



Traffic and Transport Assessment

Proposed Shared Living Strategic Housing Development at
Western Way, Dublin 7

November 2020

Waterman Moylan Consulting Engineers Limited

Block S, East Point Business Park, Alfie Byrne Road, Dublin D03 H3F4
www.waterman-moylan.ie

Client Name: Western Way Developments Ltd.
Document Reference: 18-039r.008 Traffic and Transport Assessment
Project Number: 18-039

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015 and BS EN ISO 14001: 2015)

Issue	Date	Prepared by	Checked by	Approved by
1	22 June 2020	Fernando Silva	Stephen Dent-Neville	Mark Duignan
2	26 November 2020	Fernando Silva	Stephen Dent-Neville	<i>Mark Duignan</i>

Comments

Disclaimer

This report has been prepared by Waterman Moylan, with all reasonable skill, care and diligence within the terms of the Contract with the Client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the Client.

We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report is confidential to the Client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Contents

1. Introduction	1
1.1 Background	1
1.2 Site Description and Location	1
1.3 Objectives	2
1.4 Study Methodology	3
1.5 Structure of Report.....	3
1.6 General	3
2. Existing Conditions and Receiving Environment	4
2.1 Introduction	4
2.2 Existing Road Network.....	4
2.2.1 Western Way (R135).....	5
2.2.2 Dominick Street Upper	5
2.2.3 Palmerston Place.....	6
2.3 Public Transport.....	8
2.3.1 Bus	8
2.3.2 Luas	9
2.3.3 Rail	11
2.4 Cycle Facilities	11
2.5 Pedestrian Facilities	11
2.6 Summary	12
2.7 Road Safety Data.....	12
2.8 Future Infrastructure Works	13
2.8.1 Bus Connects	13
2.8.2 MetroLink	14
2.8.3 Cycle Network Plan for the Greater Dublin Area	15
2.8.4 Other Future Upgrades	16
2.9 Summary	16
3. Proposed Development	17
3.1 General	17
3.2 Car Parking	17
3.3 Motorcycle Parking.....	18
3.4 Cycle Parking	18
3.5 Site Access	20
3.6 Service Deliveries and Collections.....	20
3.6.1 Constraints on Deliveries	20

3.6.2	Proposed Servicing	20
3.6.3	Arrival and Departure Routes	21
3.6.4	Emergency Services	22
3.7	Trip Generation	22
3.8	Junction Assessment	23
3.9	Summary	23
4.	Travel Plan.....	24
4.1	Introduction	24
4.2	Site Accessibility Audit	24
4.2.1	Overview	24
4.2.2	AIRO/CSO Census 2016 National Mapping Viewer	25
4.2.3	Origin Destination Overview	25
4.2.4	Current Mobility Trends.....	25
4.2.5	Walking Accessibility	26
4.2.6	Cycling Accessibility.....	27
4.2.7	Bus and Luas	27
4.2.8	Summary	28
4.3	Modal Split	28
4.4	Mobility Management Measures	28
4.4.1	Introduction	28
4.4.2	Approach	29
4.4.3	Mobility Management Coordinator (MMC)	30
4.4.4	Car Use – Car Clubs	30
4.4.5	Public Transport – Bus Use	31
4.4.6	Public Transport – LUAS Use	31
4.4.7	Walking	31
4.4.8	Cycling	31
4.4.9	Other Measures	31
4.5	Adoption & Review	32
4.5.1	Introduction	32
4.5.2	Overview	32
4.5.3	Workshops	33
4.5.4	Conclusions	33
5.	Summary and Conclusion	34

Figures

<i>Figure 1 Site Location (Source: Google Maps)</i>	1
<i>Figure 2 Extract from Dublin City Council Development Plan 2016-2022</i>	2
<i>Figure 3 Site Location (Source: Google Maps)</i>	4
<i>Figure 4 Existing View on Western Way (R135) Facing South-West</i>	5
<i>Figure 5 Existing View on Dominick Street Upper Facing East</i>	6
<i>Figure 6 Existing View on Palmerston Place Facing South</i>	7
<i>Figure 7 Existing View on Palmerston Place Facing South</i>	7
<i>Figure 8 Walking Routes from the Site Entrance to Nearest Bus Stops</i>	8
<i>Figure 9 Location of bus stops and pedestrian crossing facilities</i>	8
<i>Figure 10 Luas Green and Red Line Stations (source: www.luas.ie)</i>	10
<i>Figure 11 Dublin Bikes Station Map (Source: www.dublinbikes.ie)</i>	11
<i>Figure 12 Ireland Road Collisions (source: RSA)</i>	12
<i>Figure 13 Bus Connects Proposed Infrastructure (source: www.busconnects.ie)</i>	13
<i>Figure 14 Bus Connects Proposed Infrastructure (source: www.busconnects.ie)</i>	14
<i>Figure 15 Location of Mater Station & Proposed MetroLink Route (source: www.metrolink.ie)</i>	15
<i>Figure 16 Proposed Cycle Network Upgrades (Source: NTA)</i>	16
<i>Figure 17 Extract from Map J within Dublin City Development Plan 2016-2022</i>	17
<i>Figure 18 Location for Future Additional Cycle Parking</i>	19
<i>Figure 19 Arrival and Departure Routes</i>	22
<i>Figure 20 Study Area – Transport Mode (Work/Education) Profile</i>	25
<i>Figure 21 Walking Accessibility – 2.5km Catchment</i>	26
<i>Figure 22 Cycling Accessibility – 5.0km Catchment</i>	27

Tables

<i>Table 1 Local Bus Services</i>	9
<i>Table 2 Luas Service Frequency</i>	10
<i>Table 3 General Maximum Car Parking Standards</i>	17
<i>Table 4 General Cycle Parking Standards</i>	19
<i>Table 5 Estimated Traffic Movements</i>	21
<i>Table 6 Sample of Extracted Hub Location Data & Proximity to Proposed Development</i>	26
<i>Table 7 Anticipated Modal Split for Residents and Staff with Mobility Management</i>	28

1. Introduction

1.1 Background

This Traffic & Transport Assessment (TTA) has been prepared by Waterman Moylan as part of the planning documentation for a proposed shared living development on the site of the disused Hendrons facility at 36-40 Dominick Street Upper, Broadstone, Dublin 7.

1.2 Site Description and Location

The subject site is located in Broadstone, Phibsborough, Dublin 7, and is bounded by Western Way to the north and west, Palmerston Place to the east and Dominick Street Upper to the south. A portion of the north-eastern perimeter is also bounded by the gardens of neighbouring houses.

The site location is shown in Figure 1:

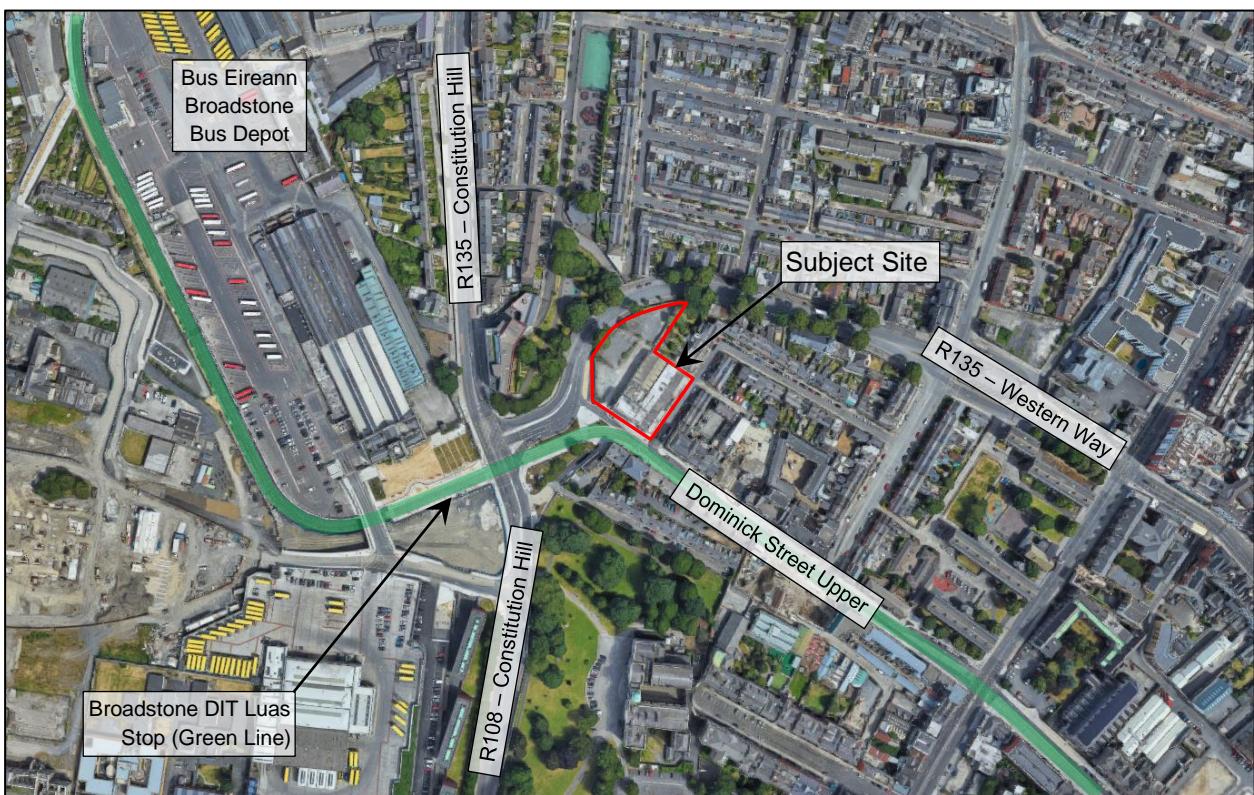


Figure 1 | Site Location (Source: Google Maps)

The existing site is approximately 3,285m² and is a brownfield site comprising of a carpark along the western side of the site and a building complex to the south-east. The building complex includes the Hendrons building, No.36 Dominick Street Upper and warehouses. The Hendrons building is a former showroom and workshop built between 1946 and 1959, No.36 Dominick Street Upper is a three-storey building in an advanced state of structural decay and the warehouse building is a two-storey over basement linear industrial building fronting onto Palmerston Place.

Main access to the site is from Dominick Street Upper, with a private gated side access road from Palmerston Place running between the existing building complex and the neighbouring property to the north.

The site is zoned Z3 “to provide for and improve neighbourhood facilities” under the Dublin City Development Plan 2016-2022. The site falls just outside of the Phibsborough Local Area Plan.

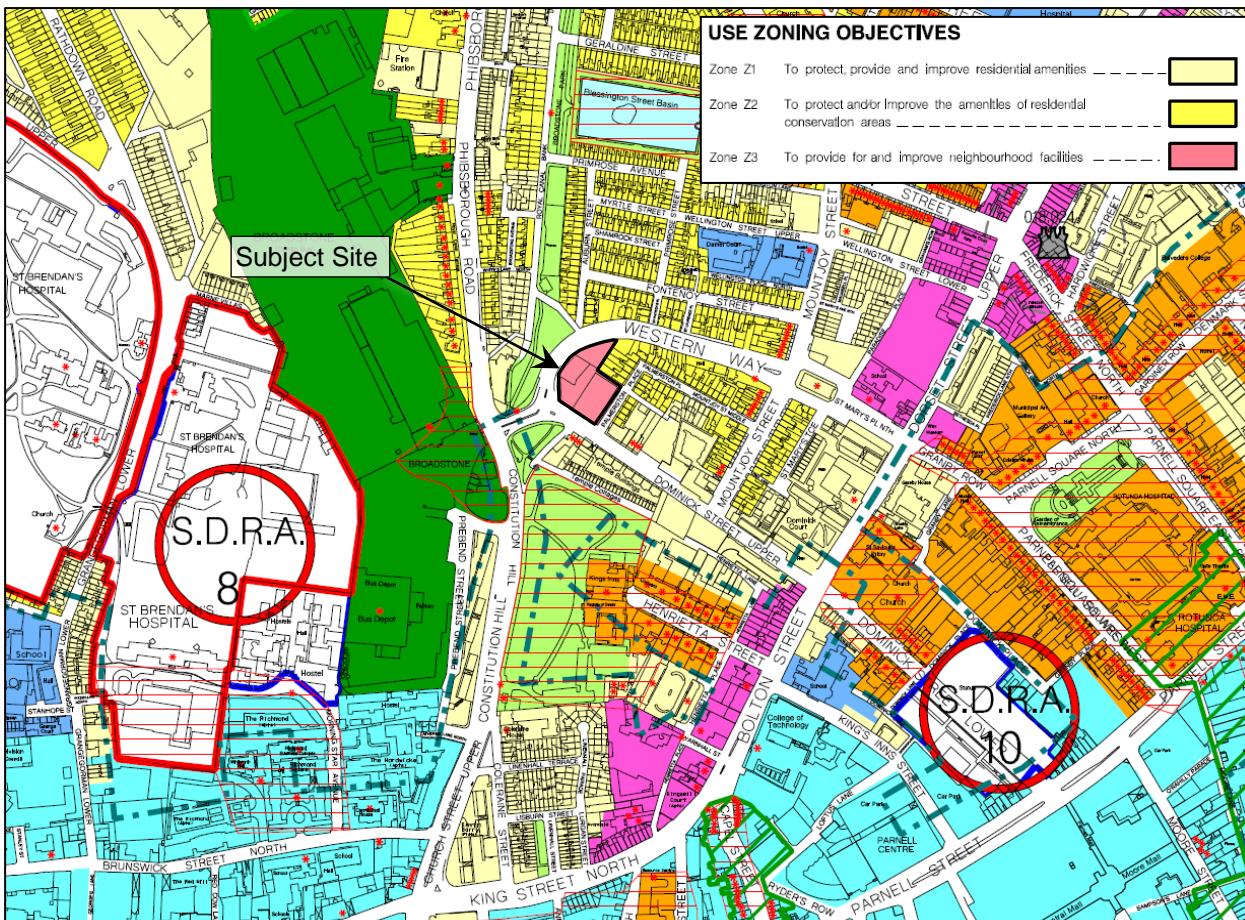


Figure 2 | Extract from Dublin City Council Development Plan 2016-2022

The proposed development comprises demolition of the existing warehouse buildings and no. 36 Dominick Street Upper and retention of the Hendrons Building as part of an overall redevelopment of the site to accommodate a build-to-rent shared living scheme and publicly accessible neighbourhood uses (including café/shop, gym and yoga studios). The scheme will include; 280 no. shared living rooms (281 no. bed-spaces), internal and external amenity space over 5 no. blocks ranging in height from 5 no. storeys to 9 no. storeys, secure bicycle parking, site-wide landscaping, ESB substation and switch-room and site development works all on the 0.3285 hectare site.

