Dalymount Park Stadium

Transport Assessment

IDOM Consulting, Engineering, Architecture SAU

7 September 2023

Doc. Ref:

102025-GHD-02-RP-V-0002-XX-XX

Status and Version:

S4-03

Project name		Dalymount Park Stadium, Dublin					
Document title		Dalymount Park Stadium | Transport Assessment					
Project number		12566183					
File name		102025-GHD-02-RP-V-0002-XX-XX S4-03 Transport Assessment.docx					
Status Code	**Revision**	**Author**	**Reviewer**		**Approved for issue**		
			Name	**Signature**	**Name**	**Signature**	**Date**
S0	03	H Laker	P Longman				
S0	04	H Laker	P Longman				
S0	05	H Laker	P Longman				
S3	01	H Laker	P Longman				
S4	01	P Longman					
S4	02	H Laker	P Longman		A Gooch		8/8/23
S4	03	H Laker	P Longman		A Gooch		7/9/23

Gutteridge Haskins & Davey Limited | CN 05528602

Floor 10, 25 Farringdon Street

London, EC4A 4AB, United Kingdom

T +44 203 077 7900 | **F** +44 203 077 7901 | **E** londonmail@ghd.com | **ghd.com**

Contents

Table index

Figure index

Appendices

1. Introduction

1.1 Background

Dalymount Park Stadium opened in 1901 and is often referred to as the oldest football stadium in Ireland. At its peak in the 1940s and 1950s it regularly hosted crowds of 40,000 spectators but fell into decline by the 1980s. By the end of the 1990s the old wooden stand was replaced, and the terraced areas were either closed or had seating installed.

The current stadium has a capacity of circa. 4,470 and hosts around 30 men's and women's football matches for Bohemian Football Club. Dublin City Council (DCC) aspire to redevelop the stadium site to provide a modern circa. 8,000 capacity UEFA Category 3 stadium that would continue to be home to Bohemian FC and deliver flexible community facilities and improved public realm.

Gutteridge Haskins and Davey Ltd (GHD) in partnership with Allan Gooch Associates Ltd (AGA) has been appointed by IDOM Consulting, Engineering, Architecture SAU (IDOM) to provide advice on transport and crowd movement relating to the redevelopment of the stadium. This Transport Assessment report is one of a series of GHD documents produced to support the planning application. The other related documents are as follows:

a. Baseline Transport Conditions report, containing detailed information describing the existing transport networks in the vicinity of the site and survey results that have been used to inform this Transport Assessment.
b. Outline Construction Traffic Management Plan.

1.2 Purpose and Structure of this report

This report provides the proposed access and travel strategy for the proposed development and assesses the impact of the proposals on the transport networks. This report is structured as follows:

Chapter 2 sets out the **policy context** relevant to the proposed development.

Chapter 3 presents the existing **travel behaviour** of spectators using the stadium and forecasts the trips by mode expected to be generated by the proposed stadium.

Chapter 4 provides a description of the **development proposals** related to transport.

Chapter 5 presents trip generation calculations for the Site proposals along with the impact on the **highways and parking** networks.

Chapter 6 provides trip generation calculations for **sustainable modes** and the effects of the development on the sustainable transport networks.

Chapter 7 sets out a **Mobility Management Plan** to support the sustainability of the new stadium.

Chapter 8 provides the **summary and conclusions** to the report.

1.3 Scope and Limitations

The scope of this Transport Assessment was discussed and agreed with DCC. For the purposes of this assessment, we have assessed the effects of a 'worst case' of a capacity attendance.

This report has been prepared by GHD for IDOM on behalf of DCC and may only be used and relied on by IDOM for the purpose agreed between GHD and IDOM.

GHD otherwise disclaims responsibility to any person other than IDOM arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by IDOM, which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and surveys undertaken at or in connection with, specific sample points. Site conditions at other parts of the Site may be different from the site conditions found at the specific sample points.

GHD has prepared the SENSE model ("Model") for, and for the benefit and sole use of, IDOM to support the assessment of crowd flow in the area around the stadium as described in Chapter 6 and must not be used for any other purpose or by any other person.

The Model is a representation only and does not reflect reality in every aspect. The Model contains simplified assumptions to derive a modelled outcome. The actual variables will inevitably be different to those used to prepare the Model. Accordingly, the outputs of the Model cannot be relied upon to represent actual conditions without due consideration of the inherent and expected inaccuracies. Such considerations are beyond GHD's scope.

The information, data and assumptions ("Inputs") used as inputs into the Model are from survey data collected specifically for the project, publicly available sources or provided by or on behalf of IDOM, (including possibly through stakeholder engagements). GHD has not independently verified or checked Inputs beyond its agreed scope of work. GHD's scope of work does not include review or update of the Model as further Inputs becomes available.

The Model is limited by the mathematical rules and assumptions that are set out in the Report or included in the Model and by the software environment in which the Model is developed.

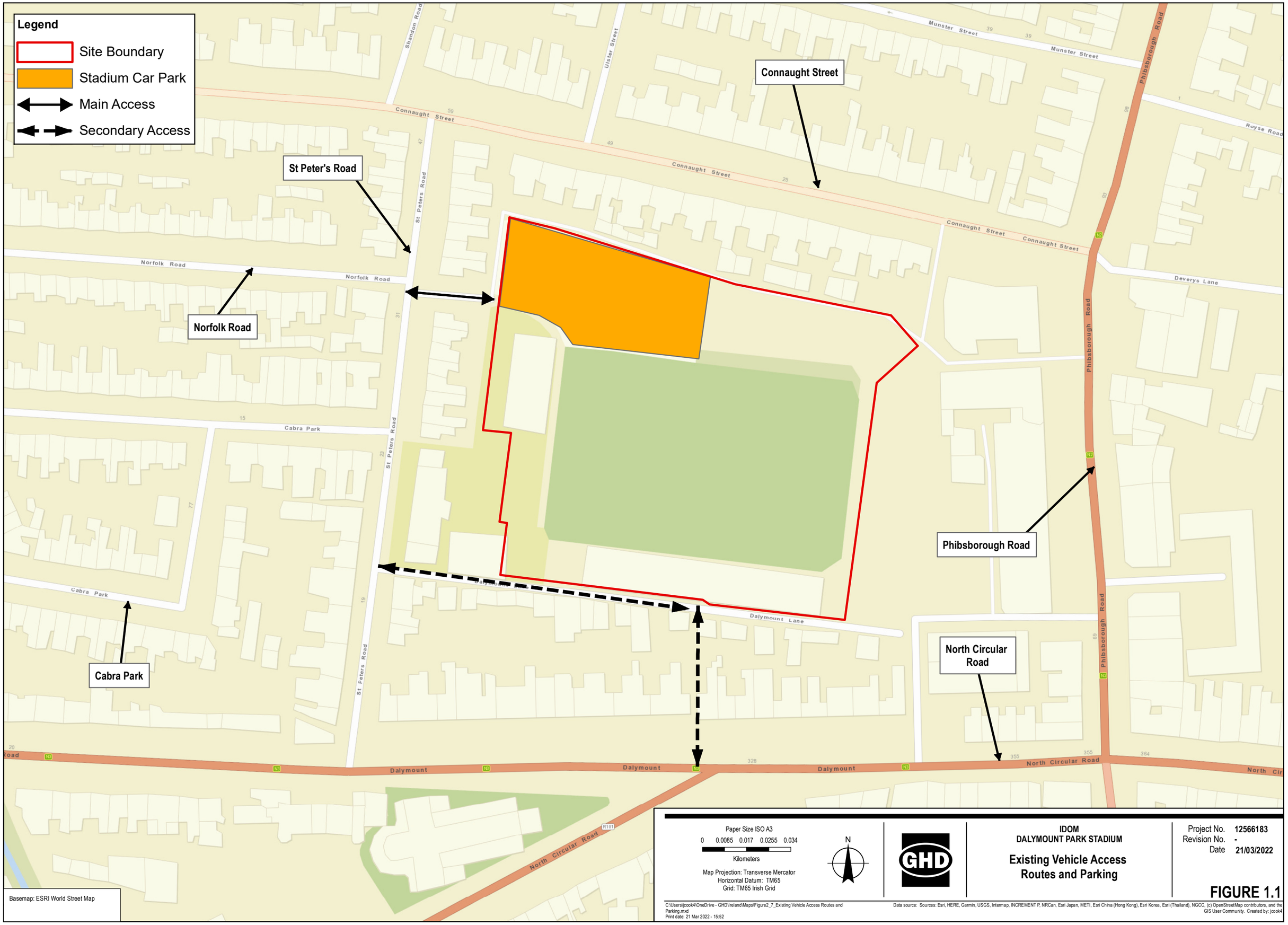
The Model is a customised model and not intended to be amended in any form or extracted to other software for amending. Any change made to the Model, other than by GHD, is undertaken on the express understanding that GHD is not responsible, and has no liability, for the changed Model including any outputs.

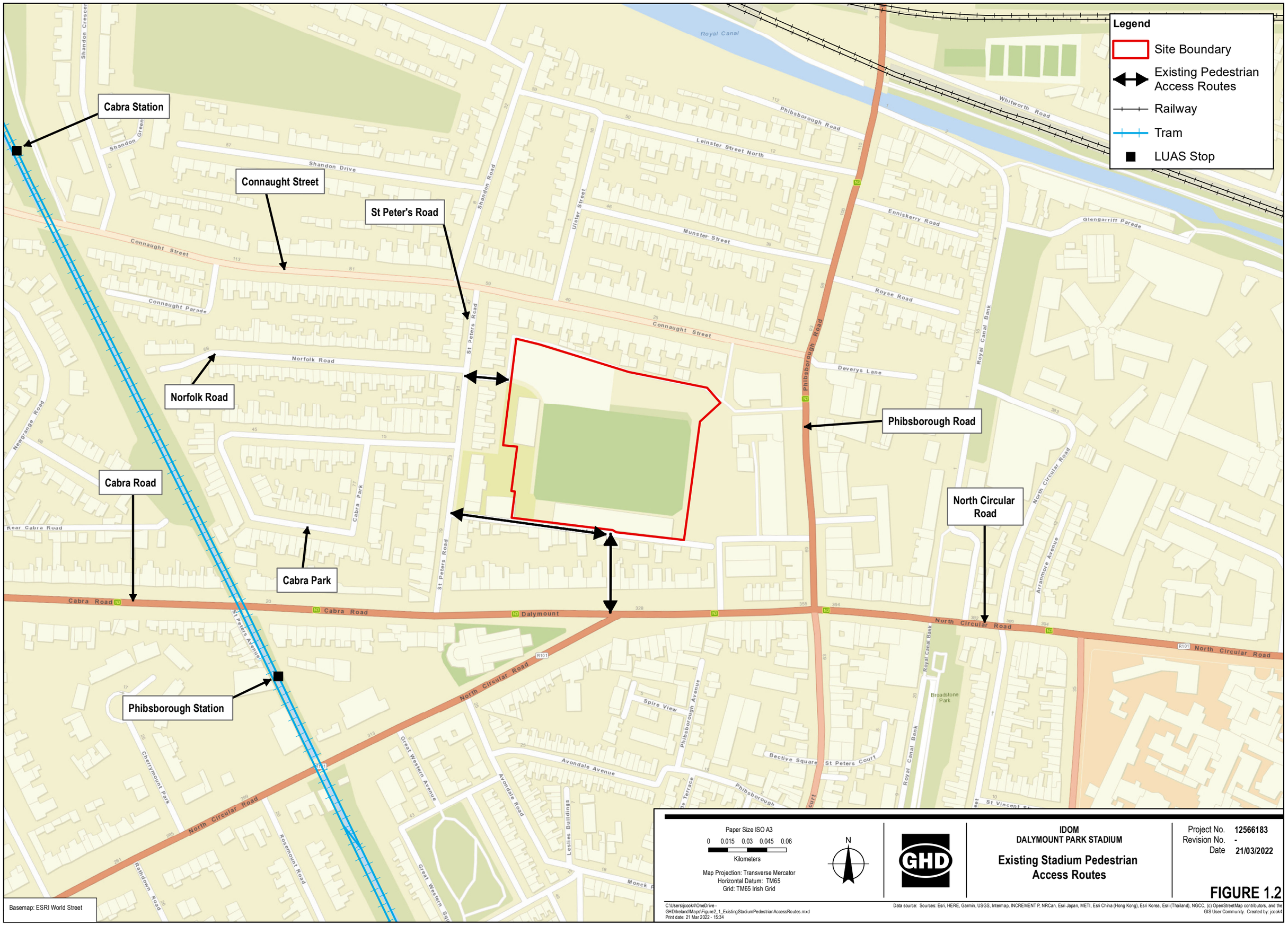
1.4 Existing Site

The stadium site is located in Phibsborough, Dublin 7, bounded to the east by Phibsborough Road, to the south by Cabra Road/North Circular Road, to the north by Connaught Street and to the east by St. Peter's Road. The surrounding area is predominantly residential in nature consisting of terraced housing. St. Peter's National School lies directly adjacent to the site in the west. Phibsborough Shopping Centre lies directly adjacent to the east.

The site can currently be accessed via two locations on St. Peter's Road, one on North Circular Road, and one on Connaught Street. The northernmost access on St. Peter's Road provides access for vehicles and pedestrians to the on-site parking area. The southernmost access on St. Peter's Road and the access on North Circular Road provide pedestrian access to the southern stand. These two accesses have sufficient width for one-way traffic flow and provide access to adjacent residential properties as well as to the stadium, which has accesses wide enough for vehicles in the southeast and southwest corners of the site. The access on Connaught Street leads to a small area adjacent to the stadium currently used as parking and to the access to Phibsborough Shopping Centre car park. This access is not currently used to access the stadium.

Figure 1.1 presents the existing vehicle access route and location of on-site parking for the stadium. Figure 1.2 presents the existing pedestrian access routes.


Legend
Site Boundary
Stadium Car Park
Main Access
Secondary Access
Connaught Street
St Peter's Road
Norfolk Road
Cabra Park
Phibsborough Road
North Circular Road
Dalymount Lane
Basemap: ESRI World Street Map
Paper Size ISO A3
0 0.0085 0.017 0.0255 0.034
Kilometers
Map Projection: Transverse Mercator
Horizontal Datum: TM65
Grid: TM65 Irish Grid
N
IDOM
DALYMOUNT PARK STADIUM
Existing Vehicle Access Routes and Parking
Project No. 12566183
Revision No. -
Date 21/03/2022
FIGURE 1.1
C:\Users\jcook4\OneDrive - GHD\Ireland\Maps\Figure2_7_Existing Vehicle Access Routes and Parking.mxd
Print date: 21 Mar 2022 - 15:52
Data source: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community. Created by: jcook4


Legend
Site Boundary
Existing Pedestrian Access Routes
Railway
Tram
LUAS Stop
Cabra Station
Connaught Street
St Peter's Road
Norfolk Road
Phibsborough Road
Cabra Road
Cabra Park
North Circular Road
Phibsborough Station
Royal Canal
Whitworth Road
Phibsborough Road
Leinster Street North
Shandon Drive
Shandon Road
Ulster Street
Munster Street
Enniskerry Road
Glengarriff Parade
Royse Road
Connaught Parade
St Peters Road
Deverys Lane
Royal Canal Bank
Newgrange Road
Rear Cabra Road
Cabra Park
Dalymount
North Circular Road
Spire View
Phibsborough Avenue
Bective Square
St Peters Court
Avondale Avenue
Great Western Avenue
Avondale Road
Leslies Buildings
Broadstone Park
Arranmore Avenue
Cherrymount Park
Rosemount Road
Raindown Road
St Peters Avenue
Basemap: ESRI World Street
Paper Size ISO A3
0 0.015 0.03 0.045 0.06
Kilometers
Map Projection: Transverse Mercator
Horizontal Datum: TM65
Grid: TM65 Irish Grid
N
GHD
IDOM
DALYMOUNT PARK STADIUM
Existing Stadium Pedestrian Access Routes
Project No. 12566183
Revision No. -
Date 21/03/2022
FIGURE 1.2
C:\Users\jcook4\OneDrive - GHD\Ireland\Maps\Figure2_1_ExistingStadiumPedestrianAccessRoutes.mxd
Print date: 21 Mar 2022 - 15:34
Data source: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community. Created by: jcook4

2. Transport Policy

2.1 Introduction

This Chapter provides a review of relevant national, regional and local policy and guidance documents that has influenced the development proposals and the Transport Assessment. The policy documents reviewed in this Chapter are as follows:

a. National Planning Framework (2018)

b. National Development Plan (2021-2030)

c. Dublin City Development Plan (2022-2028)

d. Phibsborough Local Environmental Improvements Plan (2017-2022)

2.2 National Policy

2.2.1 National Planning Framework (2018)

The National Planning Framework (NPF) is the Government's high-level strategic plan for shaping the future growth and development to the year 2040. The purpose of the NPF *"is to enable all parts of Ireland, whether rural or urban, to successfully accommodate growth and change"*.

In the capital the NPF strategy aims to:

a. Support *"the future growth and success of Dublin as Ireland's global city of scale, by better managing Dublin's growth to ensure that more of it can be accommodated within and close to the city."*

b. Enable *"significant population and jobs growth in Dublin metropolitan area, together with better management of the trend towards overspill into surrounding counties."*

c. Address *"infrastructural bottlenecks, improving citizens' quality of life and increasing housing supply in the right locations."*

The NPF is focused on policies, actions and investment to deliver 10 National Strategic Outcomes. National Strategic Outcome 4 – Sustainable Mobility sets out measures to expand public transport alternatives to car transport to reduce congestion and emissions. The measures include:

a. "Deliver the key public transport objectives of the Transport Strategy for the Greater Dublin Area 2016-2035 by investing in projects such as New Metro Link, DART Expansion Programme, BusConnects in Dublin and key bus-based projects in the other cities and towns.

b. Provide public transport infrastructure and services to meet the needs of smaller towns, villages and rural areas.

c. Develop a comprehensive network of safe cycling routes in metropolitan areas to address travel needs and to provide similar facilities in towns and villages where appropriate."

The proposed development supports National Strategic Outcome 4 with a significant reduction in car parking provision and provision of cycle parking spaces to meet expected demand with the ability to increase provision if demand requires.

2.2.2 National Development Plan (2021 – 2030)

The National Development Plan (NDP) sets out the Government's investment strategy and budget for the period 2021-2030. It values the importance of investment in sustainable mobility where the scale of Transport related requirements under the revised NDP amounts to €35 billion in total over 2021-2030.

> *'The NDP Review contains a range of investments and measures which will be implemented over the coming years to facilitate the transition to sustainable mobility. These measures include significant expansions to public transport options, including capacity enhancements on current assets and the creation of new public transport links through programmes such as MetroLink.'*

The MetroLink will provide a new interchange station near Dalymount Park Stadium which will complement the existing excellent public transport services in the area.

2.3 Regional Policy

2.3.1 Dublin City Development Plan (2022 – 2028)

The Dublin City Development Plan sets out *"how the city will develop to meet the needs of all residents, workers and visitors. The aim of the plan is to improve the quality of life for its citizens, and make sure that Dublin City is an attractive place to live, work and visit."*

The development plan sets out a number of policies and objectives to support sustainable travel and guide growth and development. In the context of the Dalymount Park Stadium redevelopment, the following policies and objectives are relevant.

2.3.1.1 Sustainable Movement and Transport Policies

Relevant polices related to Sustainable Movement and Transport contained in the Dublin City Development Plan are as follows:

> ***"SMT1 Modal Shift and Compact Growth:*** *To continue to promote modal shift from private car use towards increased use of more sustainable forms of transport such as active mobility and public transport, and to work with the National Transport Authority (NTA), Transport Infrastructure Ireland (TII) and other transport agencies in progressing an integrated set of transport objectives to achieve compact growth.*
>
> ***SMT2 Decarbonising Transport:*** *To support the decarbonising of motorised transport and facilitate the rollout of alternative low emission fuel infrastructure, prioritising electric vehicle (EV) infrastructure.*
>
> ***SMT6 Mobility Management and Travel Planning:*** *To promote best practice mobility management and travel planning through the requirement for proactive mobility strategies for new developments focussed on promoting and providing for active travel and public transport use while managing vehicular traffic and servicing activity.*
>
> ***SMT9 Public Realm in New Developments:*** *To encourage and facilitate the co-ordinated delivery of high quality public realm in tandem with new developments throughout the city in collaboration with private developers and all service/utility providers, through the Development Management process.*
>
> ***SMT11 Pedestrian Network:*** *To protect, improve and expand on the pedestrian network, linking key public buildings, shopping streets, public transport points and tourist and recreational attractions whilst ensuring accessibility for all, including people with mobility impairment and/or disabilities, older persons and people with children.*
>
> ***SMT16 Walking, Cycling and Active Travel:*** *To prioritise the development of safe and connected walking and cycling facilities and prioritise a shift to active travel for people of all ages and abilities, in line with the city's mode share targets.*
>
> ***SMT17 Active Travel Initiatives:*** *To promote and help develop community-based coordinated initiatives at local level that encourage active travel and modal switch to sustainable transport modes, and to target underrepresented cohorts/groups in such initiatives.*

SMT18 The Pedestrian Environment: *To continue to maintain and improve the pedestrian environment and strengthen permeability by promoting the development of a network of pedestrian routes including laneway connections which link residential areas with recreational, educational and employment destinations to create a pedestrian environment that is safe, accessible to all in accordance with best accessibility practice.*

SMT19 Integration of Active Travel with Public Transport: *To work with the relevant transport providers, agencies and stakeholders to facilitate the integration of active travel (walking/cycling etc.) with public transport, ensuring ease of access for all.*

SMT26 Commuter, Shopping, Business and Leisure Parking: *To discourage commuter parking and to ensure adequate but not excessive parking provision for short-term shopping, business and leisure uses.*

SMT29 Expansion of the EV Charging Network: *To support the expansion of the EV charging network by increasing the provision of designated charging facilities for Electric Vehicles on public land and private developments in partnership with the ESB and other relevant stakeholders; and to support the Dublin Regional EV Parking Strategy."*

2.3.1.2 Sustainable Movement and Transport Objectives

The objectives of the Dublin City Development Plan are:

"SMTO1 Transition to More Sustainable Travel Modes: *To achieve and monitor a transition to more sustainable travel modes including walking, cycling and public transport over the lifetime of the development plan, in line with the city mode share targets of 26% walking/cycling/micro mobility; 57% public transport (bus/rail/Luas); and 17% private (car/van/HGV/motorcycle).*

SMTO2 Improving the Pedestrian Network: *To improve the pedestrian network, and prioritise measures such as the removal of slip lanes, the introduction of tactile paving, ramps, raised tables and kerb dishing at appropriate locations, including pedestrian crossings, street junctions, taxi ranks, bus stops and rail platforms in order to optimise safe accessibility for all users.*

SMTO12 Cycle Parking Spaces: *To provide publicly accessible cycle parking spaces, both standard bicycle spaces and non-standard for adapted and cargo bikes, in the city centre and the urban villages, and near the entrance to all publicly accessible buildings such as schools, hotels, libraries, theatres, churches etc. as required.*

SMTO14 Cycle Parking Facilities: *To promote and facilitate, in co-operation with key agencies and stakeholders, the provision of high density cycle parking facilities, as well as parking for cargo and adapted bicycles at appropriate locations, taking into consideration the NTA's GDA Cycle Network Plan, and Dublin City Council's Public Realm Strategy.*

SMTO17 Additional Interchanges and Rail Stations: *(i) To promote and seek the development of a new interchange station at Cross Guns Glasnevin, subject to environmental requirements being satisfied and appropriate planning consents being obtained, as part of the DART+ and Metro link projects. (ii) To promote the provision of a station at Croke Park Stadium. (iii) To promote and seek provision of additional stations as part of the DART+ projects in consultation with Iarnród Éireann/Irish Rail.*

SMTO21 Cross Guns Bridge: *To seek improvements to Cross Guns Bridge for pedestrian and cycle users, taking into consideration the BusConnects and Metrolink projects."*

The development proposals provide a reduced level of car parking with disabled-accessible spaces and electric vehicle charging facilities to support a sustainable development. New public realm will function to support additional spectator movements on event days and provide a greatly enhanced pedestrian environment to encourage walking trips. The Mobility Management Plan (Chapter 7) provides potential measures to encourage a mode shift from private vehicles to sustainable modes on event and non-event days.

2.4 Local Policy

2.4.1 Phibsborough Local Environmental Improvements Plan (2017-2022)

The Local Environmental Improvement Plan (LEIP) has been prepared for the village of Phibsborough and its surroundings. The primary focus of the plan is the improvement of the public realm and those parts of the urban neighbourhood which are for use by everyone and includes streets, squares, parks, public buildings, and accessible ground floor uses.

It is a 5-year working document with the focus on identifying a range of actions and /or programmes to improve the local environment and includes reference to the redevelopment of Dalymount Park:

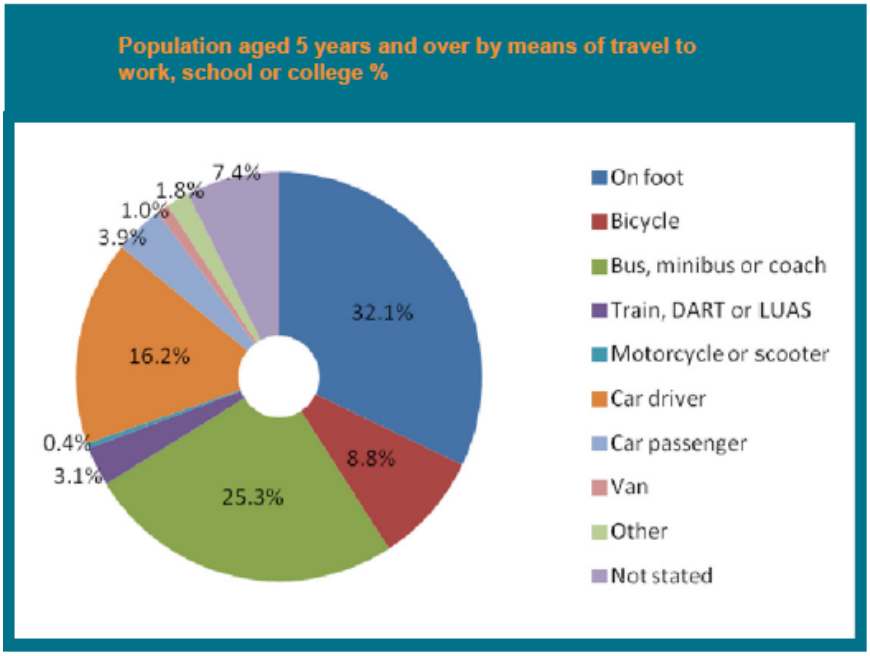
> *"The grounds at Dalymount Park have been home to the Bohemian Football Club since 1901, historically hosting many key international matches, but recently used more for home games of Bohemians FC. The site which is in need of extensive refurbishment and investment was recently purchased by Dublin City Council with the aim of retaining the soccer focus of this site and also to expand the sporting and community use in future redevelopment. It is the aspiration of the City Council to redevelop this site and to provide Phibsborough and the north side of Dublin with a key piece of sporting infrastructure fit for the 21st century. As part of any redevelopment proposal it is hoped to celebrate the rich sporting heritage of the site."*

The LEIP acknowledges the local area is a *"largely congested and car dominated village centre"* as *"three national routes converge, the N1, N2 and N3 national primary routes".*

> *"By virtue of its location at the edge of the city centre the population of Phibsborough has a predominantly sustainable means of commuting to work/school/ college, with 32% walking, 25% commuting by bus and 9% by bicycle. Maintaining and enhancing bus priority measures in addition to enhancing the public realm for pedestrians and cyclists was one of the key issues addressed by members of the public during the public consultation process."*

A local modal survey for the population aged 5 years and over is shown below in **Error! Reference source not found.Error! Reference source not found.**.

Figure 2.1 Means of Travel to Work, School or College (Phibsborough



The LEIP provides a number of key objectives / actions that are relevant to the Dalymount Park Stadium redevelopment, including:

> *"31. Carry out a review of Doyle's Corner and the junction of Phibsborough Road and Connaught Street, following the operation of Luas Cross City with an objective of seeking visual and public domain improvements and enhancing pedestrian and cyclist experiences.*
>
> *34. Explore the feasibility of widening the pedestrian footpath outside St. Peter's National School.*
>
> *37. At a more local level explore the use of the laneways within the area as alternative cycle routes.*
>
> *38. Provide more secure cycle parking in the area.*
>
> *39. Support the extension of the dublinbikes scheme throughout the area.*
>
> *40. Support and facilitate the wayfinding exercise, which is currently underway, and to implement a safety strategy for all pedestrian/cycle routes to include the provision of directional signage and CCTV cameras where appropriate."*

2.5 Guidance

Car and cycle parking standards are provided in the appendices within the Dublin City Development Plan (2022-2028).

2.5.1 Car Parking Standards

The car parking standards ensure that the appropriate level of parking is provided to serve all new developments and provide maximum standards for various land uses.

Dublin City is divided into 3 areas for the purpose of Parking control:

- *"Parking Zone 1 is generally within the Canal Cordon and within North Circular Road in recognition of active travel infrastructure and opportunities and where major public transport corridors intersect;*
- *Parking Zone 2 occurs alongside key public transport corridors and;*
- *The remainder of the City falls under Parking Zone 3."*

Table 2.1 provides an extract of the car parking standards required for the land uses at Dalymount Park Stadium, which lies in Parking Zone 2.

Table 2.1 Maximum Car Parking Standards

Category	Land-Use	Zone 1	Zone 2	Zone 3
Civic, Community and Religious	Community Centre	1 per 350 sqm GFA	1 per 275 sqm GFA	1 per 75 sqm GFA
Retail and Retail Service	Café, Restaurant	None	1 per 300 sqm seating area	1 per 50 sqm seating area
	Public Houses	None	1 per 275 sqm NFA	1 per 75 sqm NFA
	Other Retail	1 per 350 sqm GFA	1 per 275 sqm GFA	1 per 75 sqm GFA
Enterprise and Employment	Offices	None*	1 per 200 sqm GFA	1 per 35 sqm GFA
Sports and Recreation	Gymnasium / Leisure Centres	Dependent on nature and location of use		
Venue	Stadia	1 per 100 seats	1 per 25 seats	1 per 10 seats

* *Parking for Car Share and Accessible Parking only. Quantum to be determined in consultation with DCC.*

In addition, the guidance recommends stadia should include 1 coach space per 500 spectators.

Dalymount Park Stadium is located within comfortable walking distance of several bus services and multiple train stations. The level of car parking provision (12) has been provided to cater for staff parking demand within limited on-site space without encouraging additional travel by private car and to support the sustainable travel options available.

2.5.1.1 Electric Vehicles (EV)

In accordance with Policy SMT29, all new developments must be futureproofed to include EV charging points and infrastructure. In all new developments, a minimum of 50% of all car parking spaces shall be equipped with fully functional EV Charging Point(s). The remaining spaces shall be designed to facilitate the relevant infrastructure to accommodate future EV charging.

The parking provision proposed for Dalymount Park Stadium meets these requirements, with 6 of the 12 on-site parking space provided with active charging points and the remaining 6 provided with passive provision that can be electrified when the demand for electric vehicle charging requires it.

2.5.2 Cycle Parking Standards

Bicycle parking is divided into two categories: long term spaces are designed for use by residents and employees and should aim to be located in a secure and well-lit area. Short stay/visitor spaces are designed for use by the general public and shall be located in highly visible areas for ease of access. Table 2.2 summarises the required cycle parking standards for the uses at Dalymount Park.

Table 2.2 Cycle Parking Standards

Category	Land-Use	Zone	Long Term	Short Stay/Visitor
Civic, Community and Religious	Community Centre	All Zones	1 per 5 staff	1 per 100 sqm GFA
Retail and Retail Service	Café, Restaurant	All Zones	1 per 5 staff	1 per 10 seats
	Public Houses	All Zones	1 per 5 staff	1 per 150 sqm GFA
	Retail	All Zones	1 per 5 staff	1 per 100 sqm GFA
Enterprise and Employment	Offices	All Zones	1 per 75 sqm GFA	To be determined by the planning authority on a case-by-case basis
Sports and Recreation	Gymnasium / Leisure Centres	All Zones	1 per 5 staff	1 per 50 sqm GFA
Venue	Stadia	All Zones	1 per 5 staff	1 per 20 seats

The redevelopment of Dalymount Park Stadium will provide a sufficient number of cycle parking spaces to accommodate the anticipated non-event day demand. A total of 50 bicycle parking spaces (25 stands) are proposed within the site to cater for the needs of the community facility (20 spaces), offices/club shop (10 spaces) and the club bar and stadium operations (20 spaces). This is deemed sufficient to service the development and to ensure no safety impacts or collisions occur between pedestrians and cyclists, particularly on event days.

DCC continues to roll out the installation of Sheffield stands around the city that will benefit the development. This again will cater for cyclists outside of the site, encouraging dismounting before entering the grounds. The club will investigate the opportunity to provide temporary cycle parking for event days at appropriate locations through the Event Management Strategy (see Chapter 3) if demand requires. The provision would be monitored on an on-going basis and could be increased accordingly based on demand.

3. Development Proposal

3.1 Summary of Proposed Development

This application seeks permission for the demolition of the existing Dalymount Park Stadium and construction of a new football stadium with an increased capacity to facilitate a total of circa 8,000 spectators. The stadium will cater for seating of approximately 6,200 spectators and a terrace which will facilitate approximately 1,800 standing spectators. The development includes the reorientation of the pitch from the existing east-west orientation to lie on a north-south axis.

The proposal also includes the construction of a two-storey community facility in the north-eastern corner of the Site which includes a multi-purpose room and associated facilities at ground level and a gym facility on the second level.

The proposed site plan is contained within Appendix A to this report.

3.2 Event Day

3.2.1 Event Schedule

Table 3.1 presents the type and number of events held at the stadium in 2022 and scheduled for 2023 (as of 27/6/23).

Table 3.1 Schedule of Events for 2022 and 2023

Event	Number of Events	
	2022	2023
SSE Airtricity League Premier Division	18	18
Leinster Senior Cup	-	1
FAI Cup	1	1
League of Ireland First Division Play-Off	1	-
SSE Airtricity Women's Premier Division	-	10
Women's National League	13	-
Women's All Island Cup	-	1
Women's FAI Cup	2	-
Total	**35**	**31**

Source: https://bohemianfc.com/

A total of 35 matches were held at the stadium in 2022, including a League of Ireland First Division play-off match between Bray Wanderers FC and University College Dublin.

The proposed Dalymount Park Stadium will continue to be home to Bohemian FC men's and women's teams. Both teams are currently in the Premier Division of their leagues and will continue to play 18 and 10 league matches per season respectively while this remains the case. These teams may also play domestic cup games at

the stadium depending on their progress in the competitions. Both teams also have the potential to play in European competitions depending on their success in the domestic league.

Although the number of events per annum can vary depending on the number of cup games the teams qualify for, the number of events in Table 3.1 is expected to represent a typical number of events held at the stadium.

