

Matchday Demand Forecast Assumptions Data Book

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Introduction

1.1. Project Outline

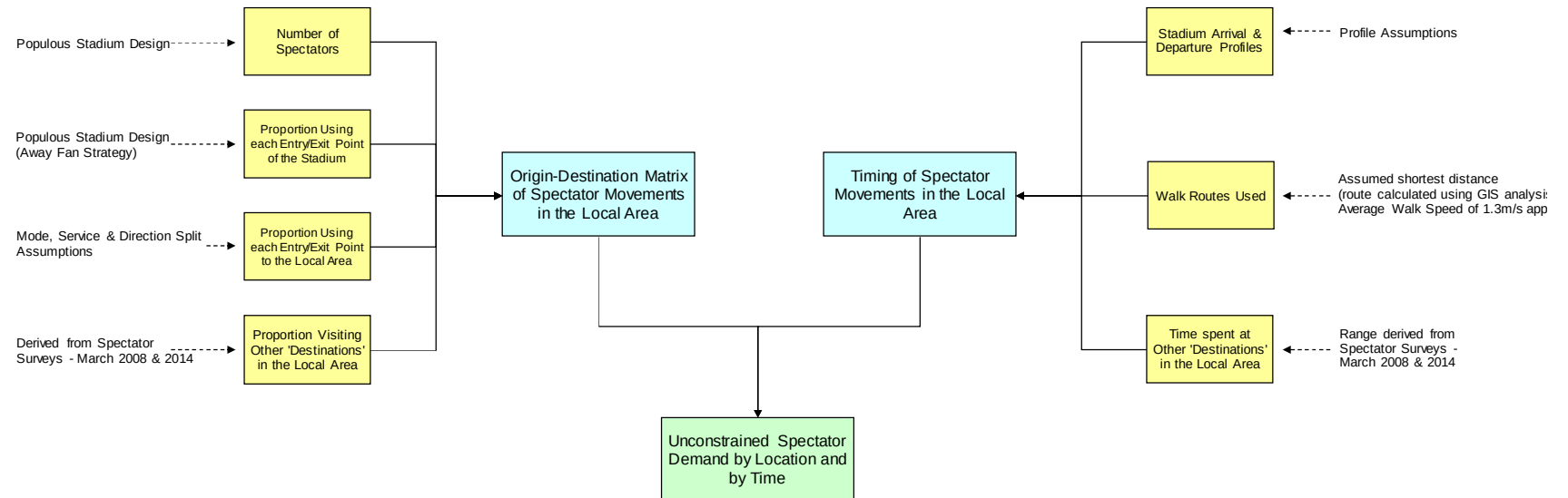
Tottenham Hotspur Stadium Football Club (THFC) have plans to develop a new stadium on the site of their existing facility, as part of a wider development programme. With a change in project scope it has been necessary to revisit work originally undertaken in 2008-10 on forecasting spectator demand on the travel network serving the venue.

1.2. Purpose of this document

This Data Book constitutes a record of the pedestrian demand forecasts for match-day spectators' arrivals and departures associated with the new THFC Stadium, and a full description of the assumptions that have been used to generate them. These demand forecasts have been developed to support the Transport Assessment of Planning Application for the Stadium.

1.3. Overview of Approach

The following flow chart has been produced to summarise the approach adopted to develop Matchday Spectator movement forecasts. The Data Book provides more details on the assumptions related to each of these points.



Pedestrian Network

2.1. Background

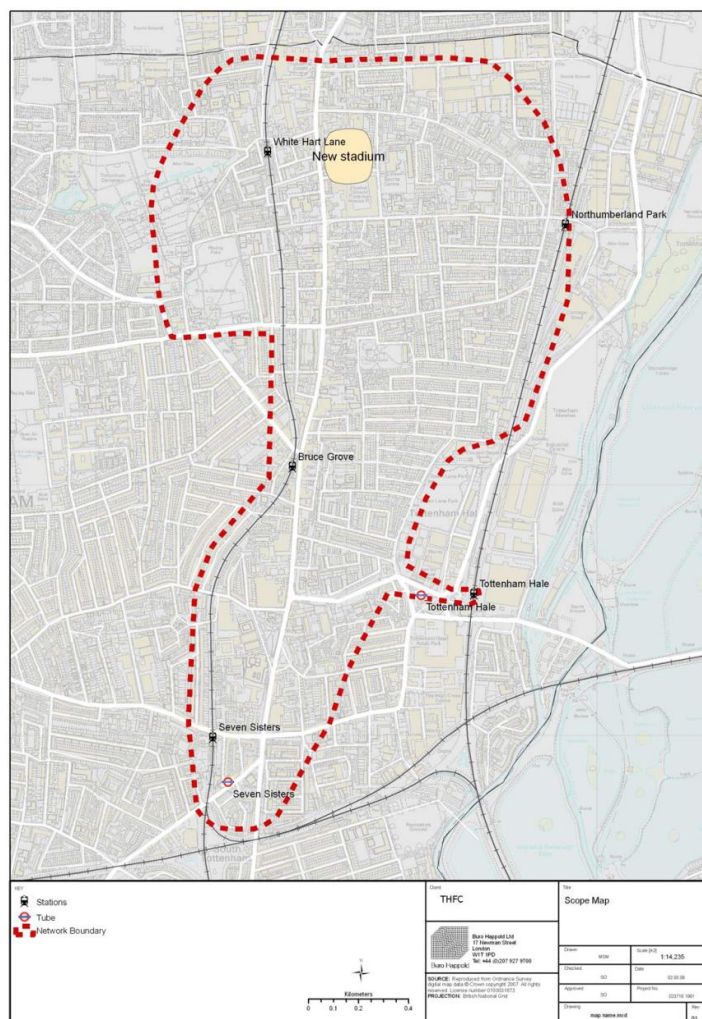
The demand forecasts are intended to show the pedestrian movements by spectators in the vicinity of the stadium during the pre-match and post-match periods, this enables to identify where and when capacity constraints may exist and to demonstrate how infrastructural works or management interventions can be used to address these constraints.

2.2. Scope

The geographical scope of the network being modelled is primarily defined by the key public transport nodes used by spectators on match days. This has been informed by studies undertaken from 2008 - 2014 to identify travel conditions associated with the current stadium.

The geographical scope of the demand forecasts are shown in Figure 2.1 below.

Figure 2.1 Geographical Scope



Note that the networks in the model do not extend into the stadium.

Separate modules have been generated to assess the demand at the interiors of the rail stations at White Hart Lane, Northumberland Park, Tottenham Hale and Seven Sisters. The assumptions used and demand volumes and patterns are consistently applied across each.

NB. It is recognised that some pedestrian journeys will start/end outside this scope, especially those who travel to the game by car. Within the demand forecasts, journeys are assumed to start/finish at points on the extremity of this area.

2.3. Time Coverage

The forecasts cover two different matchday scenarios, reflecting different behaviour patterns. These scenarios reflect matches taking place on a:

Å Saturday Afternoon

Å Midweek Evening

For the purpose of the new Planning Application, a survey exercise was undertaken at THFC home matches to identify spectator behaviour patterns and to highlight any differences between Weekend and Midweek evening matches surveys undertaken in 2008. The 2014 surveys confirmed that the behaviour patterns captured in the extensive 2008 surveys remain valid.

The forecasts cover the immediate pre-match and post-match periods, with movements up to three hours before the kick-off and three hours after the final whistle being captured.

2.4. Nodes and Links

For the purposes of defining the network, a series of nodes have been set up, joined together by links which reflect the pathways and routes that are available for pedestrians. Nodes therefore include road junctions, bus stops and rail stations. The network has been defined using information on the road layout network within the team's GIS library.

At the time of defining the network, preliminary drawings of the potential stadium layout and surrounding walkways were available, and these have been used to define the available pedestrian walkways in the immediate vicinity of the stadium. The wider masterplan proposals for the North Tottenham area were not available at the time and are therefore not included in the network.

The map below is an excerpt showing the locations of nodes and links within the model scope, with links labelled each with a unique ID. The link naming convention is based upon the nodes that are at either end of the link in question.

Figure 2.2 Excerpt of the Node and Link approach to Network Definition



2.5. Network Capacity

Within the GIS library, the length of each link is recorded, allowing for the calculation of walk times. However, the pedestrian crossing infrastructure (current and future) does not form part of the network. Therefore it is currently assumed that pedestrians can follow any route unimpeded by vehicular traffic.

Mode-specific capacity considerations are outlined in later sections of this document.

2.6. Walk Speeds

For the purposes of the demand forecasts, all spectators are assumed to walk at a speed of 1.5m/s on walkways. This assumes a negligible gradient across the network. This differs from the value used by TfL in station planning of 1.3m/s, as it reflects the observation that football spectators generally walk at a faster average speed than the population as a whole.

When on stairs, the equivalent figure is assumed to be 1 m/s.

Spectator Demand – Midweek Evening Scenario

3.1. High-Level Assumptions

3.1.1. Venue Capacity

The assumed gross seating capacity of the venue upon opening is approximately 61,000. The base case forecasts are on the basis of all 61,000 seats being fully occupied, with all seats taken by spectators who arrive and leave the stadium by foot (and are therefore included within the demand forecast).

3.1.2. Kick-Off and Finish Times

The assumed match Kick-off and Finish times are:

Å Kick Off i 20:00

Å Finish Time i 21:50

3.1.3. Arrival and Departure profiles

Spectators will arrive at the stadium over the course of an extended time period in advance of the match. For the purposes of forecasting demand it is assumed that:

Å All spectators are in the stadium by the time of kick-off, and

Å The stadium arrival profile is applied irrespective of mode of transport used, and whether or not spectators are visiting other locations in the local area prior to the match.