In order to complete this report, Waterman Moylan has made reference to the following documents:

- The Traffic Management Guidelines
- Guidance on Transport Assessment
- Design Manual for Urban Roads and Streets
- Dublin City Development Plan 2016-2022

1.3 Objectives

The main objective of this report is to examine the traffic impact and transportation implications of the proposed development and its access arrangements on the local area transport network. The net change in traffic on the network due to the proposed development has been calculated and its impact on the local

area road network has been determined. Sustainable transport options for residents and for staff have been examined.

1.4 Study Methodology

The methodology adopted for this report can be summarised as follows:

Existing Transport Infrastructure: Waterman Moylan collected information on public transport, walking and cycling in the area of the proposed development.

Development Proposals: Description of proposed development, including proposed improvements to the road accesses to the site and a review of parking and servicing provisions and facilities for pedestrians and cyclists.

1.5 Structure of Report

The remainder of this report is divided into the following sections:

- Section 2 considers the location of the site and existing/future transport provision,
- Section 3 discusses the proposed development,
- Section 4 discusses the proposed travel plan and mobility management for the development,
- Section 5 provides a summary and conclusion.

1.6 General

The primary function of this report is to provide an assessment of the impact that the proposed development will have on the surrounding transportation network and therefore this chapter includes a review of the existing ‘baseline’ conditions.

2. Existing Conditions and Receiving Environment

2.1 Introduction

The subject site is located in Phibsborough, Dublin 7, and is bounded by R135 Western Way to the north and west, Palmerston Place to the east and Dominick Street Upper to the south. A portion of the north-eastern perimeter is also bounded by the gardens of neighbouring houses.

The location of the site is shown on the map extract below:

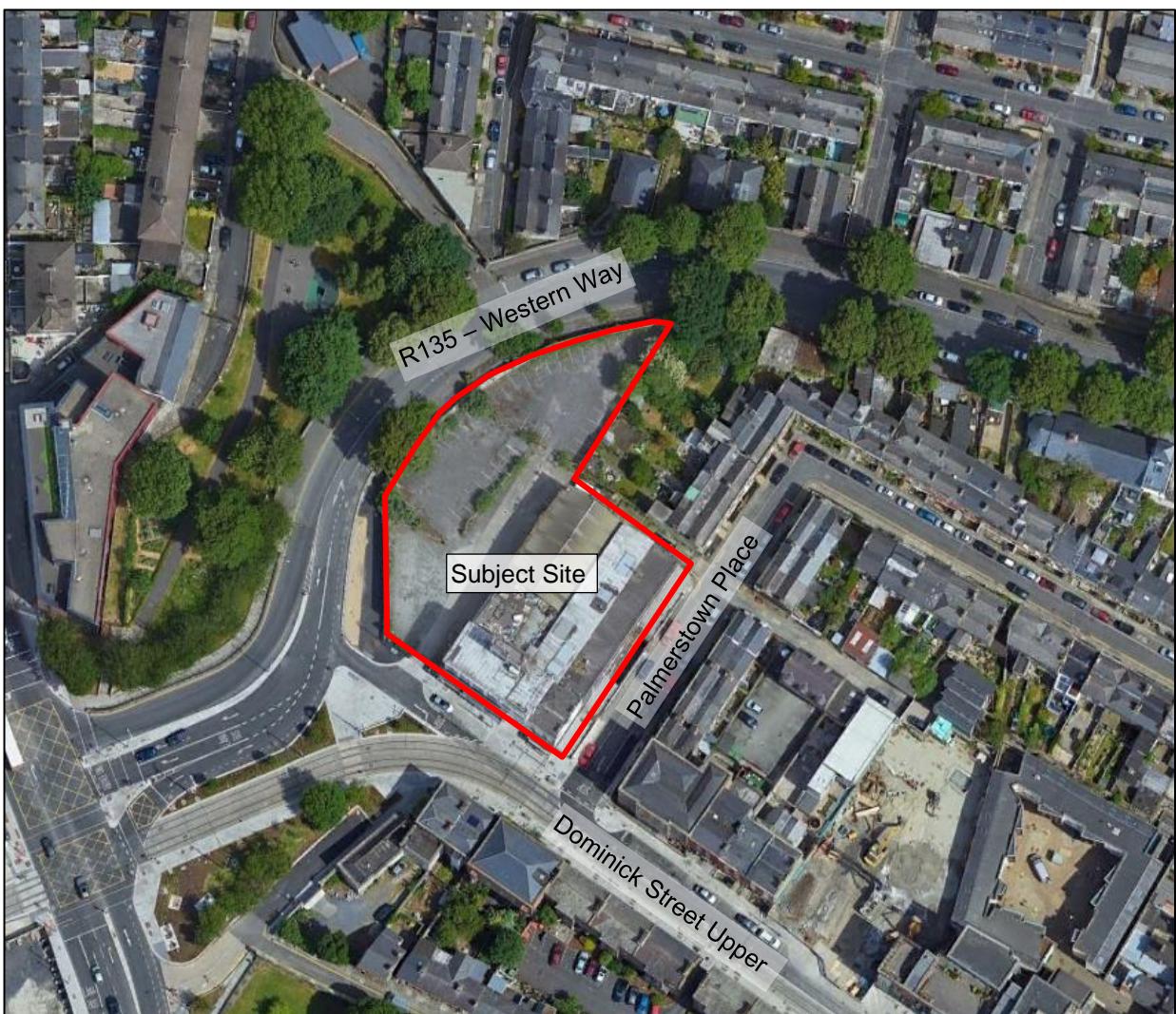


Figure 3 | Site Location (Source: Google Maps)

2.2 Existing Road Network

The subject site is located in Phibsborough, Dublin 7, and is bounded by Western Way (R135) to the north and west, Palmerston Place to the east and Dominick Street Upper to the south. A portion of the north-eastern perimeter is also bounded by the gardens of neighbouring houses.

2.2.1 Western Way (R135)

Western Way is a two-way arterial road, connecting with the signalised junction at Phibsborough Road/Constitution Hill Road (R108) approximately 65m south-west of the site and with the priority junction at Mountjoy Street approximately 190m east of the site. The road includes a bus lane in the south-westerly direction, with pay and display parking along much of the northern side of the road. There is a cycle lane adjacent to the south-western boundary of the site on the approach to the intersection with Constitution Hill. The existing road layout, including existing road markings, is shown on Waterman Moylan Site Layout drawing 18-039-P100.

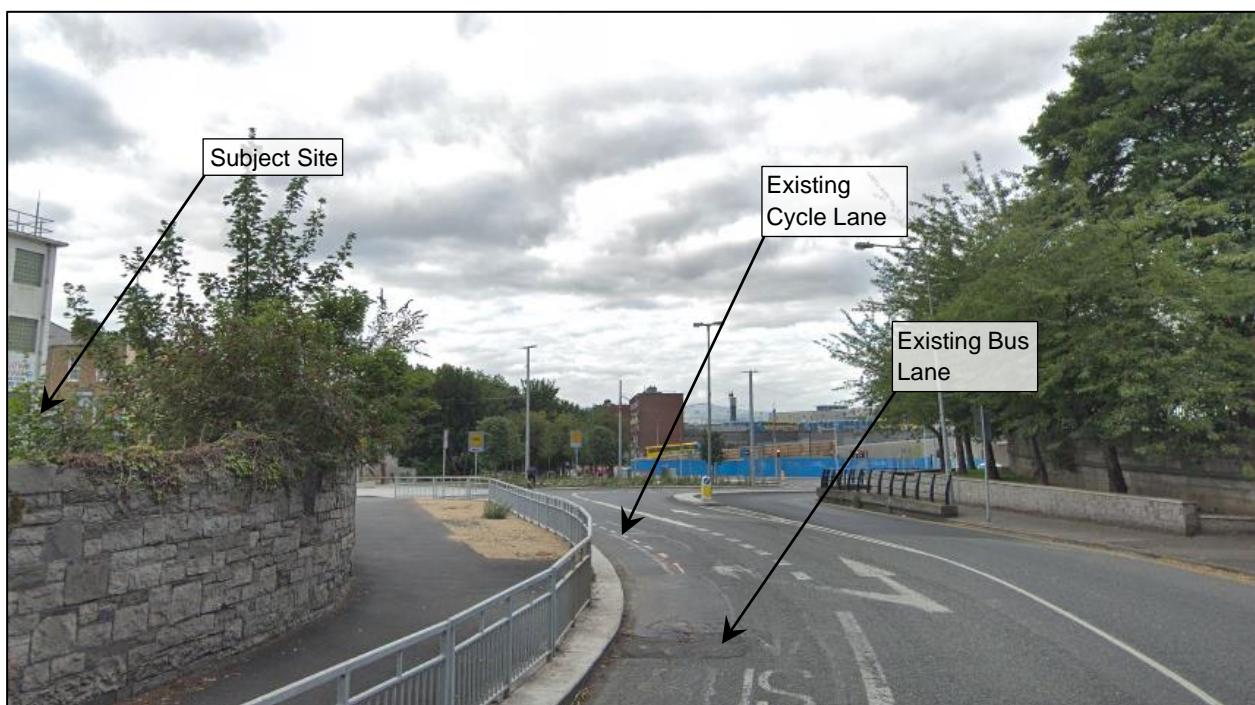


Figure 4 | Existing View on Western Way (R135) Facing South-West

The subject site falls within the extended Dublin City Centre 30 km/h speed limit zone introduced in March 2017. However, as an arterial road the R135 (Western Way) was excluded from the extended slow-zone and has a speed limit of 50 km/h.

2.2.2 Dominick Street Upper

Dominick Street Upper is a shared street, with the Luas Green Line running along its length alongside vehicular traffic. No westerly vehicular traffic is permitted on Dominick Street Upper beyond Mountjoy Street, approximately 150m south-east of the subject site. Traffic is permitted in an Easterly direction, with an access only slip-road from Western Way and with traffic entering from Palmerston Place. The existing site entrance is along the existing access only slip-road from Western Way, as shown in the figure below:

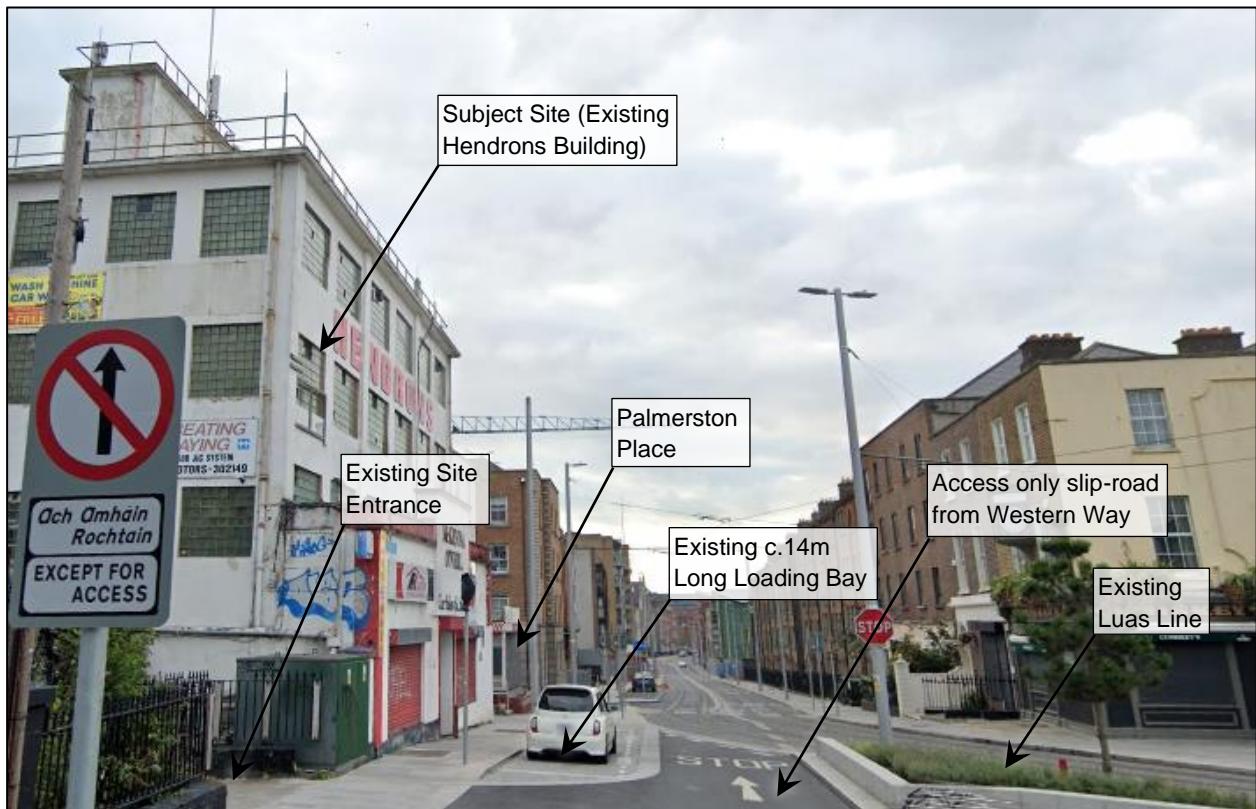


Figure 5 | Existing View on Dominick Street Upper Facing East

There is a loading bay on Dominick Street Upper spanning c. 14m adjacent to the existing Hendrons Building.

As noted above, the subject site falls within the extended Dublin City Centre 30 km/h speed limit zone introduced in March 2017, and as such the speed limit along Dominick Street Upper is 30 km/h.

2.2.3 Palmerston Place

Palmerston Place is a one-way residential street, accessed from Mountjoy Street to the east of the subject site. Traffic flows in a westerly direction along Mountjoy Street Middle before turning southwards on Palmerston Place. Traffic from Palmerston Place exits onto Dominick Street Upper, travelling in an easterly direction.



Figure 6 | Existing View on Palmerston Place Facing South

There is permit parking along both sides of Palmerston Place, with a c. 3m carriageway width between the on street parking spaces. The subject site has right-of-way access via a gated laneway which runs between the subject site and the adjacent residential unit to the north. This right-of-way laneway is accessed via Palmerston Place, as shown in the figure below:



Figure 7 | Existing View on Palmerston Place Facing South

2.3 Public Transport

2.3.1 Bus

Bus services in the area are delivered by Dublin Bus along Constitution Hill and R135 Western Way. The nearest bus stops are numbers 195 (northbound) and 190 (southbound) on Constitution Hill, located approximately 180m (2-minute walk) west of the proposed site entrance. The nearest bus stops on Western Way are numbers 191 (south/eastbound) and 194 (north/westbound), approximately 290m (4-minute walk) to the east of the site. A good standard of footpaths and pedestrian crossings are provided along the routes to the bus stops.