3.2.2 Spectator Access

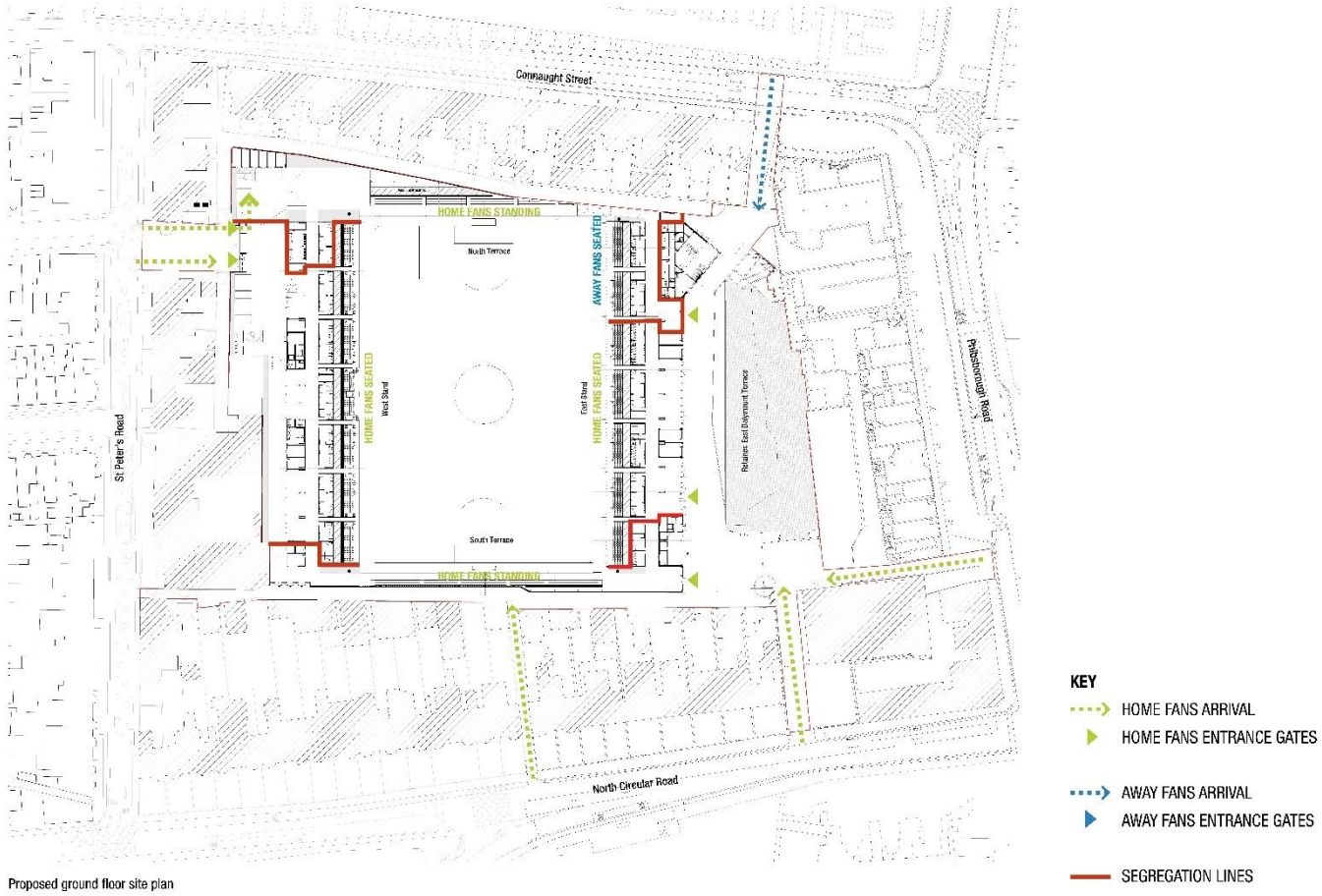
Spectators currently access the west stand from St. Peter's Road and the south stand from Dalymount Lane via either St. Peter's Road or the lane routing north from North Circular Road. The north and east stands are closed.

Dalymount Lane is approximately 2.9 metres in width at its narrowest and 3.9 metres at its widest sections and experiences congestion, particular in the post-event egress period. Sections of the lane are dimly lit and have little natural surveillance from overlooking properties.

The proposals significantly open up spectator access routes providing greatly improved access via the links to Connaught Street to the north, Phibsborough Road to the east and North Circular Road to the south. Staff, players and Media are expected to arrive via St. Peter's Road into the West Stand.

Figure 3.1 presents the proposed spectator access routes. Analysis of spectator flows on egress is provided in Chapter 6.

Figure 3.1 Proposed Spectator Access Routes



Source: IDOM

3.2.3 Vehicle Access and Parking

In the vicinity of the site, vehicles access the site via five routes:

a. Phibsborough Road
b. Cabra Road
c. North Circular Road
d. Connaught Street
e. St. Peter's Road.

Existing event and non-event day traffic flows on these routes are contained in the Baseline Transport Conditions report and are referred to later in this report.

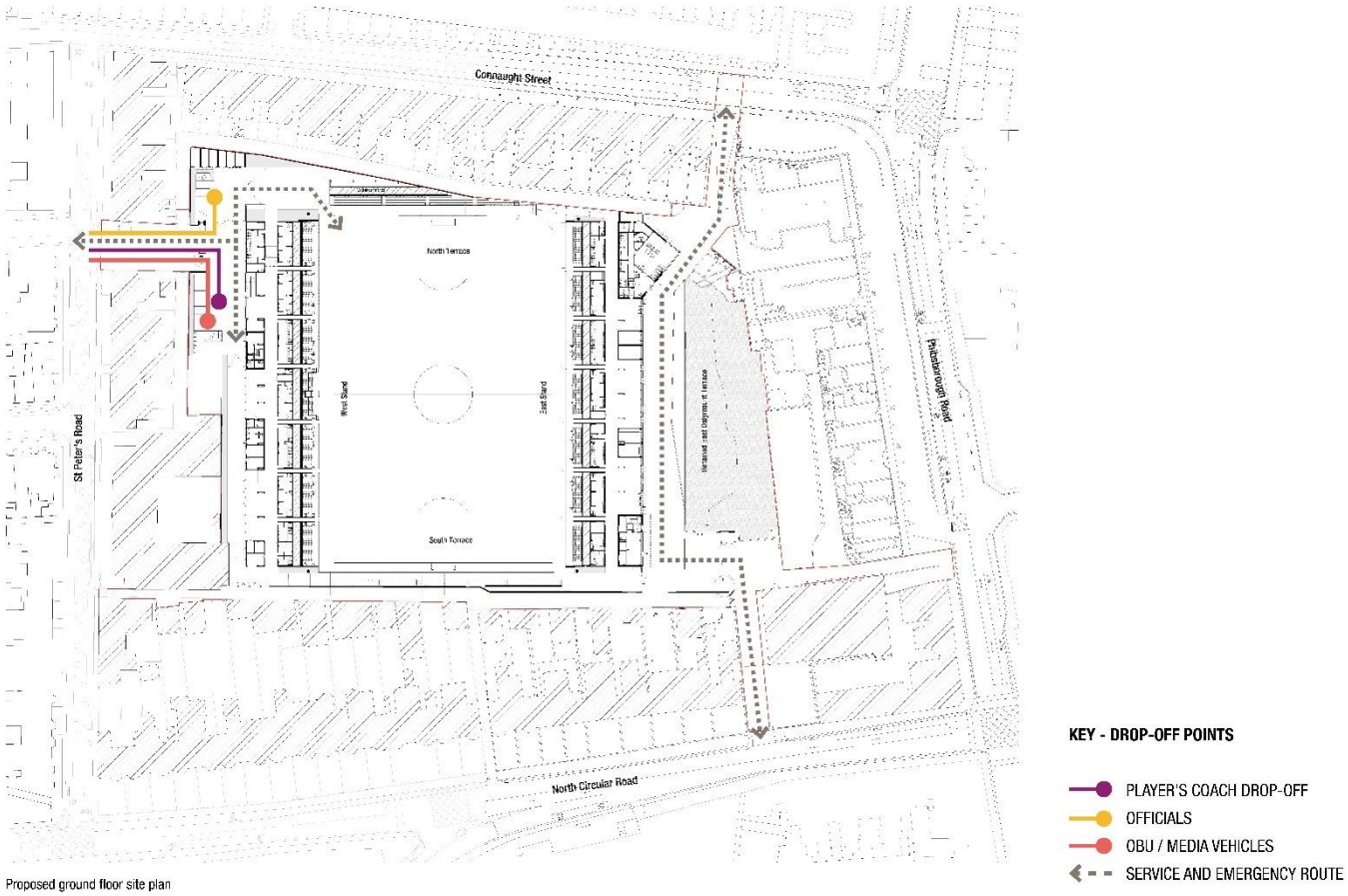
Dalymount Lane provides spectator access to the south stand as well as pedestrian and vehicular access to the adjacent residential properties. This lane is closed to vehicular traffic during events. We have been advised that St. Peter's Road is closed to traffic from 18:45 (for events beginning at 19:45) to remove the conflict between vehicles and spectators during the peak pre-event entry and post-event exit spectator flows. These closures to traffic will continue to be in place at the proposed stadium.

Team buses will access the site via St. Peter's Road at least 90 minutes before kick-off to drop players off and will then leave to park off site at a location to be agreed with DCC. Team and match officials will be provided with four parking spaces inside the stadium, one of which is disabled-accessible, with access off St. Peter's Road. For matches where Media Outside Broadcasting Units (MOBU) are not in attendance, team buses will be able to park inside the stadium, also with access from St. Peter's Road. Parking for MOBUs, when required, is provided inside the stadium with vehicles accessing the stadium from the south end of St. Peter's Road. Two parking spaces on St Peter's Road adjacent to the stadium access will be temporarily suspended to enable the vehicle movement.

Emergency vehicles will be provided with parking off St. Peter's Road at the entrance to the stadium and can enter the site either from St. Peter's Road or the route along the eastern side of the stadium between Connaught Street and North Circular Road.

Figure 3.2 illustrates the event day vehicle access and parking arrangements. Swept path analyses of vehicles accessing the site are contained in Appendix B.

Figure 3.2 Proposed Event Day Vehicle Access



Source: IDOM

3.2.4 Cycle Parking

DCC has confirmed that the council will continue to install Sheffield stands around the city that will benefit users of the stadium.

The club will investigate the feasibility of providing temporary high-capacity cycle parking either on street or in an off-street location close to the stadium on event days as part of an Event Management Strategy.

3.2.5 Event Management

Football matches are managed through a combination of staff of Bohemian FC, stewards (50 to 80 depending on the category of fixture) and 20 volunteers.

Bohemians FC liaise with the Gardaí on event days. The number of Gardaí in attendance varies depending on the category of match: numbers can vary from 0-4 officers on foot for a Category C game to dog and horse units, public order units and 30-40 officers for Category A games.

The new public realm along the eastern side of the stadium will provide significantly enhanced opportunities for crowd control. Where home/away spectator segregation is required, away supporters can enter and exit the north stand through the northeast access from Connaught Street, while home supporters can egress onto St. Peter's Road. All stands have independent turnstiles for access and segregation.

The away supporter allocation will continue to be limited to 10% of the total capacity. If the away supporter allocation is not fully utilised the excess will be redistributed to the home supporters. For matches where supporter segregation is necessary there would be a reduction in capacity to allow for separation by cordoning off seats to

allow a zone between supporters. The Gardaí has stated that it would be usual to cordon off a half row in depth, which assuming a row to be approximately 24 seats long which would be equivalent to 12 metres in length.

Chapter 6 provides a detailed analysis of post-event normal spectator egress on the pedestrian network in the local area around the stadium. A bespoke Event Management Strategy will be produced for each event held at the stadium. As part of the Strategy, some crowd management measures may be required at the following locations:

a) St. Peter's Road before, during and after the road closure. Pedestrian flows will be monitored during these periods so that the road closure will be in place for the shortest time possible to ensure spectator safety. Local access will be maintained throughout the period of closure.

b) On Connaught Street to maintain an appropriate level of service through the diversion of spectators to use the footway on both sides of the road between St. Peter's Road and Phibsborough Road as appropriate to their intended destinations (post-event period)

c) At the junction between Connaught Street and Phibsborough Road to manage pedestrians crossing to access the southbound bus service on Phibsborough Road or to route between Connaught Street and Phibsborough Road at the southwestern corner of the junction (post-event period). The improvements proposed for this junction as part of the Core Bus Corridor scheme, as described in section 6.2, are expected to improve conditions for pedestrians with increased footway widths

d) On Phibsborough Road on approach to the junction with North Circular Road (post-event period)

e) At bus stops on Phibsborough Road, Cabra Road and North Circular Road to ensure spectators do not encroach into the carriageway and that routes for general pedestrians are maintained (post-event period)

f) At pedestrian crossings on Phibsborough Road and Cabra Road to ensure spectators do not encroach into the carriageway and that routes for general pedestrians are maintained (post-event period).

3.2.6 Staff

Table 3.2 shows the number of staff who currently attend the Site on event days and the times of the start and end of their working day.

Table 3.2 Event Day Staff

Staff Type	Number	Work Hours	
		Start	End
Bohemian FC staff	3	12:00	23:00
Concession staff	12	16:00	21:30
Volunteers	20	17:00	21:30
Ground staff	3	17:00	21:30
Bar staff	8	17:00	01:00
Stewards	80	18:00	21:45
Total	**126**	**12:00**	**23:00**

Source: Bohemians FC

The number of staff required on event days at the existing stadium reflects the inefficient stadium layout and aging infrastructure. For this reason, the number of staff expected to be required for the proposed stadium (close to 50% increase in capacity) is not expected to change, since the proposed layout will allow a more efficient deployment of staff and management of facilities and spectators.

3.3 Non-Event Day

3.3.1 Land Uses and Staff and Visitor Access

The proposed stadium will provide facilities that will be used on non-event days. These facilities, their opening and closing times and the number of staff and visitors they are expected to attract per day are shown in Table 3.3.

Table 3.3 Non-Event Day Facilities

Facility	Floor Area (sqm)	Operational Hours		Typical Day Attendance	
		Open	Close	Staff	Visitors
Stadium Operations	-	09:00	18:00	4	-
Community Facility (Gym)	174	08:00	22:00	2	70
Community Facility (Multipurpose Room)	133	08:00	22:00	-	280
Concession (Café)	189	08:00	22:00	2	246
Club Office	109	09:00	18:00	10	-
Club Merchandise Shop	81	10:00	18:00	4	50
Stadium Bar	197	10:00	23:00	3	121
Total	**-**	**08:00**	**23:00**	**25**	**767**

Floor areas exclude ancillary spaces

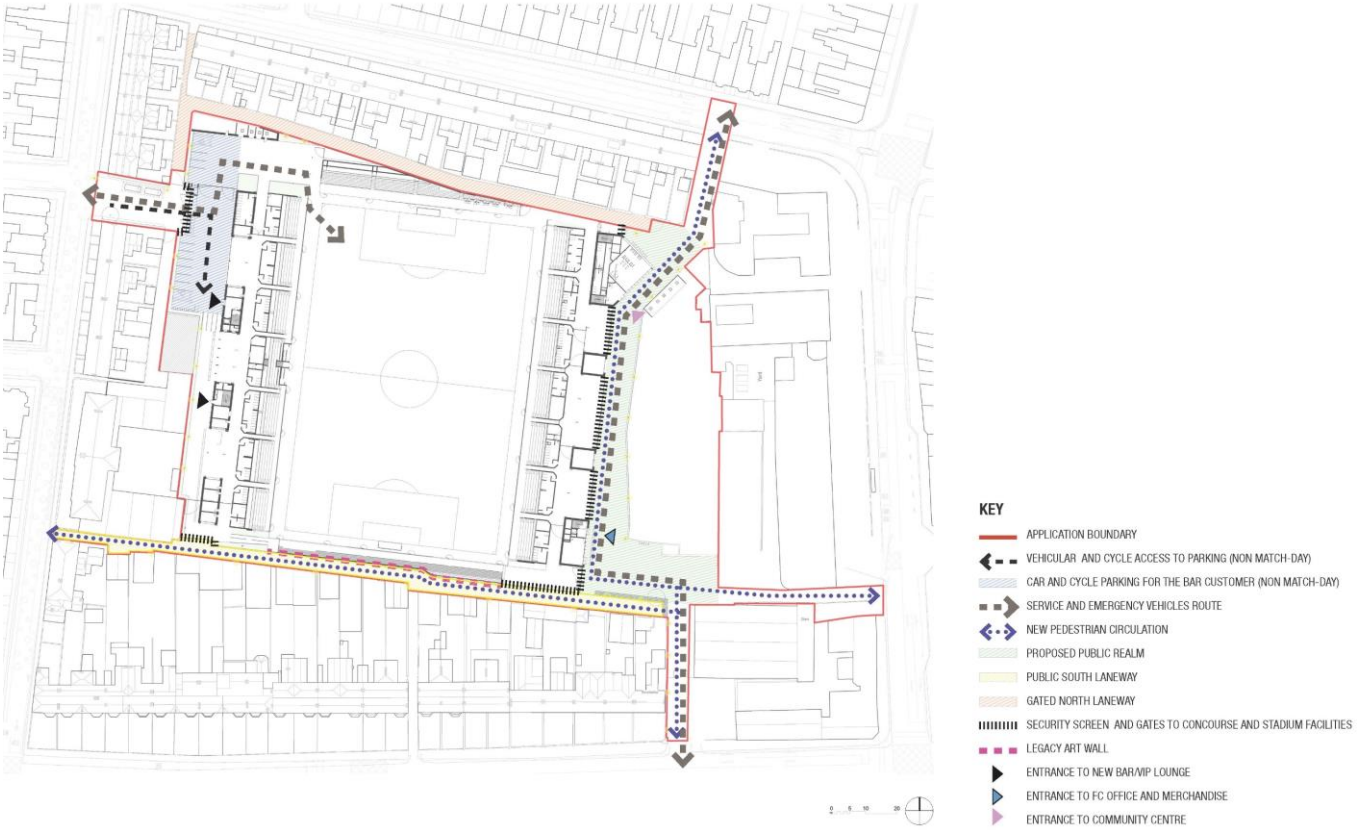
Source: Staff numbers and Multipurpose Room Visitor numbers agreed with DCC/Bohemians FC. All other Visitor numbers derived from TRICS v7.10.2 (see Appendix E)

On a typical day, the Multipurpose Room is expected to be used by a number of small community groups for various activities, such as exercise classes. For special events, the room could accommodate approximately 140 people. No stadium staff would be required as the Visitors would staff their individual events themselves. For the purposes of an assessment of a typical day, we have assumed that groups of 20 people will use the room for up to 1 hour at a time. Over the course of the 14 hours the room is open, 280 Visitors would use it.

It can be expected that some people will visit more than one use during their time on site. The total number of *individual* visitors can therefore expect to be lower than 767.

Access routes for Staff and Visitors on non-event days is shown in Figure 3.3.

Figure 3.3 Non-Event Day Pedestrian Access



Source: IDOM

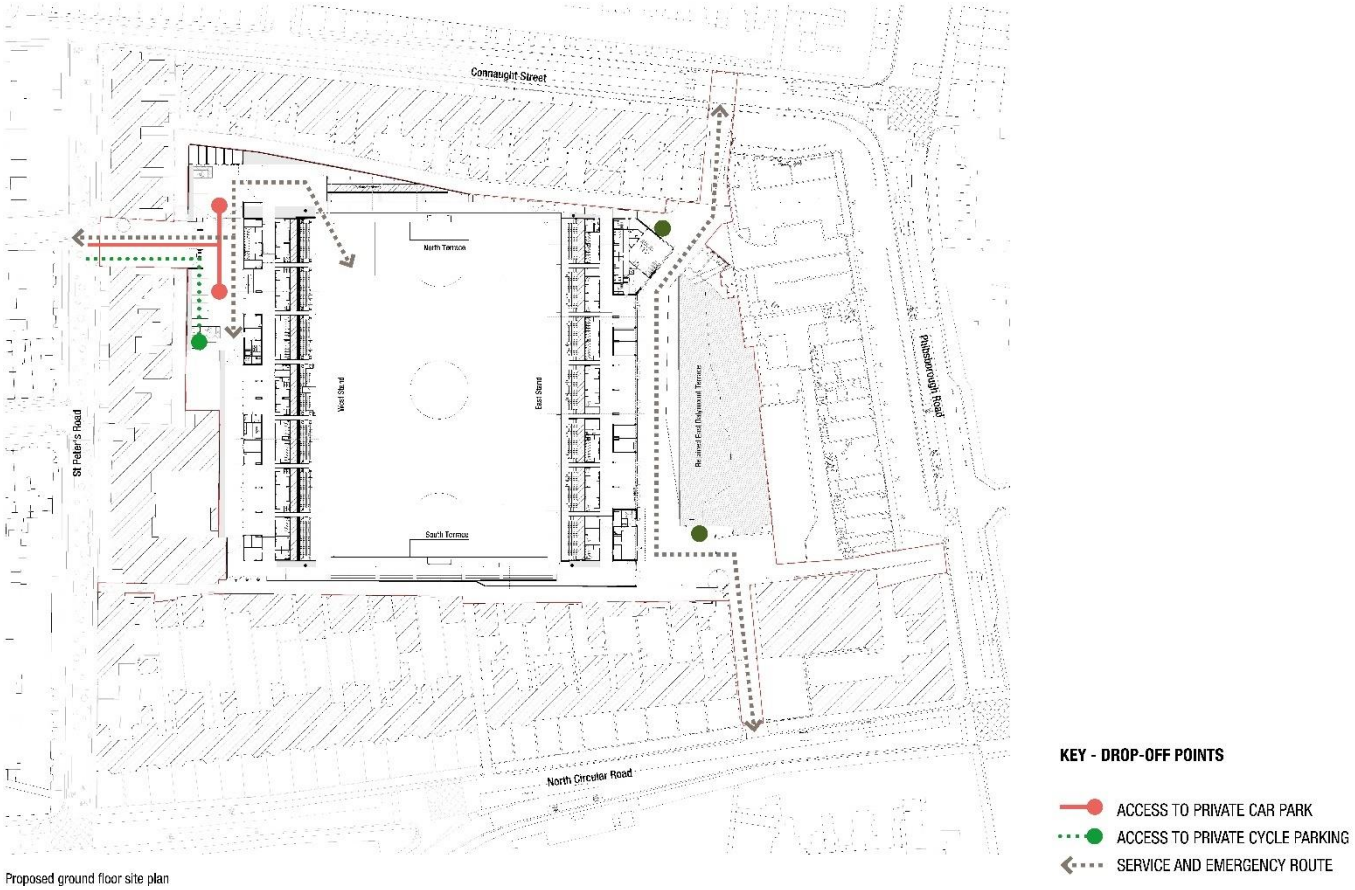
3.3.2 Vehicle Access and Parking

Figure 3.4 shows the vehicle access arrangements for non-event days. 12 car parking spaces will be provided inside the stadium for use by staff on non-event days, two of which are disabled-accessible. Six of the bays (50%) will have 22kW fully functional EV charging points while the remaining bays will have the necessary ducting infrastructure for future EV charging. One motorcycle parking space will also be provided. These spaces will be located within the West Stand with access from St. Peter's Road. Swept path analyses of vehicles accessing this parking is contained in Appendix B.

On-street parking in the majority of the local area within a 10-minute walk of the site is controlled from around 08:00 to at least 18:30. During this period, parking is permitted on a 'pay and display' basis with a time restriction of around 3 hours. This makes it difficult for staff who work full time at the stadium to park on-street. As shown in Chapter 5, the 12 spaces provided within the stadium are expected to be sufficient to accommodate staff parking demand.

Considering the length of time visitors are likely to stay at the stadium for the non-event day uses, it is entirely likely that visitors will make use of the on-street parking.

Figure 3.4 Non-Event Day Vehicle Access



Source: IDOM

3.3.3 Cycle Parking

Cycle parking will be provided for staff and visitors of the non-event day facilities. The community facilities, comprising the gym and multipurpose room, will be allocated five visitor and five staff spaces external to the building at the entrance to the facility.

Five spaces will be provided for the Club Offices and Merchandise Shop outside the East stand. A further ten spaces will be provided for the stadium bar and operations outside the West stand.

3.3.4 Servicing and Deliveries

Table 3.4 presents the likely servicing and delivery trips generated by the proposed development.

Table 3.4 Servicing and Delivery Requirements

Type	Frequency
Waste collection	Twice weekly (once during off season)
Catering deliveries	Weekly
Bar deliveries	Weekly
Shop deliveries	Weekly
Office deliveries	Weekly
Water	Weekly
Pitch supplies delivery	Monthly (x 3 different suppliers)
Cleaning supplies delivery	Monthly
Sanitary provision	Monthly
Pest Control	Monthly
Electrical maintenance	Quarterly
Fire alarm service	Quarterly
Lift service	Quarterly
Automated gate service	Quarterly
CCTV maintenance	Quarterly
Office/catering supplies	Quarterly

Source: DCC

Bin stores will be provided at three locations within the stadium building: a first in the northeast corner of the Site providing storage for the stadium and bar, a second adjacent to the office and club shop and a third within the community facility. There are no height restrictions preventing access to either bin store.

Figure 3.4 illustrates how service and delivery vehicles will access the site. Swept path analyses of service and delivery vehicles using these routes are contained in Appendix C.

3.4 Emergency Vehicles

Emergency vehicles will be able to enter the stadium building via the entrance off St. Peter's Road. Emergency vehicles can also access the eastern side of the stadium via the route between Connaught Street and North Circular Road.

Swept path analyses illustrating these emergency vehicle movements are contained in Appendix D.

4. Travel Behaviour

4.1 Introduction

This Chapter provides a summary of the travel behaviour of spectators travelling to and from the existing stadium on the proposed site. This information was collected through surveys undertaken on Friday 12th November 2021 at the Bohemian FC vs Shamrock Rovers FC League of Ireland Premier Division football match with kick-off at 19:45 and final whistle at approximately 21:35. The attendance of the match was calculated to be 2,828 through analysis of spectator entry/exit count data. The results and analysis of the surveys are contained in the Baseline Transport Conditions Report.

The travel behaviour data was collected using interview surveys in which spectators arriving at the stadium were asked how they travelled to and how them intended to travel from the stadium. This Chapter uses this information to determine how many people travelled by each mode for the surveyed event and forecasts trips by mode for the proposed stadium.

This Chapter also provides information on staff and visitor travel behaviour for event and non-event day uses of the stadium based on Census information.

4.2 Existing Travel Behaviour

4.2.1 Spectators

The current capacity of the stadium is 4,470. Table 4.1 presents the results of the mode split of spectators travelling to and from the stadium, as recorded at the surveyed event and reported in the Baseline Transport Conditions report, and the corresponding number of trips that would be generated by the existing stadium if it were operating at current full capacity.

Table 4.1 Spectator Trips by Mode to and from the Existing Stadium (Full Capacity)

Final mode	Travel to the Stadium		Travel from the Stadium	
	Trips	Mode Share	Trips	Mode Share
Irish Rail	19	0.4%	20	0.5%
Luas	403	9%	405	9%
DART	115	3%	162	4%
Bus	1,228	27%	1,193	27%
Organised club coach	58	1.3%	61	1.4%
Regional coach services	0	0%	0	0%
Minibus	0	0%	0	0%
Car	1,400	31%	1,396	31%
Taxi	173	4%	142	3%
Motorcycle	19	0.4%	20	0.5%

Final mode	Travel to the Stadium		Travel from the Stadium	
	Trips	Mode Share	Trips	Mode Share
Cycle	0	0%	0	0%
Walk all the way	1,055	24%	1,072	24%
Total	**4,470**	**100%**	**4,470**	**100%**

NB: numbers have been rounded

The results suggest that there is negligible difference between the mode split of spectators travelling to and from the stadium. 39-40% of spectators travel by public transport (rail or bus), with the majority (27%) travelling by bus. The Luas is the most popular of the rail services with 9% travelling by that mode. 31% of spectators arrive by car, either as a driver or a passenger. Almost one quarter of spectators walk all the way on their journey to/from the stadium. No spectators were recorded as having travelled to or from the stadium by bicycle.

4.2.2 Staff

Table 3.2 in Chapter 3 showed that a total of 126 staff are required on an event day with start and end times ranging between 12:00 and 23:00. To generate the number of trips by mode these staff would generate, we have assumed each member of staff generates 1 arrival and 1 departure trip per day and that the mode of travel is equal to the journey to work mode split in the 2016 Census database. Data was extracted for the *Dublin City and suburbs, County Dublin* Local Authority Area (2019) under the assumption that staff could reside anywhere in this area. The mode of arrival is assumed to be equal to the mode of departure. Full details of the calculations to derive visitor trips by mode are contained in Appendix F. The result is shown in Table 4.2.

Table 4.2 Event Day Staff Trips by Mode to and from the Existing Stadium

Mode	Travel to the Stadium		Travel from the Stadium	
	Trips	Mode Share	Trips	Mode Share
Train, DART or LUAS	11	8%	11	8%
Bus, minibus or coach	18	14%	18	14%
Car Driver	60	48%	60	48%
Car passenger	4	3%	4	3%
Van	4	3%	4	3%
Motorcycle or scooter	1	1%	1	1%
Bicycle	10	8%	10	8%
On Foot	18	14%	18	14%
Total	**126**	**100%**	**126**	**100%**

4.3 Future Travel Behaviour

4.3.1 Event Day

4.3.1.1 Spectators

Table 4.3 presents the future number of trips by mode expected to be generated by spectators at the proposed stadium assuming a full capacity of circa. 8,000 in attendance. The calculation has been based on the existing travel mode split in Table 4.1 with an adjustment made to include a cycle mode share of 1%, with the corresponding re-profiling of other modes by proportion, as agreed with DCC. This is to reflect the significantly improved cycle parking facilities at the proposed stadium.

Table 4.3 Spectator Trips by Mode to and from the Proposed Stadium (Full Capacity)

Final mode	Travel to the Stadium		Travel from the Stadium	
	Trips	Mode Share	Trips	Mode Share
Irish Rail	34	0.4%	36	0.4%
Luas	714	9%	717	9%
DART	204	3%	287	4%
Bus	2,175	27%	2,114	26%
Organised club coach	102	1.3%	108	1.3%
Regional coach services	0	0%	0	0%
Minibus	0	0%	0	0%
Car	2,481	31%	2,473	31%
Taxi	306	4%	251	3%
Motorcycle	34	0.4%	36	0.4%
Cycle	80	1%	80	1%
Walk all the way	1,870	23%	1,899	24%
Total	**8,000**	**100%**	**8,000**	**100%**

NB: numbers have been rounded

It is important to note that using the existing mode split with only a modest adjustment for travel by cycle represents a robust assessment. The new public realm features and improved pedestrian access to the stadium site from the wider network and public transport interchanges combined with the likely constraint to available on-street parking within 5- 10-minutes' walk distance from the stadium can be expected to produce a mode shift to more sustainable modes. The assessment of the full future capacity based on this mode split can therefore be considered a robust assessment.

4.3.1.2 Staff

As described in Chapter 3, the number of staff required for event days are not expected to change for the proposed stadium. For the purposes of this assessment, we have assumed that staff travel behaviour will also not change. Therefore, the number of staff event day trips by mode for the proposed stadium would be as per Table 4.2.

4.3.2 Non-Event Day

4.3.2.1 Staff

Table 3.3 in Chapter 3 shows that a total of 25 staff would be required by the proposed non-event day facilities. Using the same mode split and arrival and departure assumptions used to derive trips by mode for the existing stadium staff, we have calculated trips by mode for staff and visitors in Table 4.4.

Table 4.4 Non-Event Day Staff Trips by Mode to and from the Proposed Stadium

Mode	Travel to the Stadium		Travel from the Stadium	
	Trips	Mode Share	Trips	Mode Share
Train, DART or LUAS	2	8%	2	8%
Bus, minibus or coach	4	14%	4	14%
Car Driver	12	48%	12	48%
Car passenger	1	3%	1	3%
Van	1	3%	1	3%
Motorcycle or scooter	0	1%	0	1%
Bicycle	2	8%	2	8%
On Foot	4	14%	4	14%
Total	**25**	**100%**	**25**	**100%**

4.3.2.2 Visitors

The mode split for visitor travel has also been derived from Census and visitors have been assumed to travel by different modes depending on the land use they are accessing.

Visitors accessing the community facilities are expected to come from the local area within approximately 4km of the Site. The mode split for these visitor trips has therefore been derived from the combined mode splits of the *Cabra-Glasnevin Electoral Area (2019)*, in which the site is located, and the adjacent Electoral Areas.

Visitors accessing the Concessions and Stadium Bar are mainly expected to do so on foot. For this reason, we have used the combined mode splits of the *South West* and *North Inner City Electoral Areas* that border the area, which have mode splits that have a greater Walk mode share that reflects travel over short distances.

We have assumed that visitors to the Club Merchandise store may originate from anywhere in Dublin City or its suburbs, so we have assumed the same Census mode share as used for staff.

Table 4.5 shows the number of non-event day Visitor trips generated by the 760 Visitors based on these mode split assumptions. Full details of the calculations to derive visitor trips by mode are contained in Appendix F.

Table 4.5 Non-Event Day Visitor Trips by Mode to and from the Proposed Stadium

Mode	Travel to the Stadium		Travel from the Stadium	
	Trips	Mode Share	Trips	Mode Share
Train, DART or LUAS	68	9%	68	9%
Bus, minibus or coach	137	18%	137	18%
Car Driver	231	30%	231	30%
Car passenger	17	2%	17	2%
Van	16	2%	16	2%
Motorcycle or scooter	4	1%	4	1%
Bicycle	90	12%	90	12%
On Foot	205	27%	205	27%
Total	**767**	**100%**	**767**	**100%**

As previously mentioned, some Visitors could be expected to visit more than one use during their time on Site. These 'linked' trips would reduce the overall number of trips to/from the site. The actual number of trips generated by the proposed development is expected to be less than shown in Table 4.5.

4.4 Proposed MetroLink

A new metro railway is proposed with access close to Dalymount Park Stadium. The proposed MetroLink will provide a high-capacity, high-frequency service with 16 new stations running from Swords to Charlemont via Dublin Airport. The route will include the new Glasnevin Station located approximately 400m walking distance north of the stadium adjacent to the Royal Canal. The Glasnevin MetroLink station is one of the most significant stations on the route and will provide an interchange with Irish Rail services serving the Maynooth, Sligo and Kildare lines.

Transport Infrastructure Ireland (TII) applied for a Railway Order for the project in September 2022. The planning process with An Bord Pleanála is likely to take 12-18 months to complete. Once an Enforceable Railway Order has been granted, work can commence on site. It is anticipated that the construction work will take between 6-8 years to complete and therefore it is not envisaged to be in operation until approx. 2030-2032.

This new rail service is expected to increase the number of spectators, Staff and Visitors using Irish Rail services as well as generate trips by this new mode. This may decrease the number of people accessing the stadium by other rail modes but is also likely to decrease the number of people travelling by Car. The Car mode shares shown in this section and used in the assessment are therefore expected to be lower in future once the MetroLink is open.

5. Highways and Parking

5.1 Existing Situation – Event Day

5.1.1 Vehicle Trip Generation

5.1.1.1 Spectators

Table 4.1 provided the trips by mode for spectators at the existing stadium assuming attendance equal to the current capacity of the stadium. Considering the slightly differing results of the number of trips by mode to and from the stadium, the existing stadium is expected to generate a maximum of 61 organised coach trips, 1,400 trips by car and 173 trips by taxi.

To calculate the number of vehicles these trips would generate, we have applied vehicle occupancy values. The spectator survey identified an event day car vehicle occupancy of 2.3 persons per vehicle, which we have applied to both Car and Taxi trips. For coaches we have assumed a maximum occupancy of 40 people per coach. The resulting number of vehicles generated are shown in Table 5.1.

Table 5.1 Number of Spectator Vehicles – Existing Stadium (Full Capacity)

Mode	Vehicle Occupancy	Number of Person Trips	Number of Vehicles
Organised coach	40	61	2
Car	2.3	1,400	613
Taxi	2.3	173	76
All		**1,634**	**691**

The calculation suggests that a total of 691 vehicles are generated by the existing stadium when operating at full capacity, of which 613 would be private vehicle trips.

5.1.1.2 Staff

In Table 4.2 we showed the number of trips by mode generated by the 126 staff required for event days at the existing stadium. A total of 60 staff are expected to travel as a Car Driver and 4 by Van. This would generate a maximum of 64 vehicles.

5.1.2 Parking

5.1.2.1 Spectators

Table 5.1 shows that a total of 613 Car trips are generated by spectators at the existing stadium when operating at full capacity. Section 3.4 of the Baseline Transport Conditions report presents the results of the spectator interview survey conducted at the existing stadium. As part of the survey, spectators who indicated that they travelled to the event by private vehicle were asked where they parked. The results are recreated in Table 5.2.

Table 5.2 Existing Spectator Parking Locations and Number of Vehicles Parked (Full Capacity)

Parking location	Percentage	Total Vehicles
On street	51%	312
Paid car park	12%	73
Private car park	8%	52
Rail station	0%	0
Friend's house	3%	21
Other	3%	21
Nowhere (dropped off)	22%	135
Total	**100%**	**613**

Source: spectator interview survey conducted at Dalymount Park Stadium (November 2021)

A total of 312 spectator vehicles would be parked on-street, with a further 135 parked in a Paid or Private car park, when the existing stadium operates at full capacity.

5.1.2.2 Staff

At the time of the survey, the on-site car park was in operation, and we were informed that it was used by match officials, security personnel, Gardai, VIPs and club staff. The survey conducted in the car park counted 80 vehicles parked.

It could be assumed that some or all of the 64 Staff vehicles were parked in the on-site car park and therefore have a negligible impact on on-street parking. However, Table 3.2, which shows the number of event day staff by type and their work start times, shows that all but three of the 126 staff start at 16:00 or later. Since on-street parking restrictions operate a maximum stay time of 3 hours and most restrictions end at 18:30 or 19:00, it is possible that staff arriving just before 16:00 or after could park on-street. The event day Staff could therefore have a maximum on-street parking impact of 64 vehicles.