The demand forecasts are generated in 15-minute time periods.

It is assumed that all spectators will be inside the stadium gatelines from the time of kick-off until the time of the final whistle (i.e. no spectators arrive late or depart early). Observations at White Hart Lane during 2008 show that this is not currently the case, therefore the base forecasts represent a high demand scenario.

Note that the arrival profiles reflect the time at which spectators enter through one of the four gatelines, and does not indicate the time at which spectators take their seat.

Table 3.2 Assumed Spectator Arrival Profiles at the Stadium Gatelines (Midweek Evening)

Minutes before kick-off	Proportion of Spectators Arriving - Midweek Evening
0-15	30.0%
15-30	25.0%
30-45	15.0%
45-60	10.0%
60-75	10.0%
75-90	10.0%

These assumed arrival profiles have been derived from a combination of stadium arrival profiles recorded at White Hart Lane during March 2008, and arrival profiles recorded at the Emirates Stadium during the 2006 season. This therefore takes into account both the observed patterns, and the demand at a new stadium with a higher provision of on-site facilities, as anticipated at the future Tottenham Hotspur Stadium.

The assumed departure profiles are set out in Table 3.4. Again, this reflects the times at which spectators pass through the stadium perimeter and onto the public highway. It does not refer to the times at which spectators leave their seats. This has been generated by the team, on the basis of evidence gathered from survey work. The departure profile should take into account that the aspirations for the future stadium include plans to increase the amount of facilities that encourage retention of spectators during the post-match period.

Table 3.4 Assumed Spectator Departure Profiles from the Stadium Gatelines (Midweek Evening)

Minutes after final whistle	Proportions of Spectators Departing - Midweek evening
0-15	75%
15-30	10%
30-45	10%
45-60	5%
60-75	0%
75-90	0%

3.1.4. Distribution of Entrances and Exits

Stadium drawings indicated that there will be four principal points of access to the Stadium concourse, located at each corner. The ticketing operation leads to the assumption that demand will be distributed between the four access points on both arrival and departure, with circulation occurring outside the stadium. The assumptions shown in Table 3.5 below are applied to spectators travelling by every mode (i.e. spectators do NOT access the stadium via the gatetime nearest to their point of arrival in the local area).

The assumed use of the North-East stadium access point as the principal point of entry for Away fans is incorporated into the Stadium and masterplan designs.

Table 3.5 Assumed Distribution of Demand between Stadium Entrances and Exits (All Scenarios)

Stadium Entry/Exit	Proportion of Home Fans using each Entrance ON ARRIVAL	Proportion of Home Fans using each Exit ON DEPARTURE	Proportion of Away Fans using each Entrance ON ARRIVAL	Proportion of Away Fans using each Exit ON DEPARTURE
North East	24%	24%	100%	100%
South East	26%	26%	0%	0%
South West	25%	25%	0%	0%
North West	25%	25%	0%	0%

3.1.5. Time in the Local Area Pre-match or Post-match

A proportion of the spectators attending the match will arrive early to spend time in the local area, or stay behind after the match before travelling home.

To identify how long spectators spend at their pre-match destinations before heading to the stadium, we have derived length of stay figures from the spectator surveys undertaken during March 2008. This included data on how long in advance of their arrival at the stadium spectators entered the local area and enabled calculation of a range of lengths of stay in the local area. The following breakdown of spectator lengths of stay has been applied, irrespective of the time at which spectators arrive at the stadium. These lengths of stay are applied to both Home and Away fans, and do not vary by mode of arrival in the local area.

Note that the assumed proportion of fans who visit any location pre-match is described in Section 3.2 below.

Table 3.6 Assumed Times spent by Spectators at pre-match destinations (Midweek Evening)

Minutes spent at pre-match destinations	Proportion of Spectators spending time in the Local Area
0-15	3.50%
15-30	15.40%
30-45	19.50%
45-60	15.90%
60-75	10.50%
75-90	11.00%
90 - 105	8.30%
105 - 120	6.70%
120 - 135	9.20%

The length of time spectators spend at post-match destinations was not recorded by the spectator surveys. In reality, for those who do not head directly home after

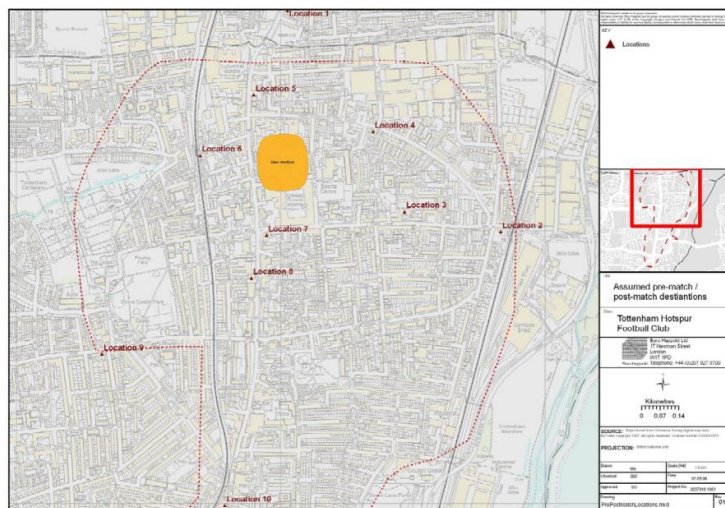
the match, the main rationale for staying in the local area for some time is to allow the main bulk of spectators to dissipate before attempting to travel home. Therefore, for the purposes of forecasting the base case, all spectators who choose to stay in the local area are nominally assumed to spend **ninety minutes** at the post-match destination. This ensures that they do not form part of the peak demand experienced at each of the transport nodes in the local area against which capacity is assessed.

Note that the assumed proportion of fans who visit any post-match location is described in Section 3.2 below.

Surveys undertaken in 2008 indicate that the most popular pre- or post-match destinations are pubs, cafés or restaurants in the local area. These surveys also asked spectators who visited pubs during these pre- and post-match periods, which they visited.

Ten of these locations are represented in the demand forecasts as pre- or post-match destinations, and are shown in Figure 3.1 below. Although names of pubs are listed below, these points can be assumed to represent clusters of pre- or post-match locations within the vicinity. It should also be noted that this is based on current observations, and not any aspirations for additional/alternative provision within the forthcoming masterplan.

Figure 3.1 Assumed Pre/Post Match Destinations for Spectators



Location 1 – Node 58 (e.g. Gilpin & Bell)

Location 2 – Node 260 (e.g. The Park)

Location 3 – Node 124 (e.g. The Olive Branch)

Location 4 – Node 80 (e.g. Bill Nicholson)

Location 5 – Node 56 (e.g. Coach & Horses)

Location 6 Node 107 (e.g. British Queen Pub)

Location 7 Node 53 (e.g. Bell & Hare)

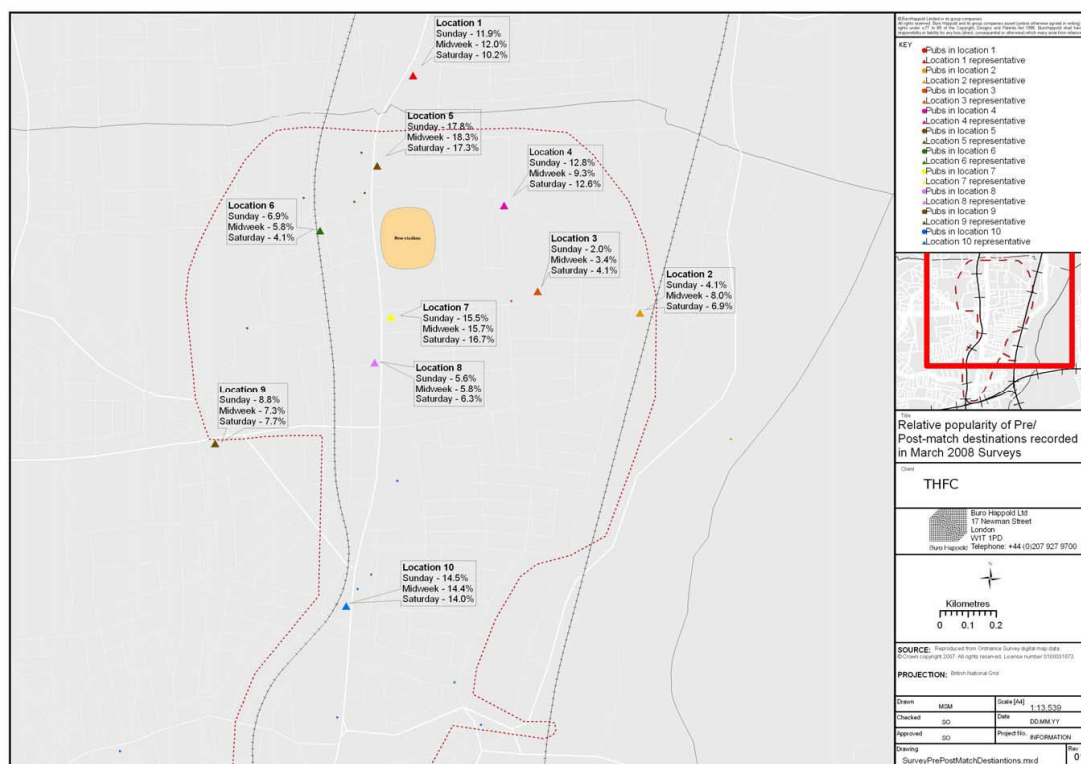
Location 8 Node 54 (e.g. Bar Latina)

Location 9 Node 65 (e.g. The Elmhurst)

Location 10 Node 26 (e.g. Elbow Room)

The figure below indicates the relative popularity of these locations as recorded in the online surveys of Home spectators during March 2008. The clustering of locations is indicated with points of the same colour being represented by the location marked with a triangle of that colour.