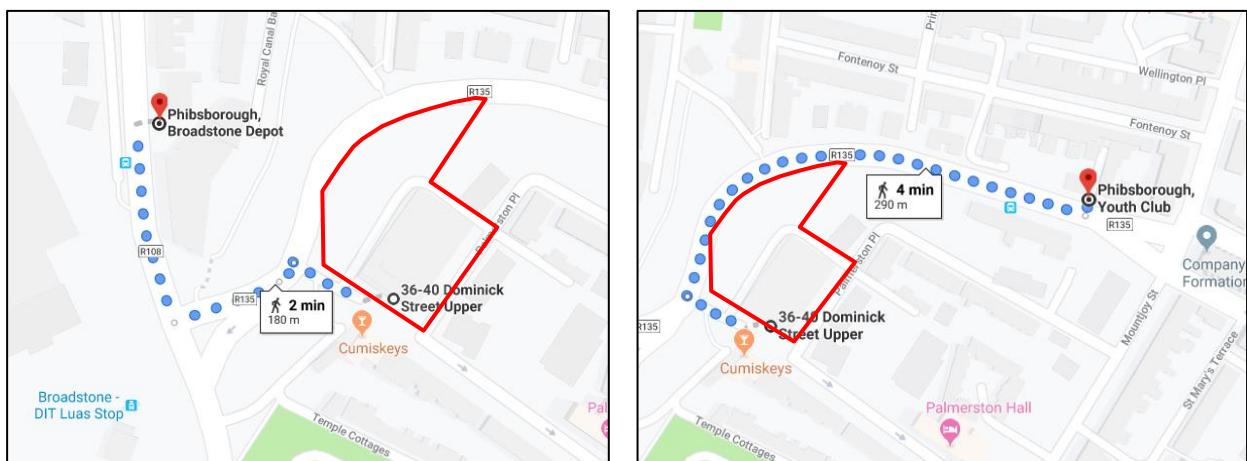


Figure 8 | Walking Routes from the Site Entrance to Nearest Bus Stops

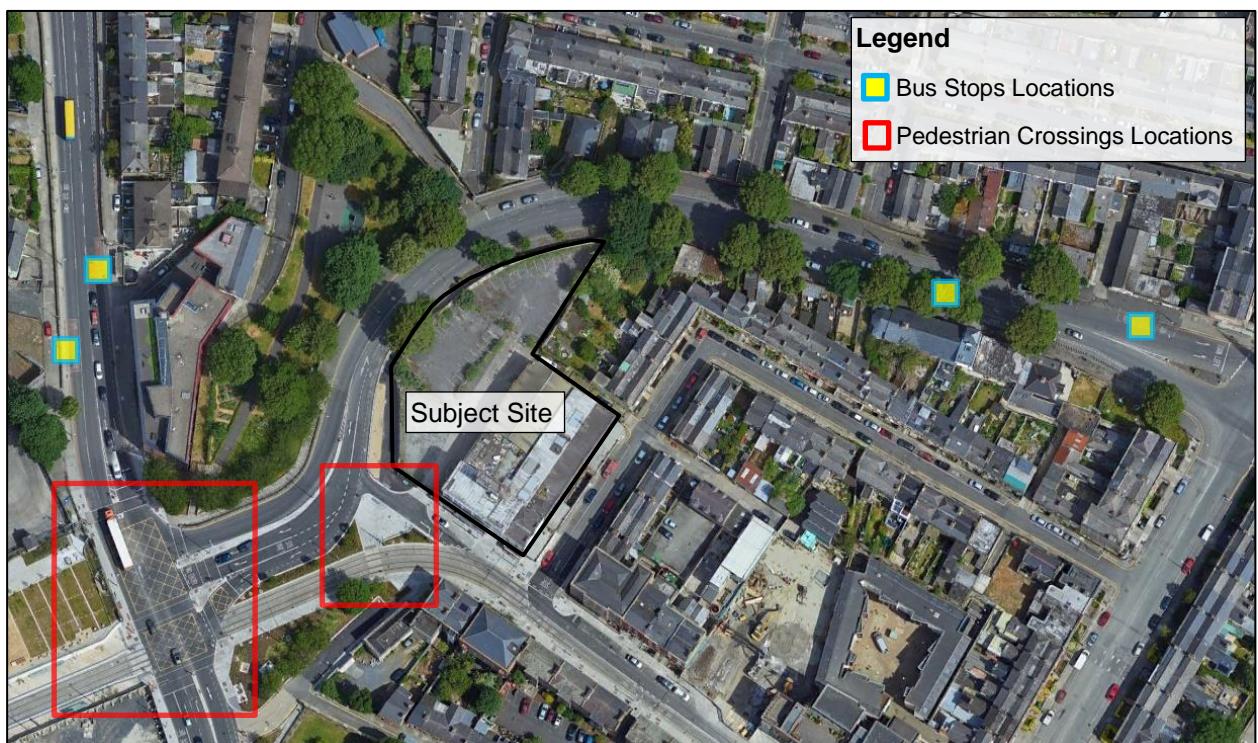


Figure 9 | Location of bus stops and pedestrian crossing facilities

A network of footpaths is provided on both sides of the Constitution Hill, R135 Western Way and Dominick Street Upper. There are dedicated pedestrian crossings facilities at all approaches of Constitution Hill/R135 Western Way signalised junction and at Dominick Street Upper. These pedestrian crossings include dropped kerbs and tactile paving facilities.

Stops 190 and 195 on Constitution Hill are served by bus route numbers 4, 9, 83, 83A, 140 and 155. Stops 191 and 194 on Western Way are served by bus route numbers 4, 9, 140 and 155. The following Table shows a summary of the routes servicing the subject bus stops:

Route	Destination	Frequency (Peak Hour)
4	<i>Harristown – Ballymun – Botanic Ave. – Phibsboro Shopping Centre – City Centre – Pembroke Rd. – Blackrock – Monkstown Ave.</i>	Every 12 minutes
9	<i>Charlestown – Beneavin Rd. – Botanic Rd. – O'Connell St. – South Circular Rd. – Limekiln Ave.</i>	Every 15 minutes
83	<i>Harristown – Glasanaon Rd. – Church St. – College St. – Lower Camden St. – Sundrive Rd. – Stannaway Ave.</i>	Every 15 minutes
83A	<i>83A is a variation of route 83 via Tolka Estate</i>	Hourly
140	<i>Ballymun (IKEA) – St. Margaret's Rd. – Finglas Rd. (Finglas Bypass) – Phibsboro – O'Connell St. – Rathmines (Palmerston Park)</i>	Every 10 minutes
155	<i>IKEA (Ballymun) – Ballymun Rd. – Botanic Ave. – Phibsboro Shopping Centre – O'Connell St. – Donnybrook – Cabinteely – Bray Rail Station</i>	Every 20 minutes

Table 1 | Local Bus Services

These routes provide a good level of bus service linking the development to the surrounding areas.

2.3.2 Luas

The subject site is located adjacent to the Luas Green Line, which travels North-South from Broombridge towards Brides Glen providing access to Dublin City Centre, Trinity College Dublin and Sandyford Business Park in addition to other destinations along its route (refer to Figure 10, overleaf).

The closest Luas station (Broadstone – DIT) is located approximately 110m (2-minute walk) west of the subject site. Upon completion of the ongoing construction works at the TU Dublin Grangegorman campus, this Luas stop will be the main stop for the Grangegorman campus.

During the weekday (Monday to Friday), the operating hours of Broadstone – DIT station are as follows:

- Southbound: starts at 05:37 AM and ends at 00:24 AM.
- Northbound: starts at 05:42 AM and ends at 00:56 AM.

During the weekends and bank holidays, the operating hours are slightly reduced.

The Table below lists the frequency with which the LUAS Green Line operates.

Monday to Friday		Saturday		Sunday & Bank Holidays	
Time	Frequency (Minutes)	Time	Frequency (Minutes)	Time	Frequency (Minutes)
06:10 – 07:00	12 to 26	06:38 – 10:00	15 to 22	07:08 – 12:00	14 to 34
07:00 – 10:00	3 to 18	10:00 – 16:00	13 to 15	12:00 – 19:00	24
10:00 – 16:00	6 to 24	16:00 – 19:00	14	19:00 – 23:55	12 to 24
16:00 – 19:00	8 to 16	19:00 – 00:55	7 to 15	-	-
19:00 – 00:55	6 to 11	-	-	-	-

Table 2 | Luas Service Frequency

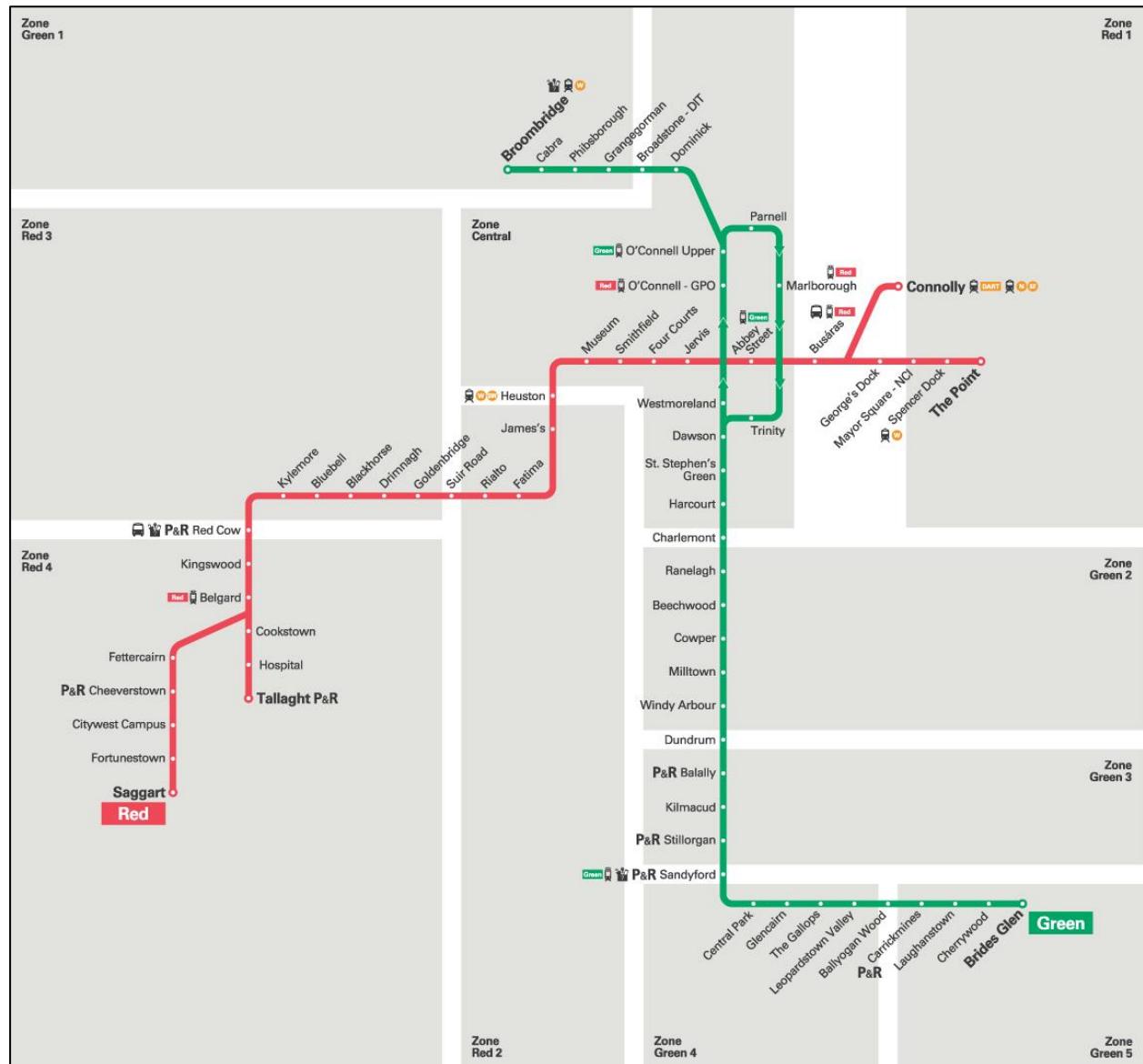


Figure 10 | Luas Green and Red Line Stations (source: www.luas.ie)

2.3.3 Rail

The area is not directly served by rail transportation. The closest station to the site is Broombridge Station which provides access to commuter rail and other Irish Rail services. Broombridge Station can be accessed via the Green Luas line. The journey from the subject site to Broombridge Station takes approximately 10 minutes by Luas (4 stops).

2.4 Cycle Facilities

Cyclists benefit from the provision of cycle lanes directly adjacent to bus lanes along both sides of the carriageway on Constitution Hill and on the south side of the R135 Western Way along the site frontage.

Cyclists further benefit from the provision of a Dublin Bikes Station with 30 bicycle stands immediately outside the development entrance (Station No. 116).

There are two additional Dublin Bike Stations within a 4-minute walk of the site, with provision for 40 bicycles at each station. These stations are:

- Station No. 110: located northwest of the subject site on the Constitution Hill, approximately 300 metres or a 4-minute walk from the development.
- Station No. 102: located east of the subject site on the R135 Western Way, approximately 300 metres or a 4-minute walk from the development.