5.1.2.3 On-Street Parking Impact

The vehicle generation calculations above suggest that between 312 and 376 vehicles are generated by the existing stadium operating at full capacity.

Section 3.6 of the Baseline Transport Conditions report presents the results of on-street parking surveys conducted at the existing stadium during the same event that the spectator interview survey was conducted and on a non-event day at the same time of day. The roads were chosen for the survey in consultation with DCC. The results have been recreated in Table 5.3.

Table 5.3 Event Day Parking Survey Results (2,828 Spectator Attendance)

Location	Legal Spaces	Event Vehicles Parked	Other Vehicles Parked	Total Vehicles Parked	Spare Capacity
St. Peter's Road	56	7	45	52	4
Norfolk Road	73	33	38	71	2
Cabra Park	115	37	75	112	3
Connaught Street	128	41	81	122	6
Connaught Street lane	8	1	7	8	0
Kelly's Yard Car Park	14	3	7	10	4
All	**394**	**122**	**253**	**375**	**19**

The results suggested that 122 spectator vehicles were parked in the surveyed area. Table 3.7 of the Baseline Transport Conditions report shows that 886 spectators arrived at the stadium by Car, either as a driver or a passenger. Applying the 2.3 persons vehicle occupancy means the event generated 388 vehicles, of which 197 (51%) parked on-street. This means that up to 75 vehicles were parked elsewhere on-street.

The areas surveyed in Table 5.3 are very close to capacity on event days and therefore cannot be expected to accommodate more vehicles. This means that, when the stadium operates at full capacity, 254 of the maximum 376 vehicles are parked elsewhere on-street.

5.2 Proposed Situation – Event Day

5.2.1 Vehicle Trip Generation

5.2.1.1 Spectators

If the proposed stadium operates at full capacity, spectators are expected to generate a maximum of 108 Organised coach trips, 2,481 trips by Car and 306 by Taxi (Table 4.3). The number of vehicles these trips would generate are calculated in Table 5.10.

Table 5.4 Number of Spectator Vehicles – Proposed Stadium (Full Capacity)

Mode	Vehicle Occupancy	Number of Person Trips	Number of Vehicles
Organised coach	40	108	3
Car	2.3	2,481	1,086
Taxi	2.3	306	134
All	**-**	**2,895**	**1,223**

Table 5.10 shows that the 2,895 person vehicle trips would generate 1,223 vehicles, of which 1,086 are expected to be private vehicles.

5.2.1.2 Staff

As explained in Chapter 3, the number of existing event day staff are expected to be retained for the proposed stadium notwithstanding the capacity increase. This means that event day Staff would generate a maximum of 64 vehicles, as explained in section 5.1.1.2.

5.2.2 Change in Traffic Flows

The sections above show that the existing stadium would generate 755 vehicles and the proposed stadium 1,259 vehicles when operating at full capacity.

Section 3.7 of the Baseline Transport Conditions report presented the results of traffic surveys conducted on roads in the vicinity of the stadium on event day (the same event day as the parking beat and spectator interview surveys) and a non-event day. The roads were chosen in consultation with DCC. The results showed the difference between event and non-event day traffic flows on these roads.

The event day traffic flows presented in the report were for an event which had an attendance that was restricted to 2,828 spectators. Since the stadium currently has a maximum capacity of 4,470, it would have a greater impact on these roads than the surveys suggest. For the purposes of establishing an existing baseline impact at full capacity we have extrapolated the event day survey results to forecast the traffic flow expected to be generated by the 4,470-capacity attendance.

To do this we identified time periods where traffic flows were noticeably greater on event days than non-event days, i.e. where event day traffic appears to have an impact on background traffic flows. For each of the surveyed roads, these were found to be as follows:

a. **Phibsborough Road** experienced a notable rise in traffic on event day from **18:00** that had fallen back below non-event day traffic flows by **19:30**. In the post-event period, event day traffic flows increased after **21:30** and decreased back to non-event day levels before **23:00**.
b. Event day traffic flows on **Cabra Road** increased around **18:30** and did not decrease back to non-event day levels until **20:00**. Post-event flows increased by **21:30** and fell to non-event day levels before **23:15**.
c. Pre-event flows on **North Circular Road south of Cabra Road** showed no increase compared to non-event day flows. In the post-event period, flows increased from **21:30** and were back at the level of non-event day flows by **23:15**.
d. Pre-event flows on **North Circular Road east of Phibsborough Road** were lower on the surveyed event day than on non-event day. Post-event, traffic flows increased on event day after **21:30** and were back below non-event day flows by **23:15**.
e. Pre-event flows on **Connaught Street** increased above non-event day flows around **17:30** and decreased towards non-event day flows by **20:15**. Flows then increased above non-event day flows from just before **21:30** to **22:30**.

We then calculated the difference between event day and non-event day flows during these periods to determine the volume of traffic generated on the event day (i.e. the volume of event day traffic). We then factored up the volume of event day traffic during these periods by the difference between the number of event day vehicles generated by the surveyed event, as described below, compared to the existing stadium at full capacity (section 5.2.1).

Table 5.11 shows the number of vehicles that were generated by spectators at the surveyed event.

Table 5.5 Surveyed Number of Spectator and Staff Vehicles (2,828 Spectators in Attendance)

Mode	Vehicle Occupancy	Number of Person Trips	Number of Vehicles
Spectators			
Organised coach	40	38	1
Car	2.3	886	388
Taxi	2.3	109	48
All Spectators	**-**	**1,034**	**437**
Staff	-	126	64
Spectators + Staff	**-**	**1,160**	**501**

The surveyed event of 2,828 spectators generated a total of 501 vehicles compared to the 755 vehicles generated by the existing stadium if it were operating at full capacity of 4,470. The number of vehicles generated by the full capacity therefore represents an increase of 51% compared to the number generated by the attendance at the surveyed game. The surveyed event day traffic volumes was then factored up by 51% during the time periods where event day traffic had an impact on traffic flows. The resultant event day traffic flows for the full capacity existing stadium are shown in Figure 5.1 to Figure 5.5 along with the non-event day traffic flows.

Using the same method, we have generated forecast event day traffic flows for the proposed stadium operating at full capacity. The 1,259 vehicles expected to be generated by the proposed stadium represents an uplift of 70% compared to the existing stadium when operating at capacity (755 vehicles), thus a 70% increase has been applied to the existing full capacity event day flows during the time periods where event day traffic had an impact on traffic flows. The results are also shown in Figure 5.1 to Figure 5.5.

Conclusions that can be drawn from the graphs are summarised as follows:

a. Event traffic impacts occur in defined periods before and after events, with the post-event period usually shorter than the pre-event period.
b. In the post-event period, event traffic flows occur when background (non-event day) traffic is lowest.
c. Event traffic does not appear to have an effect on North Circular Road in the pre-event period. Peak post-event traffic flows forecast for the proposed stadium on North Circular Road are lower than flows this road experiences on non-event day in the pre-event period. This means that the proposals would not generate traffic flows that are greater than flows this road already accommodates.
d. With the exception of Connaught Street, post-event traffic flows forecast for the proposed stadium are lower than the peak event flow for the existing stadium operating at full capacity.
e. The impact of event traffic on Cabra Road and Connaught Street occurs after the PM peak period on these roads.
f. In the pre-event period on Connaught Street, peak 15-minute event traffic flows for the proposed stadium only exceed the greatest non-event day peak 15-minute flow on one occasion (at 18:00). The post-event period on Connaught Street in which event traffic has an effect on traffic flows is only 45 minutes in length. During this time, event day traffic flows for the proposed stadium are greater than the peak non-event day 15-minute flow (which occurs at 16:45) for just 30 minutes (between 21:45 and 22:15). This means that forecast traffic flows for the new stadium on Connaught Street only exceed the peak non-event day 15-minute flow on two occasions and for short periods of time outside of the peak period.

Figure 5.1 Non-Event day and Existing and Future Full Capacity Event Day Traffic Flows on Phibsborough Road

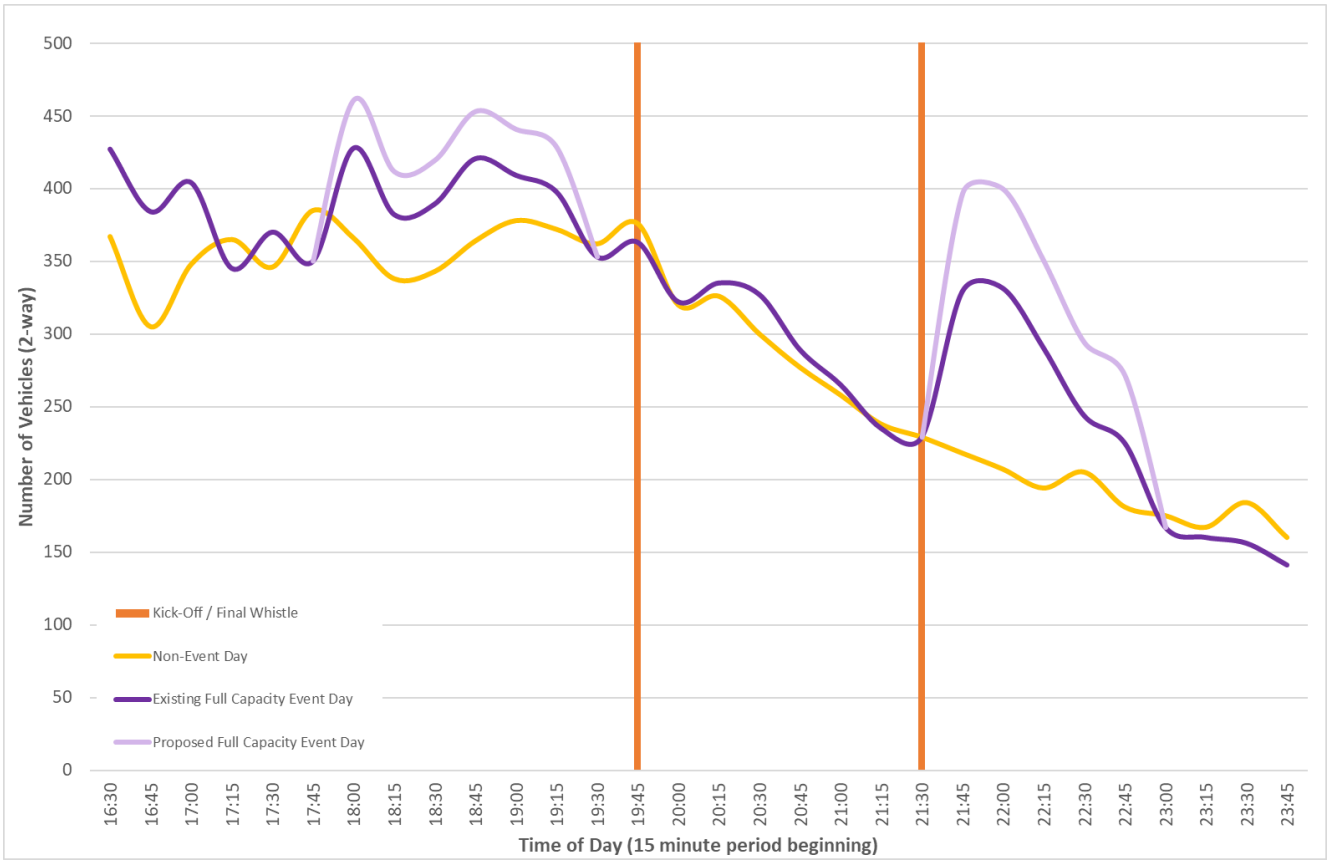


Figure 5.2 Non-Event day and Existing and Future Full Capacity Event Day Traffic Flows on Cabra Road

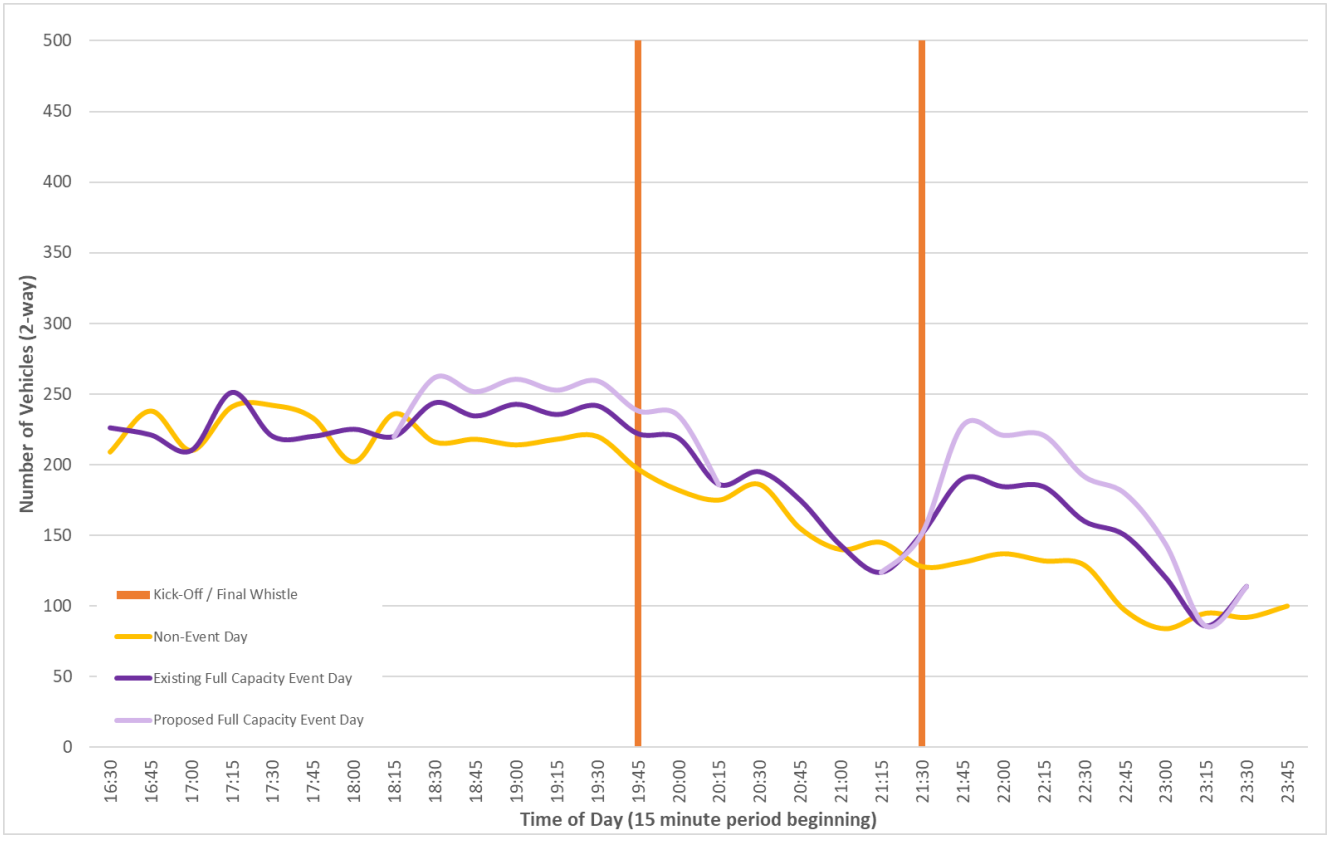


Figure 5.3 ***Non-Event day and Existing and Future Full Capacity Event Day Traffic Flows on North Circular Road (south of Cabra Road)***

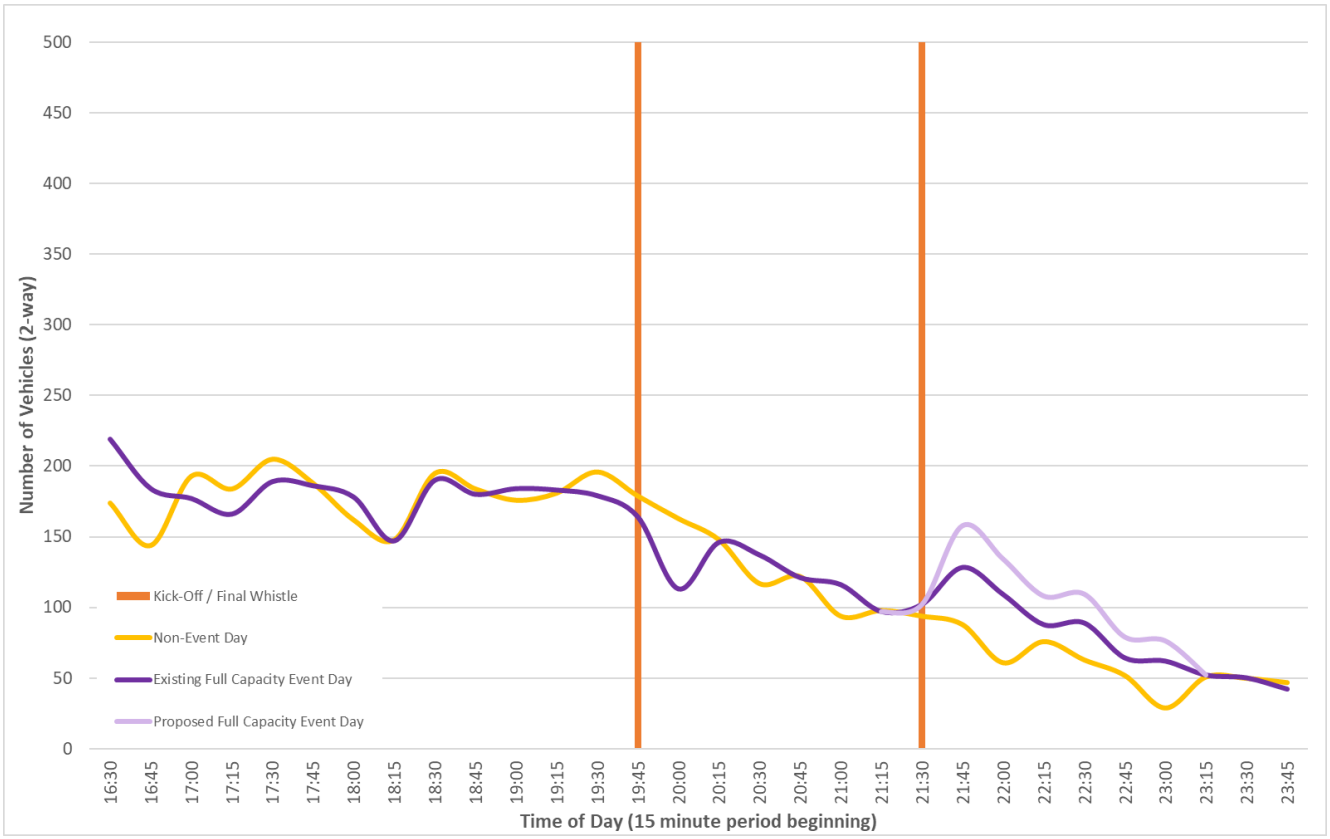


Figure 5.4 ***Non-Event day and Existing and Future Full Capacity Event Day Traffic Flows on North Circular Road (east of Phibsborough Road)***

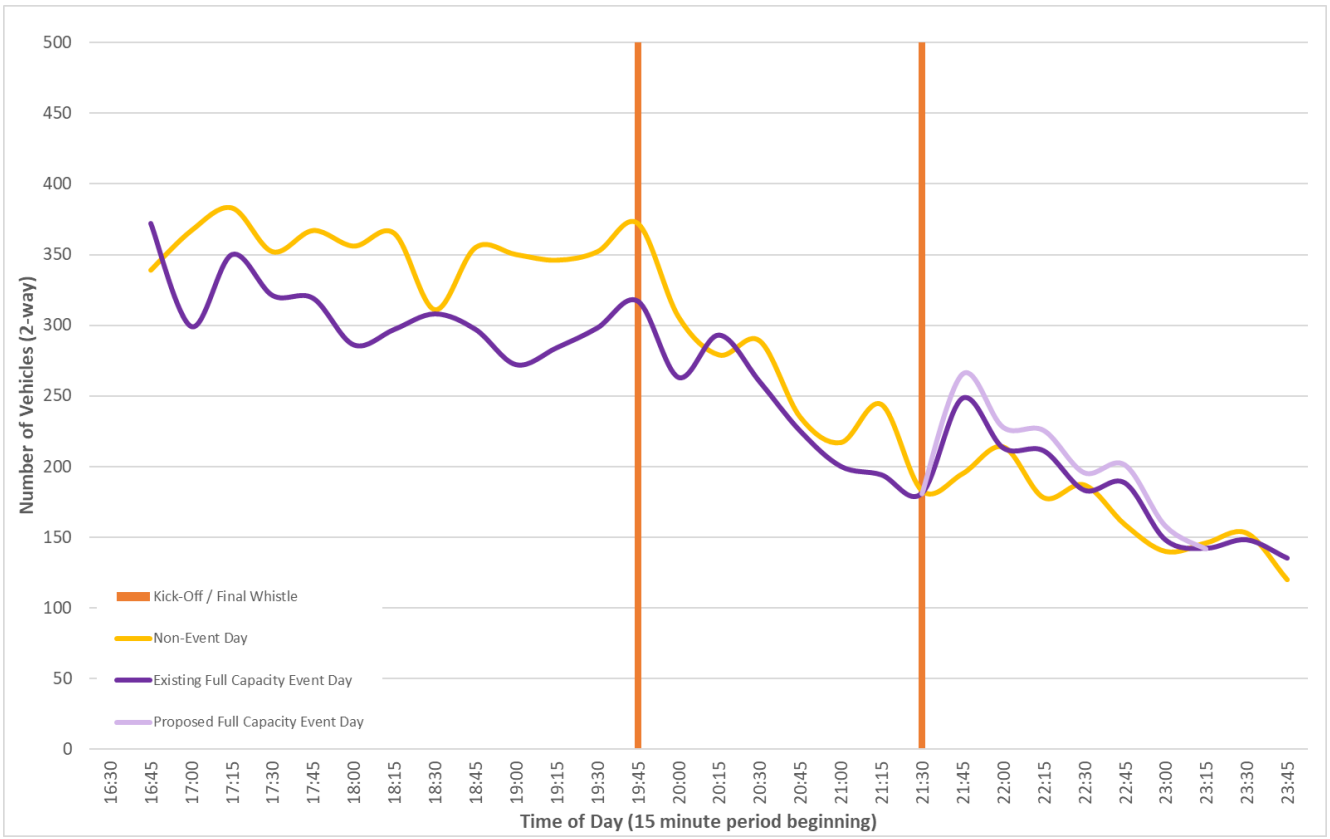


Figure 5.5 Non-Event day and Existing and Future Full Capacity Event Day Traffic Flows on Connaught Street

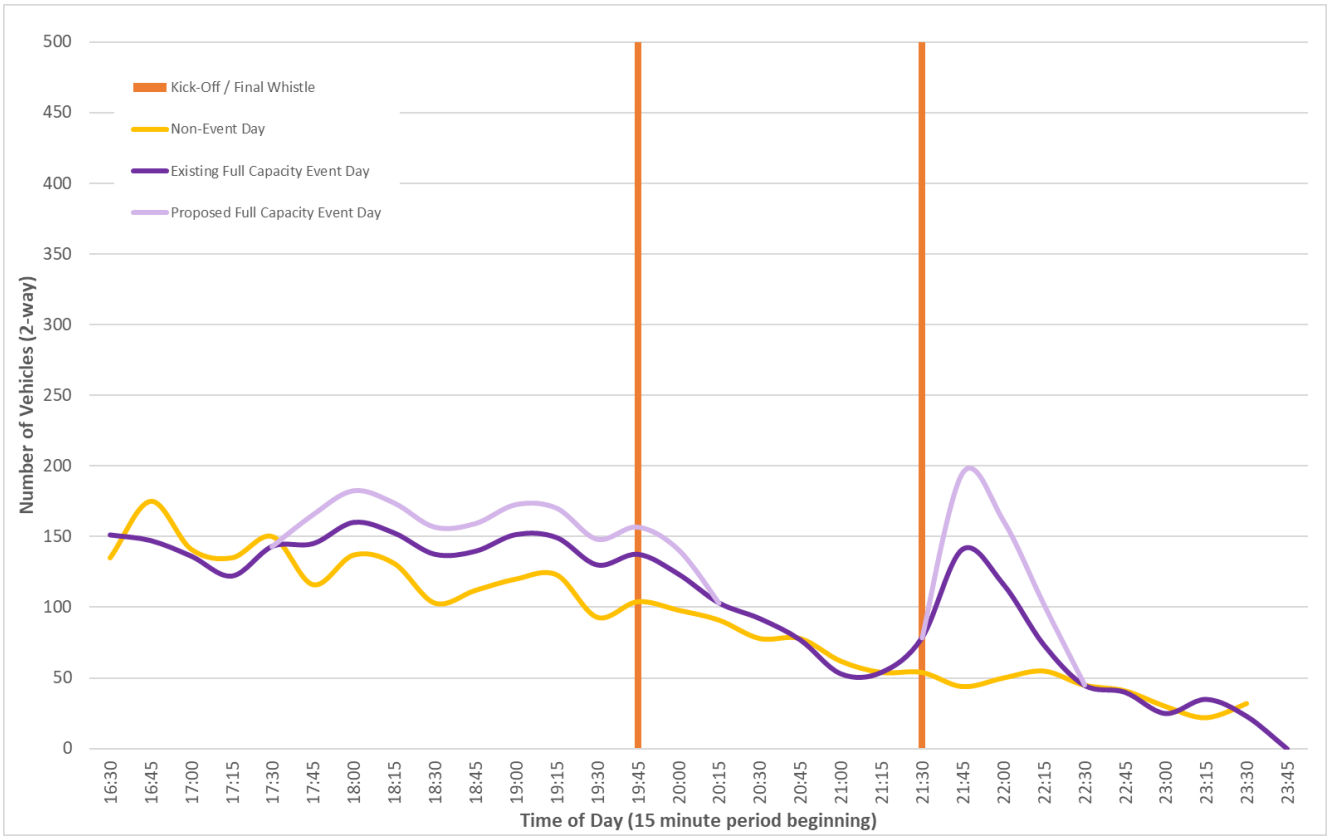


Figure 5.1 to Figure 5.5 provides a graphical representation of the forecast increase in event day traffic flows as a result of the stadium proposals when it operates at full capacity. Table 5.6 provides further analysis of the increases in traffic flow by direction on each of the roads, comparing the number of vehicles per minute during the affected periods in the two event day scenarios and the non-event day.

Table 5.6 *Non-Event Day and Existing and Proposed Event Day Vehicles per Minute*

Period	Start - End	Non-Event Day		Event Day				Non-Event Day		Event Day			
		Existing		Existing		Existing		Existing		Existing			
		No. Vehs	Vehs / min	No. Vehs	Vehs / min	No. Vehs	Vehs / min	No. Vehs	Vehs / min	No. Vehs	Vehs / min	No. Vehs	Vehs / min
Phibsborough Road		**Southbound**						**Northbound**					
Pre-Event	18:00 - 19:30	1,071	12	1,210	13	1,353	15	1,090	12	1,127	13	1,260	14
Post-Event	21:45 – 23:00	505	7	537	7	717	10	500	7	744	10	994	13
15-min Peak	-	197	13	219	15	245	16	190	13	214	14	243	16
Cabra Road		**Eastbound**						**Westbound**					
Pre-Event	18:30 - 20:15	694	7	794	8	848	8	771	7	786	7	838	8
Post-Event	21:30 - 23:15	327	3	436	4	537	5	511	5	597	6	750	7
15-min Peak	-	115	8	130	9	145	10	136	9	143	10	151	10
North Circular Road (S)		**Southbound**						**Northbound**					
Pre-Event	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Post-Event	21:30 - 23:15	207	2	289	3	368	4	256	2	293	3	378	4
15-min Peak	-	126	8	102	7	102	7	111	7	117	8	117	8

Table 5.6 cont. *Non-Event Day and Existing and Proposed Event Day Vehicles per Minute*

Period	Start - End	Non-Event Day		Event Day				Non-Event Day		Event Day			
		Existing		Existing		Existing		Existing		Existing			
		No. Vehs	Vehs / min	No. Vehs	Vehs / min	No. Vehs	Vehs / min	No. Vehs	Vehs / min	No. Vehs	Vehs / min	No. Vehs	Vehs / min
North Circular Road (E)		**Eastbound**						**Westbound**					
Pre-Event	N/A	-	-	-	-	-	-	-	-	-	-	-	-
Post-Event	21:45 – 23:15	509	6	514	6	563	6	564	6	638	7	697	8
15-min Peak	-	189	13	199	13	199	13	224	15	175	12	175	12
Connaught Street		**Eastbound**						**Westbound**					
Pre-Event	17:45 - 20:15	508	3	610	4	698	5	629	4	718	5	817	5
Post-Event	21:45 - 22:30	66	1	81	2	138	3	83	2	189	4	321	7
15-min Peak	-	69	5	70	5	86	6	122	8	103	7	165	11

Table 5.6 can be summarised as follows:

Phibsborough Road:

Compared to existing event day full capacity flows

a. Traffic flows would increase by an average of between one and two vehicles per minute in each direction in the pre-event period
b. Post-event flows would be three vehicles per minute greater in each direction than existing event day flows
c. Peak 15-minute flows would increase by between one and two vehicles per minute in each direction

Compared to non-event day flows

d. Pre-event flows would be two vehicles per minute greater in each direction
e. Post-event flows would be between three and six vehicles per minute greater in each direction
f. Peak 15-minute flows would increase by three vehicles per minute in each direction.

Cabra Road:

Compared to existing event day full capacity flows

a. Flows would be one vehicle per minute greater westbound in the pre-event period with a negligible change eastbound
b. Post-event, flows would be one vehicle per minute greater in each direction
c. Peak 15-minute flows would increase by up to one vehicle per minute eastbound, with negligible change westbound

Compared to non-event day flows

d. Flows would be between one and two vehicles per minute greater in each direction in the pre- and post-event periods and in the peak 15-minute period.

North Circular Road south of Cabra Road:

Compared to existing event day full capacity flows

a. There is expected to be a negligible or no effect in the pre-event period
b. Flows in the post-event period would be one vehicle per minute greater in each direction
c. There would be a negligible impact on peak 15-minute flows

Compared to non-event day flows

d. There is expected to be a negligible or no effect in the pre-event period
e. Post-event, flows would be two vehicles per minute greater in each direction
f. Flows in the peak 15-minute period would be one vehicle per minute greater northbound. In the southbound direction, the surveyed peak 15-minute flow was found to be greater on the non-event day so a negligible change is expected.

North Circular Road east of Phibsborough Road:

Compared to existing event day full capacity flows

a. There is expected to be a negligible or no effect in the pre-event period
b. Flows in the post-event period would be one vehicle per minute greater westbound, with a negligible effect eastbound
c. There would be a negligible impact on peak 15-minute flows

Compared to non-event day flows

d. There is expected to be a negligible or no effect in the pre-event period
e. Post-event, flows would be two vehicles per minute greater westbound with a negligible effect eastbound
f. There would be a negligible effect on peak 15-minute flows.

Connaught Street:

Compared to existing event day full capacity flows

a. There would be an increase of one vehicle per minute eastbound and a negligible effect westbound in the pre-event period
b. Flows in the post-event period would be between one and three vehicles per minute greater in each direction
c. Peak 15-minute flows would increase be one vehicle per minute eastbound and four per minute westbound.

Compared to non-event day flows

d. Pre-event, flows would be between one and two vehicles per minute greater in each direction
e. Post-event, flows would be between two and five vehicles per minute greater in each direction
f. Flows in the peak 15-minute period would be one vehicle per minute greater eastbound and three vehicles per minute greater westbound.

5.2.2.1 Conclusion

The descriptions above suggest that the increase in event day flows expected as a result of the stadium proposals are likely to have a low or, in some cases, negligible adverse effect on the operation of the roads immediately surrounding the Site. In many cases, the difference between event day and non-event day vehicles per minute is also low.

It is important to note that this assessment of traffic flows generated by the proposed stadium is based on a full capacity, i.e. “worse case” scenario, which is not expected to occur for every event. As we explained in Chapter 3, for events where spectator segregation is required, the capacity is reduced to enable segregation to be provided. Few of the men’s football matches are expected to operate at full capacity, while attendance at women’s matches would be less. Full capacity events would therefore be infrequent. Matches are not held at Dalymount Park Stadium every week of the year and when matches do occur, traffic flow impact would only occur over short periods before and after the event.

Although the new stadium is expected to have an impact on traffic flows on these roads, the impact would occur over a limited period of time and the increase in terms of vehicles per minute is not significant.

5.2.3 Parking

In Table 5.10 we calculated that 1,086 spectator private vehicles would be generated by the proposed development. Assuming the parking behaviour exhibited by spectators remains as shown in Table 5.1, spectator parking demand for the proposed stadium is expected to be as shown in Table 5.7.

Table 5.7 Proposed Stadium Spectator Parking Locations

Parking location	Percentage	Total Vehicles
On street	51%	552
Paid car park	12%	129
Private car park	8%	92
Rail station	0%	0
Friend's house	3%	37
Other	3%	37
Nowhere (dropped off)	22%	239
Total	**100%**	**1086**

This would mean that 552 vehicles would park on-street. In addition, since the proposed stadium will provide limited on-site parking on event day for match officials, the 64 staff vehicles can also be expected to park on-street.

As explained in section 5.1.2.3, a total of 122 spectators at the existing stadium currently park in the locations surveyed in Table 5.3, which means that, for a full capacity event at the existing stadium, a maximum of 254 spectators and staff park on-street elsewhere. Two of the areas surveyed – Connaught Street lane (the access road between Connaught Street and the Phibsborough Shopping Centre car park) and Kelly's Yard car park (off North Circular Road) – will no longer be available for parking during event days at the proposed stadium. The 18 vehicles recorded as parked here (Table 5.3) would therefore need to be accommodated elsewhere. The other roads surveyed – St. Peter's Road, Norfolk Road, Cabra Park and Connaught Street – were recorded as being very close to parking capacity on the event day and therefore cannot be expected to accommodate any additional event day parking demand. Therefore, all additional on-street parking demand generated by the proposed stadium would also need to be accommodated elsewhere.

If the proposed stadium is expected to generate a maximum parking demand of 616 vehicles (552 spectators + 64 staff) and the four roads in the surveyed area can accommodate around 118 vehicles (Table 5.3), 498 vehicles would need to be accommodated elsewhere. Including the vehicles parked in Connaught Street lane and Kelly's Yard car park, the total is 516 vehicles.

Table 5.8 presents the spare capacity recorded in the four surveyed roads in the non-event day survey.