Figure 3.2 Relative Popularity of Pre/Post Match Destinations for Home Spectators recorded in March 2008 Surveys



On the basis of this data, for those who stated where they had visited, the relative popularity for each of the ten locations is as follows:

Table 3.8 Relative Popularity of Pre/Post Match Destinations for Home Spectators recorded in March 2008 Surveys

Location	Proportion of visitors	Proportion of visitors	Proportion of visitors
----------	------------------------	------------------------	------------------------

	v. Portsmouth (22nd March 08)	v. West Ham (9th March 08)	v. Chelsea (19th March 08)
Location 1	10.2%	11.9%	12.0%
Location 2	6.9%	4.1%	8.0%
Location 3	4.1%	2.0%	3.4%
Location 4	12.6%	12.8%	9.3%
Location 5	17.3%	17.8%	18.3%
Location 6	4.1%	6.9%	5.8%
Location 7	16.7%	15.5%	15.7%
Location 8	6.3%	5.6%	5.8%
Location 9	7.7%	8.8%	7.3%
Location 10	14.0%	14.5%	14.4%

This data is used to inform the assumptions about the distribution of pre- and post-match destinations in the forecast scenario. The Chelsea match took place on a Wednesday evening, and is therefore the most applicable to the midweek evening forecast scenario.

Unlike at some other Premiership grounds, there is no specific pub in the vicinity of White Hart Lane identified as an 'Away fans pub'. Therefore, Away supporters spending time in the local area pre-match and post-match are assumed to head to locations in the same distribution as Home fans.

3.2. Spectator Types

For the purposes of generating demand forecasts, the approach adopted is to subdivide the total population into different groups to reflect the likely factors that affect their behaviour. The numbers of each type of spectator are determined based on the assumptions below, as is the pedestrian activity they generate. This then enables all types of spectator behaviour to be represented, and aggregated to give total demand forecasts.

3.2.1. Spectator Types on Arrival

The modal split assumptions are derived from the Tim Spencer's Home Fan Only Disaggregated Mode Split Data (2nd September 2014) and are used to calculate the number of each type of spectator on arrival:

The split between Home and Away fans is 95.08% to 4.92%.

The assumed modal split of Home fans on arrival is as shown in Table 3.9 below. The actual (final) mode splits recorded in the March 2008 spectator surveys are also provided:

Table 3.9 Assumed Home Spectator Final Mode Split on Arrival (midweek evening), with actual mode splits recorded in March 2008

Mode	Assumed Home Fan Modal Split - Arrival	Home Fan Mode Split v. Chelsea (19th March 08)
Coach	1.5%	0.4%
Local Bus	10.5%	11.7%
<i>of whom interchange at SS</i>	5.5%	
Taxi	1.7%	0.9%
Walk	3.0%	2.0%
Cycle	1.0%	0.2%
Rail to WHL	21.0%	17.9%
Rail to NP	15.8%	14.0%
Tube to SS, then Walk	11.3%	11.3%
Car	19.5%	39.6%
Tube to TH, then Walk	5.2%	1.8%
Motorcycle	0.0%	0.2%
Shuttle Bus	9.5 %	0%

The assumed modal split of Away fans on arrival is as shown in Table 3.10 below. The assumed mode split is based upon non-London opposition. The actual (final) mode splits recorded in the March 2008 spectator surveys are also provided.

Table 3.10 Assumed Away Spectator Final Mode Split on Arrival (all scenarios), with actual mode splits recorded in March 2008

Mode	Assumed Away Fan Modal Split - Arrival	Away Fan Mode Split v. Chelsea (19th March 08)

Coach	16.0%	0.0%
Local Bus	13.0%	9.7%
<i>of whom interchange at SS</i>	10.0%	
Taxi	0.0%	1.7%
Walk	0.0%	5.1%
Cycle	0.0%	0.0%
Rail to WHL	26.5%	26.9%
Rail to NP	8.5%	7.2%
Tube to SS, then Walk	22.5%	29.4%
Car	11.0%	18.8%
Tube to TH, then Walk	2.5%	1.3%
Motorcycle	0.0%	0.0%

75% of Home fans are assumed to arrive early to spend time in the local area for matches on a weekday evening.

30% of Away fans are assumed to arrive early to spend time in the local area for weekend and weekday matches.

The various types of spectators upon arrival are described below, with a summary of the proportion of each spectator type resulting from the application of the assumptions described above.

Table 3.11 Spectator Types on Arrival, and Assumed Proportions of Different Spectator Types (Arrival, Midweek Evening)

Description			Proportion of Total
Home or Away?	Mode?	In time for Kick-off or Early?	
Home fan	Cycle	Direct to stadium	0.24%
Home fan	Cycle	Arrives in local area early	0.71%
Home fan	Walk	Direct to stadium	0.71%
Home fan	Walk	Arrives in local area early	2.13%
Home fan	Tube to Seven Sisters, then Walk	Direct to stadium	2.67%

Home fan	Tube to Seven Sisters, then Walk	Arrives in local area early	8.01%
Home fan	Tube to Seven Sisters, then Bus	Direct to stadium	1.30%
Home fan	Tube to Seven Sisters, then Bus	Arrives in local area early	3.90%
Home fan	Rail to White Hart Lane	Direct to stadium	4.96%
Home fan	Rail to White Hart Lane	Arrives in local area early	14.89%
Home fan	Rail to Northumberland Park	Direct to stadium	3.74%
Home fan	Rail to Northumberland Park	Arrives in local area early	11.21%
Home fan	Car Driver/Passenger	Direct to stadium	4.61%
Home fan	Car Driver/Passenger	Arrives in local area early	13.83%
Home fan	Bus	Direct to stadium	1.18%
Home fan	Bus	Arrives in local area early	3.55%
Home fan	Coach	Direct to stadium	0.35%
Home fan	Coach	Arrives in local area early	1.06%
Home fan	Taxi	Direct to stadium	0.40%
Home fan	Taxi	Arrives in local area early	1.21%
Home fan	Tube to Tottenham Hale, then Walk	Direct to stadium	1.23%
Home fan	Tube to Tottenham Hale, then Walk	Arrives in local area early	3.69%
Home fan	Alexandra Palace Shuttle Bus	Direct to stadium	1.2500%
Home fan	Alexandra Palace Shuttle Bus	Arrives in local area early	3.7500%
Home fan	Tottenham Hale Shuttle Bus	Direct to stadium	1.06%
Home fan	Tottenham Hale Shuttle Bus	Arrives in local area early	3.19%
Away fan	Cycle	Direct to stadium	0.00%
Away fan	Cycle	Arrives in local area early	0.00%
Away fan	Walk	Direct to stadium	0.00%
Away fan	Walk	Arrives in local area early	0.00%
Away fan	Tube to Seven Sisters, then Walk	Direct to stadium	0.81%
Away fan	Tube to Seven Sisters, then Walk	Arrives in local area early	0.35%
Away fan	Tube to Seven Sisters, then Bus	Direct to stadium	0.36%
Away fan	Tube to Seven Sisters, then	Arrives in local area early	0.15%

	Bus		
Away fan	Rail to White Hart Lane	Direct to stadium	0.96%
Away fan	Rail to White Hart Lane	Arrives in local area early	0.41%
Away fan	Rail to Northumberland Park	Direct to stadium	0.31%
Away fan	Rail to Northumberland Park	Arrives in local area early	0.13%
Away fan	Car Driver/Passenger	Direct to stadium	0.40%
Away fan	Car Driver/Passenger	Arrives in local area early	0.17%
Away fan	Bus	Direct to stadium	0.11%
Away fan	Bus	Arrives in local area early	0.05%
Away fan	Coach	Direct to stadium	0.58%
Away fan	Coach	Arrives in local area early	0.25%
Away fan	Taxi	Direct to stadium	0.00%
Away fan	Taxi	Arrives in local area early	0.00%
Away fan	Tube to Tottenham Hale, then Walk	Direct to stadium	0.09%
Away fan	Tube to Tottenham Hale, then Walk	Arrives in local area early	0.04%

Additional assumptions have been generated in relation to the direction of travel of spectators arriving by rail. This is important when assessing pedestrian movements within stations. Table 3.12 sets out the assumed division of demand upon arrival at each station, based upon the *Updated Rail Assumptions* (16th June 2014).

Table 3.12 Assumed Proportions of Spectator Arrivals by Rail from each Direction

Station	Split of Demand - Midweek Evening	
	From Central London (incl. those interchanging at TH and SVS)	From the North
White Hart Lane NR	63%	37%
Northumberland Park NR	53%	47%

* 31% of spectators alighting from NB services at White Hart Lane are assumed to have interchanged from the Victoria Line at Seven Sisters. 17% of spectators

alighting from NB services at Northumberland Park are assumed to have interchanged from the Victoria Line at Tottenham Hale.

At Seven Sisters, there are several options available to spectators on how they continue their journey to the stadium having arrived on the Victoria Line. They can interchange on to bus services or National Rail services to White Hart Lane, or they can walk to the stadium. The split of direction of travel on the Victoria Line differs depending upon their final mode.

- Of those who interchange from the Victoria Line to the Bus, 100% arrive from Central London.
- Of those who interchange from the Victoria Line to National Rail, 100% arrive from Central London.
- Of those who arrive on the Victoria Line and walk to the stadium, 90% arrive from Central London, 10% from the North.

Similar options exist at Tottenham Hale. The following assumptions have been applied with regard to direction of travel for Victoria Line alighters at Tottenham Hale:

- Of those who interchange from the Victoria Line to National Rail, 100% arrive from Central London.
- Of those who arrive on the Victoria Line and walk to the stadium, 10% arrive from Central London, 90% from the North.
- Of those who interchange to the Shuttle Bus, 80% come from the Victoria Line (40% from the South and 40% from the North) and 20% come from Central London via National Rail.