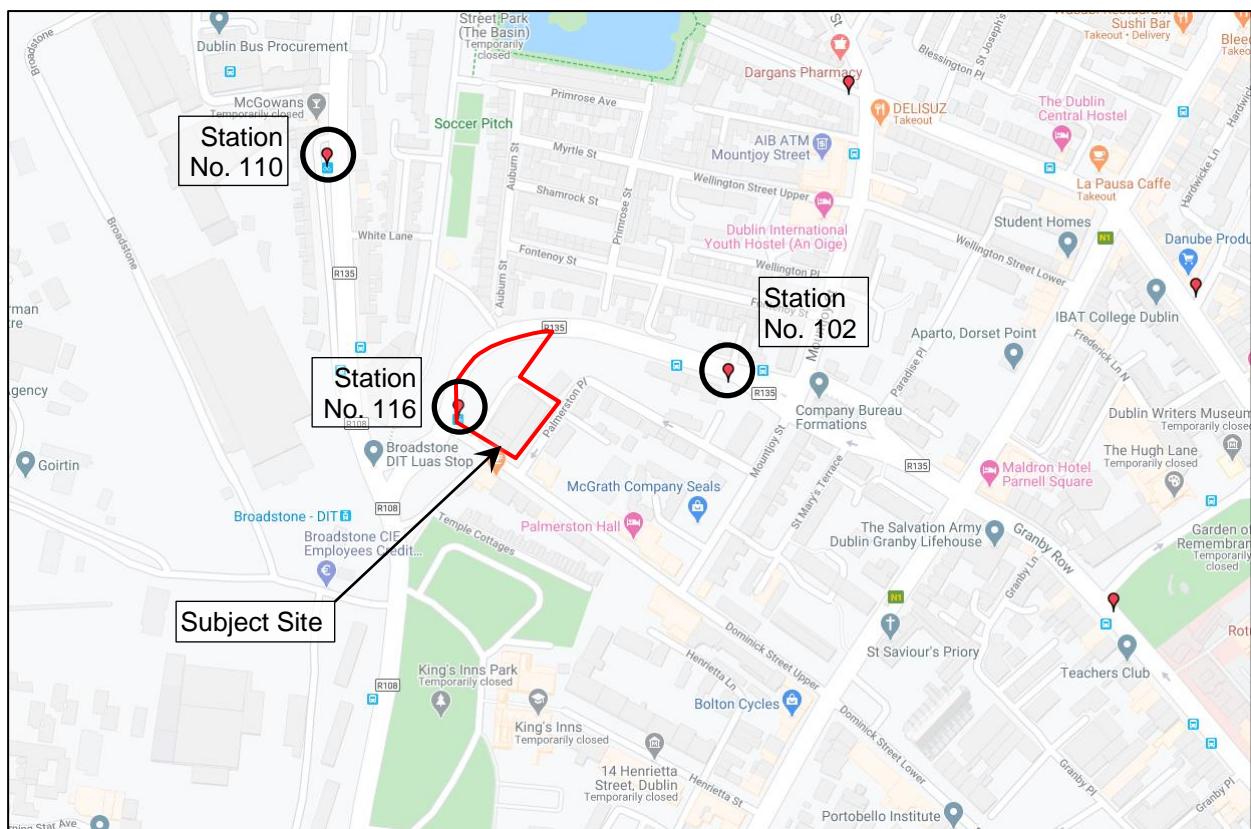


Figure 11 | Dublin Bikes Station Map (Source: www.dublinbikes.ie)

2.5 Pedestrian Facilities

A network of footpaths is provided on both sides of Constitution Hill (R108), Western Way (R135) and Dominick Street Upper.

The signalised Constitution Hill/Western Way junction includes signalised pedestrian crossings at all approaches. There is a non-signalised pedestrian crossing on Dominick Street Upper adjacent to the subject site. These pedestrian crossings include dropped kerbs and tactile paving facilities.

Safety railings are provided along the footpaths on both sides of Western Way approaching the junction with Constitution Hill.

2.6 Summary

In summary, the site is well located to provide non-car access for residents, staff and visitors of the proposed development with good local walk-in access from the local catchment.

Public transport services are available directly adjacent to the site, or within reasonable walking distance for commuters to travel to/from the proposed development.

2.7 Road Safety Data

A review of the Road Safety Authority (RSA) traffic collision database has been undertaken for the road network in the vicinity of the proposed site to identify any collision trends. This review will assist to identify any potential safety concerns in relation to the existing road network.

Traffic collision data was obtained for the period 2005-2015, which is the most recent data available from the RSA website. These incidents are categorised into class of severity, which includes minor, serious, or fatal collisions. The analysis is shown in the Figure below:

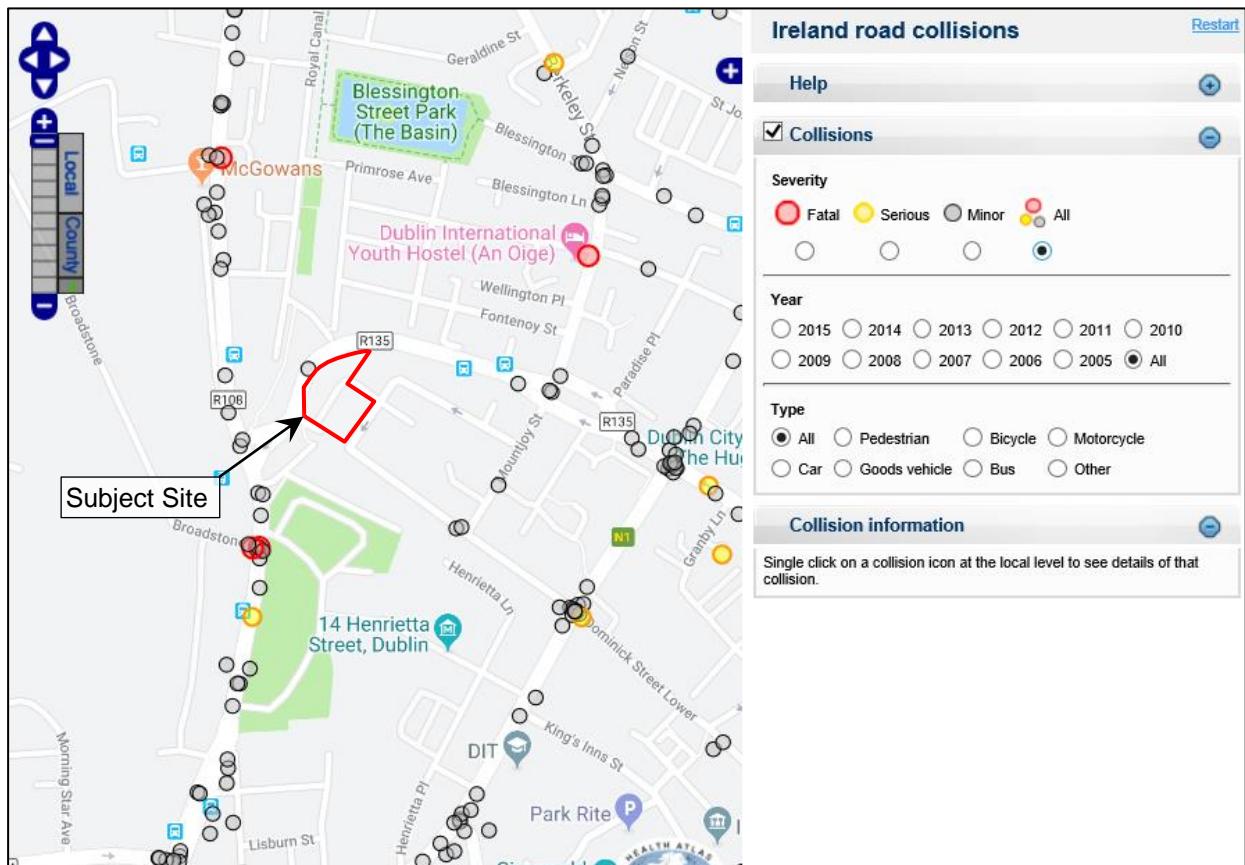


Figure 12 | Ireland Road Collisions (source: RSA)

The results of the analysis identified several minors, one serious and three fatal incidents occurring on Constitution Hill in the vicinity of the proposed development. It was also recorded one minor collision on the R135 Western Way along the proposed site frontage. These incidents involved cars, motorcycles, buses, good vehicles, cyclists, pedestrians and others.

The proposed development will increase the number of pedestrians and cyclists in the surrounding area which could possibly increase the number of incidents. However, the area is well signalised and with good provision of safety measures, such as safety railings on the footpath, warning signs for cyclists and signalised pedestrian crossings.

2.8 Future Infrastructure Works

The National Transport Authority (NTA) is making numerous improvements to the transport services within the Greater Dublin Area to provide more sustainable travel options and reduce dependence on private cars. Major schemes in the vicinity of the subject site include:

- BusConnects
- MetroLink
- Cycle Network Plan for the Greater Dublin Area
- Smarter Travel Campus

2.8.1 Bus Connects

BusConnects is a public transport project intended to improve and upgrade the existing bus network. It comprises the re-organization of existing bus routes into seven Spines and a series of Orbital Routes, delivering 230km of dedicated bus lanes and 200km of cycle tracks along sixteen of the busiest corridors in Dublin.

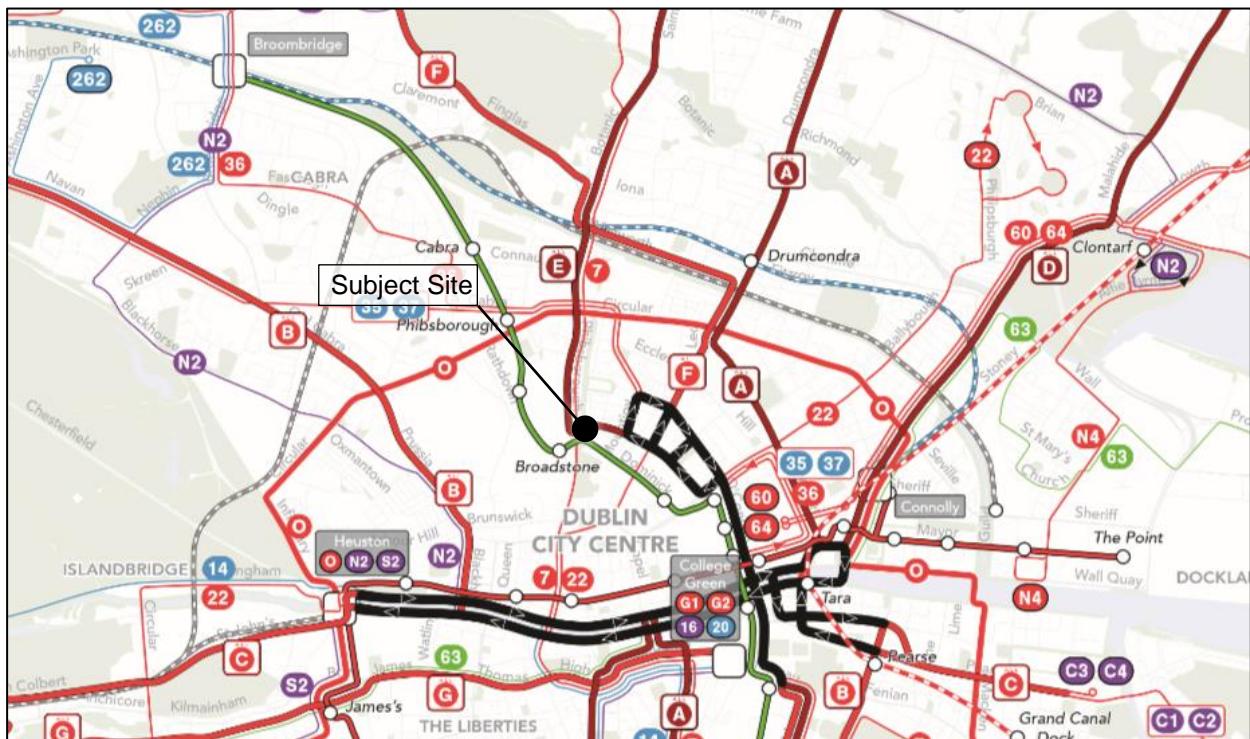


Figure 13 | Bus Connects Proposed Infrastructure (source: www.busconnects.ie)

The proposed development is located immediately adjacent to the Spine E and the Orbital Route 7 (refer to the Figure above). Spine E is a high frequency spine from Ballymun Road to the City Centre and Stillorgan, running every 5 minutes during the day and more frequently during peak hours. Orbital Route 7 is a high frequency route from Charlestown to the City Centre and Dun Laoghaire, running every 10 minutes during the day and every 8 minutes during peak hours.

It is estimated that the BusConnects scheme will improve current journey times to the city centre by 40% to 50% and mitigate against any future increase in journey times. The improved journey time to the city centre will encourage a greater modal shift towards the bus and bike.

The Figure below shows an extract of the road layout of the Constitution Hill / Dominick Upper Street signalised junction following implementation of the proposed scheme.

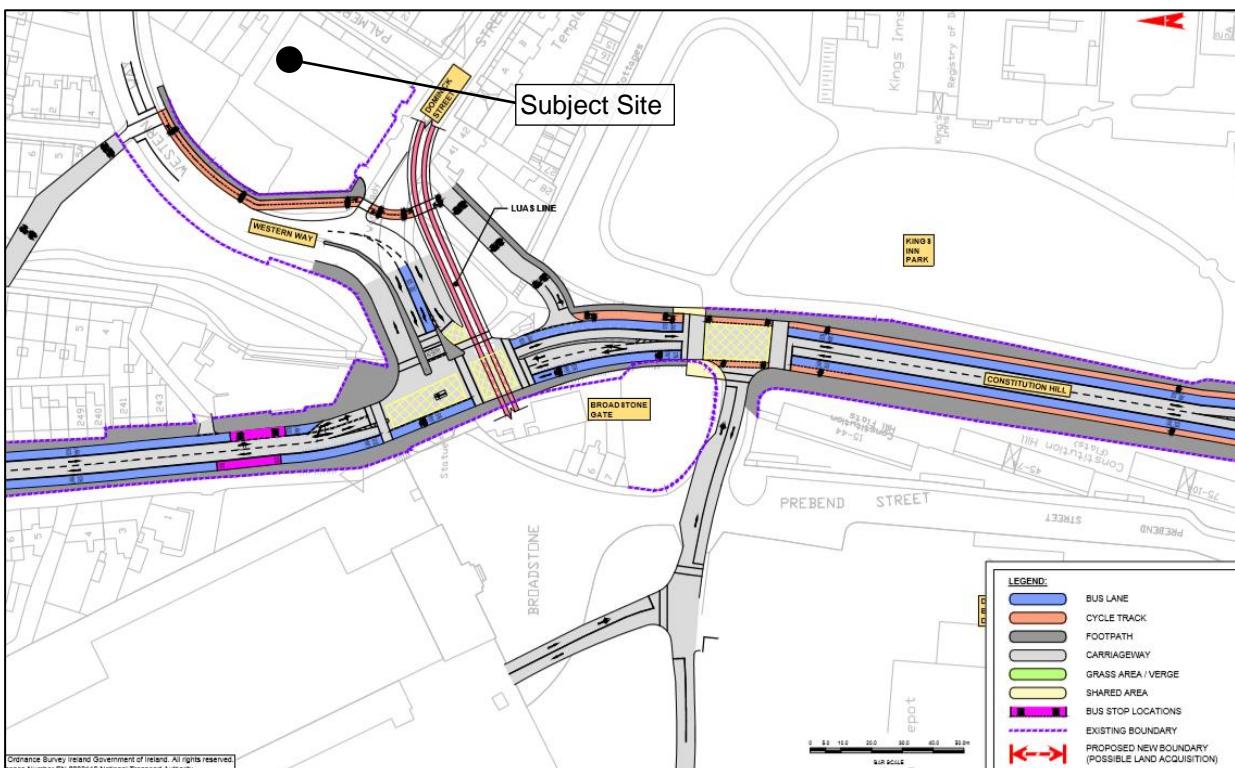


Figure 14 | Bus Connects Proposed Infrastructure (source: www.busconnects.ie)

2.8.2 MetroLink

MetroLink is a proposed high-capacity, high-frequency rail line running from Swords to Charlemont, linking Dublin Airport, Iarnród Éireann, Dart, Dublin Bus and Luas services. MetroLink will carry up to 50 million passengers annually, cutting journey times from Swords to the city centre to 25 minutes.