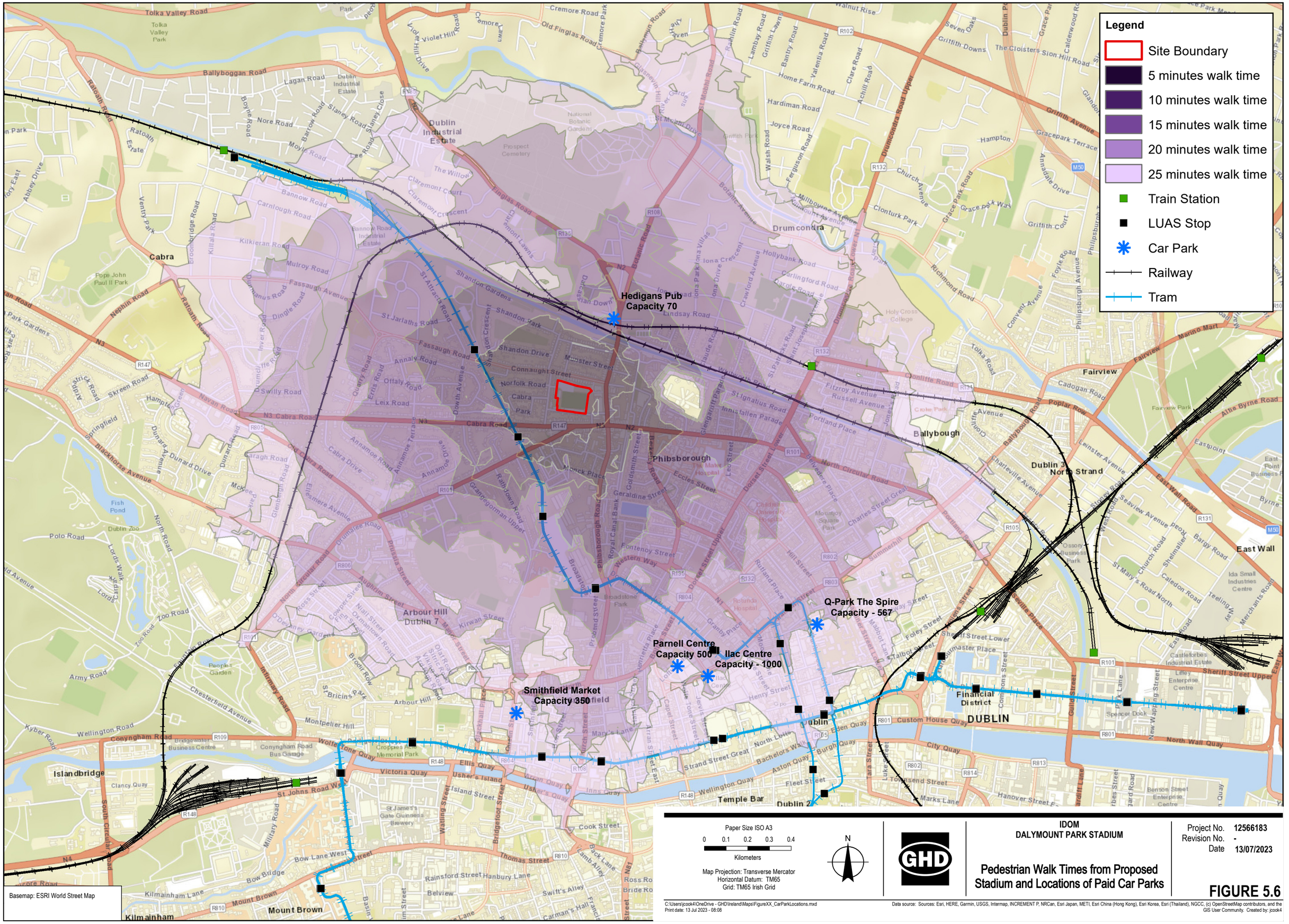
Table 5.8 Non-Event Day Parking Survey Results

Street	Number of Legal Parking Spaces	Number of Vehicles Parked	Number of Spare Parking Spaces
St Peter's Road	56	45	11
Norfolk Road	73	38	35
Cabra Park	115	75	40
Connaught Street	128	81	47
Total	**499**	**239**	**133**

A total of 133 parking spaces were available on the surveyed non-event day. The combined area of the roads that were surveyed and the developments (residences, etc) that are adjacent to them is 9.29 hectares (including only the part of Connaught Street that was surveyed). Figure 5.6 shows walk time isochrones in 5-minute periods up to 25-minutes from the proposed stadium. Table 5.11 presents the areas within the 5- to 15-minute walk time isochrones and, assuming available spare parking capacity of 133 spaces per 9.29 hectares as recorded in the surveyed area, the potential number of on-street parking spaces available.

Table 5.9 Pedestrian Walk Time Isochrone Areas and Forecast Spare On-Street Parking Capacity

Walk Time Isochrone	Area (hectares)	Assumed Spare On-Street Parking Capacity
5 minutes	42.5	609
10 minutes	108.3	1,550
15 minutes	199.7	2,859



Paper Size ISO A3

0 0.1 0.2 0.3 0.4

Kilometers

Map Projection: Transverse Mercator
Horizontal Datum: TM65
Grid: TM65 Irish Grid

N

IDOM
DALYMOUNT PARK STADIUM

Pedestrian Walk Times from Proposed Stadium and Locations of Paid Car Parks

Project No. 12566183
Revision No. -
Date 13/07/2023

FIGURE 5.6

C:\Users\jcook4\OneDrive - GHD\Ireland\Maps\FigureXX_CarParkLocations.mxd
Print date: 13 Jul 2023 - 08:08

Using the assumptions described above, a total of 548 on-street parking spaces would be available within a 5-minute walk of the stadium and 1,392 spaces within a 10-minute walk on a non-event day. On event days, this spare capacity can be used to accommodate parking demand generated by the stadium and could comfortably accommodate part or all of the 616 vehicles expected to be generated by the proposed stadium assuming a full capacity attendance. In reality, not all spectators would park within 10 minutes' walk of the stadium, therefore the impact is expected to be more dispersed.

In Table 5.7 we forecast that the proposed stadium would generate a parking demand of 129 vehicles in Paid car parks. The parking surveys undertaken for this assessment also included a survey of the Phibsborough Shopping Centre car park, as reported in Table 3.12 in the Baseline Transport Conditions report. At the time of the survey the car park had a total of 127 spaces, of which 39 were used on a non-event day, which means 88 spaces were available and therefore would be available for spectator parking on event days. The remaining 41 of the 129 vehicles could either park on-street as there are expected to be sufficient availability as described above, or they could park in one of the five car parks identified within a 22-minute walk of the stadium as shown in Figure 5.6.

5.2.3.1 Conclusion

While the stadium proposals are likely to generate additional on-street parking demand, this demand would only occur for 2-3 hours on event days. Extrapolating from parking survey results, we expect that the additional on-street parking demand could be accommodated within a 10-minute walk distance of the stadium. Demand generated for Paid car parks can be accommodated through a combination of the Phibsborough Shopping Centre car park, on-street parking and/or other car parks within a 22-minute walk.

Again, it is important to note that these calculations are based on a worse case assumption of a full capacity attendance at the proposed stadium. As we explained in the conclusion of the previous section, a full capacity attendance is expected to be an infrequent occurrence, with many fixtures including women's football matches expected to attract significantly less spectators.

5.3 Future Situation – Non-Event Day

5.3.1 Vehicle Trip Generation

5.3.1.1 Staff

In Table 4.4 we presented the number of non-event day Staff trips by mode and identified that 16 Staff are expected to drive to the Site by Car and 1 person by Van. This means a total of 17 vehicles would be generated by the non-event day Staff.

To calculate the number of vehicle trips made during network peak periods we have considered the expected arrive and departure profile of Staff. Our assumptions are as follows:

a. Stadium operations, Club Office and Club Merchandise staff arrive in the half hour leading up to the start of their working day and leave in the half hour after the end of their working day
b. The Gym and Concessions will operate with two working shifts: 08:00 to 15:00 and 15:00 to 22:00. Staff will arrive in the half hour leading up to the start of their shift and leave in the half hour after the end of their shift
c. The Stadium Bar will operate with two working shifts: 08:00 to 15:00 and 15:00 to 23:00. Staff will arrive in the half hour leading up to the start of their shift and leave in the half hour after the end of their shift.

Table 5.10 shows the resultant number of Staff vehicle trips generated around the AM and PM peak periods.

Table 5.10 Non-Event Day Staff Vehicle Trips

Time Period	Number of Vehicles		
	Arrive	Depart	Total
07:00 – 07:30	0	0	0
07:30 – 08:00	9	0	9
08:00 – 08:30	0	0	0
08:30 – 09:00	2	0	2
09:00 – 09:30	0	0	0
09:30 – 10:00	0	0	0
16:00 – 16:30	0	0	0
16:30 – 17:00	0	0	0
17:00 – 17:30	0	0	0
17:80 – 18:00	0	0	0
18:00 – 18:30	0	9	9
18:30 – 19:00	0	0	0

5.3.1.2 Visitors

A total of 231 Visitors are expected to drive to the site by Car and 16 by Van (Table 4.5), generating a total of 247 vehicles.

Visitor arrival and departure profiles for the Gym, Concessions, Club Merchandise shop and Stadium Bar were generated from the TRICS database, as described in Appendix E. As we explained in Chapter 3, on a typical day the Multipurpose Room is expected to be used by a number of groups of people throughout the day, with groups expected to be around 20 people in size. We have therefore assumed that 14 different groups of people could use the room for 1 hour at a time throughout the period 08:00 to 22:00 it is open on a non-event day, with people arriving in the half hour before the start of their 1-hour slot and departing in the half hour after it finishes.

Table 5.11 presents the resulting number of non-event day Visitor trips around the network peak hours.

Table 5.11 Non-Event Day Visitor Vehicle Trips

Time Period	Number of Vehicles		
	Arrive	Depart	Total
07:00 – 07:30	1	1	2
07:30 – 08:00	9	1	10
08:00 – 08:30	1	2	3
08:30 – 09:00	10	2	12
09:00 – 09:30	5	11	16
09:30 – 10:00	13	3	16
16:00 – 16:30	4	13	17
16:30 – 17:00	12	4	16
17:00 – 17:30	5	13	18
17:80 – 18:00	14	4	18
18:00 – 18:30	5	13	18
18:30 – 19:00	13	5	18

5.3.1.3 Total Vehicle Trip Generation

In Table 5.12 we have combined Table 5.10 and Table 5.11. The table shows that during the network peak periods the peak number of vehicles expected to be generated by Staff and Visitors on a typical non-event day is 28 in a half hour period between 18:00 and 18:30. The number of vehicles generated is less than 1 vehicle per minute throughout the peak periods.

This level of vehicle trip generation is expected to have a negligible impact on highway capacity.

Table 5.12 Non-Event Day Staff and Visitor Vehicle Trips

Time Period	Number of Vehicles		
	Arrive	Depart	Total
07:00 – 07:30	1	1	2
07:30 – 08:00	18	1	19
08:00 – 08:30	1	2	3
08:30 – 09:00	12	2	14
09:00 – 09:30	5	11	16
09:30 – 10:00	13	3	16
16:00 – 16:30	4	13	17
16:30 – 17:00	13	4	17
17:00 – 17:30	5	13	18
17:80 – 18:00	14	4	18
18:00 – 18:30	5	23	28
18:30 – 19:00	13	5	18

NB: Numbers have been rounded

5.3.2 Parking

5.3.2.1 Staff

Using the Staff arrival and departure profiles described above, we have undertaken an assessment of parking accumulation throughout the day. The result is shown in Table 5.13.

Table 5.13 Non-Event Day Staff Parking Accumulation

Time Period	Number of Vehicles		
	Arrive	Depart	Accumulation
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	0	0	0
07:00-08:00	9	0	9
08:00-09:00	2	0	11
09:00-10:00	0	0	11
10:00-11:00	0	0	11
11:00-12:00	0	0	11
12:00-13:00	0	0	11
13:00-14:00	0	0	11
14:00-15:00	2	0	13
15:00-16:00	0	2	11
16:00-17:00	0	0	11
17:00-18:00	0	0	11
18:00-19:00	0	9	2
19:00-20:00	0	0	2
20:00-21:00	0	0	2
21:00-22:00	0	0	2
22:00-23:00	0	1	1
23:00-24:00	0	1	0

Table 5.13 shows that the number of Staff vehicles parked are expected to be less than the 12 parking spaces provided in the stadium throughout the day with the exception of a period between 14:00 and 15:00 when some uses experience Staff shift changes when demand may exceed supply by one vehicle. In reality, this would be managed such that the Staff member arriving to find no spaces available would be able to park in a designated area within the western stand close to the parking bays and would be able to move into a bay at a suitable time during their shift when one becomes available.

The level of proposed parking provision is therefore expected to be sufficient to meet Staff parking demand.

5.3.2.2 Visitors

Using the arrival and departure profiles derived from TRICS, Table 5.14 presents the expected parking accumulation generated by Visitors to the site in a typical non-event day.

The Visitor parking accumulation calculation suggests that a peak parking demand of 29 vehicles could be generated on a typical non-event day between 17:00 and 18:00. Between 09:00 and 20:00, the average parking demand is 26 vehicles.

In Table 5.8 we presented the results of the on-street parking survey conducted at around 20:00 on a Friday night during a non-event day. The four roads surveyed had a total of 133 spare parking spaces available at the time of the survey, which is far more than would be required to accommodate non-event day visitor parking demand at this time. While the level of spare capacity may reduce later into the night if some residents arrive home later, it is expected that a significant number of residents who park on these roads would be parked at the time of the survey. Thus, there is expected to be enough spare capacity to accommodate Visitor demand through the evening and night.

As the roads surveyed are residential roads and are not close to large employment generators or other land uses that could be expected to generate significant daytime parking demand, it is therefore expected that these roads could also accommodate daytime parking demand from the non-event day visitors. In reality, the impact is likely to be distributed over a wider distance within a 10-minute walk of the site.

Table 5.14 Non-Event Day Visitor Parking Accumulation

Time Period	Number of Vehicles		
	Arrive	Depart	Accumulation
00:00-01:00	0	0	0
01:00-02:00	0	0	0
02:00-03:00	0	0	0
03:00-04:00	0	0	0
04:00-05:00	0	0	0
05:00-06:00	0	0	0
06:00-07:00	1	0	1
07:00-08:00	10	2	8
08:00-09:00	11	4	16
09:00-10:00	18	14	20
10:00-11:00	19	17	22
11:00-12:00	19	17	24
12:00-13:00	22	18	28
13:00-14:00	23	22	29
14:00-15:00	18	19	28
15:00-16:00	17	18	27
16:00-17:00	17	17	26
17:00-18:00	19	17	29
18:00-19:00	18	18	28
19:00-20:00	17	18	27
20:00-21:00	13	17	23
21:00-22:00	3	16	10
22:00-23:00	1	10	2
23:00-24:00	0	2	0

6. Sustainable Modes

6.1 Introduction

This Chapter reviews the expected impact of the development proposal on sustainable transport modes on event and non-event days.

The Staff and Visitors non-event day arrival and departure profiles referred to in these sections are contained in Appendix G.

6.2 Pedestrians

As explained in Chapter 3, the proposed development will provide an improved public realm with a new pedestrianised route along the eastern edge of the stadium providing access to the new community facilities as well as significant space for managing crowd movement on event days.

Pedestrians access the stadium through the East and West stands, with the Community facilities, Club Office and Club Merchandise shop having their own accesses in the East stand. Pedestrians can access the stadium via six routes, as follows:

a. From the west via St. Peter's Road or Dalymount Lane leading from St. Peter's Road along the southern boundary of the stadium to the East stand
b. From the south via two routes from North Circular Road: the public lane west of the Cabra Road / North Circular Road junction and the public area through what is currently Kelly's Yard car park east of the Cabra Road / North Circular Road junction
c. From the east from Phibsborough Road through the route adjacent to Phibsborough Shopping Centre
d. From the north from Connaught Street along the route used to access the Phibsborough Shopping Centre car park.

In the wider area, pedestrians accessing the stadium would do so along footways on Connaught Street, North Circular Road, Phibsborough Road, Cabra Road and St Peter's Road. Pedestrians benefit from signal-controlled crossing facilities at the following locations:

a. On Connaught Street west of St. Peter's Road on route between the stadium and Cabra Station
b. On Connaught Street outside Cabra Station
c. On the west and south arms of the Connaught Street / Phibsborough Road junction. As part of the DCC Core Bus Corridor proposals, this junction is planned to be upgraded to provide signal-controlled pedestrian crossings on all arms of the junction, make the crossings straight rather than staggered, and increase footway widths, thus improving conditions for pedestrians
d. On Phibsborough Road outside the shopping centre
e. On all arms of the Phibsborough Road / North Circular Road junction
f. On Cabra Road and North Circular Road at the junction between the two roads providing a linear passage across from the north side of Cabra Road to the south side of the section of North Circular Road routing to the southwest. This provides safe passage across to bus stops on the south side of Cabra Road and North Circular Road
g. On Cabra Road west of the junction with St. Peter's Road on route to Phibsborough Station
h. On Cabra Road outside Phibsborough Station.

6.2.1 Event Day

Figure 3.1 shows the spectator accesses at the proposed stadium. Access for the West and North stands is via a single access on St. Peter's Road, while the East and South stands are to be accessed via four locations on the east side of the stadium.

An assessment of spectator movement for normal egress from the stadium has been undertaken using SENSE modelling software. The assessment of a normal egress scenario represents a worst case compared to a normal ingress scenario where the spectator arrival profile is more spread out with lower peak flow volumes.

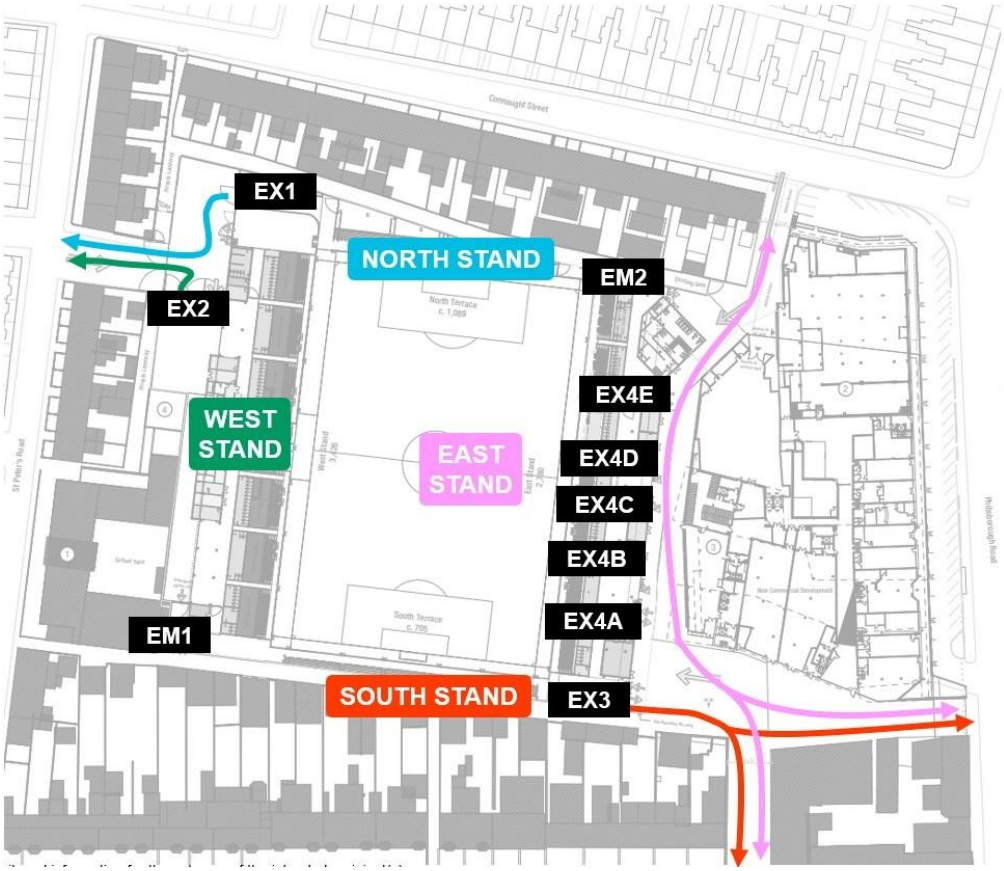
The SENSE model is a network of origins and destinations connected by links, the capacity of which is set depending on the width of the pedestrian routes being assessed. It routes spectators along the shortest route between origin and destination and identifies pedestrian levels of service that can be measured against performance targets as well as queues at pinch points.

Our assessment scenario is as follows:

a. An attendance of 8,030 spectators: 1,089 in the North stand, 3,070 in the West stand, 3,166 in the East stand and 705 in the South stand
b. No spectators leave before the end of the event
c. All spectators leave as soon as possible at the end of the event
d. There is no spectator retention in the stadium or the local area, i.e. all spectators head straight to their intended final destinations as soon as the event has finished
e. St Peter's Road is closed to vehicle traffic at the end of the event
f. Spectators make use of the width physically available at the pedestrian crossings (but adhere to the signal timings)
g. Spectators routing westbound on Connaught Street from the East and South stands use the southern pavement on Connaught Street. Eastbound spectators from the North and West stands use the northern pavement on Connaught Street
h. Spectators on the west side of the stadium routing towards City Centre destinations continue south, rather than travelling East through North Circular Road.

Figure 6.1 shows the spectator routing assumptions from each of the proposed stands through the exits and into the wider area. It is assumed that the emergency exits (EM1 and EM2) are not used for normal egress.

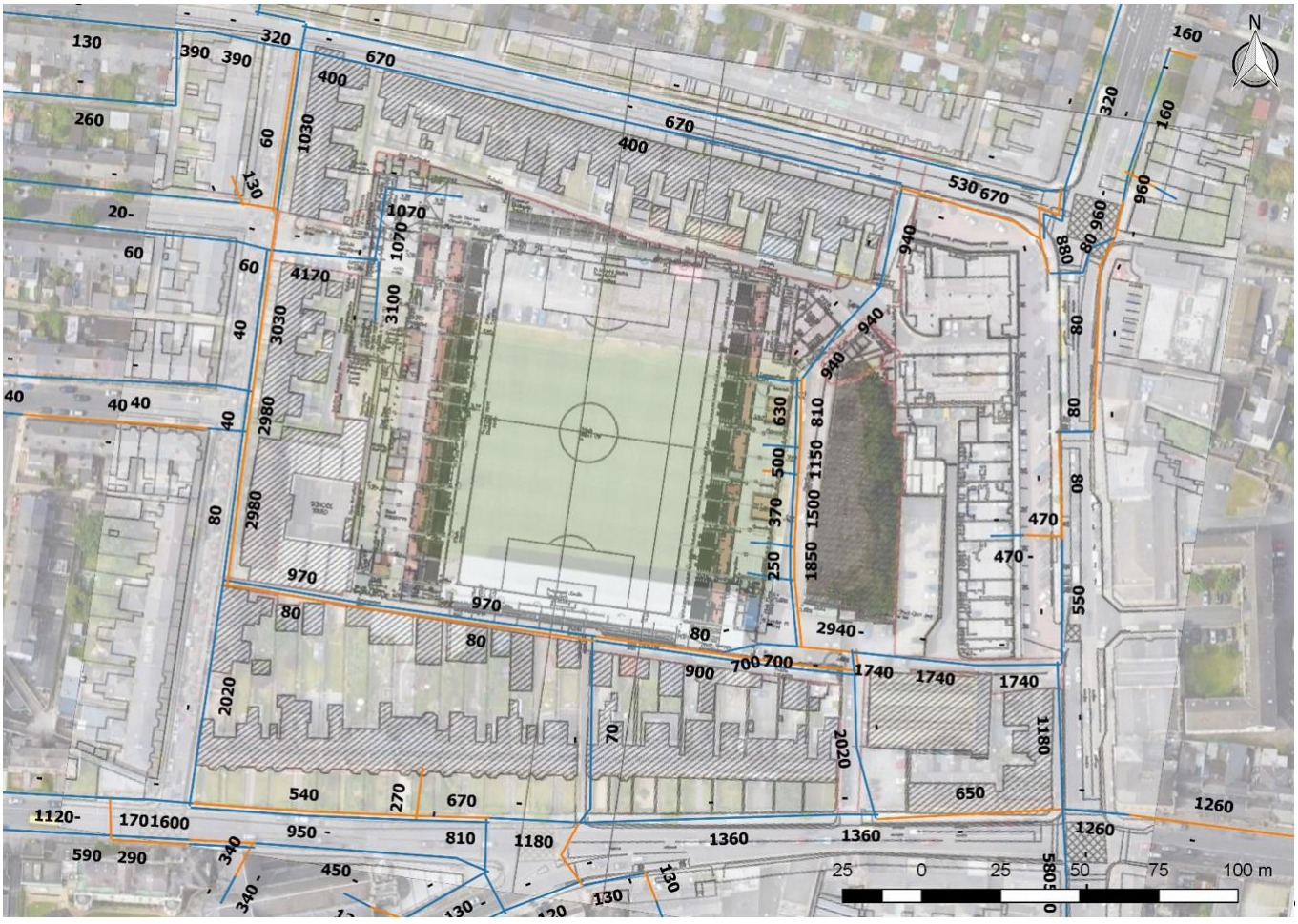
Figure 6.1 Spectator Egress Routing Assumptions



The rate of spectator egress from the stadium has been provided from the results of the internal crowd flow modelling undertaken for a normal spectator egress scenario by Michael Slattery Associates, as contained in Appendix H. The flow rates suggest that all spectators will have egressed from the North and South stands in four to five minutes after the end of the event and from the West and East stands in nine to ten minutes. These egress times are considerably quicker than those recorded at the existing stadium as presented in section 3.3.4 of the Baseline Transport Conditions report where spectators were recorded leaving during the second half of the match, with the egress flow increasing in volume approaching full-time. At the full-time whistle, 8% of spectators in attendance had left the stadium. Around three-quarters of all spectators had left within 10 minutes and within 15 minutes just over 90% of spectators had departed. While the proposed stadium is expected to offer greater efficiency with regard to the egress of spectators, the actual departure periods are expected to be greater than is modelled in this assessment. This assessment therefore represents a worst case in terms of the flow rate of spectators from the stadium into the wider area.

Following exit from the stadium, spectators are assumed to route to their desired destination according to the mode they will use to travel away from the stadium, as shown in Table 4.3. Our method for assigning routes based on mode of travel along with the assumed location of the destinations is contained in Appendix H, which we have based on the intended mode of travel and answers given to other pertinent questions relating to final destination in the spectator interview survey. Figure 6.2 shows the resulting flows on the local pedestrian network.

Figure 6.2 Spectator Flows on the Local Pedestrian Network (Full Capacity, Normal Egress)



To assess the performance of the local pedestrian network we have applied the Fruin Level of Service[1] (LoS) scale which provides a measure of experience, density and congestion for people walking. This ranges from LoS A, the most free-flowing level of service, to LoS F, the most restrictive of conditions considered on this scale. Figure 6.3 illustrates the pedestrian conditions for each of the levels of service along with the corresponding spectator flow rates and densities. The performance target for the pedestrian footways in the vicinity of the stadium is no worse than LoS D (66 people per metre per minute). At LoS E and F it is possible that spectators are likely to move off the footway into the carriageway to queue or cross the road.

Figure 6.3 Fruin Levels of Service Flow Rates and Densities

Description for walkways	Free circulation	For one directional flows, free circulation. For reverse and crossing flows, minor conflicts.	Some restriction in selection of walking speed and ability to pass others. High probability of conflict.	Restricted and reduced walking speed for most pedestrians. Difficulties in passing with momentary stoppages of flow.	Restricted and reduced walking speed for all pedestrians. Extreme difficulties in reverse or cross flows.	Circulation reduced to shuffling. Reverse and cross flows near impossible. Frequent contact. Sporadic forward flow.

Walking LOS	A	B	C	D	E	F
Flow rate (people/m/ minute)	21 - 23	23 - 33	33 - 49	49 - 66	66 - 82	Restricted, lower than LoS E
Space/person (m^2/person)	>3.25	3.25 - 2.32	2.32 - 1.39	1.39 – 0.93	0.93 – 0.46	<0.46

Source: Pedestrian Planning and Design (J. Fruin, 1971)

Figure 6.4 presents the results of the assessment showing the levels of service on each link used by spectators. Figure 6.5 shows the peak queues at locations where delays to spectator movement occur either because of pedestrian crossings, bus service frequencies or reduction in route width (i.e. at the corner of St. Peter's Road and Cabra Road for spectators routing west).

The results show that the majority of the pedestrian network is expected to operate at LoS D or better. Areas of LoS E and F where queues are likely and spectators may enter into the carriageway are as follows:

a) Bus stops on Phibsborough Road, Cabra Road and North Circular Road.

b) On the western side of Phibsborough Road southbound on approach to the pedestrian crossing at the junction with North Circular Road

c) Pedestrian crossing at Cabra Road / North Circular Road junction

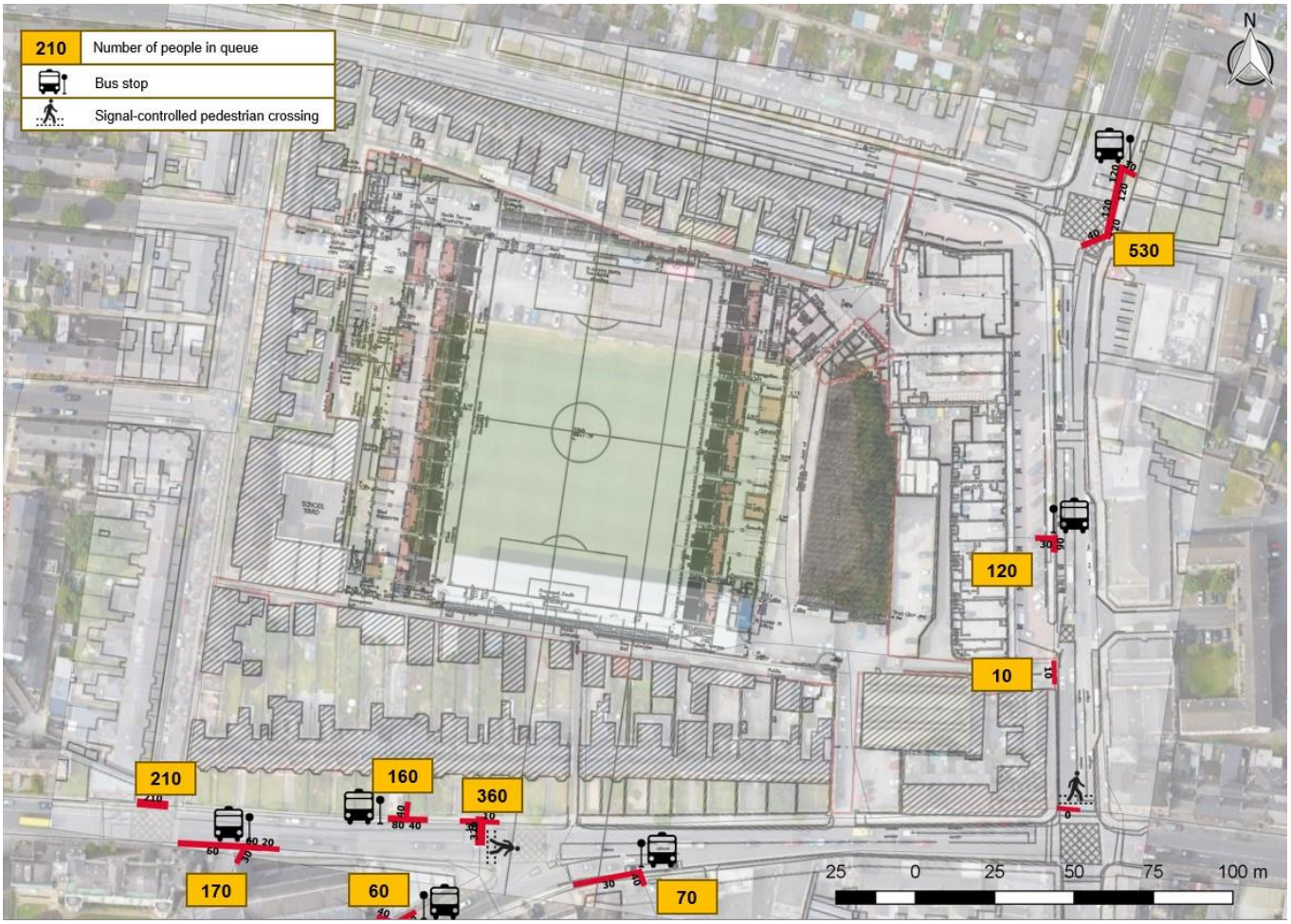
d) Bus stops on Cabra Road and North Circular Road

e) On the corner of St. Peter's Road and Cabra Road

[1] Pedestrian Planning and Design (J. Fruin, 1971)

Figure 6.4 Pedestrian Levels of Service (Full Capacity, Normal Egress)

Figure 6.5 Peak Queues (Full Capacity, Normal Egress)



Our assessment assumes a worst case where the stadium is at full capacity and spectators all leave as soon as possible after the event and route to the closest bus stop that is served by the route number they require. As we explained in Chapter 5, full capacity events are expected to be infrequent and for some events are expected to be considerably less than full. Events that require segregation of spectators would operate at reduced capacity.

As mentioned above, the spectator departure profile recorded at the existing stadium showed that some spectators left before the end of the match and around 10% were still in the stadium 15 minutes after the final whistle. As the assessment assumes that that no spectators leave before the end of the event and all spectators leave as soon as possible after the end, the flow rates assessed are a very robust worst-case scenario. However, it is likely that spectators will leave over a longer period of time, thus reducing peak queues and flow rates shown in the assessment results.

In addition, the assessment assumes that spectator's route to their intended destinations immediately after leaving the stadium and that no retention occurs in the local area. In reality, some spectators are known to visit other destinations such as public houses before heading to their final destination.

This means that the peak queues identified at bus stops and pedestrian crossings can be considered a worst-case. Furthermore, we have assumed that spectators wishing to access bus services will do so at the closest stop that is served by the route number they require. As queues develop at bus stops, spectators arriving thereafter may choose to walk upstream or downstream to the next bus stop that the route they wish to take serves, thus reducing peak queues further. As spectators develop an understanding of this over time after several events at the stadium, some are likely to change their behaviour such that they are leave the stadium later, spend time at another location within the local area or walk to an alternative bus stop.

A bespoke Event Management Strategy will be produced for each event held at the stadium. As part of the Strategy, some crowd control measures may be required at the following locations:

a) St. Peter's Road before, during and after the road closure. Pedestrian flows will be monitored during these periods so that the road closure will be in place for the shortest time possible to ensure spectator safety
b) On Connaught Street to maintain an appropriate level of service through the diversion of spectators to use the footway on both sides of the road between St. Peter's Road and Phibsborough Road as appropriate to their intended destinations (post-event period)
c) At the junction between Connaught Street and Phibsborough Road to manage pedestrians crossing to access the southbound bus service on Phibsborough Road or to route between Connaught Street and Phibsborough Road at the southwestern corner of the junction (post-event period)
d) On Phibsborough Road on approach to the junction with North Circular Road (post-event period)
e) At bus stops on Phibsborough Road, Cabra Road and North Circular Road to ensure spectators do not encroach into the carriageway and that routes for pedestrians are maintained (post-event period)
f) At pedestrian crossings on Phibsborough Road and Cabra Road to ensure spectators do not encroach into the carriageway and that routes for pedestrians are maintained (post-event period).

An increase to bus frequency or to pedestrian green times at signalised crossings would help to mitigate queue lengths. However, this is not expected to be required with appropriate crowd management measures in place.

6.2.2 Non-Event Day

In section 4.3.2 we presented the expected number of pedestrian trips on non-event days, with 209 two-way trips per day (four staff and 205 visitors). These 209 trips would generate 418 one-way movements.

Using the Staff and Visitor arrival and departure profiles described in Chapter 5 we have distributed pedestrian movements throughout the day. This results in a peak of 37 pedestrian movements in the period between 13:00 and 14:00. Between 09:00 and 21:00, an average of 30 pedestrian movements per hour are forecast.

Pedestrian trips would be distributed across all accesses to the Site, with some at the western access arriving/departing north and south along St. Peter's Road, and others at the eastern accesses arriving/departing along routes to/from Connaught Street, Phibsborough Road and North Circular Road.

The existing footways on these roads could comfortably accommodate the forecast additional pedestrian trips. The improved public realm along the eastern edge of the Site will provide an attractive route for pedestrians with sufficient width to accommodate demand.

6.3 Cycling

The proposed development will provide visitor and staff cycle parking at the stadium accesses, with more cycle parking provided in the wider area by DCC.

As described in Chapter 3, a total of 50 cycle parking spaces would be provided for the non-event day uses at locations close to building accesses.

The proposed cycle parking provision will comprise a mix of standard bike racks and two-tier stands and will be spread around the stadium and the community use entrances.

The new public realm features and improved pedestrian access to the stadium combined with the restriction on long-term (greater than 3 hours) on-street parking within 5- 10 minutes' walk distance from the stadium can also expect to produce a mode shift to cycling and other sustainable modes.

6.3.1 Event Day

The surveyed events reported in the Baseline Transport Conditions report recorded no spectators as having travelled to or from the stadium by bicycle. It is likely that there is currently a minimal demand for cycle parking at the stadium.

In future, the provision and promotion of cycle parking is expected to provide more opportunity and inclination for spectators to cycle to the stadium on event days. Table 4.3 outlines the number of spectator cyclists that would be generated based on a cycle mode share of 1%, as agreed with DCC. On this basis, a full capacity event would attract 80 spectator cyclists and 10 staff cyclists (Table 4.2).

As described previously, a full capacity event is expected to occur infrequently, and the mode share is likely to take time to increase. Therefore, the forecast of 80 spectator cyclists is therefore unlikely to be achieved for some time and can be expected to be less on most event days.

As mentioned in Chapter 3, DCC provide Sheffield stands across the city that will be able to be used by event day spectators and staff. The club will investigate the provision of temporary cycle parking for event days through its Event Management Strategy.