3.2.2. Spectator Types on Departure

The following assumptions are used to calculate the number of spectators of each type on departure:

The split between Home and Away fans is 95.08% to 4.92%.

The assumed modal split of Home fans on arrival is as shown in Table 3.13 below. The actual mode splits recorded in the May 2008 spectator surveys are also provided:

Table 3.13 Assumed Home Spectator Final Mode Split on Departure (midweek evening), with actual mode splits recorded in May 2014

Mode	Assumed Home Fan Modal Split - Departures	Home Fan Mode Split v. Chelsea (19 th March 08)
Coach	1.5%	0.1%
Local Bus	8.0%	6.9%

<i>of whom interchange at SS</i>	5.0%	
Taxi	1.5%	1.1%
Walk	3.0%	1.4%
Cycle	1.0%	0.2%
Rail from WHL	20.0%	15.5%
Rail from NP	14.0%	12.0%
Walk to SS, then Tube	10.5%	13.6%
Car	23.0%	45.6% ¹
Walk to TH, then Tube	9.5%	3.4%
Motorcycle	0.0%	0.2%
Shuttle Bus	8%	0%

The assumed modal split of Away fans on departure is as follows:

- Coach: 16.0%
- Local Bus: 3.0%
- Taxi: 0.0%
- Walk: 0.0%
- Cycle: 0.0%
- Rail to WHL: 26.5%
- Rail to NP: 8.5%
- Walk to Tube at SS: 22.5%
- Car: 10.0%
- Walk to Tube at TH: 2.5%
- Bus to tube (SS/TH): 10%

(N.B. The mode of departure of away fans was not recorded as part of the May 2014 survey exercise)

30% of Home fans are assumed to spend time in the local area after the match.

5% of Away fans are assumed to spend time in the local area after the match. This is an assumption generated by the Transport Assessment Team.

¹ Note that the mode share recorded for cars during the March 2008 matches is higher on departure than on arrival for two reasons. Firstly some of the respondents who arrived by other modes took lifts home with friends who had travelled by car. Secondly, not all respondents gave a response to both questions, therefore the modal shares are derived from slightly different samples of the same population.

The various types of spectators upon departure are described below, also showing the proportions of each type resulting from the above assumptions.

Table 3.14 Spectator Types on Departure and Assumed Proportions of Different Spectator Types (Departure, Midweek Evening)

Home/Away Fan?	Description		Proportion of Total
	Mode?	Direct to Stadium/Visits Local Area pre-Match?	
Home fan	Cycle	Leave directly	0.71%
Home fan	Cycle	Stays in local area post-match	0.24%
Home fan	Walk	Leave directly	2.12%
Home fan	Walk	Stays in local area post-match	0.71%
Home fan	Tube to Seven Sisters, then Walk	Leave directly	7.43%
Home fan	Tube to Seven Sisters, then Walk	Stays in local area post-match	2.48%
Home fan	Tube to Seven Sisters, then Bus	Leave directly	2.12%
Home fan	Tube to Seven Sisters, then Bus	Stays in local area post-match	0.71%
Home fan	Rail to White Hart Lane	Leave directly	14.16%
Home fan	Rail to White Hart Lane	Stays in local area post-match	4.72%
Home fan	Rail to Northumberland Park	Leave directly	9.91%
Home fan	Rail to Northumberland Park	Stays in local area post-match	3.30%
Home fan	Car Driver/Passenger	Leave directly	16.28%
Home fan	Car Driver/Passenger	Stays in local area post-match	5.43%
Home fan	Bus	Leave directly	3.54%
Home fan	Bus	Stays in local area post-match	1.18%
Home fan	Coach	Leave directly	1.06%
Home fan	Coach	Stays in local area post-match	0.35%
Home fan	Taxi	Leave directly	1.06%
Home fan	Taxi	Stays in local area post-match	0.35%
Home fan	Tube to Tottenham Hale, then Walk	Leave directly	6.73%
Home fan	Tube to Tottenham Hale, then Walk	Stays in local area post-match	2.24%
Home fan	Alexandra Palace Shuttle Bus	Leave directly	3.7500%
Home fan	Alexandra Palace Shuttle Bus	Stays in local area post-match	1.2500%
Home fan	Tottenham Hale Shuttle Bus	Leave directly	2.25%
Home fan	Tottenham Hale Shuttle Bus	Stays in local area post-match	0.75%
Away fan	Cycle	Leave directly	0.00%
Away fan	Cycle	Stays in local area post-match	0.00%
Away fan	Walk	Leave directly	0.00%
Away fan	Walk	Stays in local area post-match	0.00%
Away fan	Tube to Seven Sisters, then Walk	Leave directly	1.10%
Away fan	Tube to Seven Sisters, then Walk	Stays in local area post-match	0.06%

Away fan	Tube to Seven Sisters, then Bus	Leave directly	0.49%
Away fan	Tube to Seven Sisters, then Bus	Stays in local area post-match	0.03%
Away fan	Rail to White Hart Lane	Leave directly	1.30%
Away fan	Rail to White Hart Lane	Stays in local area post-match	0.07%
Away fan	Rail to Northumberland Park	Leave directly	0.42%
Away fan	Rail to Northumberland Park	Stays in local area post-match	0.02%
Away fan	Car Driver/Passenger	Leave directly	0.54%
Away fan	Car Driver/Passenger	Stays in local area post-match	0.03%
Away fan	Bus	Leave directly	0.15%
Away fan	Bus	Stays in local area post-match	0.01%
Away fan	Coach	Leave directly	0.79%
Away fan	Coach	Stays in local area post-match	0.04%
Away fan	Taxi	Leave directly	0.00%
Away fan	Taxi	Stays in local area post-match	0.00%
Away fan	Tube to Tottenham Hale, then Walk	Leave directly	0.12%
Away fan	Tube to Tottenham Hale, then Walk	Stays in local area post-match	0.01%

Assumptions have been generated in relation to the direction of travel of spectators departing by rail to enable the assessment of pedestrian movements within stations. This is taken from the Indicative Transport Strategy, which was derived based upon the findings of surveys and observations made during matches in 2008 and verified in 2014. As no historical data for away fans direction of travel is available, the same split is assumed to apply for both Home and Away supporters.

Table 3.15 Assumed Proportions of Spectator Departures by Rail from each Direction

Station	Split of Demand - Midweek Evening	
	To the North	To Central London (inlc. Those interchanging at TH and SVS*)
White Hart Lane NR	40%	60%
Northumberland Park NR	50%	50%

* 35% of spectators boarding the SB services at White Hart Lane are assumed to interchange onto the Victoria Line at Seven Sisters. 21% of spectators boarding the

SB services at Northumberland Park are assumed to interchange onto the Victoria Line at Tottenham Hale.

At Seven Sisters, there are several options available to spectators on how they reach the Victoria Line from the Stadium during the Post-match period. They can interchange from bus services or National Rail services from White Hart Lane, or they can walk directly to the station. The split of direction of travel on the Victoria Line differs depending upon their initial travel mode.

- Of those who interchange from the Bus to the Victoria Line, 100% travel towards Central London.
- Of those who interchange from National Rail to the Victoria Line, 100% travel towards Central London.
- Of those who walk from the Stadium and board the Victoria Line, 100% travel towards Central London.

Similar options exist at Tottenham Hale. The following assumptions have been applied with regard to direction of travel for Victoria Line boarders at Tottenham Hale:

- Of those who interchange from National Rail to the Victoria Line, 35% travel towards Central London, 85% travel to the North.
- Of those who walk from the Stadium and board the Victoria Line, 73% travel towards Central London, 27% travel to the North.
- Of those who interchange from the Shuttle Bus, 80% go to the Victoria Line (40% to the South and 40% to the North) and 20% use National Rail (10% go North and 10% go South)

Spectator Demand – Weekend Scenario

This section compiles the demand assumptions used in the production of a spectator demand forecast for a Football Weekend scenario at Tottenham Hotspur FC's expanded stadium. Only assumptions that differ from the Football Midweek scenario (Section 3) are stated in this section.

4.1. Kick-Off and Finish Times

The assumed match Kick-off and Finish times are:

Å Kick Off ĩ 15:00

Å Finish Time ĩ 16:50

4.2. Spectator Types

4.2.1. Spectator Types on Arrival

The modal split assumptions are derived from the Tim Spencer's Home Fan Only Disaggregated Mode Split Data (2nd September 2014) and are used to calculate the number of each type of spectator on arrival:

Table 4.1 Spectator Types on Arrival, and Assumed Proportions of Different Spectator Types (Arrival, Weekend Afternoon)

Description			Proportion of Total
Home or Away?	Mode?	In time for Kick-off or Early?	
Home fan	Cycle	Direct to stadium	0.24%
Home fan	Cycle	Arrives in local area early	0.71%
Home fan	Walk	Direct to stadium	0.71%
Home fan	Walk	Arrives in local area early	2.12%
Home fan	Tube to Seven Sisters, then Walk	Direct to stadium	2.90%
Home fan	Tube to Seven Sisters, then Walk	Arrives in local area early	8.69%
Home fan	Tube to Seven Sisters, then Bus	Direct to stadium	1.22%
Home fan	Tube to Seven Sisters, then Bus	Arrives in local area early	3.67%
Home fan	Rail to White Hart Lane	Direct to stadium	4.75%
Home fan	Rail to White Hart Lane	Arrives in local area early	14.26%
Home fan	Rail to Northumberland Park	Direct to stadium	3.18%
Home fan	Rail to Northumberland Park	Arrives in local area early	9.53%
Home fan	Car Driver/Passenger	Direct to stadium	5.30%
Home fan	Car Driver/Passenger	Arrives in local area early	15.89%
Home fan	Bus	Direct to stadium	1.15%