The preferred route for MetroLink is currently undergoing consultation and an application for planning approval for the MetroLink Scheme is expected to be made to An Bord Pleanála in 2020. It is anticipated that the construction period would be about six years and that the Metrolink service would be operational by 2027.

The proposed Mater station is projected to be located approximately 750m (10-minute walk) north-east of the subject site. It is envisaged that the introduction of the MetroLink will see a significant modal shift towards public transport.

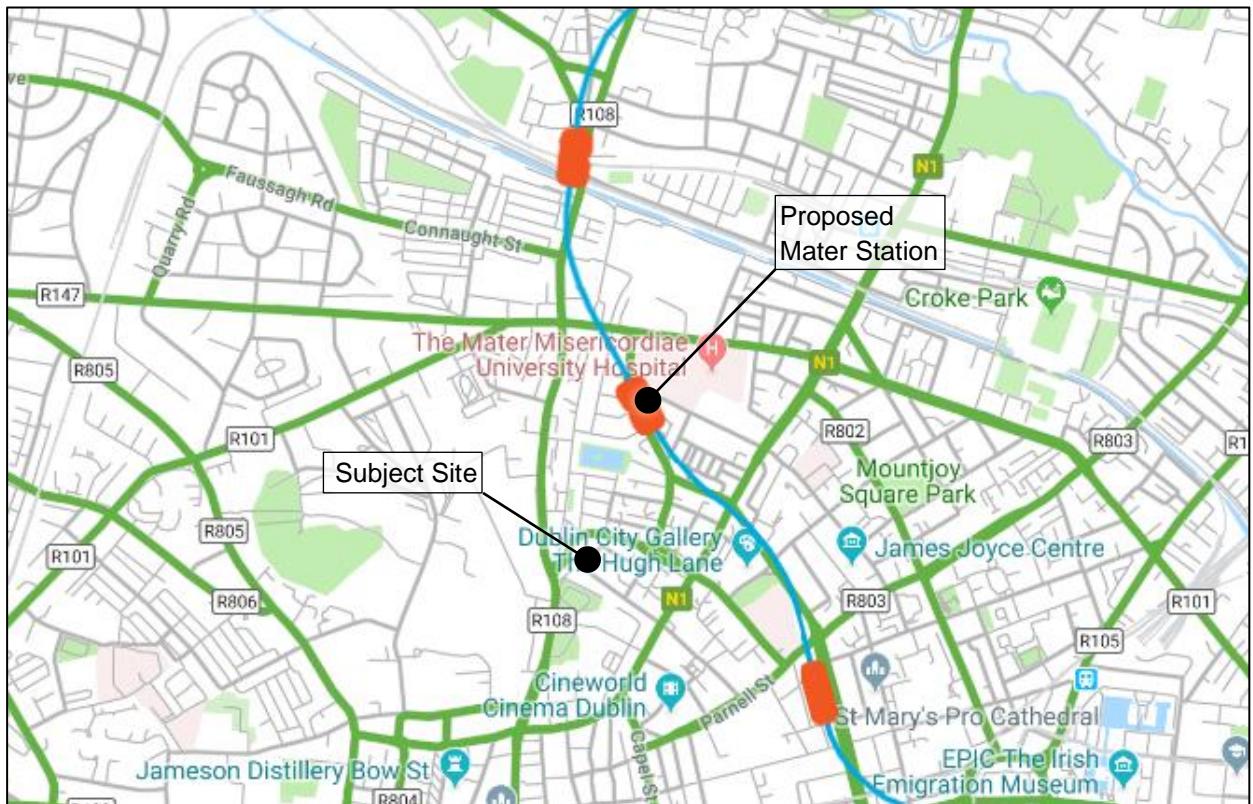


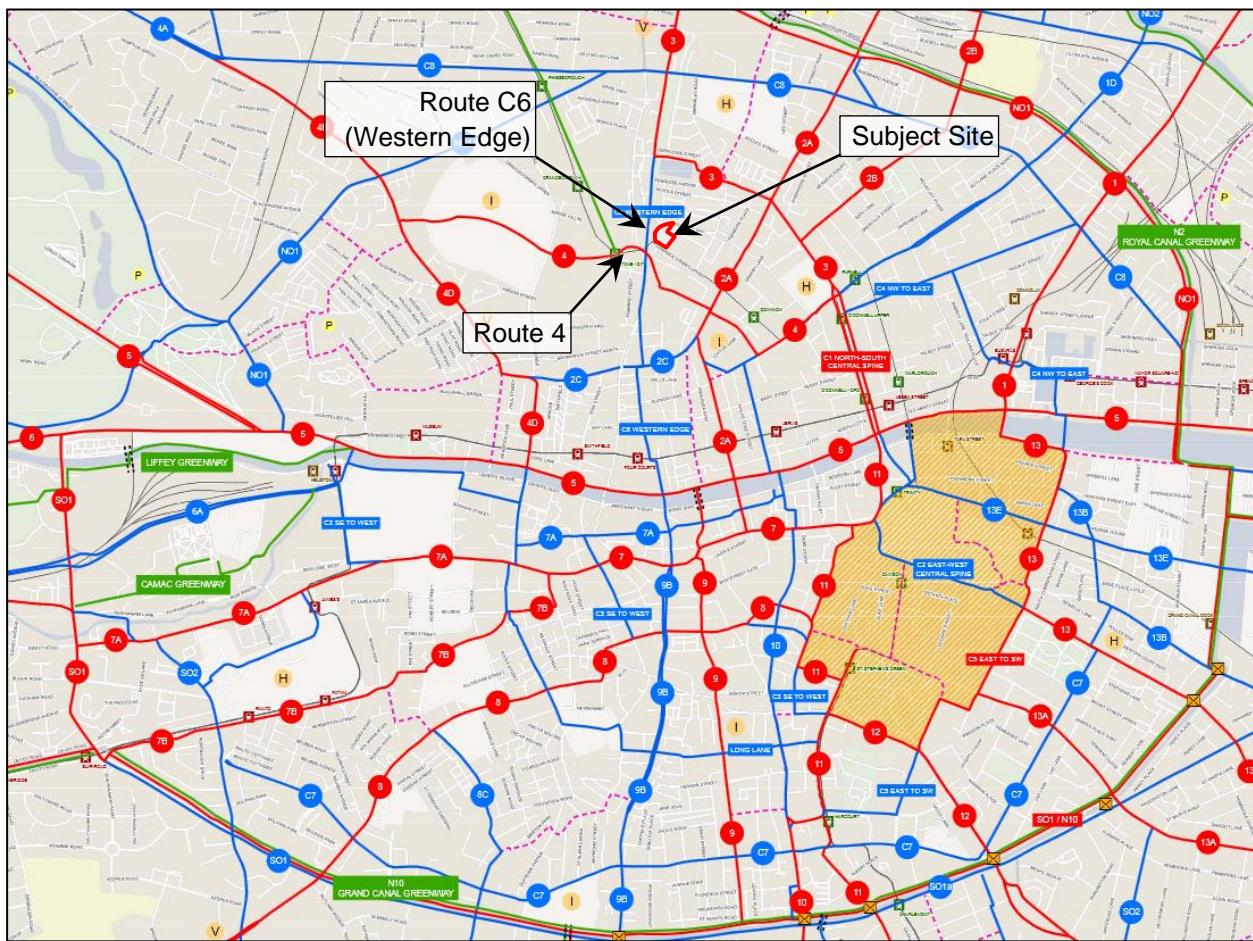
Figure 15 | Location of Mater Station & Proposed MetroLink Route (source: www.metrolink.ie)

2.8.3 Cycle Network Plan for the Greater Dublin Area

In accordance with the National Transport Authority's Cycle Network Plan for the Greater Dublin Area, it is proposed to upgrade the cycle facilities in the Greater Dublin Area. This plan includes provision for several routes in the vicinity of the subject site, with Route 4 and Route C6 (Western Edge) in close proximity to the development – refer to the Figure below.

- Route 4: A Primary Radial Cycle Route in the Dublin City Centre Sector, between Navan Road and O'Connell Street.
- Route C6 (Western Edge): A Linking Cycle Route in the Dublin City Centre Sector, incorporating Radial Route 9 from Harold's Cross and continuing north to incorporate Route 3 to Broadstone.

The proposed cycle network is highly interconnected, providing cycle facilities throughout the Greater Dublin Area and providing links from the subject development to destinations throughout Dublin.



3. Proposed Development

3.1 General

The proposed development comprises demolition of the existing warehouse buildings and no. 36 Dominick Street Upper and retention of the Hendrons Building as part of an overall redevelopment of the site to accommodate a build-to-rent shared living scheme and publicly accessible neighbourhood uses (including café/shop, gym and yoga studios). The scheme will include; 280 no. shared living rooms (281 no. bed-spaces), internal and external amenity space over 5 no. blocks ranging in height from 5 no. storeys to 9 no. storeys, secure bicycle parking, site-wide landscaping, ESB substation and switch-room and site development works all on the 0.3285 hectare site.

3.2 Car Parking

Table 16.1 of the Dublin City Development Plan 2016-2022 (DCDP) sets out the car parking requirements for various types of development, depending on the Area/Zone the development falls within. The subject site is within Area/Zone 2, as illustrated in Map J of the DCDP, extracted in the Figure below:

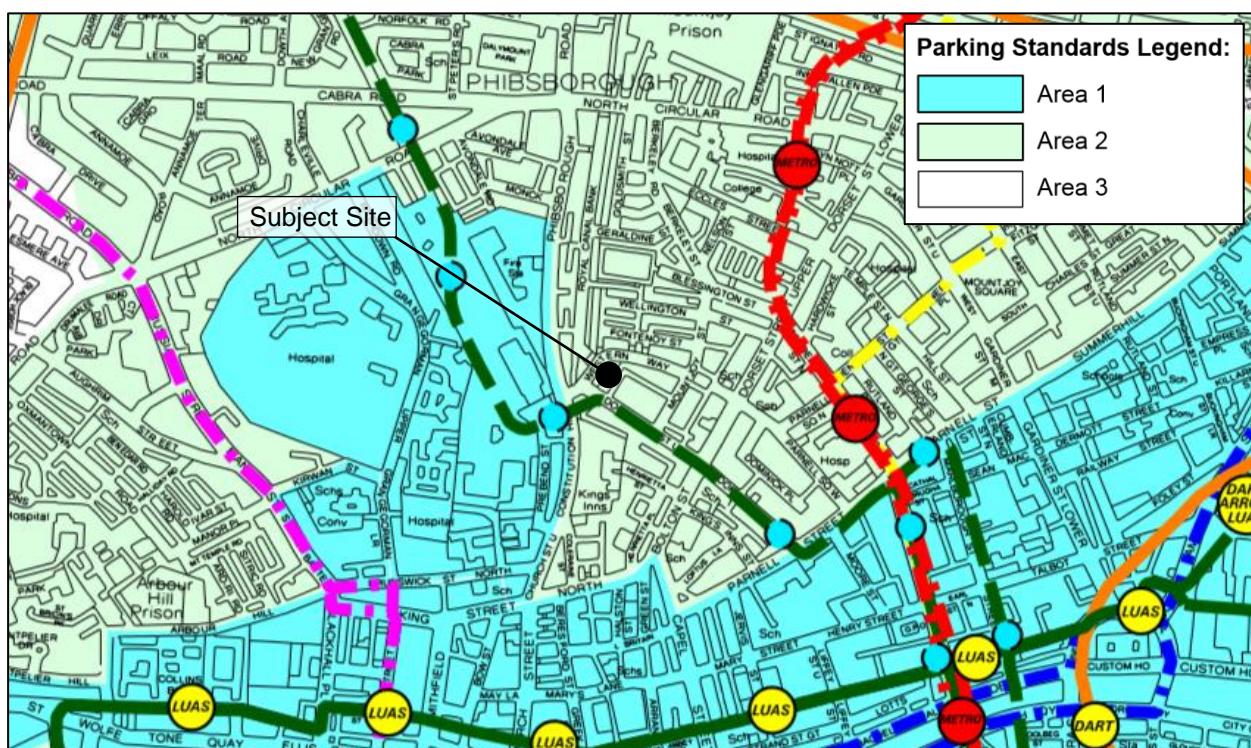


Figure 17 | Extract from Map J within Dublin City Development Plan 2016-2022

The Table below presents the car parking requirements for any purpose built residential institution located in Zone 2:

Land Use	Area/Zone	DCDP Standards	Maximum Spaces Required	Spaces Provided
Shared Living Development (280 units)	2	1 per 20 bed-spaces	14	0

Table 3 | General Maximum Car Parking Standards

As shown above, DCDP permits a maximum of 14 car parking spaces for the proposed 280 unit shared living development, with no minimum requirement established in the plan. The proposed development has no provision for car parking spaces on site.

The rationale for providing no car parking spaces is set out below:

Proximity to High Frequency Bus Service:

The proposed development is immediately adjacent to a bus corridor with a high frequency of bus services running during the entire day.

Proximity to High Frequency Tram Service:

The proposed development is immediately adjacent to the Luas Green Line with a high frequency of tram services running during the entire day. The development is within a 2-minute walk of the Broadstone – DIT Luas Station.

Cycle Facilities:

The proposed development will provide 144 no. cycle parking spaces, 31 no. electric vehicle spaces and 3 no. motorcycle parking spaces, as set out in Sections 3.3 and 3.4 below. In addition, there is a 30-space Dublin Bike Station immediately outside the entrance to the development and there are two additional 40-space Dublin Bike Stations each located within 300m of the site (a c. 4-minute walk).

Dublin City Centre is readily accessible from the proposed development by bike. The cycling time to O'Connell bridge from the proposed development is approximately 8 minutes.

Cycle infrastructure in the area is of good quality, with dedicated cycle lanes along Constitution Hill to the south of the development.

3.3 Motorcycle Parking

Three motorcycle parking spaces are proposed at the west of the building, adjacent to the proposed refuse room access ramp. The motorcycle parking spaces have a canopy above to shelter motorcycles from the elements.