6.3.2 Non-Event Day

Table 4.4 and Table 4.5 show the expected number of Staff and Visitor cycle trips on non-event days, with a total of 92 cyclists (two Staff and 90 Visitors) expected per day.

Based on the expected Staff and Visitor arrival and departure profiles, a peak cycle parking demand of 12 cycles is forecast. This level of cycle parking demand can be accommodated within the 50 spaces proposed.

The number of Staff accessing the stadium by cycle can be increased through the implementation of travel planning measures such as those described in the Mobility Management Plan in Chapter 7. As Visitors become aware of the new cycle parking facilities and accustomed to their use, it is anticipated that Visitor cycle parking demand will also increase.

6.4 Luas, DART and Irish Rail

Staff, Visitors and spectators will be able to access the stadium by Luas, Irish Rail and DART services.

The closest rail stations to the stadium are Cabra and Phibsborough, both of which are on the Luas Green Line. Phibsborough station is located approximately 300 metres southwest of the Site with accesses on Cabra Road and North Circular Road. Cabra station, located approximately 430 metres northwest, has a main access on Connaught Street and a second access in Mount Bernard Park. Table 6.1 shows how the frequency of services on the Luas Green Line alters throughout the day to accommodate demand.

The stadium is also served by Drumcondra railway station, which lies on Drumcondra Road approximately 1.3km walking distance (17-minute walk) east of the south-eastern entrance to the stadium. The Drumcondra railway station is on the western and southwestern commuter train lines.

The Four Courts Luas Stop, which lies on the Luas Red line is approximately 1.8km walking distance (21-minute walk) south of the stadium. Dublin Connolly (2.3km southeast of the stadium, 28-minute walk) and Dublin Heuston (2.9km southwest of the stadium, 34-minute walk) provide access to intercity rail services.

As described in Chapter 4, a new metro railway is proposed with access within 400m of Dalymount Park Stadium. As well as providing a new rail service, it will also provide a new Irish Rail station serving the Maynooth, Sligo and Kildare lines. This new rail service is expected to increase the number of spectators, Staff and Visitors using Irish Rail services as well as generate trips by this new mode. This is likely to decrease the number of people accessing the stadium by other rail modes but is also likely to decrease the number of people travelling by car. It is also noted that this the metro is not anticipated to be in operation until between 2030-2032.

Table 6.1 Luas Green Line Service Frequency

Time Period	Trains per hour (One-way)		
	Monday to Friday	Saturday	Sunday
05:00 – 06:00	3	-	-
06:00 – 06:30	7	-	-
06:30 – 07:00	7	4	1
07:00 – 08:00	7	3	4
08:00 – 09:00	7	5	4
09:00 – 10:00	6	5	4
10:00 – 1:00	5	4	4
12:00 – 14:00	5	4	5
14:00 – 15:00	4	5	5
15:00 – 16:00	5	4	5
16:00 – 17:00	7	5	5
17:00 – 18:00	8	4	5
18:00 – 19:00	7	5	5
19:00 – 20:00	5	5	5
20:00 – 21:00	5	4	5
21:00 – 23:30	4	4	4
23:30 – 00:30	4	4	-

Source: Transport for Ireland Luas timetable (5th June 2023)

6.4.1 Event Day

Table 4.1 shows that 12.4% of spectators currently travel to the stadium and 13.5% from the stadium via rail modes. The Luas is the most popular of the rail services with 9% travelling by that mode. Table 4.2 shows that 8% of staff travel by Rail, DART or Luas.

Table 6.2 presents the existing and proposed number of rail trips by mode generated by spectators and staff assuming the stadium is operating at full capacity for each.

Table 6.2 Spectator Rail Trips by Mode to and from the Existing Stadium

Final mode	Trips to the Stadium			Trips from the Stadium		
	Existing	Proposed	Increase	Existing	Proposed	Increase
Spectators						
Irish Rail	19	34	15	20	36	16
Luas	403	714	311	405	717	312
DART	115	204	79	162	287	125
Staff						
Train, DART or LUAS	11	11	0	11	11	0

All trips from the stadium will occur outside of network peak periods. Trips on the Luas will be split between Cabra and Phibsborough stations.

At the event surveyed at Dalymount Park Stadium in which 2,828 spectators were in attendance, the impact of spectators at the Luas stations in both the pre- and post-event periods was observed to be negligible. The increase in spectator Luas trips outlined in the table above is not expected to have a significant impact on the safe operation of the stations or the capacity of the services. The number of additional passengers will be accommodated within the existing service frequencies at Cabra and Phibsborough stations, where 10-14 trams arrive in the hour before a Friday night kick-off and 8 depart in the hour after the final whistle.

The increase in trips generated on Irish Rail is expected to have a negligible effect on stations and carriage capacities and any uplift that may result from the proposed new station associated with the MetroLink proposals is expected to be able to be accommodated through the existing level of service provision.

Spectators accessing DART services are expected to do so over a longer period of time as stations are further away and therefore arrival and departure profiles will be more spread out. There is expected to be a low impact on DART services.

The calculations in this section are based on a full capacity crowd at the proposed stadium, which, as we have established, is likely to be an infrequent occurrence. Impacts on rail modes for most event days is expected to be less than described above.

6.4.2 Non-Event Day

Local rail services from Cabra and Phibsborough Luas stations operate 7 days a week and vary in frequency as outlined in Table 6.1. Irish Rail and DART services also operate 7 days a week.

The Staff and Visitor arrival and departure profiles suggest that an average of ten one-way trips per hour will be generated on these services on non-event days between 09:00 and 20:00 and less outside of these times.

This level of rail trip generation would have a negligible impact on these services.

6.5 Buses

There are several frequent bus service routes that stop in the vicinity of the stadium. Table 6.3 shows the service frequencies of each route.

Table 6.3 Summary of Local Bus Services

Service Number	Route	Off-peak Frequency (One-way)		
		Monday - Friday	Saturday	Sunday
4	Harristown – Monkstown Avenue	every 12 minutes	every 15 minutes	every 15 minutes
9	Charlestown Shopping Centre – Greenhills College	every 12 minutes	every 15 minutes	every 15 minutes
38	Dublin City South, Burlington Road – Damastown Drive	every 30 minutes	every 30 minutes	every 30 minutes
38A/B/D	Dublin City South, Burlington Road – Damastown Drive	every 30 minutes	every 30 minutes	every 30 minutes
46A	Phoenix Park Gate – University College Dublin	every 7 - 8 minutes	every 10 minutes	every 10 minutes
83 / 83A	Harristown - Kimmage	every 12 minutes	every 15 minutes	every 15 minutes
88N	Dublin City South – Ashbourne	-	3 per day	3 per day
103	Ratoath – Dublin	every 20 minutes	every 20 minutes	every 30 minutes
109	Dublin - Cavan	every 60 minutes	every 60 minutes	every 60 minutes
109B	Dublin – Trim	every 120 minutes	every 120 minutes	3 per day
109X	Dublin - Cavan	every 60 minutes	every 60 minutes	every 60 minutes
111	Wilton Tce - Cavan	every 60 minutes	every 60 minutes	every 60 minutes
111X	Clonmellon – Dublin	3 per day	-	-
120	Parnell Street – Ashtown Rail Station	every 30 minutes	every 30 minutes	every 30 minutes
122	Cabra, Ashington Park - Drimnagh	every 20 minutes	every 20 minutes	every 20 minutes
140	Ballymun IKEA – Palmerston Park	every 15 minutes	every 15 minutes	every 20 minutes
155	Ballymun IKEA – Bray Rail Station	every 20 minutes	every 20 minutes	every 20 minutes
836	Dublin – Corduff (Fingal)	2 per day	2 per day	2 per day
870	Dublin – Mulhuddart	5 per day	5 per day	5 per day
980	Carrickmacross – Dublin	5 per day	5 per day	5 per day
NX	Navan – Dublin Wilton Terrace	every 20 minutes	every 20 minutes	every 30 minutes

Source: Transport for Ireland bus route timetables (5th June 2023)

6.5.1 Event Day

Event days are typically on a Friday night when approximately 84 buses arrive per hour prior to the match with circa 23 headed northbound, 27 southbound, 15 westbound and 19 eastbound. Post match there are approximately 54 buses per hour with circa 14 headed northbound, 14 southbound, 14 westbound and 12 eastbound.

Figure 6.5 presents the potential queues at bus stops in the post-event period. As described previously, these queues assume the following:

a) A full capacity attendance of circa. 8,000 spectators. A full capacity crowd is expected to be an infrequent occurrence

b) No spectators leave before end of the match. As shown by surveys conducted at the existing stadium, some spectators are likely to have left the stadium before the final whistle

c) All spectators leave as soon as possible at the end of the event. Our surveys at the existing stadium also show that spectators leave over a more extend period compared to the period of up to ten minutes assumed in the pedestrian impact assessment

d) There is no spectator retention in the stadium or the local area. Spectators are known to visit other places in the local area after leaving the stadium, mainly local public houses

e) Spectators travelling by bus will do so by accessing their preferred service via the closest bus stop to the stadium. If queues develop at the closest bus stops, spectators are likely to either walk to the next upstream stop or spend time at other destinations in the local area before continuing their journey

f) No crowd management measures are in place to influence spectator movement and control queue lengths.

For these reasons, the queues shown in Figure 6.5 are expected to be a worst case and actual queues can be expected to be lower.

Each event at the stadium will have a bespoke Event Management Strategy that will set out the crowd management required, if necessary, for the particular event. Some crowd management may be required at bus stops on Phibsborough Road, Cabra Road and North Circular Road in the post-event period to ensure spectators do not encroach into the carriageway and that routes for pedestrians are maintained.

Pre-event arrivals are expected to occur over a longer period of time than for post-event departures. Some services at the tail end of the network peak travel time are expected to have additional patronage, but the increase is not expected to require additional service capacity and are not expected to have a significant adverse effect.

6.5.2 Non-Event Day

More than a dozen bus services are available in the surrounding roads with varying frequencies as outlined in Table 6.3.

Table 4.4 and Table 4.5 showed that four two-way Staff Bus trips and 137 two-way Visitor Bus trips are expected to be generated by the non-event day uses.

The Staff and Visitor arrival and departure profiles suggest that this would result in a peak demand of 25 one-way movements between 13:00 and 14:00 and that between 09:00 and 22:00 an average of 20 one-way trips per hour would be generated, with fewer than this outside of that period.

The existing bus services Table 6.3 would be able to accommodate this increase in patronage.

7. Mobility Management Plan

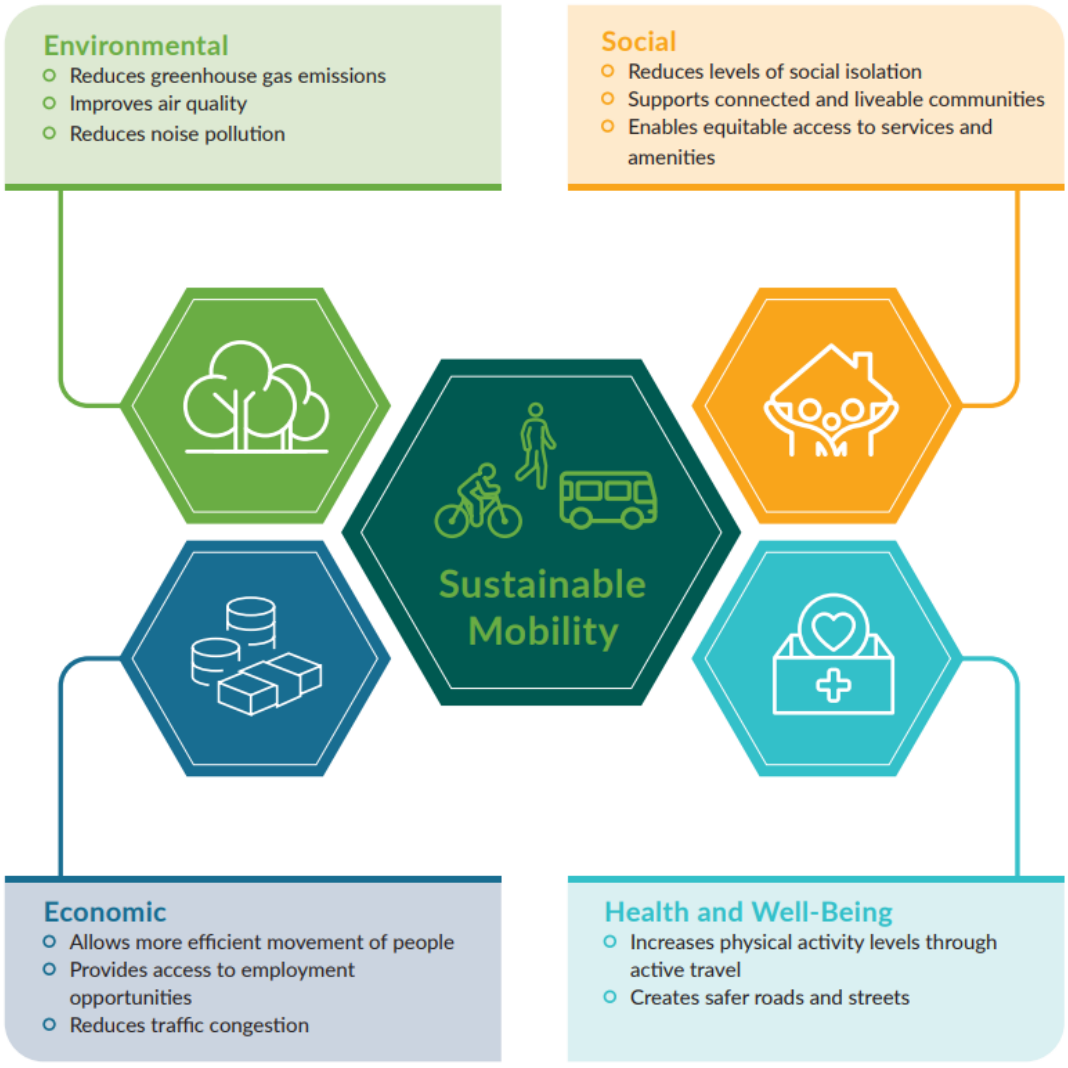
7.1 Introduction

This section sets out the approach that would be adopted in developing and implementing a Mobility Management Plan for the proposed development. The Mobility Management Plan would be developed in preparation for the opening of the new stadium.

A bespoke Event Management Strategy will be produced for each event and are currently prepared and tailored for each match held at Dalymount Park Stadium. The Plans are developed by stadium management in conjunction with key stakeholders.

Mobility management seeks to encourage as much travel as possible by sustainable means such as public transport, walking and cycling to support Ireland's overall requirement to achieve a 51% reduction in carbon emissions by the end of this decade. Additional benefits of sustainable travel are illustrated in Figure 7.1.

Figure 7.1 Benefits of Sustainable Mobility



Source: National Sustainable Mobility Policy

7.2 Mobility Management Plan for Dalymount Park Stadium

It is the policy of Dublin City Council *"to promote best practice mobility management and travel planning through the requirement for proactive mobility strategies for new developments focussed on promoting and providing for active travel and public transport use while managing vehicular traffic and servicing activity." (Policy SMT6 – Development Plan 2022 - 2028)*.

Although guidance and best practice indicates that there is no standard form or content for a Mobility Management Plan, it is proposed that stadium management would adopt this model as a broad framework within which they will develop their Plan for the proposed stadium.

7.3 Sustainable Travel Measures – Non-Event Day

A key element of the Mobility Management Plan will be to develop a package of measures which includes a mixture of incentives to use non-car modes and disincentives to discourage car use.

Some of the measures have already been developed and included as part of the stadium development proposals which will enhance access by public transport, cycle or on foot. These measures include restricting on-site parking and providing cycle parking in multiple locations around the stadium and its surrounds.

The exact Mobility Management Plan package needs to be developed once the needs of staff and visitors have been identified. However, at this stage it is expected that during its development the Mobility Management Plan will consider a combination of the following non-exhaustive measures:

a) Active promotion and publicity of the Mobility Management Plan initiatives via clear signage on the Bohemians website, in printed programmes, and directly to fans from several sources
b) Use of 'pool' cars for essential work journeys and access to hire cars and taxis
c) Actively promoting car sharing
d) Interest free loans for public transport season tickets for staff
e) Interest free loans for bikes and e-bikes for staff
f) Encouraging greater use of public transport and awareness of travel alternatives
g) Encouraging greater use of coaches for group travel
h) Encouraging use of electric vehicles
i) Promoting cycle use through a Bicycle Users Group, including financial purchase incentives and access to pool cycles
j) Providing secure cycle parking areas, changing and shower facilities for staff
k) Flexitime and staggered working hours; and
l) Guaranteed 'ride home' schemes for car sharers, cyclists and after public transport users.

7.4 Travel Demand Measures – Event Day

For larger matches where a full crowd is expected the club will consider implementing potential travel demand management measures, as follows:

a) Retime – influencing when spectators travel. The Club could consider implementing a set of attraction and retention measures to encourage early arrivals and later departures via food and beverage offers for example or keeping designated bars open after the match
b) Re-mode – encouraging the use of a different mode to mitigate changes to service provision. For example, in the event maintenance work on the LUAS is scheduled to take place on a match day, the Club will inform spectators and endeavour to encourage spectators to use other methods of public transport
c) Reduction in background demand – it will be very difficult for the Club to influence background demand to any significant degree. However, the Club will advertise the dates and times for upcoming fixtures to local

residents and businesses. Any reduction in background demand on match day will certainly help to reduce impacts on the local road network

d) Raise awareness amongst home spectators to explore their transport options and changes to public transport services in the area

e) Targeting away spectators – the Club will encourage visiting Clubs to inform their spectators to use an organised coach or public transport to attend the match.

7.4.1 Event Management Strategy

The Club will develop Event Management Plans which will be put in place on each major event day. The purpose of the Event Management Plan is to minimise any adverse environmental impact and nuisance for residents and businesses that may be impacted through the operation of the new stadium. Some of the key measures that could be implemented through the Event Management Plan include:

a) Effective stewarding of crowd flows to encourage the use of the primary pedestrian routes

b) A staffing plan for locations in the vicinity of the stadium and local stations

c) Effective supervision of crowd flows to minimise adverse environmental, nuisance and traffic impacts including assistance with stewarding and queue management at all key bus stops, LUAS stations and their approaches as necessary

d) Ensuring that temporary traffic management measures and restrictions of vehicular movements introduced for St. Peter's Road takes account of the reasonable access requirements of residents and businesses based in the area affected by road and traffic management and pedestrian and public transport access and egress plans

e) Management of the Connaught Street access whilst ensuring sufficient access is maintained to the Phibsborough Shopping Centre car park on event day

f) Litter collection and disposal and event and area wide cleaning and measures to prevent litter and anti-social behaviour and crime

g) Street cleaning to ensure that streets are clean and safe to use

h) Managing any permitted street vending in the stadium vicinity

i) The management of VIP car and team coach drop off

j) The management of cycle routes and cycle parking

k) The management of the temporary placement of crowd barriers, if required, and signage for the local traffic management measures.

7.5 Monitoring and Management

A Mobility Management Plan Co-ordinator at a senior position at the football club will be appointed to manage the Plan. The contact details for co-ordinator will be provided in an updated plan once they are appointed. The Mobility Management Plan Co-ordinator will have the following responsibilities: Overseeing implementation, monitoring and review of the plan

a) Advising on the measures and initiatives within the plan to staff and visitors

b) Offer travel planning advice to new staff

c) Carry out mode share monitoring surveys

d) Implement measures that will facilitate mode shift and monitor their effectiveness.

8. Summary and Conclusions

This TA assesses the impact of the effects of the redevelopment of Dalymount Park Stadium to provide a modern circa. 8,000 capacity UEFA Category 3 stadium that would continue to be home to Bohemian FC and deliver flexible community facilities and improved public realm.

The other related GHD documents are as follows:

a) Baseline Transport Conditions report, containing detailed information describing the existing transport networks in the vicinity of the site and survey results that have been used to inform this Transport Assessment.
b) Outline Construction Traffic Management Plan.

8.1 Development Proposals

This application seeks permission for the demolition of the existing Dalymount Park Stadium and construction of a new football stadium with an increased capacity to facilitate a total of circa 8,000 spectators. The stadium is expected to host around 35 events per annum.

The proposal also includes the construction of a two-storey community facility in the north-eastern corner of the Site which includes a multi-purpose room and associated facilities at ground level and a gym facility on the second level.

The proposals provide significantly improved public realm and pedestrian links to Connaught Street, Phibsborough Road and North Circular Road. The new public realm will provide significantly enhanced opportunities for crowd control.

8.1.1 Event-Day

Dalymount Lane is closed to vehicular traffic during events. St. Peter's Road is closed to traffic from 18:45 (for events beginning at 19:45) to remove the conflict between vehicles and spectators during the peak pre-event entry and post-event exit spectator flows. These closures to traffic will continue to be in place at the proposed stadium.

Team buses will access the Site via St. Peter's Road at least 90 minutes before kick-off to drop players off and will then park on Site unless parking for MOBUs is required, in which case they would park off site at a location to be agreed with DCC. Team and match officials will be provided with four parking spaces inside the stadium, one of which is disabled-accessible. Parking for MOBUs, when required, is provided inside the stadium with access from St. Peter's Road.

Emergency vehicles will be provided with parking off St. Peter's Road at the entrance to the stadium and can enter the site either from St. Peter's Road or the route along the eastern side of the stadium between Connaught Street and North Circular Road.

Swept path analyses show that vehicles can safely enter and exit the Site and parking areas as required.

8.1.2 Event Management

Football matches are managed through a combination of staff of Bohemian FC, stewards (50 to 80 depending on the category of fixture) and 20 volunteers.

Bohemians FC liaise with the Gardaí on event days. The number of Gardaí in attendance varies depending on the category of match: numbers can vary from 0-4 officers on foot for a Category C game to dog and horse units, public order units and 30-40 officers for Category A games.

Where home/away spectator segregation is required, away supporters can enter and exit the north stand through the northeast access from Connaught Street, while home supporters can egress onto St. Peter's Road. All stands have independent turnstiles for access and segregation. For matches where supporter segregation is necessary there would be a reduction in capacity to allow for separation by cordoning off seats to allow a zone between supporters.

A bespoke Event Management Strategy will be produced for each event held at the stadium. As part of the Strategy, some crowd management measures may be required at the following locations:

a) St. Peter's Road before, during and after the road closure. Pedestrian flows will be monitored during these periods so that the road closure will be in place for the shortest time possible to ensure spectator safety. Local access will be maintained throughout the period of closure

b) On Connaught Street to maintain an appropriate level of service through the diversion of spectators to use the footway on both sides of the road between St. Peter's Road and Phibsborough Road as appropriate to their intended destinations (post-event period)

c) At the junction between Connaught Street and Phibsborough Road to manage pedestrians crossing to access the southbound bus service on Phibsborough Road or to route between Connaught Street and Phibsborough Road at the southwestern corner of the junction (post-event period). The improvements proposed for this junction as part of the Core Bus Corridor scheme, as described in section 6.2, are expected to improve conditions for pedestrians with increased footway widths

d) On Phibsborough Road on approach to the junction with North Circular Road (post-event period)

e) At bus stops on Phibsborough Road, Cabra Road and North Circular Road to ensure spectators do not encroach into the carriageway and that routes for general pedestrians are maintained (post-event period)

f) At pedestrian crossings on Phibsborough Road and Cabra Road to ensure spectators do not encroach into the carriageway and that routes for general pedestrians are maintained (post-event period).

8.1.3 Non-Event Day

25 Staff and up to 767 Visitors are expected on Site during the course of a typical non-event day.

12 car parking spaces and one motorcycle space will be provided inside the stadium for use by staff on non-event days, two of which are disabled-accessible. Six of the bays (50%) will have 22kW fully functional EV charging points while the remaining bays will have the necessary ducting infrastructure for future EV charging.

The community facilities, comprising the gym and multipurpose room, will be allocated ten visitor and ten staff cycle parking spaces external to the building at the entrance to the facility. Ten cycle parking spaces will be provided for the Club Offices and Merchandise Shop outside the East stand. A further 20 spaces will be provided for the stadium bar and operations outside the West stand.

Separate bin stores will be provided in the northeast corner of the Site, providing storage for the stadium and bar, adjacent to the office and club shop and within the community facility.

Emergency vehicles will be able to enter the stadium building via the entrance off St. Peter's Road and access the eastern side of the stadium via the route between Connaught Street and North Circular Road.

Swept path analyses show vehicles safely entering and exiting the site and parking areas.

8.2 Travel Behaviour

8.2.1 Event Day

The current capacity of the stadium is 4,470 spectators. The travel behaviour of spectators travelling to and from the existing stadium was collected through surveys undertaken on Friday 12th November 2021 at the Bohemian FC vs Shamrock Rovers FC League of Ireland Premier Division football (kick-off 19:45, final whistle 21:35).

39-40% of spectators travel by public transport (rail or bus), with the majority (27%) travelling by bus. The Luas is the most popular of the rail services with 9% travelling by that mode. 31% of spectators arrive by car, either as a driver or a passenger. Almost one quarter of spectators walk all the way on their journey to/from the stadium. No spectators were recorded as having travelled to or from the stadium by bicycle.

When operating at full capacity, spectators at the existing stadium are expected to generate a maximum of 61 Organised coach trips, 1,400 trips by Car and 173 trips by Taxi. If the proposed stadium operates at full capacity, spectators are expected to generate a maximum of 108 Organised coach trips, 2,481 trips by Car and 306 by Taxi.

126 staff are required on site on event days. Staff trip generation by mode was calculated by assuming each staff member made 1 arrival and 1 departure trip per day and that the mode of travel is equal to the journey to work mode split for the *Dublin City and suburbs, County Dublin* Local Authority Area (2019) in the 2016 Census database. A total of 60 event staff are expected to travel as a Car Driver and 4 by Van.

8.2.2 Non-Event Day

The same mode split and arrival and departure assumptions used to derive trips by mode for the event day staff have been used to calculate staff trips for the non-event day uses.

The mode split for visitor travel has also been derived from Census and visitors have been assumed to travel by different modes depending on the land use they are accessing.

a) Visitors accessing the community facilities are expected to come from the local area within approximately 4km of the Site. The mode split for these visitor trips has therefore been derived from the combined mode splits of the *Cabra-Glasnevin Electoral Area (2019)*, in which the site is located, and the adjacent Electoral Areas.
b) Visitors accessing the Concessions and Stadium Bar are mainly expected to do so on foot. For this reason, we have used the combined mode splits of the *South West* and *North Inner City Electoral Areas* that border the area, which have mode splits that have a greater Walk mode share that reflects travel over short distances.
c) We have assumed that visitors to the Club Merchandise store may originate from anywhere in Dublin City or its suburbs so we have assumed the same Census mode share as used for staff.

8.3 Event Day Assessment

8.3.1 Full Capacity Assessment Scenario

It is important to note that all event day assessments of the proposed stadium are based on a full capacity, i.e. “worse case”, scenario which is not expected to occur for every event. For events where spectator segregation is required, the capacity is reduced to enable segregation to be provided. Few of the men’s football matches are expected to operate at full capacity, while attendance at women’s matches would be less. Full capacity events would therefore be infrequent. Matches are not held at Dalymount Park Stadium every week of the year and when matches do occur, traffic flow impact would only occur over short periods before and after the event.

8.3.2 Vehicle Impact

A total of 691 vehicles are generated by spectators at the existing stadium when operating at full capacity, of which 613 would be private vehicle trips. Staff generate a maximum of 64 vehicles.

If operating at full capacity, the proposed stadium could generate 1,223 spectator vehicles and 64 staff vehicles.

Event day traffic flows for the existing and proposed stadiums when operating at full capacity were calculated from traffic survey data collected at the event day in November 2021. Conclusions drawn from the results are as follows:

a) Event traffic impacts occur in defined periods before and after events, with the post-event period usually shorter than the pre-event period.
b) In the post-event period, event traffic flows occur when background (non-event day) traffic is lowest.
c) Event traffic does not appear to have an effect on North Circular Road in the pre-event period. Peak post-event traffic flows forecast for the proposed stadium on North Circular Road are lower than flows this road experiences on non-event day in the pre-event period. This means that the proposals would not generate traffic flows that are greater than flows this road already accommodates.
d) With the exception of Connaught Street, post-event traffic flows forecast for the proposed stadium are lower than the peak event flow for the existing stadium operating at full capacity.
e) The impact of event traffic on Cabra Road and Connaught Street occurs after the PM peak period on these roads

f) In the pre-event period on Connaught Street, peak 15-minute event traffic flows for the proposed stadium only exceed the greatest non-event day peak 15-minute flow on one occasion (at 18:00). The post-event period on Connaught Street in which event traffic has an effect on traffic flows is only 45 minutes in length. During this time, event day traffic flows for the proposed stadium are greater than the peak non-event day 15-minute flow (which occurs at 16:45) for just 30 minutes (between 21:45 and 22:15). This means that forecast traffic flows for the new stadium on Connaught Street only exceed the peak non-event day 15-minute flow on two occasions and for short periods of time outside of the peak period.

The increase in event day flows expected as a result of the stadium proposals are likely to have a low or, in some cases, negligible adverse effect on the operation of the roads immediately surrounding the Site. In many cases, the difference between event day and non-event day vehicles per minute is also low.

Although the new stadium is expected to have an impact on traffic flows on these roads, the impact would occur over a limited period of time and the increase in terms of vehicles per minute is not significant.

8.3.3 Parking Impact

The location at which spectators who access the Site by private vehicle park was established by a spectator interview survey conducted at the existing stadium. A total of 312 spectator vehicles would be parked on-street, with a further 135 parked in a Paid or Private car park, when the existing stadium operates at full capacity. Event day Staff could have a maximum on-street parking impact of 64 vehicles. The maximum event day on-street parking impact for the existing stadium is 376 vehicles.

The Baseline Transport Conditions report presents the results of on-street parking surveys conducted at the existing stadium during the same event that the spectator interview survey was conducted and on a non-event day at the same time of day. The results suggested that 122 spectator vehicles were parked in six locations adjacent to the site: St. Peter's Road, Norfolk Road, Cabra Park, Connaught Street between Phibsborough Road Cabra Luas station, the lane of Connaught Street leading to Phibsborough Shopping Centre car park, and Kelly's Yad car park. The areas surveyed are very close to capacity on event days and therefore cannot be expected to accommodate additional event day parking demand. This means that, when the existing stadium operates at full capacity, 254 of the maximum 376 vehicles are parked elsewhere on-street.

Assuming the parking behaviour exhibited by existing spectators and staff remains unchanged it would mean that 552 spectator vehicles and 64 staff vehicles would park on-street if the proposed stadium operated at full capacity.

By extrapolating from the parking survey results, we calculate that a total of 609 on-street parking spaces would be available within a 5-minute walk of the stadium and 1,392 spaces within a 10-minute walk on a non-event day. On event days, this spare capacity can be used to accommodate parking demand generated by the stadium and could comfortably accommodate part or all of the 616 vehicles expected to be generated by the proposed stadium assuming a full capacity attendance. In reality, not all spectators would park within 10 minutes' walk of the stadium, therefore the impact is expected to be more dispersed.

While the stadium proposals are likely to generate additional on-street parking demand, this demand would only occur for 2-3 hours on event days. Demand generated for Paid car parks can be accommodated through a combination of the Phibsborough Shopping Centre car park, on-street parking and/or other car parks within a 22-minute walk.

It is important to note that these calculations are based on a worse case assumption of a full capacity attendance at the proposed stadium. A full capacity attendance is expected to be an infrequent occurrence, with many fixtures including women's football matches expected to attract significantly less spectators.

8.3.4 Pedestrian Network

An assessment of spectator movement for normal egress from the stadium was undertaken using SENSE modelling software. The assessment of a normal egress scenario represents a worst case compared to a normal ingress scenario where the spectator arrival profile is more spread out with lower peak flow volumes.

The rate of spectator egress from the stadium has been provided from the results of the internal crowd flow modelling undertaken for a normal spectator egress scenario by Michael Slattery Associates. The flow rates suggest that all spectators will have egressed from the North and South stands in four to five minutes after the end

of the event and from the West and East stands in nine to ten minutes. While the proposed stadium is expected to offer greater efficiency with regard to the egress of spectators, the actual departure periods are expected to be greater than is modelled in this assessment. This assessment therefore represents a worst case in terms of the flow rate of spectators from the stadium into the wider area.

The performance of the local pedestrian network under a normal egress scenario was assessed using the Fruin LoS scale. The performance target for the pedestrian footways in the vicinity of the stadium is no worse than LoS D (66 people per metre per minute). At LoS E and F it is possible that spectators are likely to move off the footway into the carriageway to queue or cross the road.

The assessment identified potential areas of LoS E and F where queues are likely and spectators may enter into the carriageway are as follows:

a) Bus stops on Phibsborough Road, Cabra Road and North Circular Road.
b) On the western side of Phibsborough Road southbound on approach to the pedestrian crossing at the junction with North Circular Road
c) Pedestrian crossing at Cabra Road / North Circular Road junction
d) Bus stops on Cabra Road and North Circular Road
e) On the corner of St. Peter's Road and Cabra Road

The assessment assumes a worst case where the stadium is at full capacity and spectators all leave as soon as possible. Full capacity events are expected to be infrequent and for some events are expected to be considerably less than full. Events that require segregation of spectators would operate at reduced capacity.

The assessment assumes that that no spectators leave before the end of the event and all spectators leave as soon as possible after the end, the flow rates assessed are a very robust worst-case scenario. However, it is likely that spectators will leave over a longer period of time, thus reducing peak queues and flow rates shown in the assessment results.

In addition, the assessment assumes that spectators route to their intended destinations immediately after leaving the stadium and that no retention occurs in the local area. In reality, some spectators are known to visit other destinations such as public houses before heading to their final destination. This means that the peak queues identified at bus stops and pedestrian crossings can be considered a worst-case.

A bespoke Event Management Strategy will be produced for each event held at the stadium. As part of the Strategy, some crowd control measures may be required.

8.3.5 Cyclists

The surveyed events reported in the Baseline Transport Conditions report recorded no spectators as having travelled to or from the stadium by bicycle. It is likely that there is currently a minimal demand for cycle parking at the stadium.

In future, the provision and promotion of cycle parking is expected to provide more opportunity and inclination for spectators to cycle to the stadium on event days. The number of spectator cyclists that would be generated based on a cycle mode share of 1%, as agreed with DCC. On this basis, a full capacity event would attract 80 spectator cyclists and 10 staff cyclists.

Aa full capacity event is expected to occur infrequently, and the mode share is likely to take time to increase, the forecast of 80 spectator cyclists is unlikely to be achieved for some time and can be expected to be less on most event days.

The club will investigate the provision of temporary cycle parking for event days through its Event Management Strategy.

8.3.6 Luas, DART and Irish Rail

12.4% of spectators currently travel to the stadium and 13.5% from the stadium via rail modes. The Luas is the most popular of the rail services with 9% travelling by that mode. 8% of Staff travel by Rail, DART or Luas.

At the event surveyed at Dalymount Park Stadium in which 2,828 spectators were in attendance, the impact of spectators at the Luas stations in both the pre- and post-event periods was observed to be negligible. An additional 311 trips are expected to be generated on the Luas if the proposed stadium operates at full capacity compared to a full capacity scenario at the existing stadium. These trips would be distributed between Cabra and Phibsborough stations. This level of increase in spectator Luas trips is not expected to have a significant impact on the safe operation of the stations or the capacity of the services.

The increase in trips generated on Irish Rail is expected to have a negligible effect on stations and carriage capacities and any uplift that may result from the proposed new station associated with the MetroLink proposals is expected to be able to be accommodated through the existing level of service provision.

Spectators accessing DART services are expected to do so over a longer period of time as stations are further away and therefore arrival and departure profiles will be more spread out. There is expected to be a low impact on DART services.

8.3.7 Buses

Event days are typically on a Friday night when approximately 84 buses arrive per hour prior to the event and 54 buses per hour post-event.

Modelling of a full capacity attendance scenario at the proposed stadium suggests that queues are likely to form at bus stops on Phibsborough Road and Cabra Road in the post-event period. However, the assessment assumes:

a) No spectators leave before end of the match. As shown by surveys conducted at the existing stadium, some spectators are likely to have left the stadium before the final whistle
b) All spectators leave as soon as possible at the end of the event. Our surveys at the existing stadium also show that spectators leave over a more extend period compared to the period of up to ten minutes assumed in the pedestrian impact assessment
c) There is no spectator retention in the stadium or the local area. Spectators are known to visit other places in the local area after leaving the stadium, mainly local public houses
d) Spectators travelling by bus will do so by accessing their preferred service via the closest bus stop to the stadium. If queues develop at the closest bus stops, spectators are likely to either walk to the next upstream stop or spend time at other destinations in the local area before continuing their journey.

