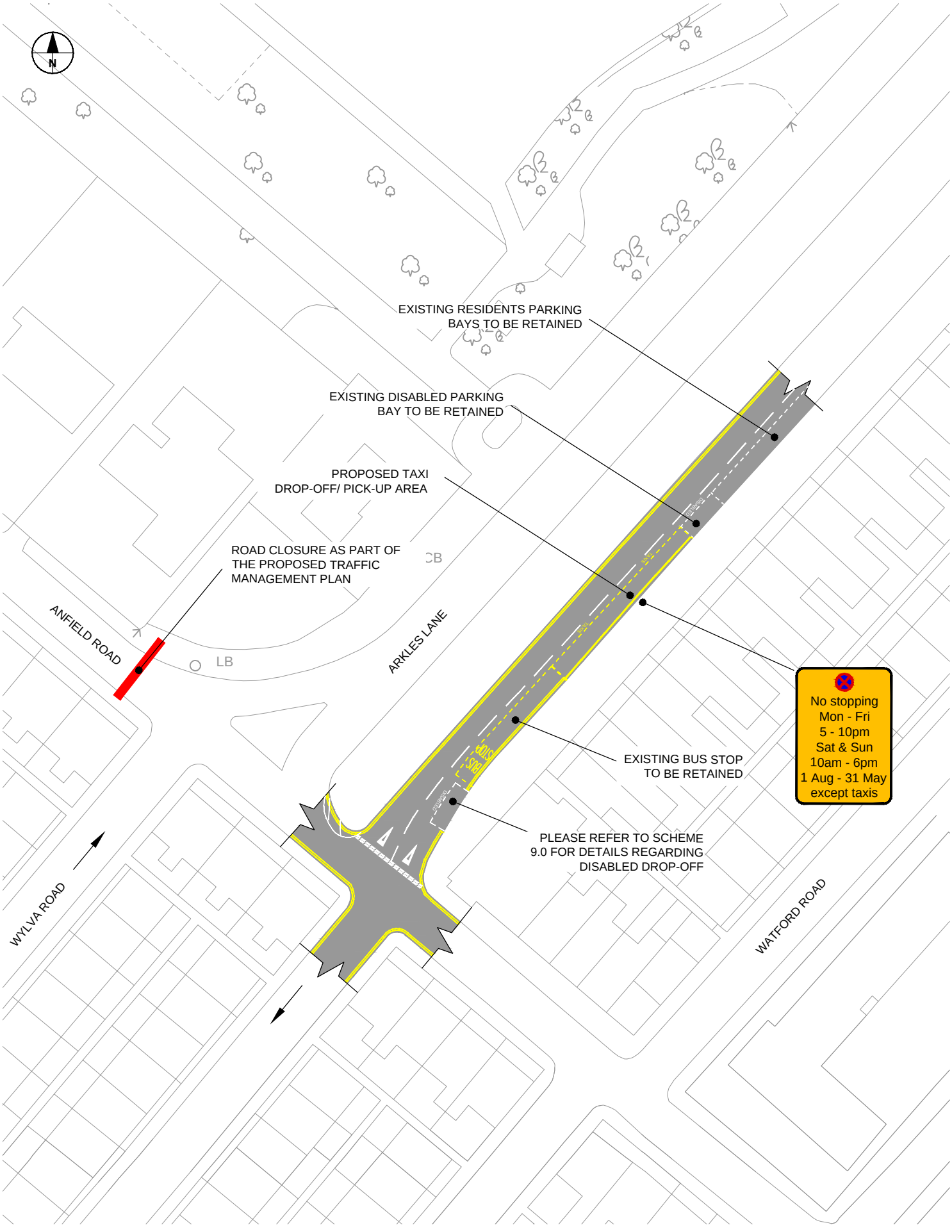


FIGURE 12.6 PROPOSED INFORMAL TAXI WAITING, PICK UP AND DROP OFF AREA - ARKLES LANE

12.8 Measure 1.4: Anfield Road 'Taxi One' drop off area

Background

12.8.1 The 'Taxi One' service is a privately operated service, which consists of black hackney taxis operating as a bus service. This means it has designated stops and must follow a single route as a bus would in normal operation.

12.8.2 Currently the service operates pre-match only, carrying passengers from St Johns Lane in Liverpool City Centre to the western end of Anfield Road where passengers alight.

12.8.3 This drop off points is not currently formalised and the service is impacted upon by on-street parking in the area.

Intervention

12.8.4 In order to regulate the Taxi One service, it is proposed to introduce a bus stop marking which will only be operational for this service on a match day, as shown in the following figure. This will allow the 'Taxi One' service to use this area as a formal drop off point, and protect it from on-street parking.

12.8.5 The service does not currently operate post-match and therefore this location would not be used as a pick up point by the service after the game.