3.4 Cycle Parking

An Bord Pleanála provided feedback in response to the pre-application submission made for the subject development. This opinion from An Bord Pleanála listed several specific items of information that should be submitted with any application for permission. Item 9 related to the provision of cycle parking, as follows:

9. *A rationale for the extent of bicycle parking provision and provision for motorcycle parking within the site, which should also address potential expansion to meet increased demand over time.*

This section of the report addresses the rationale for the extent of bicycle parking provision within the site, motorcycle parking within the site, and the potential for the expansion of the cycle parking to meet increased demand over time.

Table 16.2 of the Dublin City Development Plan 2016-2022 sets out the cycle parking requirements for various types of developments. However, no cycle parking requirements are given for shared living developments. The cycle parking requirements for the most similar type of residential development is presented in the table, as shown in the extract overleaf, and has been used to determine the appropriate ratio of cycle parking for the proposed shared living scheme:

Land Use	Area/Zone	DCDP Standards
Residential (houses and apartments)	All zones	1 per unit (<i>Additional requirements for larger units and visitor parking will be decided on a case by case basis</i>)
Student Accommodation	All zones	1 per 2 pupils

Table 4 | General Cycle Parking Standards

Typical housing and apartment developments include primarily 2-bed and 3-bed units, with some 1-bed and 4+ bed units. On that basis, it can conservatively be assumed that the requirement of 1 cycle parking space per residential unit equates to 1 or fewer spaces for every 2 residents (rate of 50%). Similarly, the requirement for student accommodation, which often comprises of single occupancy units similar to the proposed shared living development, is 1 cycle parking space for every 2 residents.

On that basis, it is proposed to provide a total of 175 no. cycle parking (both push-bike and electric bike) spaces for the proposed development. This figure is provided by provision of 112 no. indoor bicycle parking spaces in double racks, located in a bicycle storeroom accessed directly from the courtyard. There are an additional 32 no. bicycle spaces located adjacent to the ESB and switch room at the north of the site, with a canopy above, for a total of 144 no. bicycle spaces.

In addition to these bicycle parking spaces, there are 31 electric vehicle spaces provided within the bicycle storeroom, for Electric Scooters and similar small personal vehicles.

The proposed bicycle storeroom also includes 1 no. bicycle repair station. This quantum of bicycle parking equates to 1 no. space for every 1.6 no. units, or a percentage ratio of 62.5%, well in excess of the recommended rate of c.50%.

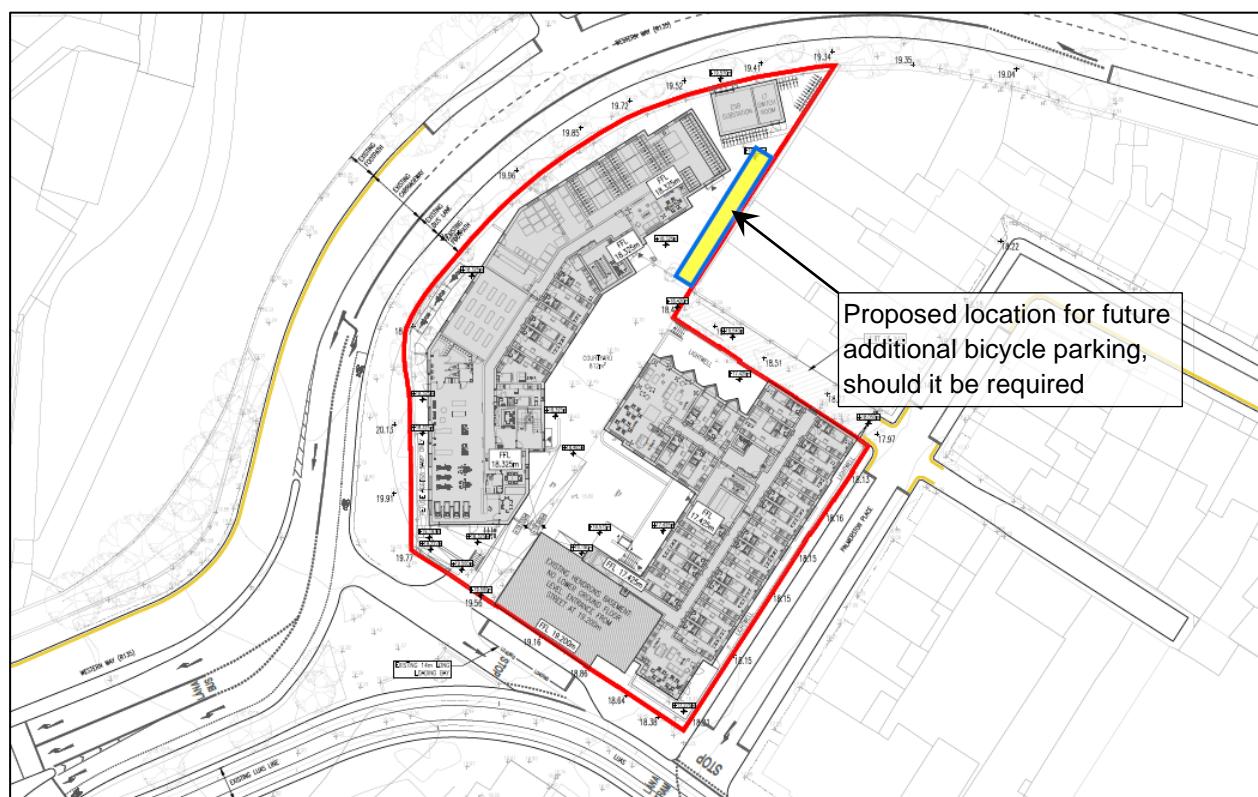


Figure 18 | Location for Future Additional Cycle Parking

As previously noted, there is also the potential to provide additional cycle parking spaces within the courtyard should the demand increase over time. Provision of additional cycle parking racks in the courtyard would be at the discretion of the management/operator. The Figure above shows the proposed location where additional cycle racks could be provided in the future should there be a demand for additional spaces. There is sufficient space at this location for an additional 30 bicycle parking spaces, to be interspersed between the landscaped trees. This is proposed to be retained as an aspect of visual and floral amenity as part of the development, and also to continue to provide privacy to the neighbouring residential units.

This potential expansion would raise the total number of bicycle parking spaces to 205 (1 space per 1.37 units, or a percentage ratio of 73%).

In addition to the proposed cycle parking spaces, there is a Dublin Bikes Station with 30 bicycle stands immediately outside the development entrance (Station No. 116), and there are two additional Dublin Bike Stations in close proximity to the site, both approximately 300m away (which equates to a c. 4-minute walk) and both with 40 bicycle stands: Station No. 110, located north-west of the subject site on Constitution Hill, and Station No. 102, located east of the subject site on Western Way – refer to Section 2.4 above.

3.5 Site Access

The primary access for all residents and staff will be from Dominick Street Upper via a gated access to the courtyard. The bicycle storage room can be accessed directly from the courtyard.

Most of the building entrances are located in the courtyard. However, an entrance is provided directly from Dominick Street Upper to the publicly accessible portions of the development within the Hendrons building, and a secondary access onto Dominick Street is provided from the refuse store room for staff use only and from the bicycle store room for use as a fire/emergency exit only.

The right-of-way entrance onto Palmerston place is not intended to be actively used except for fire/emergency exit.

3.6 Service Deliveries and Collections

3.6.1 Constraints on Deliveries

Arising from the location of the proposed development, arrival and departure routes are necessarily affected by a number of factors including:

- Luas Green Line on Dominick Street Upper.
- One way circulation on many of the surrounding streets, including Palmerston Place and Dominick Street Upper.
- Narrow road widths on some of the surrounding road network, including Palmerston Place and the slip road from Western Way onto Dominick Street Upper.
- Tight turning radii on some of the surrounding road network, including from Palmerston Place onto Dominick Street Upper.

These constraints are addressed below.

3.6.2 Proposed Servicing

The development will include secure entrances which will require a fob or card to gain access thus ensuring that only authorised persons are on residence. The development will have staff on site 24 hours a day, 7 days a week, allowing for delivery and collection of parcels. An Post and other courier delivery services

may utilise the existing loading bay on Dominick Street Upper when making deliveries. Typical post and courier deliveries are expected to require only brief stoppages, with courier vans rarely stopping for more than c. 15 minutes.

Laundry will be done on site by residents in the laundry room which is provided as part of the proposed scheme. Deliveries for the proposed ancillary facilities and community rooms will be scheduled in advance and will be made via the existing loading bay.

Refuse vehicles will make regular collections. The proposed refuse room has an access ramp at the west of the site, for staff only, which bypasses the main entrance to the development. Refuse vehicles will pull into the loading bay to collect waste from the bins which will be brought out to the street via this ramp.

It is likely that the bulk of the service fleet will comprise vans of similar size to the Ford Transit. Refuse vehicles will be up to 11.2m long and c. 2.5m wide. A swept path analysis has been carried out to ensure large refuse vehicles can achieve the turning movements required onto Dominick Street Upper.

The estimated traffic movements for service deliveries and waste collection for the proposed development are tabulated below:

Description	Rate	Daily Movements
Postal Services	2 per day	2
Other Courier Services	4 per day	4
Refuse Collection		
<i>Dry Mix Recyclable</i>	6 per week	1
<i>Mixed Non-Recyclables</i>	6 per week	1
<i>Organic Waste</i>	6 per week	1
<i>Glass</i>	6 per week	1
Deliveries (ancillary facilities)	3 per day	3
Total	80-100 per week	13

Table 5 | Estimated Traffic Movements

3.6.3 Arrival and Departure Routes

Inbound delivery vehicles will arrive from Western Way, travelling from Mountjoy Street towards Constitution Hill, and taking the slip road onto Dominick Street Upper to access the existing loading bay in front of the existing Hendrons building.

Outbound vehicles will continue along Dominick Street Upper, turning back onto Mountjoy Street or continuing further towards Dorset Street Upper.

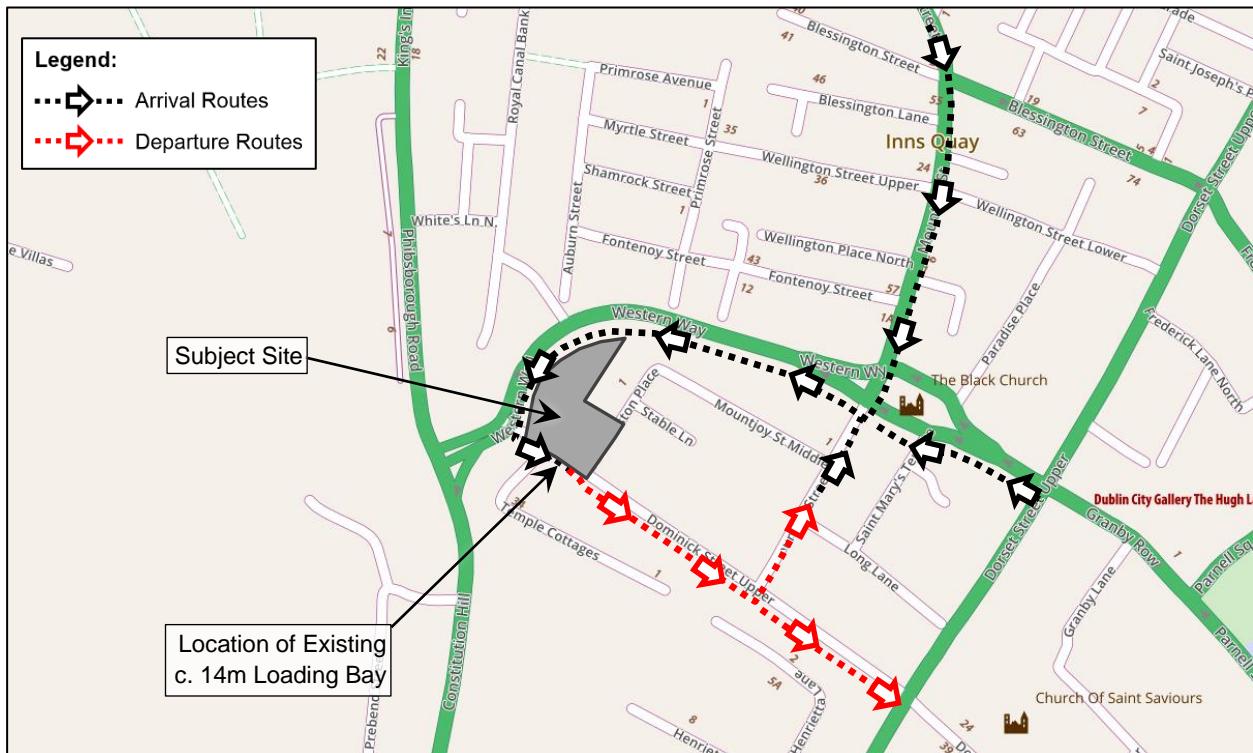


Figure 19 | Arrival and Departure Routes

These arrival and departure routes are primarily via arterial roads designed to accommodate large vehicles such as refuse vehicles. Dominick Street Upper is a local, less trafficked street, which road vehicles share with the Luas Green Line. As noted above, a swept path analysis has been carried out to ensure large refuse vehicles can achieve the turning movements required onto Dominick Street Upper.

3.6.4 Emergency Services

The development proposes no car parking at the site and does not allow for any residential parking at or near the premises. However, vehicular access is possible via the main entrance for emergency vehicles, with sufficient turning radius in the courtyard for fire tender.

3.7 Trip Generation

The methodology for assessing the transportation implications of this development involves quantifying the number and nature of trips that will be generated and reviewing these trips in the context of the prevailing conditions, the area of influence and the available infrastructure.

The nature of the development and its location relative to the catchment dictates that the predominant modes of travel to and from the site will be walking, cycling and public transport, particularly Luas and bus, based on the existing modal split and demographic of the end user. It is anticipated that the shared living development will typically act as the origin of trips rather than attracting trips from the potentially substantial catchment area.

Accordingly, the development will generate pedestrian and cycle trips that will need to be catered for in terms of access routes and internal design. Visitation will also include customers and visitors to the public amenity spaces, whose travel needs will also need to be catered for.

A significant factor in trip attraction, and hence the resultant impact, is the relationship between trips that would already be on the transportation network and those trips which would be newly generated by the

construction of the development in this location. Research into trips associated with commercial-based developments has been extensive, and in order to try to determine a realistic level of resultant impact the following classifications are adopted:

- **Primary New Trip:** A single-purpose trip (such as Residence → Work or Third Level Institution → Residence) that would not exist on the network prior to opening of the development.
- **Primary Transfer Trip:** An existing single-purpose trip to another destination (such as another similar development) that would transfer to the new development once it becomes operational.
- **Non-Primary Diverted Trip:** An existing multi-purpose (linked) trip that involves deviating from the normal route in order to visit the new development whilst on the way to another destination.
- **Non-Primary Pass-By Trip:** An existing multi-purpose (linked) trip that arises from visiting the new development without having to deviate significantly from the existing route being taken.