For these reasons, the queues shown in the assessment results are expected to be a worst case and actual queues can be expected to be lower.

Each event at the stadium will have a bespoke Event Management Strategy that will set out the crowd management required, if necessary, for the particular event. Some crowd management may be required at bus stops on Phibsborough Road, Cabra Road and North Circular Road in the post-event period to ensure spectators do not encroach into the carriageway and that routes for pedestrians are maintained.

8.4 Non-Event Day Assessment

8.4.1 Vehicle Trip Generation

The peak number of vehicles expected to be generated by Staff and Visitors on a typical non-event day is 28 in a half hour period between 18:00 and 18:30. The number of vehicles generated is less than 1 vehicle per minute throughout the peak periods. This level of vehicle trip generation is expected to have a negligible impact on highway capacity.

8.4.2 Parking

The peak Staff parking demand is expected to be less than the 12 car parking and one motorcycle parking space provided in the stadium throughout the day with the exception of a period between 14:00 and 15:00 when some uses experience Staff shift changes when demand may exceed supply by one vehicle. In reality, this would be managed such that the Staff member arriving to find no spaces available would be able to park in a designated area within the western stand close to the parking bays and would be able to move into a bay at a suitable time during their shift when one becomes available. The level of proposed parking provision is therefore expected to be sufficient to meet Staff parking demand.

The Visitor parking accumulation calculation suggests that a peak parking demand of 29 vehicles could be generated on a typical non-event day between 17:00 and 18:00. Between 09:00 and 20:00, the average parking demand is 26 vehicles.

The parking beat survey showed that St. Peter's Road, Norfolk Road, Cabra Park, Connaught Street between Phibsborough Road Cabra Luas station had a total of 133 spare parking spaces available at the time of the survey (20:00), which is far more than would be required to accommodate non-event day Visitor parking demand at this time. While the level of spare capacity may reduce later into the night if some residents arrive home later, it is expected that a significant number of residents who park on these roads would be parked at the time of the survey. Thus, there is expected to be enough spare capacity to accommodate Visitor demand through the evening and night.

As the roads surveyed are residential roads and are not close to large employment generators or other land uses that could be expected to generate significant daytime parking demand, it is therefore expected that these roads could also accommodate daytime parking demand from the non-event day Visitors. In reality, the impact is likely to be distributed over a wider distance within a 10-minute walk of the site.

8.4.3 Pedestrian Network

The expected number of pedestrian trips on non-event days is 209 two-way trips per day (four staff and 205 visitors). These 209 trips would generate 418 one-way movements with a peak of 37 pedestrian movements in the period between 13:00 and 14:00. Between 09:00 and 21:00, an average of 30 pedestrian movements per hour are forecast.

Pedestrian trips would be distributed across all accesses to the Site, with some at the western access arriving/departing north and south along St. Peter's Road, and others at the eastern accesses arriving/departing along routes to/from Connaught Street, Phibsborough Road and North Circular Road.

The existing footways on these roads could comfortably accommodate the forecast additional pedestrian trips. The improved public realm along the eastern edge of the Site will provide an attractive route for pedestrians with sufficient width to accommodate demand.

8.4.4 Cyclists

The expected number of Staff and Visitor cycle trips on non-event days, with a total of 92 cyclists (two Staff and 90 Visitors) expected per day.

Based on the expected Staff and Visitor arrival and departure profiles, a peak cycle parking demand of 12 cycles is forecast. This level of cycle parking demand can be accommodated within the 50 spaces proposed.

8.4.5 Luas, DART and Irish Rail

The Staff and Visitor arrival and departure profiles suggest that an average of ten one-way trips per hour will be generated on these services on non-event days between 09:00 and 20:00 and less outside of these times.

This level of rail trip generation would have a negligible impact on these services.

8.4.6 Buses

Four two-way Staff Bus trips and 137 two-way Visitor Bus trips are expected to be generated by the non-event day uses.

The Staff and Visitor arrival and departure profiles suggest that this would result in a peak demand of 25 one-way movements between 13:00 and 14:00 and that between 09:00 and 22:00 an average of 20 one-way trips per hour would be generated, with fewer than this outside of that period.

The existing bus services would be able to accommodate this increase in patronage.

8.5 Mobility Management Plan

A Mobility Management Plan would be developed in preparation for the opening of the new stadium. The Mobility Management Plan will provide a package of measures which includes a mixture of incentives to use non-car modes and disincentives to discourage car use.

A bespoke Event Management Strategy will be produced for each event and tailored for each match held at Dalymount Park Stadium. The Plans are developed by stadium management in conjunction with key stakeholders and seek to minimise any adverse environmental impact and nuisance for residents and businesses that may be impacted through the operation of the new stadium.

Appendices

Appendix A

Proposed Site Plan

GENERAL NOTES:

1. All dimensions are in millimeters. All vertical levels in metres and referenced to MSL datum unless noted otherwise.
2. All Architecture drawings to be read in conjunction with all relevant specifications, Structural Engineer's drawings, Services Engineer's and other Specialist's drawings.
3. Any discrepancies between graphic and written information must be immediately reported to the Architect in writing.

GENERAL LEGEND:

Proposed Site Application Boundary (c. 2,39hA)

This drawing incorporates information from the topographic surveys undertaken by APEX Surveys on 19/03/2021, 22/03/2021, 25/03/2021, 30/03/2021, 31/03/2021, and 02/04/2021. Drawing Number: 4685

DEPARTMENT KEY:

- Competition Areas
- Stadium Bar and Club Facilities
- Concessions
- Toilets
- Security / Control Room
- Circulation Areas
- First Aid
- Storage and Plant Areas
- Community Facility

CAPACITY SUMMARY:

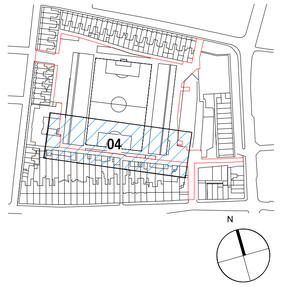
Seated	6,265 seats	PRM East	31
		PRM West	30
Standing	c. 1,794 standing	PRM North	10
		PRM South	7
TOTAL	**c. 8,059 patrons**	**TOTAL**	78

SEATING SPLIT BY TYPE:

Away Fans	892
Home	4770
Media	35
PRM	78
Sterile	351
VIP	142
Total Seats	6268

[1] The first row of each stand can be adapted to accommodate additional PRM provision
[2] Away fan provision corresponds to c. 10% of total capacity, as per FAI requirements
[3] Sterile seat provision corresponds to 20 seats between Home and Away fans

KEY PLAN:



A1: 1/500
A3: 1/1000
0 5 10 20 m

Ver	Date	Iss e Details	Dwn	Chd	App
08	30/06/2023	Draft Planning Pack	AA	VB	VB

DRAFT

Client

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Project

Dalymount Park
Stadium Redevelopment

Dwg Title

Proposed GA - Ground Floor

Scale	Date	Client Project No.	Origin. Project No.
A1 1:500 A3 1:1000	30/06/2023	-	P - 102025
	Drawn: AA	Checked: VB	Approved: VB

Drawing No.	Status	Revision
102025-IDO-DR-A-2001-00-ZZ	S2	08

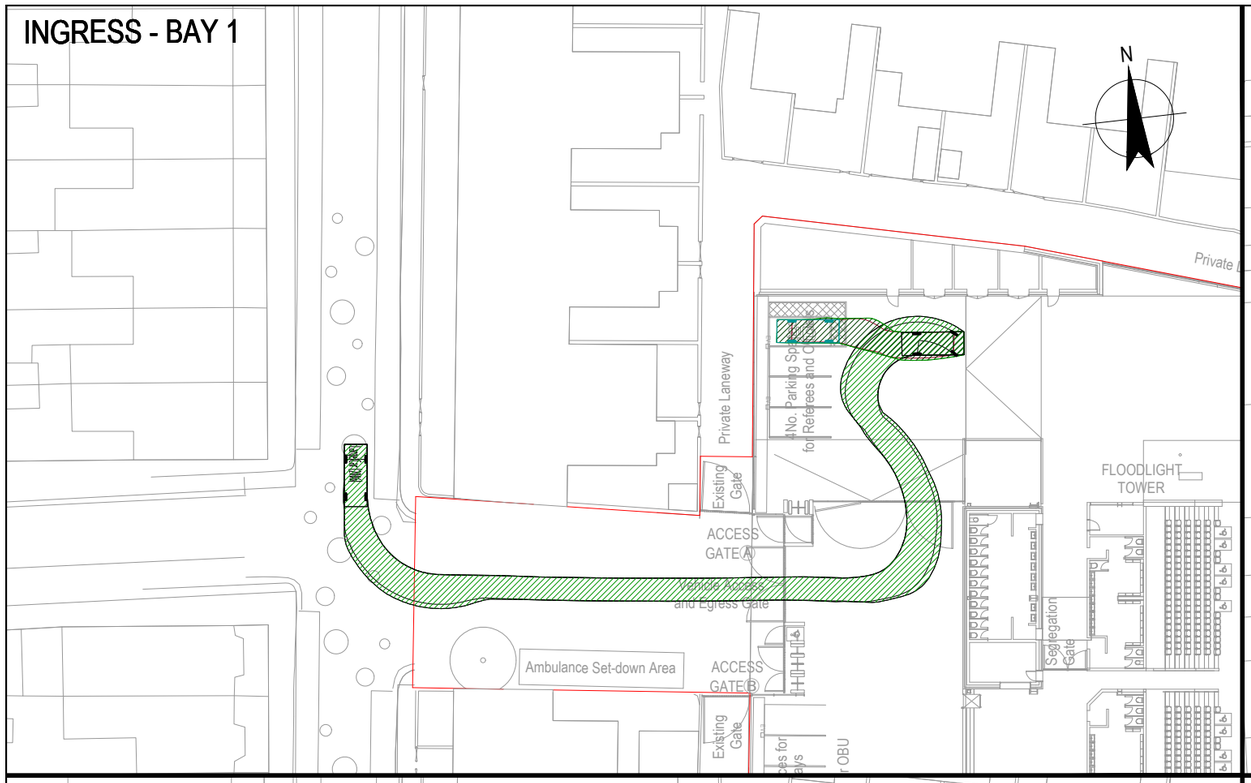
Architects & Engineers

IDOM
GILROYMCMAHON ARCHITECTS

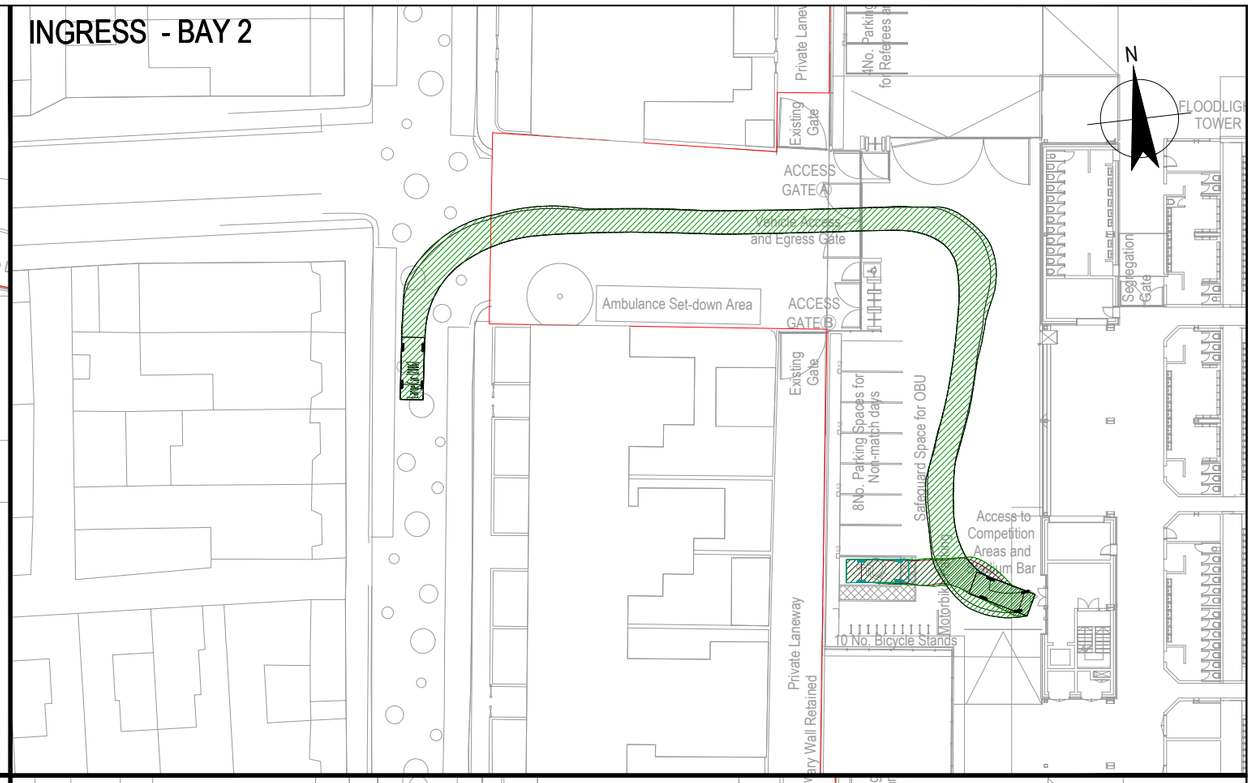
Appendix B

Event Day Vehicle Swept Path Analyses

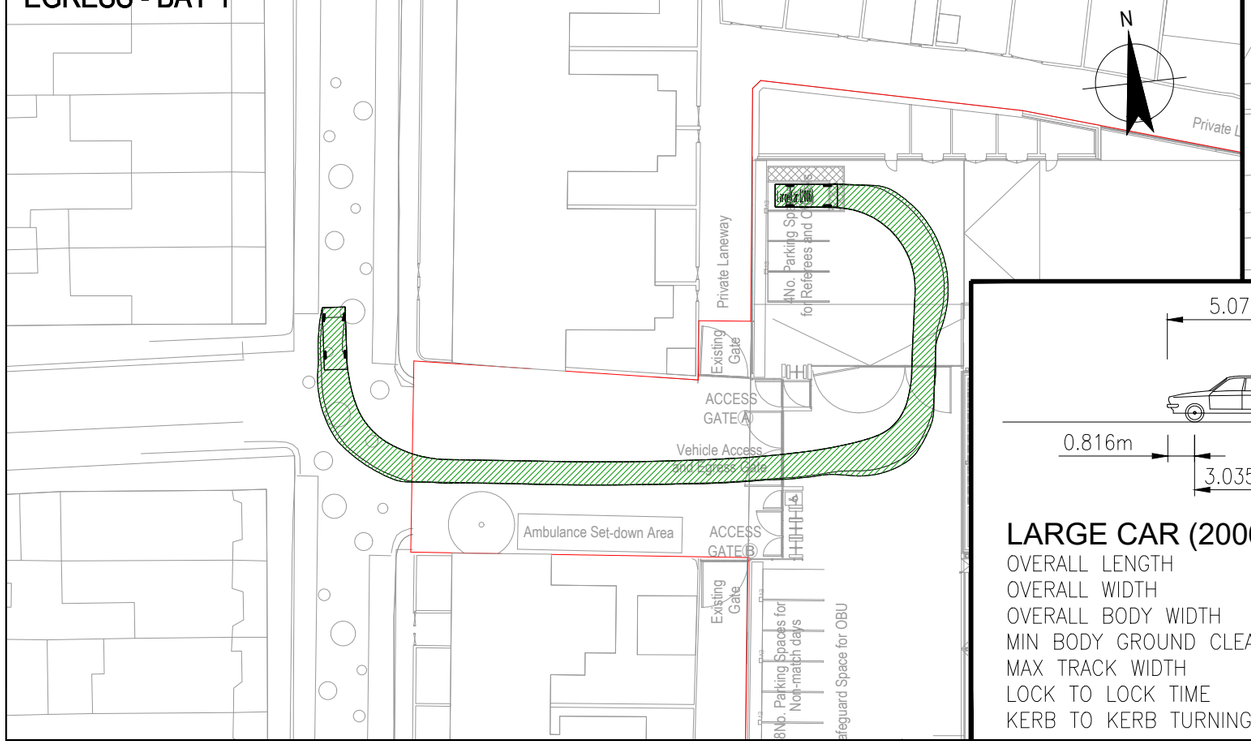
INGRESS - BAY 1

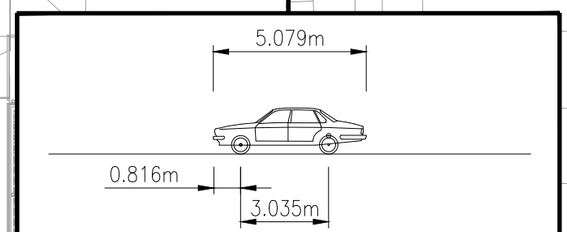


INGRESS - BAY 2



EGRESS - BAY 1

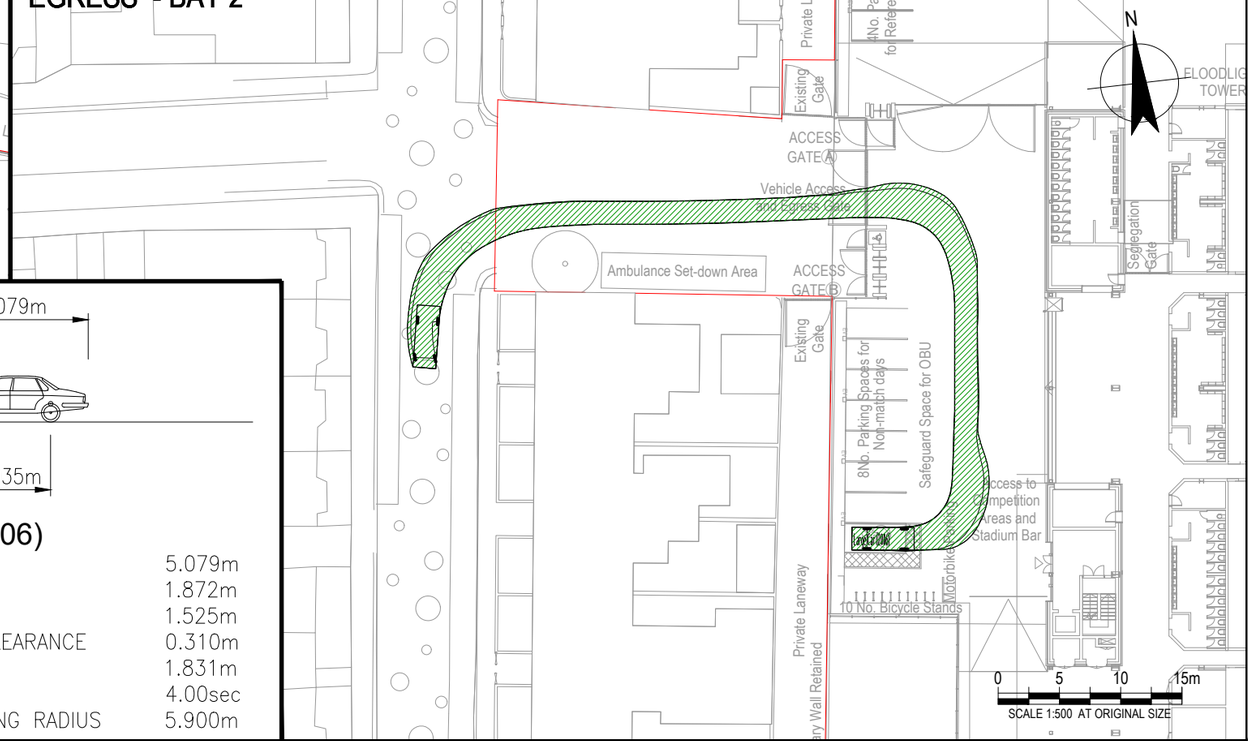




LARGE CAR (2006)

OVERALL LENGTH	5.079m
OVERALL WIDTH	1.872m
OVERALL BODY WIDTH	1.525m
MIN BODY GROUND CLEARANCE	0.310m
MAX TRACK WIDTH	1.831m
LOCK TO LOCK TIME	4.00sec
KERB TO KERB TURNING RADIUS	5.900m

EGRESS - BAY 2



KEY:

PROPOSED SITE APPLICATION BOUNDARY

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. VEHICLE TRACKING FOR DISCUSSION ONLY.
3. IMPACT ON EXISTING UTILITIES TO BE ASSESSED AT A LATER DESIGN STAGE.

GHD

1st Floor, 1 Farnham Road,
Guildford, GU2 4RG,
United Kingdom
T 44 (0)20 3077 7986
E UKmail@ghd.com
W www.ghd.com

www.ghd.com

Project No. 12566183

Client: IDOM

Project: DALYMOUNT PARK STADIUM
DUBLIN

Drawing Title: ST PETER'S ROAD ACCESS
SWEPT PATH ANALYSIS
LARGE CAR

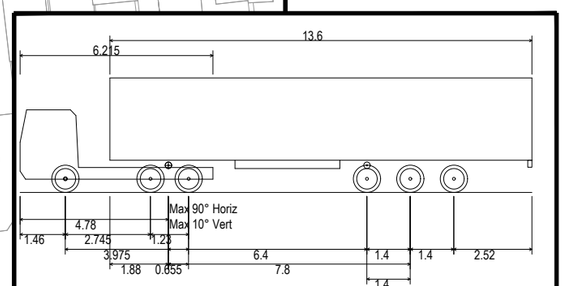
Drawing No. 102025-GHD-01-DR-V-0002-XX-XX

Size A3

Status S4

Rev P01.3

INGRESS



Articulated Vehicle with Twin Steered Tractor

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.691m
Min Body Ground Clearance	0.426m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.987m

EGRESS

0 10 20 30m

SCALE 1:1000 AT ORIGINAL SIZE

KEY:

PROPOSED SITE APPLICATION BOUNDARY

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. VEHICLE TRACKING FOR DISCUSSION ONLY.
3. IMPACT ON EXISTING UTILITIES TO BE ASSESSED AT A LATER DESIGN STAGE.

GHD

1st Floor, 1 Farnham Road,
Guildford, GU2 4RG,
United Kingdom
T 44 (0)20 3077 7986
E UKmail@ghd.com
W www.ghd.com

www.ghd.com

Gutteridge Haskins & Davey Limited

Project No. 12566183

Client: IDOM

Project: DALYMOUNT PARK STADIUM DUBLIN

Drawing Title: ST PETER'S ROAD SWEPT PATH ANALYSIS 16.5M ARTICULATED VEHICLE (OBU)

Drawing No.: 102025-GHD-01-DR-V-0012-XX-XX

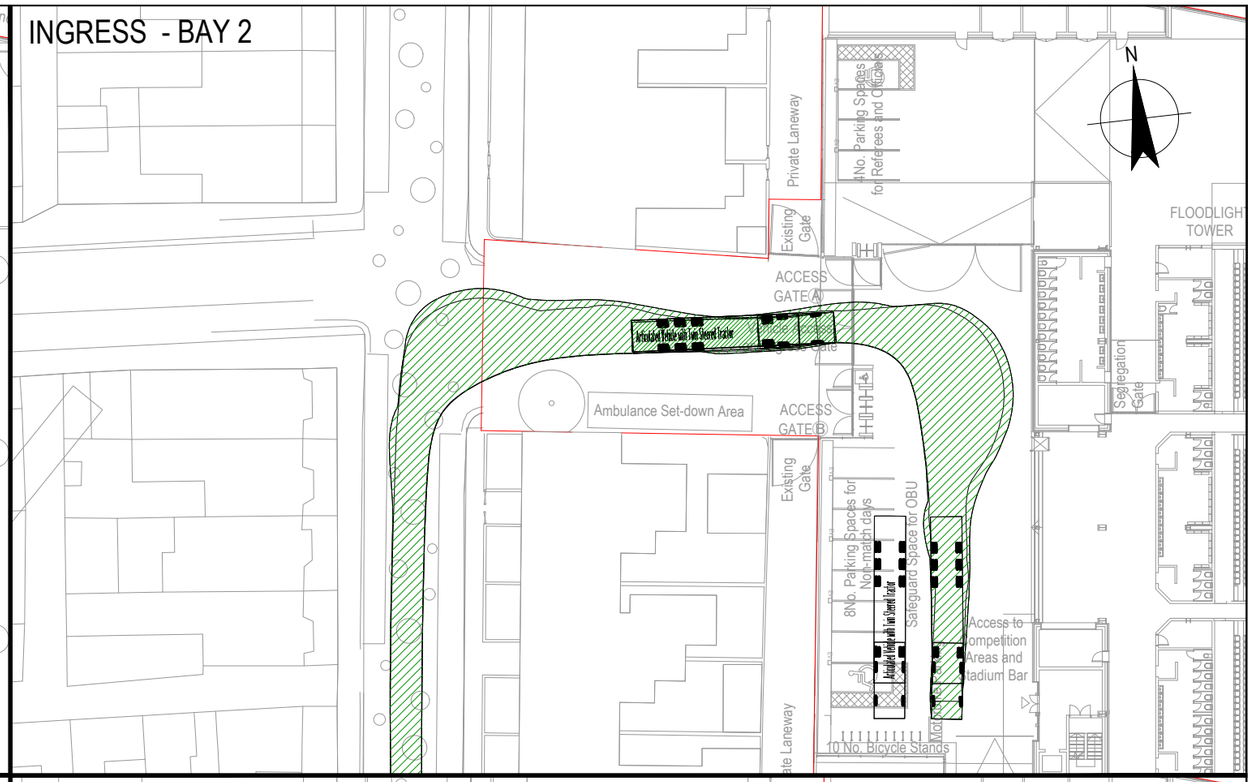
Size: A3

Status: S4

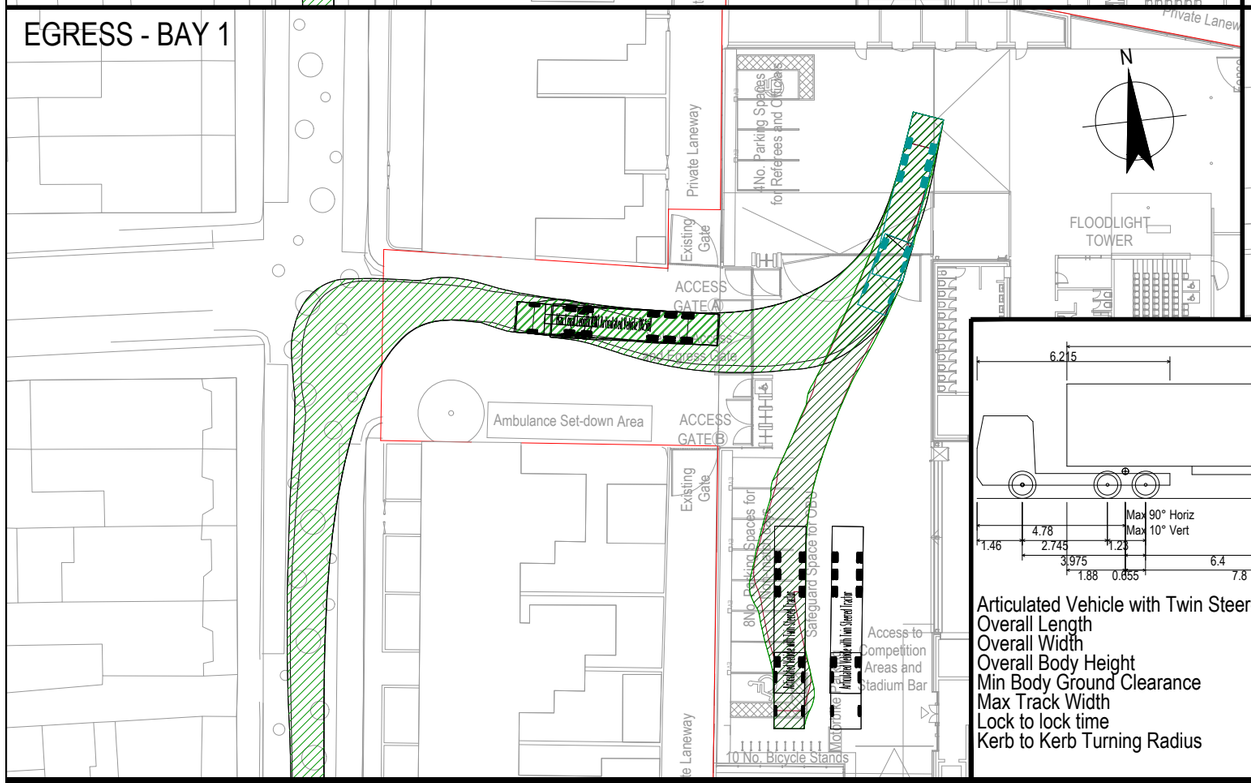
Rev: P01.1

INGRESS - BAY 1

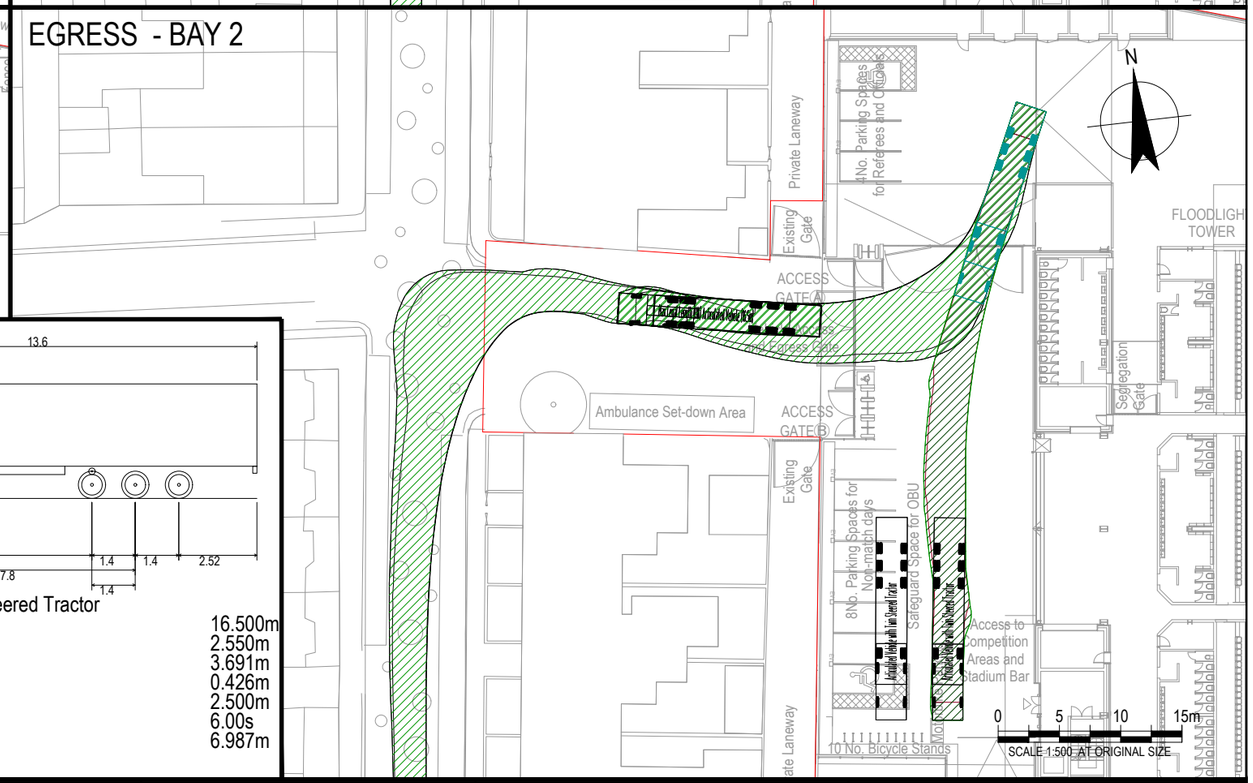
INGRESS - BAY 2

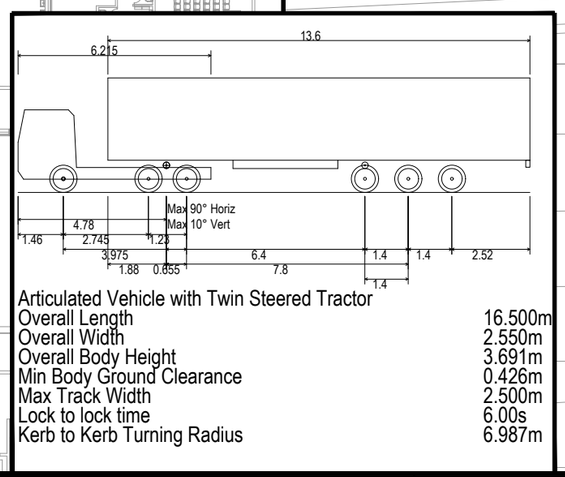


EGRESS - BAY 1



EGRESS - BAY 2





Articulated Vehicle with Twin Steered Tractor

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.691m
Min Body Ground Clearance	0.426m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.987m

KEY:

PROPOSED SITE APPLICATION BOUNDARY

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. VEHICLE TRACKING FOR DISCUSSION ONLY.
3. IMPACT ON EXISTING UTILITIES TO BE ASSESSED AT A LATER DESIGN STAGE.