Home fan	Bus	Arrives in local area early	3.46%
Home fan	Coach	Direct to stadium	0.47%
Home fan	Coach	Arrives in local area early	1.41%
Home fan	Taxi	Direct to stadium	0.35%
Home fan	Taxi	Arrives in local area early	1.06%
Home fan	Tube to Tottenham Hale, then Walk	Direct to stadium	1.22%
Home fan	Tube to Tottenham Hale, then Walk	Arrives in local area early	3.67%
Home fan	Alexandra Palace Shuttle Bus	Direct to stadium	1.2250%
Home fan	Alexandra Palace Shuttle Bus	Arrives in local area early	3.6750%
Home fan	Tottenham Hale Shuttle Bus	Direct to stadium	0.99%
Home fan	Tottenham Hale Shuttle Bus	Arrives in local area early	2.98%
Away fan	Cycle	Direct to stadium	0%
Away fan	Cycle	Arrives in local area early	0%
Away fan	Walk	Direct to stadium	0%
Away fan	Walk	Arrives in local area early	0%
Away fan	Tube to Seven Sisters, then Walk	Direct to stadium	1%
Away fan	Tube to Seven Sisters, then Walk	Arrives in local area early	0%
Away fan	Tube to Seven Sisters, then Bus	Direct to stadium	0%
Away fan	Tube to Seven Sisters, then Bus	Arrives in local area early	0%
Away fan	Rail to White Hart Lane	Direct to stadium	1%
Away fan	Rail to White Hart Lane	Arrives in local area early	0%
Away fan	Rail to Northumberland Park	Direct to stadium	0%
Away fan	Rail to Northumberland Park	Arrives in local area early	0%
Away fan	Car Driver/Passenger	Direct to stadium	0%
Away fan	Car Driver/Passenger	Arrives in local area early	0%
Away fan	Bus	Direct to stadium	0%
Away fan	Bus	Arrives in local area early	0%
Away fan	Coach	Direct to stadium	1%
Away fan	Coach	Arrives in local area early	0%
Away fan	Taxi	Direct to stadium	0%
Away fan	Taxi	Arrives in local area early	0%
Away fan	Tube to Tottenham Hale, then Walk	Direct to stadium	0%
Away fan	Tube to Tottenham Hale, then Walk	Arrives in local area early	0%

Additional assumptions have been generated in relation to the direction of travel of spectators arriving by rail. This is important when assessing pedestrian movements within stations. Table 3.12 sets out the assumed division of demand upon arrival at each station, based upon the *Updated Rail Assumptions* (16th June 2014).

Table 4.2 Assumed Proportions of Spectator Arrivals by Rail from each Direction

Station	Split of Demand - Weekend Afternoon	
	From Central London (incl. those interchanging at TH and SVS)	From the North
White Hart Lane NR	58%	42%
Northumberland Park NR	52%	48%

* 26% of spectators alighting from NB services at White Hart Lane are assumed to have interchanged from the Victoria Line at Seven Sisters. 26% of spectators alighting from NB services at Northumberland Park are assumed to have interchanged from the Victoria Line at Tottenham Hale.

At Seven Sisters, there are several options available to spectators on how they continue their journey to the stadium having arrived on the Victoria Line. They can interchange on to bus services or National Rail services to White Hart Lane, or they can walk to the stadium. The split of direction of travel on the Victoria Line differs depending upon their final mode.

- Of those who interchange from the Victoria Line to the Bus, 100% arrive from Central London.
- Of those who interchange from the Victoria Line to National Rail, 100% arrive from Central London.
- Of those who arrive on the Victoria Line and walk to the stadium, 90% arrive from Central London, 10% from the North.

Similar options exist at Tottenham Hale. The following assumptions have been applied with regard to direction of travel for Victoria Line alighters at Tottenham Hale:

- Of those who interchange from the Victoria Line to National Rail, 100% arrive from Central London.
- Of those who arrive on the Victoria Line and walk to the stadium, 10% arrive from Central London, 90% from the North.
- Of those who interchange to the Shuttle Bus, 80% come from the Victoria Line (40% from the South and 40% from the North) and 20% come from Central London via National Rail.

4.2.2. Spectator Types on Departure

The following assumptions are used to calculate the number of spectators of each type on departure:

Table 4.3 Spectator Types on Departure, and Assumed Proportions of Different Spectator Types (Arrival, Weekend Afternoon)

Description			Proportion of Total
Home/Away Fan?	Mode?	Direct to Stadium/Visits Local Area pre-Match?	
Home fan	Cycle	Leave directly	0.71%
Home fan	Cycle	Stays in local area post-match	0.24%
Home fan	Walk	Leave directly	2.12%
Home fan	Walk	Stays in local area post-match	0.71%
Home fan	Tube to Seven Sisters, then Walk	Leave directly	7.77%
Home fan	Tube to Seven Sisters, then Walk	Stays in local area post-match	2.59%
Home fan	Tube to Seven Sisters, then Bus	Leave directly	2.12%
Home fan	Tube to Seven Sisters, then Bus	Stays in local area post-match	0.71%
Home fan	Rail to White Hart Lane	Leave directly	13.78%
Home fan	Rail to White Hart Lane	Stays in local area post-match	4.59%
Home fan	Rail to Northumberland Park	Leave directly	9.89%
Home fan	Rail to Northumberland Park	Stays in local area post-match	3.30%
Home fan	Car Driver/Passenger	Leave directly	15.90%
Home fan	Car Driver/Passenger	Stays in local area post-match	5.30%
Home fan	Bus	Leave directly	3.39%
Home fan	Bus	Stays in local area post-match	1.13%
Home fan	Coach	Leave directly	1.41%
Home fan	Coach	Stays in local area post-match	0.35%
Home fan	Taxi	Leave directly	1.06%
Home fan	Taxi	Stays in local area post-match	0.35%
Home fan	Tube to Tottenham Hale, then Walk	Leave directly	7.07%
Home fan	Tube to Tottenham Hale, then Walk	Stays in local area post-match	2.36%
Home fan	Alexandra Palace Shuttle Bus	Leave directly	3.75%
Home fan	Alexandra Palace Shuttle Bus	Stays in local area post-match	1.25%
Home fan	Tottenham Hale Shuttle Bus	Leave directly	2.24%
Home fan	Tottenham Hale Shuttle Bus	Stays in local area post-match	0.75%
Away fan	Cycle	Leave directly	0.00%
Away fan	Cycle	Stays in local area post-match	0.00%
Away fan	Walk	Leave directly	0.00%
Away fan	Walk	Stays in local area post-match	0.00%
Away fan	Tube to Seven Sisters, then Walk	Leave directly	1.10%
Away fan	Tube to Seven Sisters, then Walk	Stays in local area post-match	0.06%
Away fan	Tube to Seven Sisters, then Bus	Leave directly	0.49%
Away fan	Tube to Seven Sisters, then Bus	Stays in local area post-match	0.03%
Away fan	Rail to White Hart Lane	Leave directly	1.30%

Away fan	Rail to White Hart Lane	Stays in local area post-match	0.07%
Away fan	Rail to Northumberland Park	Leave directly	0.42%
Away fan	Rail to Northumberland Park	Stays in local area post-match	0.02%
Away fan	Car Driver/Passenger	Leave directly	0.54%
Away fan	Car Driver/Passenger	Stays in local area post-match	0.03%
Away fan	Bus	Leave directly	0.15%
Away fan	Bus	Stays in local area post-match	0.01%
Away fan	Coach	Leave directly	0.78%
Away fan	Coach	Stays in local area post-match	0.04%
Away fan	Taxi	Leave directly	0.00%
Away fan	Taxi	Stays in local area post-match	0.00%
Away fan	Tube to Tottenham Hale, then Walk	Leave directly	0.12%
Away fan	Tube to Tottenham Hale, then Walk	Stays in local area post-match	0.01%

Assumptions have been generated in relation to the direction of travel of spectators departing by rail to enable the assessment of pedestrian movements within stations. This is taken from the Indicative Transport Strategy, which was derived based upon the findings of surveys and observations made during matches in 2008 and verified in 2014. As no historical data for away fans direction of travel is available, the same split is assumed to apply for both Home and Away supporters.

Table 4.4 Assumed Proportions of Spectator Departures by Rail from each Direction

Station	Split of Demand - Weekend Afternoon	
	To Central London (incl. those interchanging at TH and SVS)	To the North
White Hart Lane NR	59%	41%
Northumberland Park NR	50%	50%

* 33% of spectators boarding the SB services at White Hart Lane are assumed to interchange onto the Victoria Line at Seven Sisters. 18% of spectators boarding the SB services at Northumberland Park are assumed to interchange onto the Victoria Line at Tottenham Hale.

At Seven Sisters, there are several options available to spectators on how they reach the Victoria Line from the Stadium during the Post-match period. They can interchange from bus services or National Rail services from White Hart Lane, or they can walk directly to the station. The split of direction of travel on the Victoria Line differs depending upon their initial travel mode.

- Of those who interchange from the Bus to the Victoria Line, 100% travel towards Central London.
- Of those who interchange from National Rail to the Victoria Line, 100% travel towards Central London.
- Of those who walk from the Stadium and board the Victoria Line, 100% travel towards Central London.