In essence, a Primary Trip is one which originates and ends at the same location with only one destination, but only a proportion of these are newly generated by the development. A Pass-By Trip doesn't result in any additional load to the impact area since it already exists on the network adjacent to the site.

It is reasonable that non-primary traffic should be taken into account and it is generally acknowledged in the field of transportation planning that a non-primary percentage in the region of 25% is representative for edge of town and out-of-town schemes adjacent to arterial routes. This figure increases relative to the level of public transport available, the availability of local walking/cycle facilities and the lack of car parking spaces.

3.8 Junction Assessment

The proposed development will not generate any car-based trips to/from the proposed development except those that already exist on the network. Accordingly, no junction assessment has been carried out.

3.9 Summary

In summary, it has been assumed that the proposed development will not generate any new primary trips to the local road network and any visitation will either be Non-Primary Diverted trips or Non-Primary Pass-By trips resulting in no uplift in traffic volume in the adjacent road network.

4. Travel Plan

4.1 Introduction

A Travel Plan has been prepared to provide guidance on how to create a positive atmosphere for residents, staff and visitors to the proposed development with regards to transportation and accessibility. The measures outlined in this plan have been devised to limit the impact of providing no car parking spaces to the development thus promoting non-car modal choice.

The Travel Plan looks to take advantage of future potential improvements in public transport provision over and above those currently in operation. In this context, the Travel Plan will set targets into the future which will be flexible and will be reflective of maximum achievable modal split at any time, dependent on actual public transportation provision and other facilities available.

This report is a statement of the broad objectives in respect of mobility management and modal shift for the proposed development. The plan sets out possible targets and objectives along with relevant actions, including both hard and soft measures, to support modal choice, which could be put in place to support the plan.

The findings of this Travel Plan are based on information available at the time of writing, including current road network and public transport provision. It should be noted that this plan should be subject to constant review and amended to suit the changing transport situation adjacent to the proposed development.

In summary, the applicant is committed to innovative mobility management measures that will be required for a zero car development.

4.2 Site Accessibility Audit

4.2.1 Overview

To fully appreciate the levels of public transport accessibility provided near the proposed site, representation of the catchment areas for existing transport infrastructure has been prepared. This procedure allows a picture to be developed which demonstrates the key areas which benefit from direct or semi-direct access to the site.

To achieve this, there are several catchment areas around the proposed development site and several public transport corridors have been assumed. Reference is made to the NTA (formerly DTO) publication "The Route to Sustainable Commuting" while making these assumptions. This document states 4km as being a reasonable distance for a commuter to walk to work and 10km for a commuter to cycle to work.

These figures represent the higher end of the scale regarding reasonable commuting distances. For this report a more conservative approach has been taken to determine the catchment areas around the proposed development and key public transport corridors. The catchment areas have been assumed where a high proportion of users within the catchment areas would see the corresponding form of transport as an attractive mode of travel:

- Direct bus route 500m catchment
- QBC Routes 700m catchment
- Rail 1,000m catchment
- Walking 2.5km catchment
- Cycling 5km catchment

4.2.2 AIRO/CSO Census 2016 National Mapping Viewer

This mapping application has been developed by the All-Island Research Observatory (AIRO) in conjunction with the Central Statistics Office (CSO).

AIRO is a research unit and interactive spatial data portal managed by the National Institute for Regional and Spatial Analysis (NIRSA) at NUI Maynooth. The main objective of AIRO is to improve evidence informed planning in Ireland.

4.2.3 Origin Destination Overview

The proposed development comprises a shared living scheme including neighbourhood uses. The scheme will include 280 no. bedrooms, 22 shared living kitchen and dining rooms, internal and external amenity space over 5 no. blocks ranging in height from 5 no. storeys to 9 no. storeys. It is anticipated that residents will comprise primarily of young professionals, coming from staff in the nearby hospitals, third level institutions, technology industries and nearby legal and financial services. The majority of the peak time trips to/from the development will be to/from the workplace.

4.2.4 Current Mobility Trends

The catchment area for the AIRO/CSO Census 2016 is shown in the Figure below. Data from this AIRO/CSO Census 2016 suggests that 30% of the Work/Education population within the study area use cars, 47% use all green modes (walking, cycling, etc) and 23% of the population use public transport as the predominant mode of transport. It should be noted, that while this survey data is the most recent available, it pre-dates the opening of the Luas green line extension which connected the Stephen's Green stop to the Luas red line, and extended out to Broombridge. This connection and extension, which passes adjacent to the site, opened to the public in 2017.

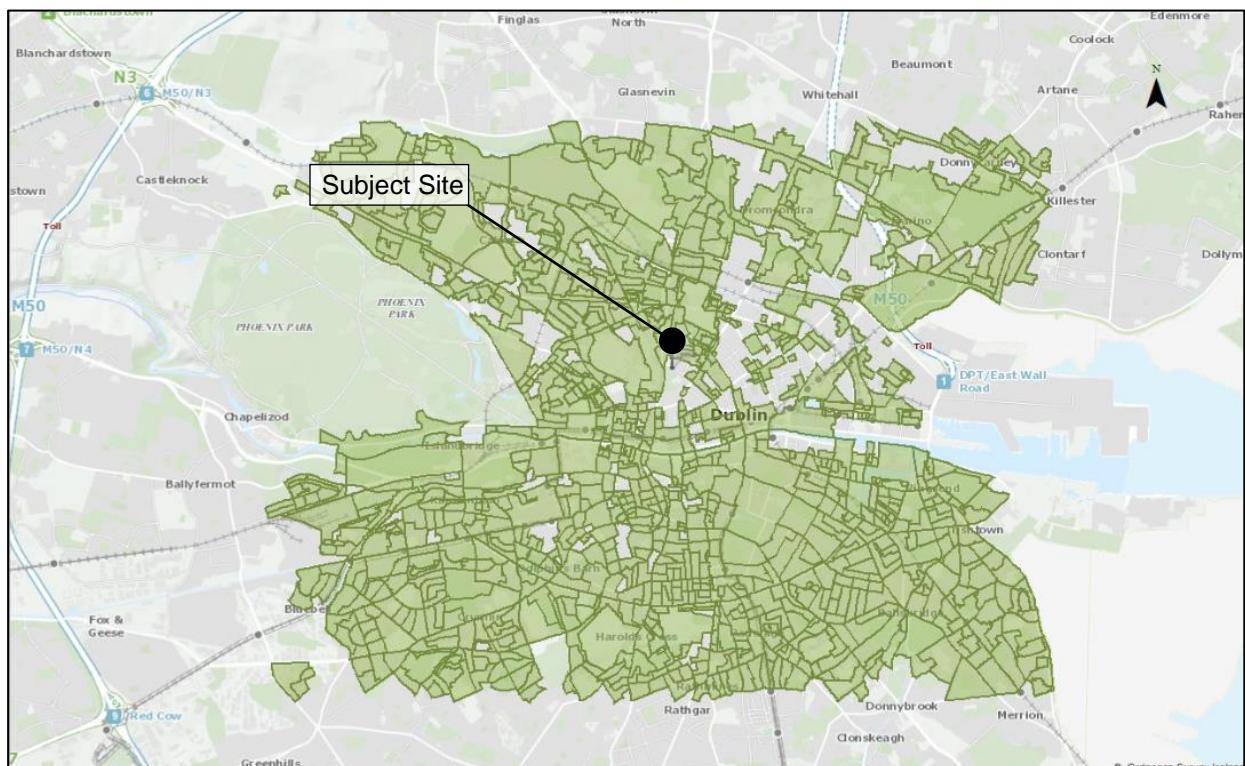


Figure 20 | Study Area – Transport Mode (Work/Education) Profile

4.2.5 Walking Accessibility

Many residential, commercial, retail and educational land uses fall within the 2.5km walking radius of the proposed site. Due to the nature of the proposed development it will benefit from the varied land uses within the locality – many residents will work and shop in the adjacent areas.

Developments and employment hubs such as Grafton Street, Jervis Shopping Centre, Temple Bar, St. Stephen's Green, Merrion Square, the IFSC, various legal offices, medical facilities including Temple Street, Rotunda Hospital and Mater Hospital, and colleges such as TU Dublin, Trinity College, and the Dublin Business School fall within the 2.5km walking radius of the proposed site: please refer to Figure 21 overleaf, & Table 6 below.

Table 6 shows extracted data of some of the above-mentioned hub locations for which the proposed development would be primely located to facilitate residential use of green/public transportation within a short distance as part of a daily commute.

Location	No. of Employees	Distance from Site	Transport Mode
IFSC	40,000	1.5km–2.5km	Public Transport (Luas)
Rotunda Hospital	1,000	0.5km	Walking
Mater Hospital	3,000	0.6km	Walking
TUD	3,000	0.3km	Walking
Trinity College	4,000	1.3km	Public Transport (Luas)
Legal services (various)	5,000	0.8km	Walking

Table 6 | Sample of Extracted Hub Location Data & Proximity to Proposed Development

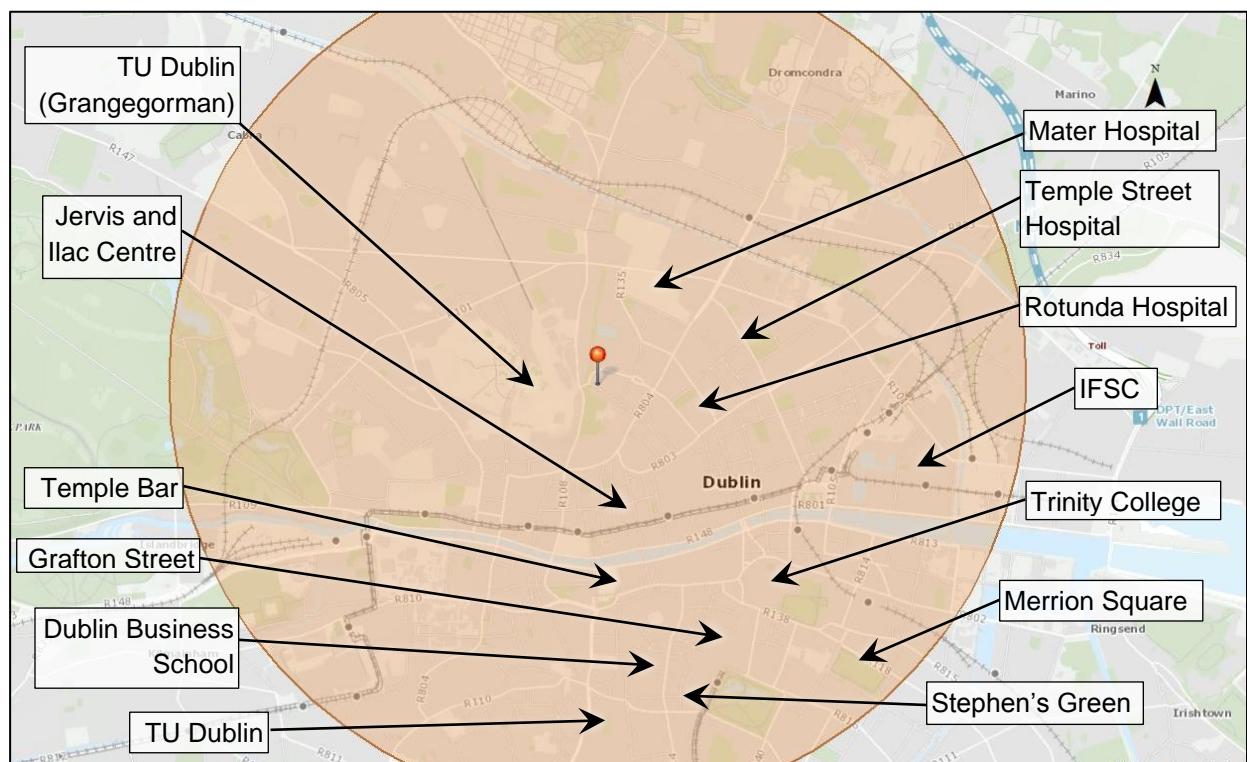


Figure 21 | Walking Accessibility – 2.5km Catchment

Residents will benefit from varied land uses within the potential walking catchment area, for which there are good pedestrian facilities provided on all main approaches.

4.2.6 Cycling Accessibility

A 5km radius for cycling shows that areas such as Harold's Cross, Rathmines, Drimnagh, Sandymount, Ballsbridge, Drumcondra and Ashtown are easily accessible by bike. It is noted that generally the surrounding topography of the City Centre is relatively flat and conducive for cycling for educational, work and pleasure trips.

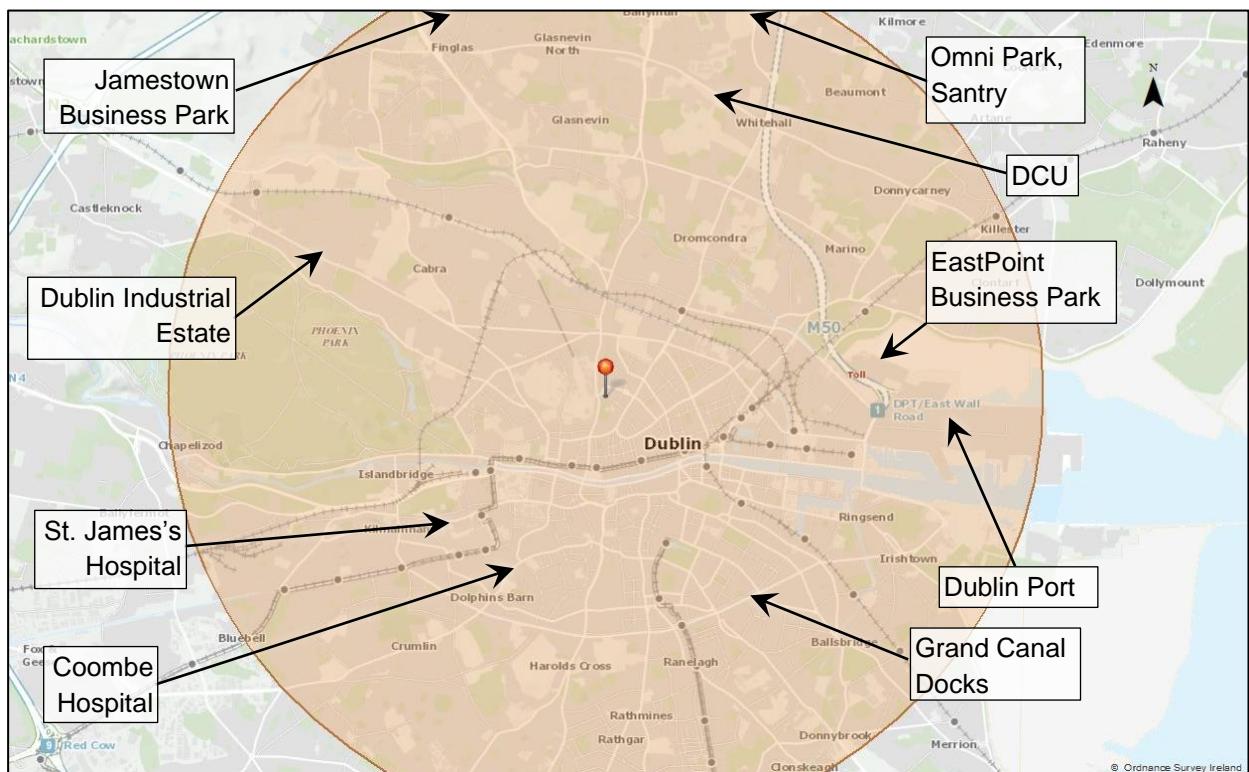


Figure 22 | Cycling Accessibility – 5.0km Catchment

The figure above demonstrates that travel by bicycle is a feasible option for a considerable number of residents, staff and visitors to/from the development. The provision of a high quality safe cycle environment surrounding the development and provision of a good standard of cycle parking and associated facilities will go a long way towards encouraging cycling as a realistic mode for many people making relatively short journeys.