GHD

1st Floor, 1 Farnham Road, Guildford, GU2 4RG, United Kingdom
T 44 (0)20 3077 7986
E UKmail@ghd.com
W www.ghd.com

www.ghd.com

Gutteridge Haskins & Davey Limited

Project No. 12566183

Client: IDOM

Project: DALYMOUNT PARK STADIUM DUBLIN

Drawing Title: ST PETER'S ROAD ACCESS SWEPT PATH ANALYSIS 16.5M ARTICULATED VEHICLE (OBU)

Drawing No.: 102025-GHD-01-DR-V-0013-XX-XX

Size: A3

Status: S4

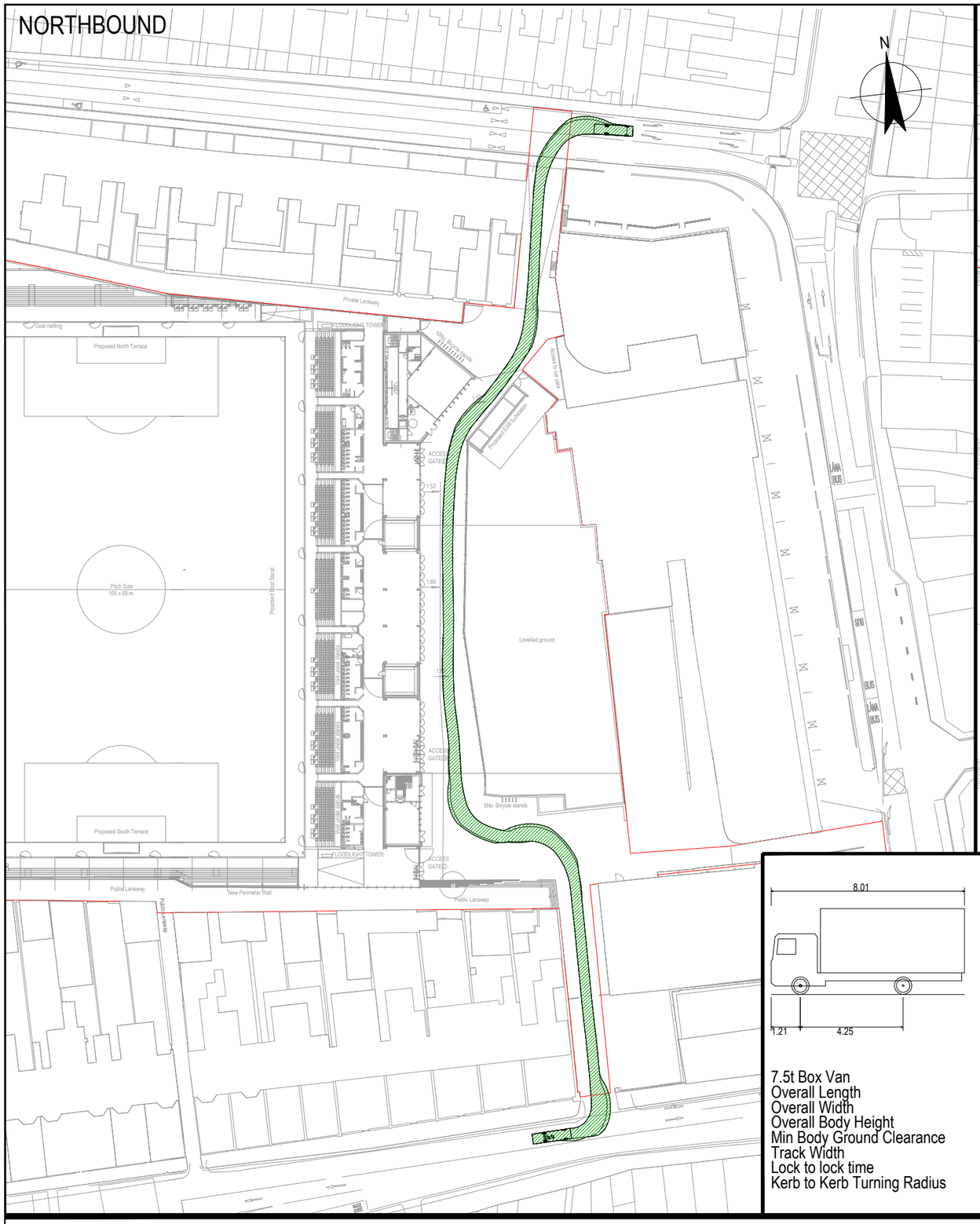
Rev: P01.1

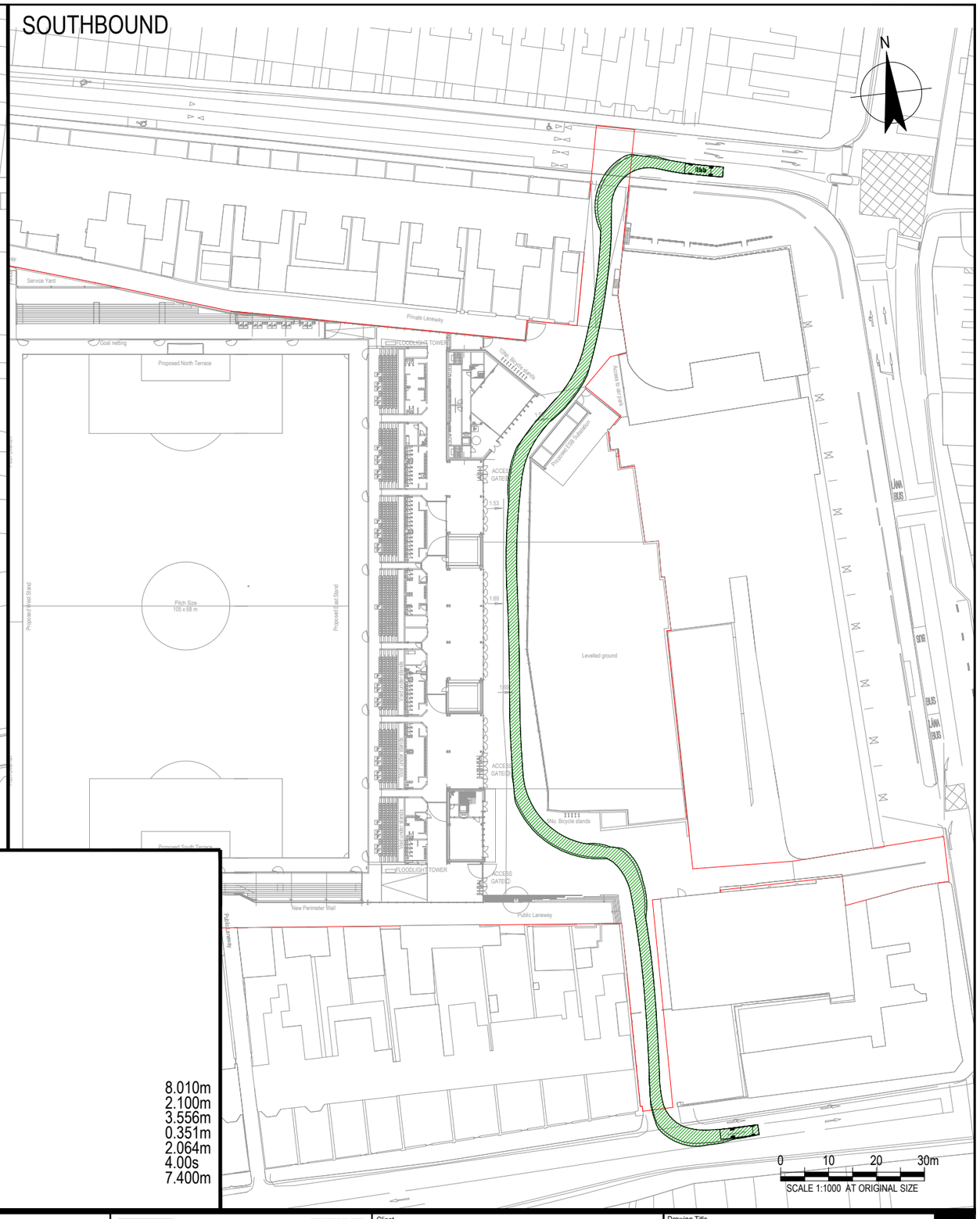
Appendix C

Service and Delivery Vehicle Swept Path Analyses

NORTHBOUND

SOUTHBOUND





7.5t Box Van	
Overall Length	8.010m
Overall Width	2.100m
Overall Body Height	3.556m
Min Body Ground Clearance	0.351m
Track Width	2.064m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m

0 10 20 30m

SCALE 1:1000 AT ORIGINAL SIZE

KEY:

PROPOSED SITE APPLICATION BOUNDARY

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. VEHICLE TRACKING FOR DISCUSSION ONLY.
3. IMPACT ON EXISTING UTILITIES TO BE ASSESSED AT A LATER DESIGN STAGE.

GHD

1st Floor, 1 Farnham Road,
Guildford, GU2 4RG,
United Kingdom
T 44 (0)20 3077 7986
E UKmail@ghd.com
W www.ghd.com

www.ghd.com

Gutteridge Haskins & Davey Limited

Project No. 12566183

Client: IDOM

Project: DALYMOUNT PARK STADIUM
DUBLIN

Drawing Title: EAST STAND
SWEPT PATH ANALYSIS
7.5T BOX VAN

Drawing No. 102025-GHD-01-DR-V-0008-XX-XX

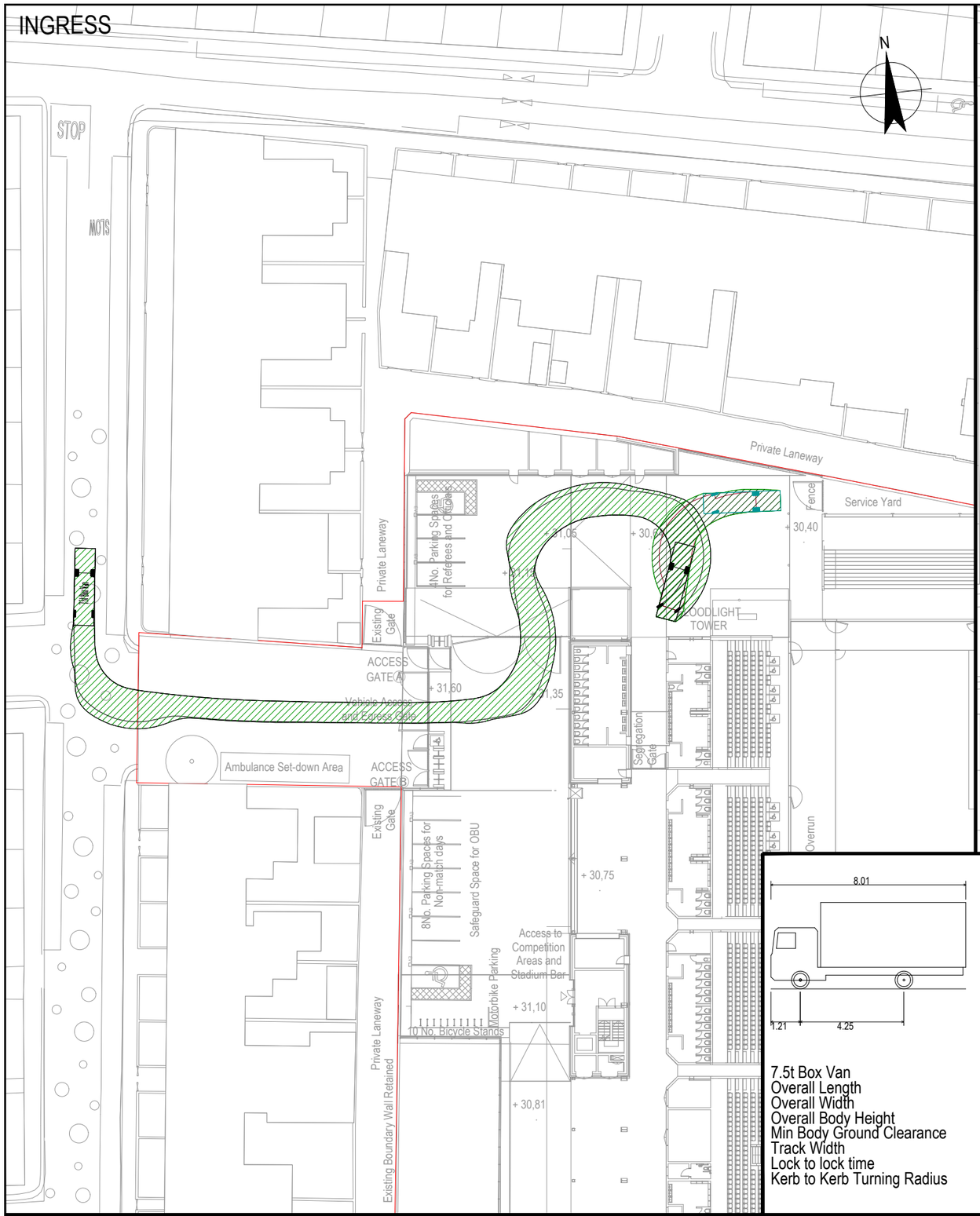
Size: A3

Status: S4

Rev: P01.2

INGRESS

EGRESS



7.5t Box Van	
Overall Length	8.010m
Overall Width	2.100m
Overall Body Height	3.556m
Min Body Ground Clearance	0.351m
Track Width	2.064m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m

0 5 10 15m

SCALE 1:500 AT ORIGINAL SIZE

KEY:

PROPOSED SITE APPLICATION BOUNDARY

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. VEHICLE TRACKING FOR DISCUSSION ONLY.
3. IMPACT ON EXISTING UTILITIES TO BE ASSESSED AT A LATER DESIGN STAGE.

GHD

1st Floor, 1 Farnham Road,
Guildford, GU2 4RG,
United Kingdom
T 44 (0)20 3077 7986
E UKmail@ghd.com
W www.ghd.com

www.ghd.com

Gutteridge Haskins & Davey Limited

Project No. 12566183

Client: IDOM

Project: DALYMOUNT PARK STADIUM DUBLIN

Drawing Title: ST PETER'S ROAD ACCESS SWEPT PATH ANALYSIS 7.5T BOX VAN

Drawing No. 102025-GHD-01-DR-V-0010-XX-XX

Size: A3

Status: S4

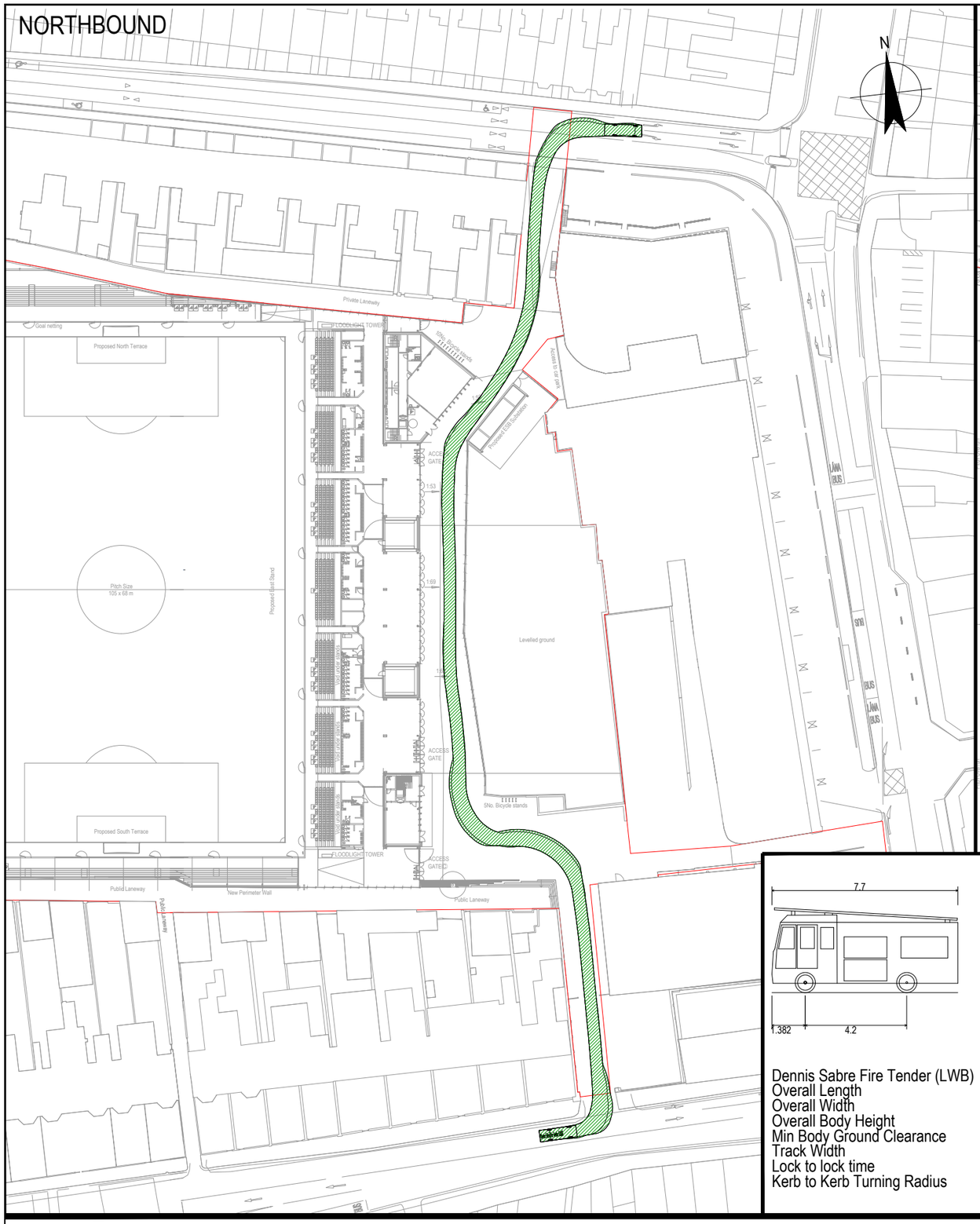
Rev: P01.2

Appendix D

Emergency Vehicle Swept Path Analyses

NORTHBOUND

SOUTHBOUND



Dennis Sabre Fire Tender (LWB)	
Overall Length	7.700m
Overall Width	2.430m
Overall Body Height	3.512m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m

0 10 20 30m

SCALE 1:1000 AT ORIGINAL SIZE

KEY:

PROPOSED SITE APPLICATION BOUNDARY

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. VEHICLE TRACKING FOR DISCUSSION ONLY.
3. IMPACT ON EXISTING UTILITIES TO BE ASSESSED AT A LATER DESIGN STAGE.

GHD

1st Floor, 1 Farnham Road,
Guildford, GU2 4RG,
United Kingdom
T 44 (0)20 3077 7986
E UKmail@ghd.com
W www.ghd.com

www.ghd.com

Gutteridge Haskins & Davey Limited

Project No. 12566183

Client: IDOM

Project: DALYMOUNT PARK STADIUM
DUBLIN

Drawing Title: EAST STAND
SWEPT PATH ANALYSIS
FIRE ENGINE

Drawing No.: 102025-GHD-01-DR-V-0007-XX-XX

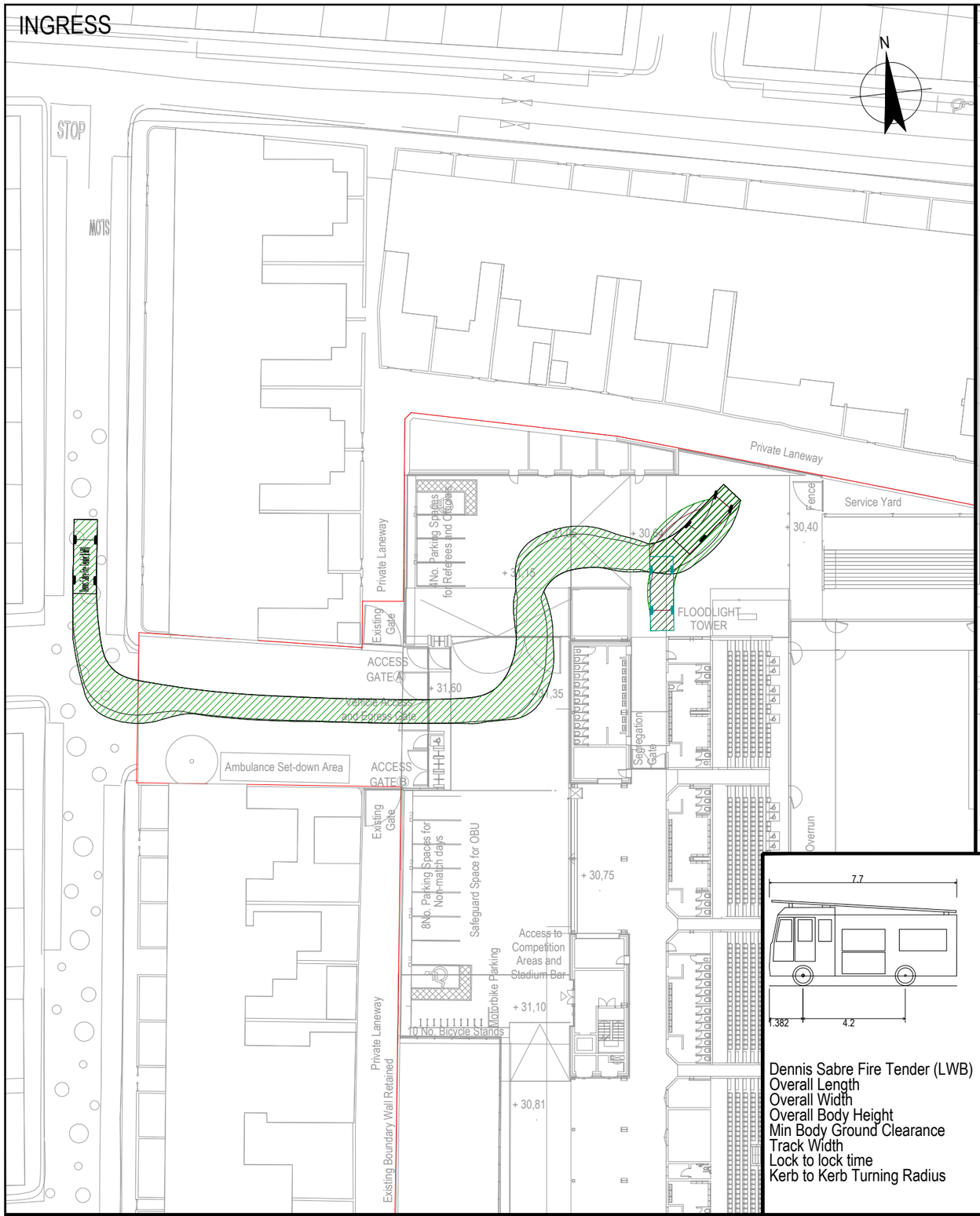
Size: A3

Status: S4

Rev: P01.2

INGRESS

EGRESS



Dennis Sabre Fire Tender (LWB)	
Overall Length	7.700m
Overall Width	2.430m
Overall Body Height	3.512m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m

KEY:

PROPOSED SITE APPLICATION BOUNDARY

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. VEHICLE TRACKING FOR DISCUSSION ONLY.
3. IMPACT ON EXISTING UTILITIES TO BE ASSESSED AT A LATER DESIGN STAGE.

GHD

1st Floor, 1 Farnham Road,
Guildford, GU2 4RG,
United Kingdom
T 44 (0)20 3077 7986
E UKmail@ghd.com
W www.ghd.com

www.ghd.com

Gutteridge Haskins & Davey Limited

Project No. 12566183

Client: IDOM

Project: DALYMOUNT PARK STADIUM
DUBLIN

Drawing Title: ST PETER'S ROAD ACCESS
SWEPT PATH ANALYSIS
FIRE ENGINE

Drawing No. 102025-GHD-01-DR-V-0009-XX-XX

Size A3

Status S4

Rev P01.2

Appendix E

TRICS v7.10.2 Visitor Number Calculations

E-1 Introduction

The number of Visitors attracted to the non-event uses on a typical weekday were derived from TRICS v7.10.2 as described in this Appendix. TRICS was also used to derive the daily arrival/departure profile for some users.

TRICS was not used to derive mode split because the sites available in the database were not considered suitable in terms of location, parking provision, public transport provision or size to provide a representation of travel behaviour expected for the proposed site and its unique combination of facilities.

E-2 Community Facility (Gym)

E-2-1 Initial Site Selection

Parameter	Filter
Main Land Use	07 – Leisure
Sub Land Use	K – Fitness Club (Private)
Calculation Options	Multi-modal trip rates
Week days to include	Exclude weekend days

E-2-2 Results

							TOTAL DAILY		
							Daily Trip Rates:		
Reference	Description	Town/City	Area	Location	Site Area (hec)	Site Area (sqm)	ARR	DEP	TOTAL
BH-07-K-01	CORAL FITNESS	BRIGHTON	BRIGHTON & HOVE	Suburban Area (PPS6 Out of Centre)	0.39	1600	1966.67	1966.67	3933.335
BT-07-K-01	LIFESTYLE FITNESS	WEMBLEY	BRENT	Suburban Area (PPS6 Out of Centre)	0.24	1750	4595.84	4537.5	9133.336
IS-07-K-02	THE GYM	ANGEL	ISLINGTON	Edge of Town Centre	0.06	1225	17116.7	16266.7	33383.332
TW-07-K-01	DW SPORTS FITNESS	SUNDERLAND	TYNE & WEAR	Suburban Area (PPS6 Out of Centre)	0.5	1380	478	476	954

E-2-3 Conclusion

Remove DW Sports Fitness due to low trip rate compared to other sites.

E-2-4 Final Filtering Summary

Land Use	07 - LEISURE
Category	K - FITNESS CLUB (PRIVATE)
MULTI-MODAL	TOTAL PEOPLE

Selected regions and areas:

1	GREATER LONDON		
	BT	BRENT	1 days
	IS	ISLINGTON	1 days
2	SOUTH EAST		
	BH	BRIGHTON & HOVE	1 days

Primary Filtering selection:

Parameter:	Site area
Actual Range:	0.06 to 0.39 (units: hect)
Range Selected by User:	0.02 to 2.00 (units: hect)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/15 to 19/11/22

Selected survey days:

Tuesday	1 days
Wednesday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	0
Edge of Town Centre	1
Suburban Area (PPS6 Out o	2
Edge of Town	0
Neighbourhood Centre (PF	0
Free Standing (PPS6 Out of	0
Not Known	0

Selected Location Sub Categories:

Industrial Zone	0
Commercial Zone	0
Development Zone	1
Residential Zone	1
Retail Zone	0
Built-Up Zone	1
Village	0
Out of Town	0
High Street	0
No Sub Category	0

Secondary Filtering selection:

Use Class:
E(d) 3 days

Population within 500m Range:
All Surveys Included

Population within 1 mile:
25,001 to 50,000 1 days
50,001 to 100,000 1 days
100,001 or More 1 days

Population within 5 miles:
250,001 to 500,000 1 days
500,001 or More 2 days

E-2-5 Total Daily Trips

Total daily trips (arrivals + departures) per hectare highlighted in red. This is assumed to include staff and visitors. Total number of staff and visitors = total daily trips ÷ 2

							TOTAL DAILY		
							Daily Trip Rates:		
Reference	Description	Town/City	Area	Location	Site Area (hec)	Site Area (sqm)	ARR	DEP	TOTAL
BH-07-K-01	CORAL FITNESS	BRIGHTON	BRIGHTON & HOVE	Suburban Area (PPS6 Out of Centre)	0.39	1600	1966.67	1966.67	3933.335
BT-07-K-01	LIFESTYLE FITNESS	WEMBLEY	BRENT	Suburban Area (PPS6 Out of Centre)	0.24	1750	4595.84	4537.5	9133.336
IS-07-K-02	THE GYM	ANGEL	ISLINGTON	Edge of Town Centre	0.06	1225	17116.7	16266.7	33383.332
						7355	**4198.55**	**4104.35**	**8302.90**

E-2-6 Arrival / Departure Profile

Time Range	ARRIVALS No. Days	ARRIVALS Ave. DWELLS	ARRIVALS Trip Rate	DEPARTURES No. Days	DEPARTURES Ave. DWELLS	DEPARTURES Trip Rate
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00	3	0.23	211.594	3	0.23	49.275
07:00-08:00	3	0.23	144.928	3	0.23	189.855
08:00-09:00	3	0.23	175.362	3	0.23	195.652
09:00-10:00	3	0.23	260.87	3	0.23	185.507
10:00-11:00	3	0.23	263.768	3	0.23	166.667
11:00-12:00	3	0.23	197.101	3	0.23	233.333
12:00-13:00	3	0.23	315.942	3	0.23	237.681
13:00-14:00	3	0.23	265.217	3	0.23	294.203
14:00-15:00	3	0.23	230.435	3	0.23	184.058
15:00-16:00	3	0.23	186.957	3	0.23	269.565
16:00-17:00	3	0.23	253.623	3	0.23	255.072
17:00-18:00	3	0.23	472.464	3	0.23	244.928
18:00-19:00	3	0.23	521.739	3	0.23	384.058
19:00-20:00	3	0.23	415.942	3	0.23	455.072
20:00-21:00	3	0.23	214.493	3	0.23	453.623
21:00-22:00	3	0.23	66.667	3	0.23	285.507
22:00-23:00	1	0.39	2.564	1	0.39	35.897
23:00-24:00						
Daily Trip Rates:			4199.666			4119.953

E-3 Concessions and Club Merchandise

The non-event day Concessions are expected to operate as coffee shops/cafés.

Since TRICS does not have suitable sites to compare to the proposed Club Merchandise shop, we have assumed the same trip rate as for the Concessions.

E-3-1 Initial Site Selection

Parameter	Filter
Main Land Use	06 – Hotel, Foor and Drink
Sub Land Use	K – Café
Calculation Options	Multi-modal trip rates
Location Types	Exclude Neighbourhood Centre

E-3-2 Results

						TOTAL DAILY		
						Daily Trip Rates:		
Reference	Description	Town/City	Area	Location	GFA	ARR	DEP	TOTAL
GM-06-K-01	CAFÉ	MANCHESTER	GREATER MANCHESTE	Town Centre	200	30	30	60
HG-06-K-01	CAFÉ	MUSWELL HILL	HARINGEY	Town Centre	58	286.205	286.209	572.414
LN-06-K-01	CAFÉ & TEA ROOM	STAMFORD	LINCOLNSHIRE	Town Centre	190	98.947	100.527	199.474
NF-06-K-01	CAFÉ	NORWICH	NORFOLK	Town Centre	82	96.342	96.342	192.684
WC-06-K-01	CAFÉ	WICKLOW	WICKLOW	Town Centre	320	113.126	112.19	225.316

E-3-3 Conclusion

Remove café in Manchester due to low trip rate compared to other sites.

E-3-4 Final Filtering Summary

Land Use	06 - HOTEL	FOOD & DRINK
Category	K - CAFE	
MULTI-MODAL TOTAL PEOPLE		

Selected regions and areas:

1	GREATER LONDON		
	HG	HARINGEY	1 days
4	EAST ANGLIA		
	NF	NORFOLK	1 days
5	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
14	LEINSTER		
	WC	WICKLOW	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

Parameter:	Gross floor area
Actual Range:	58 to 320 (units: sqm)
Range Selected by User:	58 to 320 (units: sqm)
Selection by:	Include all surveys
Date Range:	01/01/15 to 25/11/22

Selected survey days:	
Tuesday	2 days
Wednesday	1 days
Friday	1 days

Selected survey types:	
Manual count	4 days
Directional ATC Count	0 days

Selected Locations:	
Town Centre	4
Edge of Town Centre	0
Edge of Town	0
Neighbourhood Centre (PPS6 Local Centre)	0
Free Standing (PPS6 Out of Town)	0
Not Known	0

Selected Location Sub Categories:	
Industrial Zone	0
Commercial Zone	0
Residential Zone	0
Retail Zone	0
Built-Up Zone	2
Village	0
Out of Town	0
High Street	2
No Sub Category	0

Secondary Filtering selection:

Use Class:
E(b) 4 days

Population within 500m Range:
All Surveys Included

5,001 to 10,000 1 days
15,001 to 20,000 1 days
20,001 to 25,000 1 days
50,001 to 100,000 1 days

Population within 5 miles:
5,001 to 25,000 1 days
50,001 to 75,000 1 days
500,001 or More 1 days

E-3-5 Total Daily Trips

Total daily trips (arrivals + departures) per 100sqm floor area highlighted in red. This is assumed to include staff and visitors. Total number of staff and visitors = total daily trips ÷ 2

						Daily Trip Rates:		
Reference	Description	Town/City	Area	Location	GFA	ARR	DEP	TOTAL
HG-06-K-01	CAFÉ	MUSWELL HILL	HARINGEY	Town Centre	58	286.205	286.209	572.414
LN-06-K-01	CAFÉ & TEA ROOM	STAMFORD	LINCOLNSHIRE	Town Centre	190	98.947	100.527	199.474
NF-06-K-01	CAFÉ	NORWICH	NORFOLK	Town Centre	82	96.342	96.342	192.684
WC-06-K-01	CAFÉ	WICKLOW	WICKLOW	Town Centre	320	113.126	112.19	225.316
					650	**127.14**	**135.65**	**262.79**

E-3-6 Arrival / Departure Profile

	ARRIVALS			DEPARTURES		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00	2	189	3.704	2	189	2.381
08:00-09:00	4	163	5.846	4	163	4.154
09:00-10:00	4	163	15.385	4	163	10.462
10:00-11:00	4	163	17.077	4	163	16.615
11:00-12:00	4	163	15.385	4	163	15.385
12:00-13:00	4	163	15.385	4	163	14.615
13:00-14:00	4	163	18.615	4	163	18.923
14:00-15:00	4	163	12	4	163	14
15:00-16:00	4	163	11.231	4	163	12.615
16:00-17:00	3	189	6.69	3	189	10.211
17:00-18:00	2	189	5.82	2	189	7.672
18:00-19:00	1	58	0	1	58	8.621
19:00-20:00						
20:00-21:00						
21:00-22:00						
22:00-23:00						
23:00-24:00						
Daily Trip Rates:			127.138			135.654

Since the TRICS sites profile does not extend over the full opening hours of the proposed concession, a profile has been extrapolated from the TRICS data to reflect the proposed opening hours, as shown below:

Time Range	ARRIVALS	DEPARTURES
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00		
06:00-07:00		
07:00-08:00	2%	1%
08:00-09:00	4%	2%
09:00-10:00	10%	6%
10:00-11:00	11%	10%
11:00-12:00	10%	9%
12:00-13:00	10%	9%
13:00-14:00	12%	11%
14:00-15:00	8%	8%
15:00-16:00	7%	7%
16:00-17:00	7%	7%
17:00-18:00	6%	7%
18:00-19:00	5%	6%
19:00-20:00	4%	6%
20:00-21:00	4%	5%
21:00-22:00	0%	5%
22:00-23:00	0%	0%
23:00-24:00	0%	0%
Daily Trip Rates:	100%	100%

E-4 Stadium Bar

E-4-1 Initial Site Selection

Parameter	Filter
Main Land Use	06 – Hotel, Food and Drink
Sub Land Use	C – Pub/Restaurant
Calculation Options	Multi-modal trip rates
Week days to include	Exclude weekend days
Other	Exclude sites that obviously have a significant restaurant offering: Toby Carvery Brewers Fayre Flaming Grill

E-4-2 Results

						TOTAL DAILY		
						Daily Trip Rates:		
Reference	Description	Town/City	Area	Location	GFA	ARR	DEP	TOTAL
DL-06-C-01	PUB/RESTAURANT	DUBLIN	DUBLIN	Town Centre	420	129.762	137.382	267.144
IS-06-C-02	PUB/RESTAURANT	CLERKENWELL	ISLINGTON	Edge of Town Centre	320	107.501	106.872	214.373
IS-06-C-03	PUB/RESTAURANT	ANGEL	ISLINGTON	Town Centre	288	122.569	122.916	245.485
LB-06-C-01	PUB/RESTAURANT	WATERLOO	LAMBETH	Town Centre	220	131.82	127.272	259.092
LC-06-C-04	PUB/RESTAURANT	BURNLEY	LANCASHIRE	Town Centre	600	89.002	86.834	175.836
WO-06-C-03	PUB/RESTAURANT	WORCESTER	WORCESTERSHIRE	Town Centre	250	34.4	34.4	68.8
BH-06-C-01	PUB/RESTAURANT	BRIGHTON	BRIGHTON & HOVE	Neighbourhood Centre (PPS6 Local Centre)	460	78.912	81.304	160.216
DH-06-C-02	PUB/RESTAURANT	BISHOP AUCKLAND	DURHAM	Edge of Town	450	54.891	54.667	109.558
EC-06-C-01	PUB/RESTAURANT	MACCLESFIELD	CHESHIRE EAST	Edge of Town Centre	471	20.382	20.383	40.765
HC-06-C-04	PUB/RESTAURANT	FARNBOROUGH	HAMPSHIRE	Suburban Area (PPS6 Out of Centre)	615	42.765	43.254	86.019
HC-06-C-06	PUB/RESTAURANT	BASINGSTOKE	HAMPSHIRE	Edge of Town	652	41.258	41.257	82.515
NM-06-C-01	PUB/RESTAURANT	NORTHAMPTON	WEST NORTHAMPTONSHIRE	Edge of Town	620	61.129	61.773	122.902
WC-06-C-01	PUB/RESTAURANT	NEWTOWNMOUNTKENNEDY	WICKLOW	Neighbourhood Centre (PPS6 Local Centre)	641	49.764	43.056	92.82
WK-06-C-02	PUB/RESTAURANT	ROYAL LEAMINGTON SPA	WARWICKSHIRE	Suburban Area (PPS6 Out of Centre)	982	29.226	29.225	58.451
WM-06-C-02	PUB/RESTAURANT	WOLVERHAMPTON	WEST MIDLANDS	Edge of Town	200	40.5	42	82.5

E-4-3 Conclusion

Wide range of trip rates. No obvious reasons for exclusion.