Similar options exist at Tottenham Hale. The following assumptions have been applied with regard to direction of travel for Victoria Line boarders at Tottenham Hale:

- Of those who interchange from National Rail to the Victoria Line, 35% travel towards Central London, 65% travel to the North.
- Of those who walk from the Stadium and board the Victoria Line, 73% travel towards Central London, 27% travel to the North.
- Of those who interchange from the Shuttle Bus, 80% go to the Victoria Line (40% to the South and 40% to the North) and 20% use National Rail (10% go North and 10% go South)

Modal Characteristics

The following sections of the Data Book consider the pedestrian movement assumptions associated with arrivals and departures by each mode. They provide information on the assumed point of entry and exit from the forecast model and pedestrian routes used.

Cycle

6.1. Network Information

It is assumed that Cycle Parking in the vicinity of the stadium will be distributed around the local area, including the likely provision of secure Cycle Parking facilities as part of the new Masterplan, close to the proposed superstore. For the purposes of demand forecasting, a Cycle Parking cluster is assumed to be located at node 78, and this is assumed to be used by all spectators cycling to/from the match.

6.2. Pedestrian Routes

Cyclists are assumed to use the shortest routes to walk between the Cycle Park and the four Stadium entrance/exit gates.

For those who cycle, but also visit destinations in the local area either before or after the match, they are assumed to cycle between the stadium and their pre/post-match destinations. Therefore the only pedestrian movements generated by these spectators are the short movements between the Stadium and the Cycle Parking locations.

Walk

7.1. Pedestrian Routes

Those spectators who walk all of the way to the Stadium will either come from an origin within the study area, or just outside. It is therefore necessary to specify the start and end points of their journey in order to represent their pedestrian activity in the demand forecasts.

For the purposes of modelling, all walk trips are assumed to start from one of eight nodes distributed around the Stadium, representing the major approach routes. These are nodes:

Å253

Å260

Å265

Å30

Å49

Å99

Å172

Å56

Spectators are assumed to use the shortest routes to/from the Stadium from these locations.

Analysis of data provided by the club on home locations of supporters with season tickets and those who have attended more than four home matches during the 2007/8 season, informs the allocation of walk demand to the eight sectors described above.

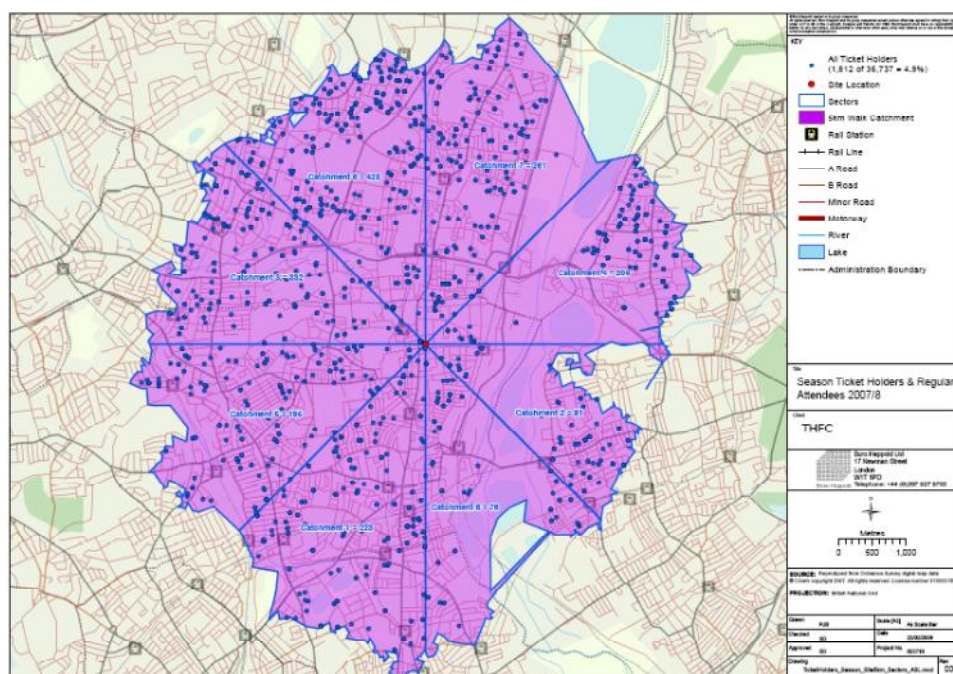
Following an analysis of a 5km walk buffer around the stadium as shown in Figure 7.2, the following proportions have been applied.

Table 7.1 Assumed Proportion of Walk Demand attributed to each Sector/Origin Node

Sector	Origin Node	Proportion of Demand
NNE	253	14.4%
ENE	260	11.4%
ESE	265	5.0%
SSE	30	4.2%

SSW	49	12.3%
WSW	99	10.8%
WNW	172	18.3%
NNW	56	23.6%

Figure 7.2 Analysis of the Distribution of Season Ticket Holders and Attendees of 4+ Home Matches during the 2007/8 season within a 5km Walk of the Stadium



For those who walk to the Stadium, but also visit destinations in the local area either before or after the match, the assumed routes between the various destinations and the above nodes are shown in Figure 7.1. It is assumed that those who walk will tend to visit those destinations that are broadly on their route between their point of origin/destination and the Stadium. Three destinations are associated with each walk origin, as shown in Table 7.3, with demand split evenly between each.

Table 7.3 Assumed Pre- or Post-Match Destinations for Different Walk Origins

Origin Node	Destination 1	Destination 2	Destination 3
253	Location 2	Location 4	Location 5

260	Location 2	Location 3	Location 7
265	Location 2	Location 3	Location 7
30	Location 7	Location 8	Location 10
49	Location 7	Location 8	Location 9
99	Location 5	Location 6	Location 9
172	Location 1	Location 5	Location 6
56	Location 1	Location 4	Location 5

Rail

8.1. Network Information

There are a number of rail stations within the vicinity of White Hart Lane Stadium. These are as follows:

• White Hart Lane (National Rail)

• Northumberland Park (National Rail)

• Bruce Grove (National Rail)

• Seven Sisters (National Rail and LU Victoria Line)

• Tottenham Hale (National Rail and LU Victoria Line)

For the purposes of demand forecasting, it is assumed that spectators travelling by rail will use White Hart Lane, Northumberland Park, Seven Sisters or Tottenham Hale stations. Bruce Grove is served by the same trains as White Hart Lane, but as White Hart Lane is closer to the Stadium it is assumed that all spectator boardings and alightings will take place there.

Note that White Hart Lane station is on the same route as Seven Sisters, therefore it is assumed that any spectators using these services will board and alight at White Hart Lane due to its proximity to the ground. Similarly, Northumberland Park is on the same line as Tottenham Hale, but substantially closer to the Stadium.

White Hart Lane is assessed in its current layout with the entrance/exit at the northern end of the station, although it should be noted that there are proposals from TfL for re-development of the facility - which would include the relocation of the entrance/exit further south. This is part of a masterplan for the wider area that in combination would have an impact on the pedestrian routes being used.

8.2. Pedestrian Routes

Upon arrival, all spectators are assumed to walk from the station along White Hart Lane towards the High Road, and then circulate via the shortest route to the four Stadium entrance gates. For other rail stations, the shortest distance is the default assumption.

During the immediate post-match period, it is assumed that spectators walking to White Hart Lane station will take different routes depending upon their direction of travel. This is in accordance with the assumption that different station entrances will be used for each platform. NB travellers are assumed to approach from the High Road via White Hart Lane and SB travellers are assumed to approach via Whitehall Street and Love Lane.

In terms of relative demand for different pre-match and post-match destinations, spectators travelling by rail are assumed to visit locations on their route between

the stadium and the station they are travelling to/from. The assumed locations for each station are described in the table below, with demand split evenly between each of the locations listed.

Table 8.1 Assumed Pre- or Post-Match Destinations for Different Rail Stations

Station	Destinations 1
White Hart Lane	• Location 5 • Location 6
Northumberland Park	• Location 2 • Location 3 • Location 4 • Location 7
Seven Sisters	• Location 7 • Location 8 • Location 10
Tottenham Hale	• Location 7 • Location 8 • Location 10

Car

9.1. Pedestrian Routes

Those spectators who use the Car to access the Stadium will park their vehicle either at a location within the study area, or just outside. It is therefore necessary to specify the distribution of the car parking in order to represent their pedestrian activity in the demand forecasts.

It is assumed that spectators who are dropped-off or picked-up close to the Stadium are considered as taxi users. All spectators who have travelled to the match by car will either have driven, or were passengers in a car whose driver is also attending the match, and have therefore parked their vehicle within the vicinity of the stadium.

Within the online surveys, spectators who had travelled to the match by car were asked the location in which they parked or were dropped off. The method used for this was to ask spectators to select the appropriate zone from the nine areas shown on the map in Figure 9.1.

Figure 9.1 Car Parking Zones within the Online Spectator Surveys



For the purposes of modelling, all pedestrian movement associated with car trips are assumed to emanate from one of nine nodes representing each of the zones shown in Figure 9.1. The nine nodes are:

A178 (Zone 1)

Å56 (Zone 2)

Å253 (Zone 3)

Å181 (Zone 4)

Å130 (Zone 5)

Å269 (Zone 6)

Å199 (Zone 7)

Å10 (Zone 8)

Å41 (Zone 9)

The assumption is that all pedestrian demand associated with car travel are represented by these nine nodes, and the demand is distributed in line with the findings of the March 2008 surveys, with different distributions for Saturdays, Sundays and Weekday scenarios.

Table 9.2 Assumed Distribution of Car Parking Pedestrian Origins (Midweek Evening Scenario)

Zone	Origin Node	Distribution of Demand
1	178	15.3%
2	56	26.4%
3	253	7.8%
4	181	12.5%
5	130	26.7%
6	269	5.5%
7	199	1.8%
8	10	3.5%
9	41	0.5%

For those who park their car and then walk to the Stadium, but also visit destinations in the local area either before or after the match, the assumed shortest routes will be used. It is assumed that these spectators will tend to visit those destinations that are broadly on their route between their point of origin/destination and the Stadium. A number of destinations are associated with each origin, as shown in Table 9.3, with demand split evenly between the destinations associated with each zone.