E-4-4 Final Filtering Summary

Land Use	06 - HOTEL	FOOD & DRINK
Category	C - PUB/RESTAURANT	
MULTI-MODAL TOTAL PEOPLE		

Selected regions and areas:

1	GREATER LONDON		
	IS	ISLINGTON	2 days
	LB	LAMBETH	1 days
2	SOUTH EAST		
	BH	BRIGHTON & HOVE	1 days
	HC	HAMPSHIRE	2 days
5	EAST MIDLANDS		
	NM	WEST NORTHAMPTONSHIRE	1 days
6	WEST MIDLANDS		
	WK	WARWICKSHIRE	1 days
	WM	WEST MIDLANDS	1 days
	WO	WORCESTERSHIRE	1 days
8	NORTH WEST		
	EC	CHESHIRE EAST	1 days
	LC	LANCASHIRE	1 days
9	NORTH		
	DH	DURHAM	1 days
14	LEINSTER		
	WC	WICKLOW	1 days
15	GREATER DUBLIN		
	DL	DUBLIN	1 days

Primary Filtering selection:

Parameter:	Gross floor area
Actual Range:	200 to 982 (units: sqm)
Range Selected by User:	200 to 982 (units: sqm)

Public Transport Provision:

Selection by:	Include all surveys

Date Range:	01/01/15 to 22/11/22

Selected survey days:

Tuesday	3 days
Wednesday	3 days
Thursday	1 days
Friday	8 days

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

Selected Locations:

Town Centre	5
Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	4
Neighbourhood Centre (PPS6 Local	2
Free Standing (PPS6 Out of Town)	0
Not Known	0

Selected Location Sub Categories:

Industrial Zone	1
Commercial Zone	1
Development Zone	0
Residential Zone	2
Retail Zone	1
Built-Up Zone	4
Village	1
Out of Town	1
High Street	2
No Sub Category	2

Secondary Filtering selection:

Use Class:
Sui Generis 15 days

Population within 500m Range:
All Surveys Included

Population within 1 mile:
1,001 to 5,000 3 days
5,001 to 10,000 1 days
10,001 to 15,000 1 days
15,001 to 20,000 2 days
25,001 to 50,000 4 days
50,001 to 100,000 4 days

Population within 5 miles:
25,001 to 50,000 1 days
75,001 to 100,000 1 days
100,001 to 125,000 2 days
125,001 to 250,000 4 days
250,001 to 500,000 3 days
500,001 or More 4 days

E-4-5 Total Daily Trips

Total daily trips (arrivals + departures) per hectare highlighted in red. This is assumed to include staff and visitors. Total number of staff and visitors = total daily trips ÷ 2

						TOTAL DAILY		
						Daily Trip Rates:		
Reference	Description	Town/City	Area	Location	GFA	ARR	DEP	TOTAL
DL-06-C-01	PUB/RESTAURANT	DUBLIN	DUBLIN	Town Centre	420	129.762	137.382	267.144
IS-06-C-02	PUB/RESTAURANT	CLERKENWELL	ISLINGTON	Edge of Town Centre	320	107.501	106.872	214.373
IS-06-C-03	PUB/RESTAURANT	ANGEL	ISLINGTON	Town Centre	288	122.569	122.916	245.485
LB-06-C-01	PUB/RESTAURANT	WATERLOO	LAMBETH	Town Centre	220	131.82	127.272	259.092
LC-06-C-04	PUB/RESTAURANT	BURNLEY	LANCASHIRE	Town Centre	600	89.002	86.834	175.836
WO-06-C-03	PUB/RESTAURANT	WORCESTER	WORCESTERSHIRE	Town Centre	250	34.4	34.4	68.8
BH-06-C-01	PUB/RESTAURANT	BRIGHTON	BRIGHTON & HOVE	Neighbourhood Centre (PPS6 Local Centre)	460	78.912	81.304	160.216
DH-06-C-02	PUB/RESTAURANT	BISHOP AUCKLAND	DURHAM	Edge of Town	450	54.891	54.667	109.558
EC-06-C-01	PUB/RESTAURANT	MACCLESFIELD	CHESHIRE EAST	Edge of Town Centre	471	20.382	20.383	40.765
HC-06-C-04	PUB/RESTAURANT	FARNBOROUGH	HAMPSHIRE	Suburban Area (PPS6 Out of Centre)	615	42.765	43.254	86.019
HC-06-C-06	PUB/RESTAURANT	BASINGSTOKE	HAMPSHIRE	Edge of Town	652	41.258	41.257	82.515
NM-06-C-01	PUB/RESTAURANT	NORTHAMPTON	WEST NORTHAMPTONSHIRE	Edge of Town	620	61.129	61.773	122.902
WC-06-C-01	PUB/RESTAURANT	NEWTOWNMOUNTKENNEDY	WICKLOW	Neighbourhood Centre (PPS6 Local Centre)	641	49.764	43.056	92.82
WK-06-C-02	PUB/RESTAURANT	ROYAL LEAMINGTON SPA	WARWICKSHIRE	Suburban Area (PPS6 Out of Centre)	982	29.226	29.225	58.451
WM-06-C-02	PUB/RESTAURANT	WOLVERHAMPTON	WEST MIDLANDS	Edge of Town	200	40.5	42	82.5
					6569	**62.93**	**62.54**	**125.46**

E-4-6 Arrival / Departure Profile

	ARRIVALS			DEPARTURES		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00-01:00						
01:00-02:00						
02:00-03:00						
03:00-04:00						
04:00-05:00						
05:00-06:00						
06:00-07:00						
07:00-08:00	1	600	0	1	600	0
08:00-09:00	2	791	0.316	2	791	0
09:00-10:00	2	791	0.379	2	791	0.063
10:00-11:00	12	494	0.978	12	494	0.388
11:00-12:00	14	491	2.388	14	491	0.903
12:00-13:00	15	479	6.496	15	479	2.365
13:00-14:00	15	479	5.133	15	479	4.757
14:00-15:00	15	479	3.937	15	479	5.467
15:00-16:00	15	479	4.563	15	479	4.924
16:00-17:00	15	479	4.382	15	479	3.672
17:00-18:00	15	479	7.929	15	479	4.896
18:00-19:00	15	479	7.498	15	479	6.051
19:00-20:00	15	479	7.567	15	479	7.553
20:00-21:00	15	479	4.59	15	479	6.858
21:00-22:00	15	479	4.173	15	479	5.981
22:00-23:00	15	479	1.92	15	479	5.244
23:00-24:00	13	455	0.676	13	455	3.414
Daily Trip Rates:			62.925			62.536

Appendix F

Visitor Mode Split Calculations

The mode split for visitor travel has also been derived from Census and visitors have been assumed to travel by different modes depending on the land use they are accessing.

Visitors accessing the community facilities are expected to come from the local area within approximately 4km of the site. The mode split for these visitor trips has therefore been derived from the combined mode splits of the *Cabra-Glasnevin* Electoral Area (2019), in which the site is located, and the adjacent Electoral Areas, which are:

Ballymun-Finglas

Artane-Whitehall

Clontarf

Castleknock

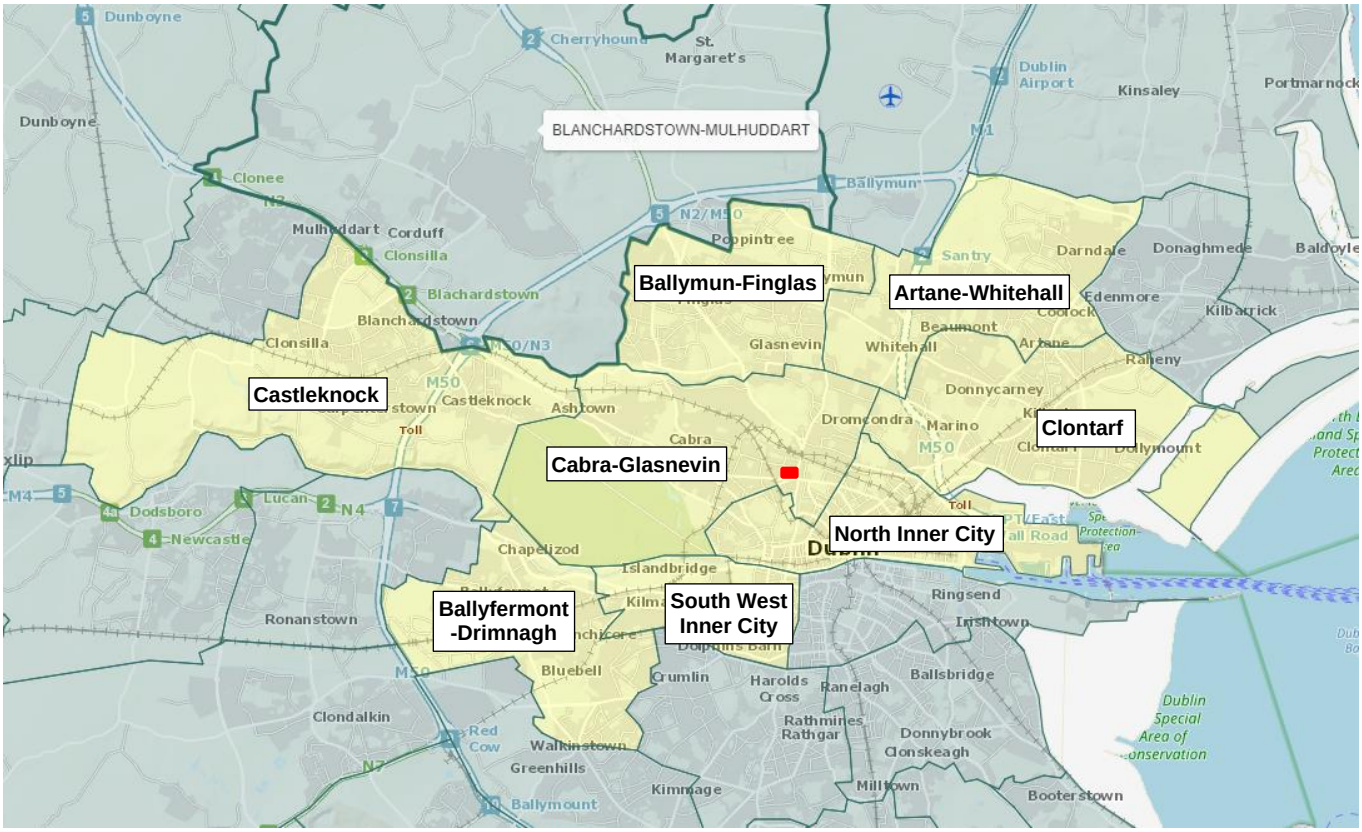
Ballyfermont-Drimnagh

South West Inner City

North Inner City

Visitors accessing the Concessions and Stadium Bar are mainly expected to do so on foot. For this reason, we have used the combined mode splits of the *South West Inner City* and *North Inner City* Electoral Areas that border the area, which have mode splits that have a greater Walk mode share that reflects travel over short distances.

We have assumed that visitors to the Club Merchandise store may originate from anywhere in Dublin City or its suburbs so we have used the Census mode split for *Dublin City and suburbs*.



The Mode splits for each of these Electoral Areas are shown below.

Mode	Dublin city and suburbs		Cabra-Glasnevin		Ballymun-Finglas		Artane-Whitehall		Clontarf	
	No. People	%	No. People	%	No. People	%	No. People	%	No. People	%
Train, DART or LUAS	40,360	8.5%	1,298	5%	120	1%	415	2%	2,353	10%
Bus, minibus or coach	69,108	14%	5,626	22%	4,545	24%	4,096	22%	4,257	18%
Car Driver	228,576	48%	9,299	37%	9,116	48%	9,203	50%	10,754	46%
Car passenger	14,042	2.9%	582	2%	862	5%	679	4%	522	2%
Van	15,167	3%	605	2%	787	4%	714	4%	613	3%
Motorcycle or scooter	3,918	1%	181	1%	160	1%	190	1%	208	1%
Bicycle	38,839	8%	3,093	12%	1,244	7%	1,253	7%	2,657	11%
On Foot	67,111	14%	4,494	18%	2,069	11%	2,012	11%	2,178	9%
Total	**477,121**	**100%**	**25,178**	**100%**	**18,903**	**100%**	**18,562**	**100%**	**23,542**	**100%**

Mode	Castleknock		Ballyfermot-Drimnagh		South West Inner City		North Inner City	
	No. People	%	No. People	%	No. People	%	No. People	%
Train, DART or LUAS	2,279	12%	1,017	6%	2,177	11%	2,685	10%
Bus, minibus or coach	2,140	11%	3,403	20%	3,197	16%	4,816	18%
Car Driver	11,838	60%	7,677	46%	4,526	23%	4,245	16%
Car passenger	613	3%	606	4%	350	2%	398	1%
Van	678	3%	691	4%	232	1%	324	1%
Motorcycle or scooter	158	1%	151	1%	97	0%	93	0%
Bicycle	923	5%	1,293	8%	3,062	16%	3,407	13%
On Foot	1,040	5%	1,901	11%	5,860	30%	11,156	41%
Total	**19,669**	**100%**	**16,739**	**100%**	**19,501**	**100%**	**27,124**	**100%**

The combined mode splits, as described at the beginning of this section, used in the assessment are shown below:

Mode	Cabra-Glasnevin & surrounds		Inner City	
	No. People	%	No. People	%
Train, DART or LUAS	12,344	7%	4,862	10%
Bus, minibus or coach	32,080	19%	8,013	17%
Car Driver	66,658	39%	8,771	19%
Car passenger	4,612	3%	748	2%
Van	4,644	3%	556	1%
Motorcycle or scooter	1,238	1%	190	0%
Bicycle	16,932	10%	6,469	14%
On Foot	30,710	18%	17,016	36%
Total	**169,218**	**100%**	**46,625**	**100%**

Appendix G

Staff and Visitor Non-Event Day Arrival and Departure Profiles

All Modes

Time period	Staff					Visitors					All	
	Arrive		Depart		accu.	Arrive		Depart		accu.	total	accu.
00:00-01:00	0%	0	0%	0	0	0%	0	0%	0	0	0	0
01:00-02:00	0%	0	0%	0	0	0%	0	0%	0	0	0	0
02:00-03:00	0%	0	0%	0	0	0%	0	0%	0	0	0	0
03:00-04:00	0%	0	0%	0	0	0%	0	0%	0	0	0	0
04:00-05:00	0%	0	0%	0	0	0%	0	0%	0	0	0	0
05:00-06:00	0%	0	0%	0	0	0%	0	0%	0	0	0	0
06:00-07:00	0%	0	0%	0	0	0%	4	0%	1	3	4	3
07:00-08:00	70%	18	0%	0	18	4%	30	1%	8	25	55	42
08:00-09:00	16%	4	0%	0	22	5%	35	1%	11	49	50	71
09:00-10:00	0%	0	0%	0	22	7%	56	6%	42	63	98	84
10:00-11:00	0%	0	0%	0	22	8%	60	7%	54	69	114	91
11:00-12:00	0%	0	0%	0	22	8%	59	7%	54	74	112	96
12:00-13:00	0%	0	0%	0	22	9%	68	7%	55	87	124	109
13:00-14:00	0%	0	0%	0	22	9%	71	9%	69	90	140	111
14:00-15:00	14%	4	0%	0	25	7%	55	8%	59	86	118	111
15:00-16:00	0%	0	14%	4	22	7%	54	7%	57	83	115	105
16:00-17:00	0%	0	0%	0	22	7%	51	7%	53	82	104	104
17:00-18:00	0%	0	0%	0	22	8%	60	7%	53	89	113	110
18:00-19:00	0%	0	72%	18	4	7%	56	7%	57	87	131	91
19:00-20:00	0%	0	0%	0	4	7%	52	7%	57	82	109	86
20:00-21:00	0%	0	0%	0	4	5%	42	7%	52	72	94	76
21:00-22:00	0%	0	0%	0	4	1%	9	6%	49	32	58	36
22:00-23:00	0%	0	8%	2	2	0%	4	4%	31	5	36	7
23:00-24:00	0%	0	6%	2	0	0%	1	1%	7	0	9	0
Daily	**100%**	**25**	**100%**	**25**	-	**100%**	**767**	**100%**	**767**	-	-	-

Numbers may appear rounded

Mode	Staff				Visitors				Staff		Visitors	
	Arrive		Depart		Arrive		Depart		Depart		Two-Way	
	No. People	%	No. People	%	No. People	%	No. People	%	No. People	%	No. People	%
	daily				daily				peak hour 18:00-19:00			
Train, DART or LUAS	2	8%	2	8%	68	9%	68	9%	2	8%	12	9%
Bus, minibus or coach	4	14%	4	14%	137	18%	137	18%	3	14%	23	18%
Car Driver	12	48%	12	48%	231	30%	231	30%	9	48%	39	30%
Car passenger	1	3%	1	3%	17	2%	17	2%	1	3%	3	2%
Van	1	3%	1	3%	16	2%	16	2%	1	3%	3	2%
Motorcycle or scooter	0	1%	0	1%	4	1%	4	1%	0	1%	1	1%
Bicycle	2	8%	2	8%	90	12%	90	12%	1	8%	15	12%
On Foot	4	14%	4	14%	205	27%	205	27%	3	14%	35	27%
Total	25	100%	25	100%	767	100%	767	100%	18	100%	131	100%

Numbers may appear rounded

Parking Accumulation

Time period	Staff					Multipurpose Room Visitors					Other Visitors					All Visitors					Total				
	Arrive		Depart		accu.	Arrive		Depart		accu.	Arrive		Depart		accu.	Arrive		Depart		accu.	Arrive		Depart		accu.
00:00-01:00	0%	0.0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0
01:00-02:00	0%	0.0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0
02:00-03:00	0%	0.0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0
03:00-04:00	0%	0.0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0
04:00-05:00	0%	0.0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0
05:00-06:00	0%	0.0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0
06:00-07:00	0%	0.0	0%	0	0	0%	0	0%	0	0	0%	1	0%	0	1	0%	1	0%	0	1	0%	1	0%	0	1
07:00-08:00	70%	9.1	0%	0	9	7%	8	0%	0	8	0%	1	0%	2	0	4%	10	1%	2	8	7%	19	1%	2	17
08:00-09:00	16%	2.1	0%	0	11	7%	8	0%	0	17	0%	3	0%	4	-1	5%	11	1%	4	16	5%	13	1%	4	27
09:00-10:00	0%	0.0	0%	0	11	7%	8	7%	8	17	0%	10	0%	5	3	7%	18	6%	14	20	7%	18	5%	14	31
10:00-11:00	0%	0.0	0%	0	11	7%	8	7%	8	17	0%	11	0%	9	5	8%	19	7%	17	22	7%	19	7%	17	33
11:00-12:00	0%	0.0	0%	0	11	7%	8	7%	8	17	0%	10	0%	9	7	8%	19	7%	17	24	7%	19	7%	17	35
12:00-13:00	0%	0.0	0%	0	11	7%	8	7%	8	17	0%	14	0%	9	11	9%	22	7%	18	28	8%	22	7%	18	39
13:00-14:00	0%	0.0	0%	0	11	7%	8	7%	8	17	0%	15	0%	14	12	9%	23	9%	22	29	9%	23	8%	22	40
14:00-15:00	14%	1.8	0%	0	13	7%	8	7%	8	17	0%	9	0%	11	11	7%	18	8%	19	28	8%	20	7%	19	41
15:00-16:00	0%	0.0	14%	2	11	7%	8	7%	8	17	0%	9	0%	10	10	7%	17	7%	18	27	7%	17	8%	20	38
16:00-17:00	0%	0.0	0%	0	11	7%	8	7%	8	17	0%	8	0%	9	10	7%	17	7%	17	26	6%	17	7%	17	38
17:00-18:00	0%	0.0	0%	0	11	7%	8	7%	8	17	0%	11	0%	9	12	8%	19	7%	17	29	7%	19	7%	17	40
18:00-19:00	0%	0.0	72%	9	2	7%	8	7%	8	17	0%	9	0%	10	11	7%	18	7%	18	28	7%	18	11%	28	30
19:00-20:00	0%	0.0	0%	0	2	7%	8	7%	8	17	0%	8	0%	10	10	7%	17	7%	18	27	6%	17	7%	18	28
20:00-21:00	0%	0.0	0%	0	2	7%	8	7%	8	17	0%	5	0%	8	6	5%	13	7%	17	23	5%	13	6%	17	25
21:00-22:00	0%	0.0	0%	0	2	0%	0	7%	8	8	0%	3	0%	7	2	1%	3	6%	16	10	1%	3	6%	16	12
22:00-23:00	0%	0.0	8%	1	1	0%	0	7%	8	0	0%	1	0%	1	2	0%	1	4%	10	2	0%	1	4%	11	2
23:00-24:00	0%	0.0	6%	1	0	0%	0	0%	0	0	0%	0	0%	2	0	0%	0	1%	2	0	0%	0	1%	3	0
Daily	**100%**	**13**	**100%**	**13**	-	**100%**	**118**	**100%**	**118**	-	**0%**	**49**	**0%**	**49**	-	**100%**	**247**	**100%**	**247**	-	**100%**	**260**	**100%**	**260**	-

Cycle

Time period	Staff					Visitors					All					
	Arrive		Depart		accu.	Arrive		Depart		accu.	Arrive		Depart		accu.	Total
00:00-01:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
01:00-02:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
02:00-03:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
03:00-04:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
04:00-05:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
05:00-06:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
06:00-07:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	1
07:00-08:00	70%	1	0%	0	1	4%	3	1%	1	3	5%	5	1%	1	4	6
08:00-09:00	16%	0	0%	0	2	5%	4	1%	1	6	5%	4	1%	1	8	6
09:00-10:00	0%	0	0%	0	2	7%	7	6%	5	7	7%	7	5%	5	9	12
10:00-11:00	0%	0	0%	0	2	8%	7	7%	6	8	8%	7	7%	6	10	13
11:00-12:00	0%	0	0%	0	2	8%	7	7%	6	9	7%	7	7%	6	10	13
12:00-13:00	0%	0	0%	0	2	9%	8	7%	6	10	9%	8	7%	6	12	15
13:00-14:00	0%	0	0%	0	2	9%	8	9%	8	11	9%	8	9%	8	12	16
14:00-15:00	14%	0	0%	0	2	7%	6	8%	7	10	7%	7	8%	7	12	14
15:00-16:00	0%	0	14%	0	2	7%	6	7%	7	10	7%	6	8%	7	12	13
16:00-17:00	0%	0	0%	0	2	7%	6	7%	6	10	7%	6	7%	6	11	12
17:00-18:00	0%	0	0%	0	2	8%	7	7%	6	10	8%	7	7%	6	12	13
18:00-19:00	0%	0	72%	1	0	7%	7	7%	7	10	7%	7	9%	8	11	15
19:00-20:00	0%	0	0%	0	0	7%	6	7%	7	10	7%	6	7%	7	10	13
20:00-21:00	0%	0	0%	0	0	5%	5	7%	6	8	5%	5	7%	6	9	11
21:00-22:00	0%	0	0%	0	0	1%	1	6%	6	4	1%	1	6%	6	4	7
22:00-23:00	0%	0	8%	0	0	0%	0	4%	4	1	0%	0	4%	4	1	4
23:00-24:00	0%	0	6%	0	0	0%	0	1%	1	0	0%	0	1%	1	0	1
Daily	**100%**	**2**	**100%**	**2**	**-**	**100%**	**90**	**100%**	**90**	**-**	**100%**	**92**	**100%**	**92**	**-**	**-**

Numbers may appear rounded

On foot

Time period	Staff					Visitors					All					
	Arrive		Depart		accu.	Arrive		Depart		accu.	Arrive		Depart		accu.	Total
00:00-01:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
01:00-02:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
02:00-03:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
03:00-04:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
04:00-05:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
05:00-06:00	0%	0	0%	0	0	0%	0	0%	0	0	0%	0	0%	0	0	0
06:00-07:00	0%	0	0%	0	0	0%	1	0%	0	1	0%	1	0%	0	1	1
07:00-08:00	70%	2	0%	0	2	4%	8	1%	2	7	5%	10	1%	2	9	12
08:00-09:00	16%	1	0%	0	3	5%	9	1%	3	13	5%	10	1%	3	16	13
09:00-10:00	0%	0	0%	0	3	7%	15	6%	11	17	7%	15	5%	11	20	26
10:00-11:00	0%	0	0%	0	3	8%	16	7%	14	18	8%	16	7%	14	21	30
11:00-12:00	0%	0	0%	0	3	8%	16	7%	14	20	8%	16	7%	14	23	30
12:00-13:00	0%	0	0%	0	3	9%	18	7%	15	23	9%	18	7%	15	26	33
13:00-14:00	0%	0	0%	0	3	9%	19	9%	18	24	9%	19	9%	18	27	37
14:00-15:00	14%	0	0%	0	4	7%	15	8%	16	23	7%	15	8%	16	26	31
15:00-16:00	0%	0	14%	0	3	7%	14	7%	15	22	7%	14	8%	16	25	30
16:00-17:00	0%	0	0%	0	3	7%	14	7%	14	22	7%	14	7%	14	25	28
17:00-18:00	0%	0	0%	0	3	8%	16	7%	14	24	8%	16	7%	14	27	30
18:00-19:00	0%	0	72%	3	0	7%	15	7%	15	23	7%	15	9%	18	24	33
19:00-20:00	0%	0	0%	0	0	7%	14	7%	15	22	7%	14	7%	15	22	29
20:00-21:00	0%	0	0%	0	0	5%	11	7%	14	19	5%	11	7%	14	20	25
21:00-22:00	0%	0	0%	0	0	1%	2	6%	13	9	1%	2	6%	13	9	15
22:00-23:00	0%	0	8%	0	0	0%	1	4%	8	1	0%	1	4%	8	2	9
23:00-24:00	0%	0	6%	0	0	0%	0	1%	2	0	0%	0	1%	2	0	2
Daily	**100%**	**4**	**100%**	**4**	**-**	**100%**	**205**	**100%**	**205**	**-**	**100%**	**208**	**100%**	**208**	**-**	**-**

Numbers may appear rounded

Rail

Time period	Staff					Visitors					All					
	Arrive		Depart			Arrive		Depart			Arrive		Depart			Total
00:00-01:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
01:00-02:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
02:00-03:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
03:00-04:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
04:00-05:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
05:00-06:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
06:00-07:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
07:00-08:00	70%	1	0%	0		4%	3	1%	1		6%	4	1%	1		5
08:00-09:00	16%	0	0%	0		5%	3	1%	1		5%	3	1%	1		4
09:00-10:00	0%	0	0%	0		7%	5	6%	4		7%	5	5%	4		9
10:00-11:00	0%	0	0%	0		8%	5	7%	5		8%	5	7%	5		10
11:00-12:00	0%	0	0%	0		8%	5	7%	5		7%	5	7%	5		10
12:00-13:00	0%	0	0%	0		9%	6	7%	5		9%	6	7%	5		11
13:00-14:00	0%	0	0%	0		9%	6	9%	6		9%	6	9%	6		12
14:00-15:00	14%	0	0%	0		7%	5	8%	5		7%	5	7%	5		10
15:00-16:00	0%	0	14%	0		7%	5	7%	5		7%	5	8%	5		10
16:00-17:00	0%	0	0%	0		7%	5	7%	5		7%	5	7%	5		9
17:00-18:00	0%	0	0%	0		8%	5	7%	5		8%	5	7%	5		10
18:00-19:00	0%	0	72%	2		7%	5	7%	5		7%	5	9%	7		12
19:00-20:00	0%	0	0%	0		7%	5	7%	5		7%	5	7%	5		10
20:00-21:00	0%	0	0%	0		5%	4	7%	5		5%	4	7%	5		8
21:00-22:00	0%	0	0%	0		1%	1	6%	4		1%	1	6%	4		5
22:00-23:00	0%	0	8%	0		0%	0	4%	3		0%	0	4%	3		3
23:00-24:00	0%	0	6%	0		0%	0	1%	1		0%	0	1%	1		1
Daily	**100%**	**2**	**100%**	**2**	**-**	**100%**	**68**	**100%**	**68**	**-**	**100%**	**70**	**100%**	**70**	**-**	**-**

Numbers may appear rounded

Buses

Time period	Staff					Visitors					All					
	Arrive		Depart			Arrive		Depart			Arrive		Depart			Total
00:00-01:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
01:00-02:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
02:00-03:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
03:00-04:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
04:00-05:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
05:00-06:00	0%	0	0%	0		0%	0	0%	0		0%	0	0%	0		0
06:00-07:00	0%	0	0%	0		0%	1	0%	0		0%	1	0%	0		1
07:00-08:00	70%	3	0%	0		4%	5	1%	1		6%	8	1%	1		9
08:00-09:00	16%	1	0%	0		5%	6	1%	2		5%	7	1%	2		9
09:00-10:00	0%	0	0%	0		7%	10	6%	8		7%	10	5%	8		17
10:00-11:00	0%	0	0%	0		8%	11	7%	10		8%	11	7%	10		20
11:00-12:00	0%	0	0%	0		8%	10	7%	10		7%	10	7%	10		20
12:00-13:00	0%	0	0%	0		9%	12	7%	10		9%	12	7%	10		22
13:00-14:00	0%	0	0%	0		9%	13	9%	12		9%	13	9%	12		25
14:00-15:00	14%	1	0%	0		7%	10	8%	11		7%	10	8%	11		21
15:00-16:00	0%	0	14%	1		7%	10	7%	10		7%	10	8%	11		20
16:00-17:00	0%	0	0%	0		7%	9	7%	9		7%	9	7%	9		19
17:00-18:00	0%	0	0%	0		8%	11	7%	9		8%	11	7%	9		20
18:00-19:00	0%	0	72%	3		7%	10	7%	10		7%	10	9%	13		23
19:00-20:00	0%	0	0%	0		7%	9	7%	10		7%	9	7%	10		19
20:00-21:00	0%	0	0%	0		5%	7	7%	9		5%	7	7%	9		17
21:00-22:00	0%	0	0%	0		1%	2	6%	9		1%	2	6%	9		10
22:00-23:00	0%	0	8%	0		0%	1	4%	5		0%	1	4%	6		6
23:00-24:00	0%	0	6%	0		0%	0	1%	1		0%	0	1%	1		2
Daily	**100%**	**4**	**100%**	**4**	**-**	**100%**	**137**	**100%**	**137**	**-**	**100%**	**140**	**100%**	**140**	**-**	**-**

Numbers may appear rounded

Appendix H

Spectator Normal Egress Flow Rates and Routing Assumptions

H-1 Spectator Flow Rates

Michael Slattery Associates
Fire Safety Engineers

Dublin Office
19 Windsor Place
Lower Pembroke Street
Dublin 2

t:+353 (0)1 6765713
f:+353 (0)1 6785274

Dalymount Park – initial egress analysis results

1.0 West Stand – Exit gate EX2 egress flows	
Egress flow commences (secs)	Egress flow rate (ppm)
24	162(1)
42	242(1)
54	322(1)
68	402(1)
80	484(1)
355	484(1)
360	404(1)
375	324(1)
387	244(1)
400	165(1)
506	165(1)
507	82
560	82
561	0

Note (1): Egress flow indicated remains at this figure until next time step when it increases or decreases as indicated.

2.0 North Stand – Exit gate EX1 egress flows	
Egress flow commences (secs)	Egress flow rate (ppm)
20	79(1)
34	158(1)
46	238(1)
60	262.4(1)
279	262.4
280	0

Note (1): Egress flow indicated remains at this figure until next time step when it increases or decreases as indicated.

3.0 East and South Stand – Exit gate egress flows			
Gate No	Egress flow commences (sec)	Flow rate (ppm)	Egress flow complete (secs)
EX 4A	20	84.5	500
EX 4B	20	79.2	380
EX 4C	20	79.2	380
EX 4D	20	79.2	380
EX 4E	20	79.2(1)	
	25	163.8(2)	
	380	79.2	505
EX 3	20	180.4	254

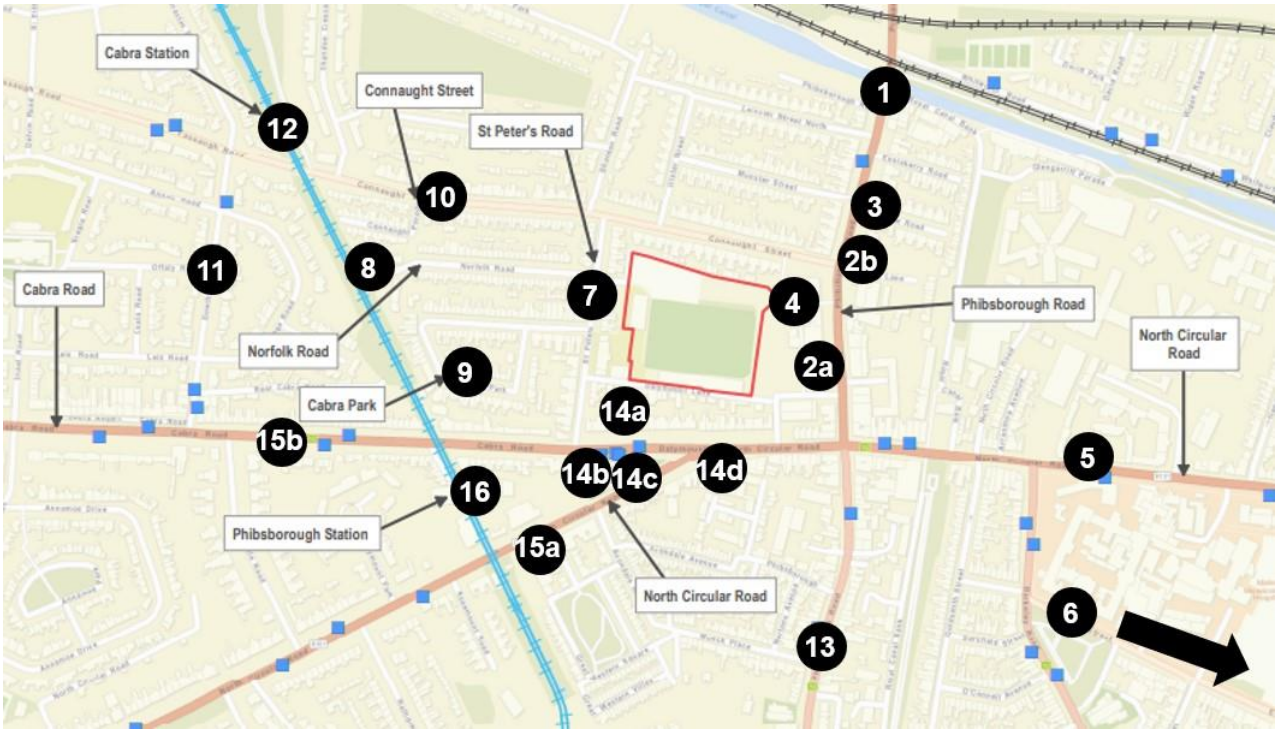
Note (1): Egress flow remains at 79.2 until 25 secs when in increases to 158.2

Note (2): Egress flow remains at 163.8 until 380 secs when in reduces to 79.2

H-2 Method for assigning spectator egress routes based on mode of travel from stadium

Mode	Methodology of Distribution
Irish Rail	The only Irish Rail station within a suitable walking distance is Drummcondra. Therefore all spectators using Irish Rail have been allocated to this station
LUAS	Spectators using LUAS are distributed between Cabra and Phibsborough stations according to the volumes recorded in the post event station entry counts.
DART	All spectators using DART are assumed to walk to the City Centre stations.
Bus	We have assumed all spectators who indicated that their origin is in south dublin use southbound bus services on Phibsborough Road. We have assumed that 1/3rd of spectators from north Dublin use Phibsborough Road bus services and 2/3rds use Cabra Road/N Circular Road services. The number of spectators routing in each direction has been determined based on the frequency of services in each direction.
Organised club coach	We have assumed a club coach would collect passengers from either the stadium car park, or within St Peter's Road
Car	Spectators parking on-street have been distributed based on the parking survey results and the length of residential road on which specators could park (assuming no restrictions on capacity) within a 1km radius. Spectators parking in paid/private car parks are distributed over 3 car parks within 1km walking distance according to the number of spaces in the car park (assuming on capacity restrictions). Spectators parking at a friend's house are distributed based on the length of residential road on which specators could park (assuming no restrictions on capacity) within a 1km radius. Spectators being picked up have been distributed to the surrounding main roads; Connaught Street, Phibsborough Road, Cabra Road and N Circular Road.
Taxi	Spectators being picked up have been distributed to the surrounding main roads; Connaught Street, Phibsborough Road, Cabra Road and N Circular Road.
Motorcycle	Spectators departing by morotcycle are assumed to have parked in local roads - distributed based on the length of residential road on which specators could park (assuming no restrictions on capacity) within a 1km radius.
Walk all the way	Spectators walking to destinations in south Dublin are assumed to depart south. Spectators walking to destinations in north Dublin have been distributed according to a high-level assumption on the number of residents in each direction within a 1lm area.

H-3 Spectator walk destinations



ID	Destination
1	Roads north of the stadium and Royal Canal
2a	Phibsborough Road bus stop (Northbound)
2b	Phibsborough Road bus stop (Southbound)
3a	Phibsborough Road
3b	Phibsborough Road
3c	Phibsborough Road
4	Phibsborough Shopping Centre Car Park
5	Roads east of the stadium and east of Phibsborough Road
6	City centre DART station(s)
7	St. Peter's Road
8	Norfolk Road
9	Cabra Park
10a	Connaught Street
10b	Connaught Street
11	Residential road west of the stadium
12	Cabra LUAS station
13	Roads south of the stadium and N Circular Road
14a	Cabra Road bus stop (Eastbound)
14b	Cabra Road bus stop (Westbound)
14c	N Circular Road bus stop (Eastbound)
14d	N Circular Road bus stop (Westbound)
15a	Cabra Road / N Circular Road
15b	Cabra Road / N Circular Road
15c	Cabra Road / N Circular Road
15d	Cabra Road / N Circular Road
16	Phibsborough LUAS station

ghd.com

The Power of Commitment