Table 9.3 Assumed Pre- or Post-Match Destinations for Different Car Parking Pedestrian Origins

Zone	Origin Node	Destination 1	Destination 2	Destination 3
1	178	Location 1	Location 5	Location 6
2	56	Location 1	Location 5	Location 7
3	253	Location 2	Location 3	Location 4
4	181	Location 7	Location 8	Location 9
5	130	Location 7	Location 8	
6	269	Location 2	Location 3	Location 7
7	199	Location 7	Location 8	Location 10
8	10	Location 7	Location 8	Location 10
9	41	Location 7	Location 8	Location 10

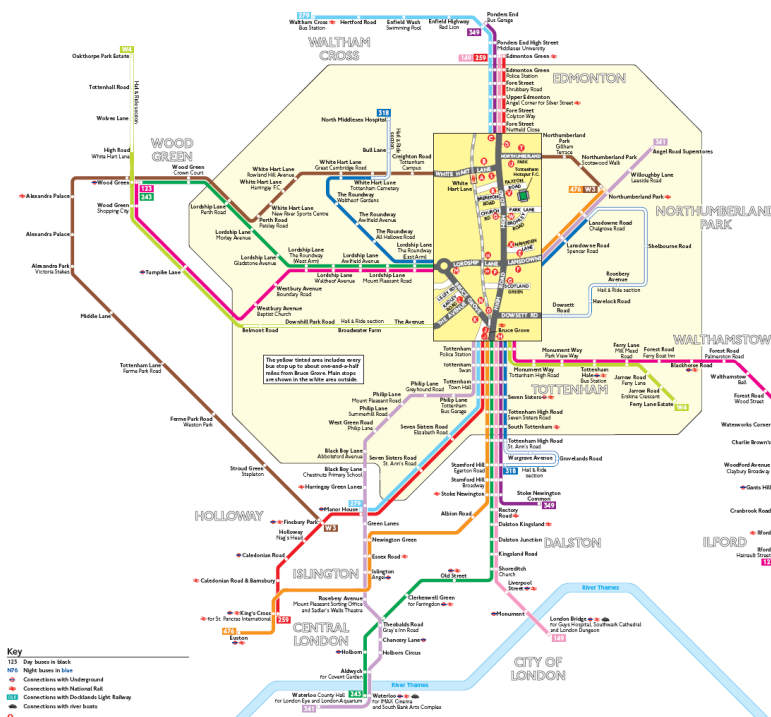
Bus

10.1. Network Information

There are several bus routes serving the Stadium and its vicinity. The locations of bus stops and routes are assumed to be as current, although the re-routing of bus routes and re-location of bus stops may form part of a future Masterplan for the area.

Figure 10.1 is an excerpt of a spider-map produced by TfL showing the routes passing through the local area, and the names attributed to the various bus stops.

Figure 10.1 Bus Routes serving the White Hart Lane and Bruce Grove area
(Source: Transport for London Buses, February 2008)



10.1.1. Arrivals

The following bus stops are assumed to be used by spectators accessing the Stadium on Matchdays, and the bus routes are assumed to remain operational during the pre-match period.

Table 10.2 Assumed Bus Stop Locations i Arrivals

Bus Route	Bus Stop Used (TfL Bus Map)	Node
149 NB	R	61

149 SB	V	61
259 NB	R	61
259 SB	V	61
279 NB	R	61
279 SB	V	61
349 NB	R	61
349 SB	V	61
W3 EB	T	57
W3 WB	U	57
318 EB	F	51
318 WB	E	51
341 EB	F	51
341 WB	E	51
476 EB	F	51
476 WB	E	51
123 EB	H	26
123 WB	J	26
243 EB	H	26
243 WB	J	26
W4 EB	H	26
W4 WB	J	26
34	Bus Stop on the North Circular	58 ²
444	Bus Stop on the North Circular	58

² Bus routes 34 and 444 travel along the North Circular, and the nearest bus stop to the stadium is approximately 20-30 minutes walk, a reasonable walking distance, but outside the geographical scope of the model. They are therefore assumed to enter the model at node 58.

On the basis of spectator surveys undertaken at matches during March 2008, it is possible to derive a split in usage of different bus routes used to reach the stadium. Assuming that all respondents alight at the bus stops listed above, the split of demand between bus stops upon arrival are as shown in the table below:

Table 10.3 Assumed Split of Demand by Bus Stop ĩ Arrivals

Node	Bus Routes Covered	Proportion of Bus Arrivals
61	149, 259, 279, 349	55.2%
57	W3	10.5%
51	318, 341, 476	13.2%
26	123, 243, W4	15.8%
58	34, 444	5.3%

This split only applies to those spectators arriving at the stadium by bus without interchanging from the Victoria Line at Seven Sisters station. All of those who interchange will alight at bus stop R (node 61).

For those bus users who visit a destination in the local area before the match, they are assumed to use the bus stop(s) closest to the location. Any bus interchange movements are not addressed within the model. The destinations are assumed to attract demand in proportion to their relative popularity as recorded in the March 2008 survey work (see Table 3.8), and where one location is served by more than one bus stop, the demand for that destination is equally divided between the two bus stops. This information is set out in Table 10.4.

Table 10.4 Assumed Bus Stop Locations used to access Pre- or Post-Match Destinations

Destination	Bus Stop(s) Used	Routes	Node
Location 1	C/D (High Road north of Northumberland Park junction)	149, 259, 279, 349	58
Location 2	Stop Near Northumberland Park Station	318, 341, 479	259
Location 3	Q/W (High Road south of Park Lane & Church Road)	149, 259, 279, 349	53
	Stop Near Northumberland Park Station	318, 341, 479	259
Location 4	Stop near Tarriff Road on Northumberland Park	W3	84

Location 5	C/D (High Road north of Northumberland Park)	149, 259, 279, 349	295
	T/U (Northumberland Park east of High Road)	W3	57
Location 6	S (High Road south of White Hart Lane)	149, 259, 279, 349	60
	A/B (Near White Hart Lane Station)	W3	299
Location 7	Q/W (High Road south of Park Lane & Church Road)	149, 259, 279, 349	53
Location 8	Q/W (High Road south of Park Lane & Church Road)	149, 259, 279, 349	53
Location 9	M (Junction of Lordship Lane and Bruce Grove)	123, 243, 318	49
Location 10	J/H (High Road junction with Bruce Grove)	123, 149, 259, 279, 318, 349, 476, W4	26

10.1.2. Departures

Observations at recent matches indicate that for a considerable time after the final whistle, the High Road is closed to traffic in the area outside the stadium. At these times, bus diversions are in place, therefore bus users are unable to use the bus stops immediately outside the ground.

It is assumed that bus users will be delayed by up to 30 minutes, and this therefore means that some potential bus users will not wait for these closures to end (particularly if heading to the Seven Sisters to interchange) and walk instead.

In general, the split of demand by bus stop is therefore assumed to be the same for departing spectators as for those arriving.

For those heading to post-match destinations prior to departing by bus, it is assumed that spectators would use the bus stops as set out in Table 10.4.

Coach

11.1. Network Information

It is assumed that Coach Parking to serve the stadium will be as current, located in West Road. For the purposes of demand forecasting, it is assumed to be located at node 253.

11.2. Pedestrian Routes

The most direct routes are assumed to be used to walk between the Coach Park and the four Stadium entrance/exit gates.

For those who travel by coach, but also visit destinations in the local area either before or after the match, it is assumed that the following destinations are visited by those arriving by coach, with demand distributed in equal proportions:

ÅLocation 2

ÅLocation 3

ÅLocation 4

ÅLocation 5

ÅLocation 7

ÅLocation 8

Taxi

12.1. Network Information

It is assumed that a Taxi Rank to serve the stadium will be made available as part of the new Masterplan, and that the most likely location for this will be to the west of the new stadium, on the High Road. For the purposes of demand forecasting, it is assumed to be located at node 61, and acts as both a point of drop-off and pick-up.

The taxi mode is assumed to include those spectators who are dropped-off before the match or picked-up after the match by car.

Therefore it refers to pick-up/drop-off by family or friends as well as by commercial taxi operations.

12.2. Pedestrian Routes

For those who travel by Taxi, but also visit destinations in the local area either before or after the match, it is assumed that they would be dropped off at the pre-match location, and then make their final journey to the stadium by foot. The opposite applies during the post-match period, whereby the journey to the post-match destination is by foot, with the taxi pick-up from that location to leave the local area. The assumed split of demand between the ten pre- and post-match destinations is as per the split derived from the March 2008 spectator surveys.

Shuttle Bus Services

13.1. Network Information

Two Shuttle Bus services have been assumed: one from Tottenham Hale Station and one from Alexandra Palace Station.

The operational configuration of the services will be discussed and agreed with TfL at a later stage, once THFC has contracted with a specific operator.

The key assumption is regarding availability of loading/unloading facilities at Tottenham Hale, where proximity and visibility will be key to the delivery of a Premium Service.

Assumptions regarding loading, unloading and turnaround times will be verified with the operator once selected.

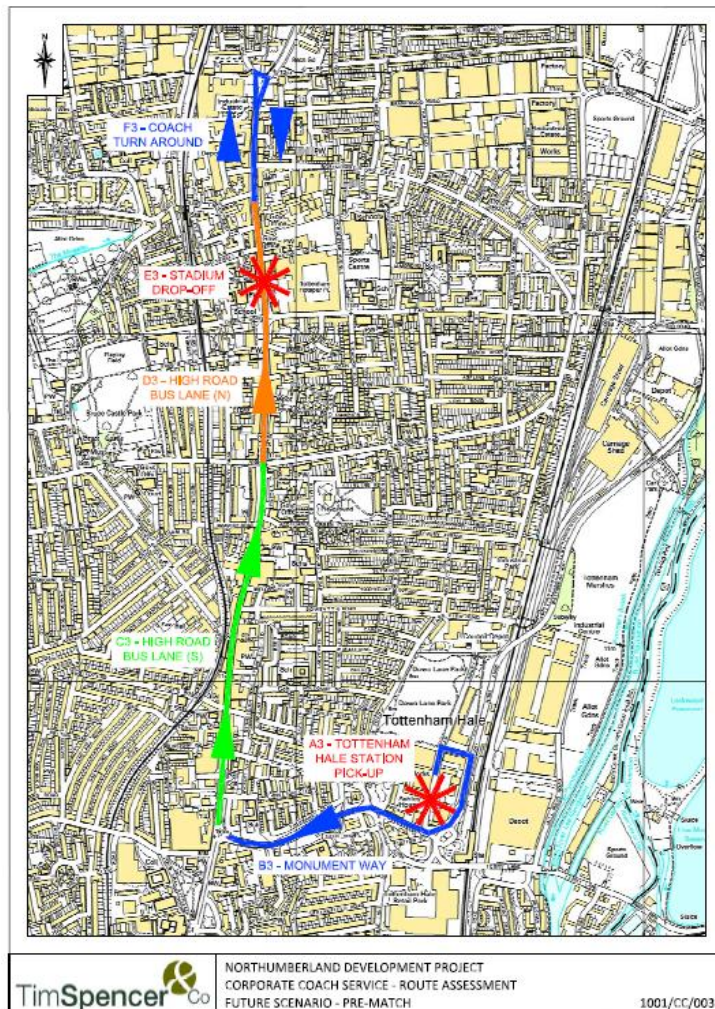
13.2. Demand using the different services

13.2.1. Tottenham Hale Shuttle Bus Service

The Tottenham Hale shuttle bus is designed to be a Premium Service, in line with the Hospitality proposals for the new stadium. The Stadium proposals include up to 9,000 seats at Box and Club levels. The scaling of the Premium Service is intended to provide capacity for a similar proportion of total spectators approaching via Tottenham Hale or environs. A Shuttle service open to all spectators travelling via these routes could not be sustained.

Note that as the service is aimed at principally those with access to hospitality, it is assumed that during the post-match period a different profile will apply to those using other modes of transport.

Figure 13.1 Shuttle Bus route serving Tottenham Hale Station

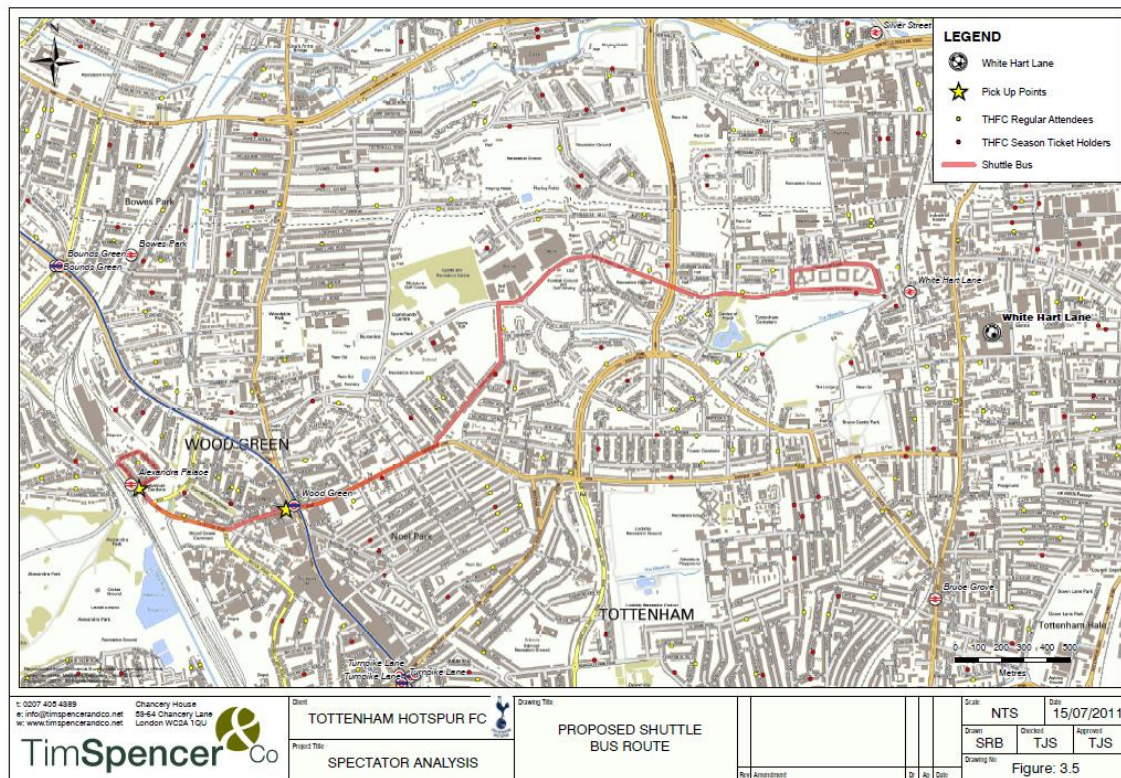


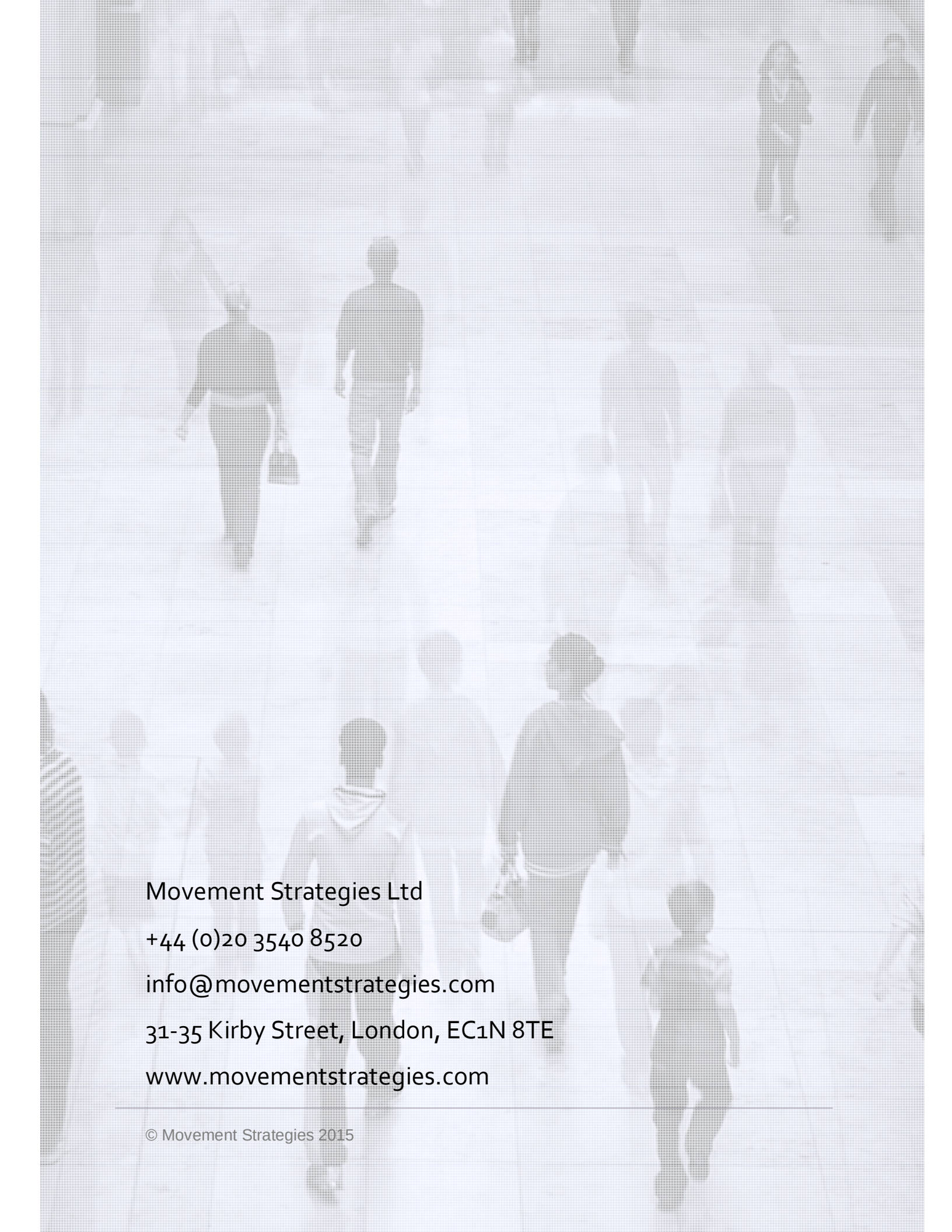
13.2.2. Alexandra Palace Shuttle Bus Service

The Alexandra Palace shuttle bus is designed to be a standard service, intended to capture spectators travelling on rail routes whose alternative route would be to interchange in Central London and arrive via Seven Sisters or Tottenham Hale.

All services will pick up at both Alexandra Palace and Wood Green, with the anticipated share of demand being split 75%:25% between Alexandra Palace and Wood Green station.

Figure 13.2 Shuttle Bus route serving Alexandra Palace and Wood Green Stations





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