4.2.7 Bus and Luas

There are many bus stops located within easy walking distance of the proposed development. In addition, the closest Luas Station (Broadstone – DIT) is located approximately 110m (2-minute walk) west from the subject site. Bus and Luas are options for commuters (residents, staff and visitors) traveling to/from the development. Further information regarding Bus and LUAS services are presented in Section 2 of this report.

4.2.8 Summary

Based on a review of the relevant catchments it has been demonstrated that the level of accessibility to the site by walking, cycling and public transport is good. The proposed development is within easy reach of many educational, residential, commercial and retail land uses.

The availability of the various land uses will fuel a high level of synergy between the development and these land uses. Many trips generated by the proposed development will have their destination within a reasonable walking and cycling distance of the surrounding education, commercial, and retail land uses. No car parking will be provided on site. Consequently, all the trips will be via walking, cycling or public transport, therefore avoiding the use of the private car as the dominant mode of transport.

4.3 Modal Split

Mobility management will be a key operational feature at the development, and the Travel Plan will be implemented on an ongoing basis.

The anticipated Modal Split is set out in the Table below:

Mode	Residents		Staff	
	% Share	Number of Residents	% Share	Number of Staff
Car - Driver	0%	0	0%	0
Car - Passenger	2%	6	0%	0
Train	0%	0	0%	0
Light Rail	28%	80	22%	2
Bus	11%	32	0%	0
Walk	23%	65	45%	4
Cycle	35%	98	33%	3
Total	100%	281	100%	9

Table 7 | Anticipated Modal Split for Residents and Staff with Mobility Management

With no provision for car parking on site, and no long-term parking available in the immediate vicinity, it's anticipated that neither residents nor staff commuting to and from the development will drive. However, a small number of residents may commute as passengers in private cars.

Given the site's close proximity to Dublin city centre, it is anticipated that walking and cycling will be the primary modes of travel for many residents travelling to and from the workplace. Public transport, particularly Luas and bus, are also expected to be the primary modes of transport used by a large proportion of residents for their daily commute.

4.4 Mobility Management Measures

4.4.1 Introduction

This chapter will outline the way forward in terms of improving accessibility as part of the construction of the proposed development. This discussion of relevant measures is based primarily on the results of the site audit and accessibility assessment undertaken as part of this report.

As part of this section, a reassessment of the site accessibility by public transport will be undertaken based on the mobility management measures which are outlined.

4.4.2 Approach

The approach to the development of an appropriate mobility management strategy is the employment of the well documented ‘Carrot and Stick’ approach. Such an approach tackles the modal choice dilemma from both ends. It utilises the ‘Carrot’ which incorporates the improvements in alternative modes of travel, effectively opening transport options for commuters. The ‘Stick’ approach then discourages the use of car for those that do not need it.

‘Carrot’ measures incorporate measures to facilitate public transport, car sharing, flexible travel times and an improvement of the walking and cycling environment. ‘Stick’ measures include car parking restraint and other fiscal measures. Both elements of this approach are required to achieve a successful result.

This is echoed in the UK Department of Transport document ‘Making Residential Travel Plans Work’. The key elements that form the Travel Plan Pyramid are expanded on below:

Promotional Strategy:

Welcome packs, public transport discounts and cycling incentives can all help introduce the travel plan to residents, staff and visitors to help build enthusiasm for the measures adopted.

Service & Facilities:

Good public transport and car clubs can help reduce the need for on-site parking. Other measures, such as broadband internet access and home deliveries can reduce the need to travel off site.

Coordinator:

Successful travel plans need people. The Coordinator plays a crucial role in developing the plan and working with staff, visitors to ensure the plan meets their needs for access and evolves over time.

Built Environment:

Low density developments are hard to get around by bike and foot. Encouraging compact development that is walking and cycling friendly, with low parking allowances, is crucial in encouraging sustainable travel choices.

Location:

Residents, staff and visitors need to be within easy reach of shops and services so that walking or cycling becomes the natural choice.

The Mobility Management Measures in this plan are addressed under the following headings:

- Mobility Management Coordinator
- Car Use – Car Clubs
- Public Transport – Bus Use
- Public Transport – Train Use
- Walking
- Cycling

4.4.3 Mobility Management Coordinator (MMC)

A Mobility Management Coordinator (MMC) will be appointed to promote all aspects of the Mobility Management Plan. The MMC will be involved at an early stage as the development becomes occupied to ensure an early uptake in Mobility Management Plan measures.

Below are the roles of the MMC. Each of these responsibilities will be discussed in greater detail in the following paragraphs.

- Promote and implement the recommendations of the Mobility Management Plan;
- Establish and manage a Car Club including coordination and marketing through various media (where applicable);
- Liaise with other MMCs in the area;
- Establish and liaise with local cycling and walking groups;
- Liaise with local staff groups, assess feedback and amend the Mobility Management Plan accordingly;
- Organise events to raise the profile of the Mobility Management Plan e.g. cycle to work day
- Liaise with relevant bodies including
 - Public transport operators
 - Dublin City Council
 - National Transport Office
 - Dublin Cycle Campaign

4.4.4 Car Use – Car Clubs

As there is no parking provided on site, the main focus for reducing the use of private cars will be promoting car clubs.

Car Clubs provide a ‘car on call’. Car clubs have developed as a modern service in many European cities and are a suitable alternative to high levels of private car ownership and ‘driver only’ occupancy rates. The principle of a car club is to ensure that the optimal use of a small number of vehicles to meet the needs of a wide group of people.

GoCar is the first Car sharing service in Ireland. It launched in Cork in September 2008, with the support of Cork City Council as a pilot scheme. Ireland's National Spatial Strategy has noted Car Sharing as one element of the strategy.

GoCar expanded to Dublin in September 2010 and is now in several locations in Dublin City Centre, with several bases having multiple vehicles. The nearest GoCar base is adjacent to the site on Palmerstown place.

The car club scheme will consist of promotional material to be produced by the MMC outlining methods for joining the car club and the associated benefits to users both financial and health. These benefits associated with car clubs include:

- Each car can be accessed by multiple drivers;
- Car Clubs reduce the requirement for private transport;
- Car Clubs will help reduce the number of cars in Dublin;

- The vehicles used by car clubs are newer than the average car, and therefore more environmentally friendly and safer.

International experience to date shows that healthy car clubs operate at a provision of 30 clients per car and every car can replace up to 6 private vehicles, significantly reducing the number of traffic movements.

4.4.5 Public Transport – Bus Use

Bus access has been shown to be good adjacent to the proposed development. Provision of a central information point showing all local bus routes and their timetables will be provided within the proposed development at strategic locations that will be accessible to residents, staff and visitors.

4.4.6 Public Transport – LUAS Use

LUAS access has been shown to be good adjacent to the proposed development. Provision of a central information point showing all local Luas stops and their timetables will be provided within the proposed development at strategic locations that will be accessible to residents, staff and visitors.

4.4.7 Walking

The pedestrian environment surrounding the proposed development has been demonstrated to be relatively good, with a safe system of footways within the locality and good pedestrian linkages connecting with bus stops, LUAS stops and nearby commercial, retail and residential areas.

Information on walking distances, journey times and optimal routes will be provided in a prominent area of the development. By doing so it will enable residents, staff and visitors to have a better perception of walking as a mode of travel to/from the site and inform residents, staff and visitors of more direct routes to/from the proposed development.

4.4.8 Cycling

Cycling could be a very successful means of reducing car use for staff, customers and residents travelling to local amenities and places of study/work that lie within the 5km catchment area. Cyclist safety is quite good on approaches to the development and has a significant catchment area as outlined in Section 4.2.6 of this report.

Information on cycle distances, journey times and optimal routes to local amenities will be provided in a prominent area of the development. By doing so it will enable residents, staff and visitors to have a better perception of cycling as a mode of travel to/from the site and inform residents, staff and visitors of more direct routes to/from the proposed development.

Sponsorship incentives, such as cycle to work day will be undertaken. This will encourage staff to learn more about the benefits of cycling and engage with cyclists who already cycle regularly.

The MMC will provide information through contact with the Dublin Cycling Campaign and other like-minded groups. Small scale maps of the areas will be developed showing radii of 5 km and 10 km. 5km is a distance that can be easily cycled in 30 minutes. Many people may be unaware that they are within a 30-minute cycling distance of their place of work/study.

4.4.9 Other Measures

The need to travel as part of the daily work routine is common to many. Many of these work-related trips are completed using the car. The Mobility Management Plan has proposed several initiatives to reduce the

number of these trips. An assessment of the post development travel patterns will take place within a twelve-month period of the development opening.

This will help assess the impact of the Mobility Management Plan proposals and allow for their tweaking if required. This will be to the benefit of the staff, residents, developer and Local Authority alike.

4.5 Adoption & Review

4.5.1 Introduction

To achieve the optimum efficiency from the Mobility Management Plan following adoption and implementation of the measures proposed, it is good practice that an assessment of the travel behaviour is undertaken to determine the travel patterns exhibited by residents, staff and visitors to the site.

This assessment would highlight any remaining problems that commuters are faced with on a day-to-day basis. It would also highlight any measures set out in the existing Mobility Management Plan which are not operating successfully, or those that are being under-utilized by commuters.

From the results of this assessment solutions can be developed to ensure capital spent by the staff on mobility management measures is being utilized to its optimum. This can be achieved by the redirection of funds from underutilized measures to measures which need more investment to cater for observed demand. The applicant will benefit by achieving the highest gains for their invested capital, while the Local Authority can be assured that the Mobility Management Plan is being implemented to its full potential.

The assessment would be a comprehensive exercise, requiring a programme of comprehensive data collection to establish existing transport provision, travel patterns and existing problems. For collection of such data, it is envisaged that both a questionnaire and a series of workshops would be necessary. This date would then be inputted into a suitable Geographical Information System (GIS) for analysis. The individual elements of this process are outlined below.

4.5.2 Overview

To develop a thorough understanding of the existing situation the best approach is generally to distribute (electronically or hardcopy) a questionnaire to a sample of users of the site, from which a database of existing travel behaviour can be compiled.

A questionnaire would be drafted for residents, staff and visitors of the development to enable the assessment to deal with the wide variation of typical working days and travel requirements of respondents.

Although the questionnaire would be specific to the proposed development, the following information would be pertinent:

- Place of work
- Start/Finish times
- Length of travel to/from work
- Usual mode of travel
- Frequency of travel by favoured mode
- Quality of facilities provided by favoured mode
- Information on any other mode of travel that is sometimes used
- Reasons why other modes are not used

- Information on parking for car drivers on site
- Information on parking for car drivers at work
- Information relating to car-pooling for car drivers and passengers
- Information on car reliance
- Suggestions on how travel choices could be improved
- Use of Tax Saver Scheme
- Use of Bike2Work Scheme
- Likely reaction to potential Mobility Management Plan measures

From these it is possible to calculate the existing modal share of respondents and assess the spatial distribution of respondent's places of work/study. Based on this input an analysis can be prepared representing the results of several queries to the data that has been collected. The results when plotted represent a 'sample' of data, which is representative of the full population.

4.5.3 Workshops

Workshops would be held with a selection of residents, staff and visitors to establish more informally the main difficulties and issues facing commuters in terms of transportation.

The purpose of the workshops is to engage day-to-day users of the site in general discussions regarding the type of measures they would like to see introduced to facilitate their travel needs. In this way, the workshops would tackle some of the thinking, which would not otherwise be gathered from standard format questionnaires.

To ensure an in-depth analysis all users of the site would be encouraged to attend the workshops. The workshops would be very informal in nature as from past experience it has been found that the more relaxed the staff is, the more forthcoming they will be with their criticisms and ideas. The information gathered from these will be coupled with the data from the questionnaires and will provide insights into which initiatives are proving successful and which are not.

4.5.4 Conclusions

It is proposed that an assessment such as that described in this chapter will be undertaken twelve months after the full completion and occupation of the proposed development and on a regular basis at the discretion of the MMC thereafter. An independent monitoring consultancy could be appointed to monitor the modal split for this development.

5. Summary and Conclusion

This Traffic and Transport Assessment has been prepared to assess the impact of the proposed shared living accommodation development on the existing transport network.

The proposed development is well served by high quality footpaths and cycle facilities including two Dublin Bike stations. As the development will not provide any car parking spaces on site and all trips generated by the amenity spaces will be internalised or pass-by trips, the development is determined to have minimal impact on the existing local area road network.

The surrounding area is well served by public transport with many bus routes and the green Luas line within walking and cycling distance of the development. The site is within walking and cycling distance of major office hubs, third level education institutes, shopping and amenity areas such as O'Connell Street and Grafton Street. Secure indoor bicycle parking will also be provided on site to further encourage the use of existing sustainable modes of travel to and from the development.

No material traffic will be generated by the proposed development and as such the development is not expected to adversely impact the surrounding road network.

A Travel Plan has been prepared to provide guidance on how to create a positive atmosphere for residents, staff, and visitors to the proposed development with regards to transportation and accessibility. The measures outlined in this plan have been devised to limit the impact of providing zero car parking spaces and to fully support a non-car development. The findings of this Travel Plan are based on information available at the time of writing, including current road network and public transport provision. It should be noted that this plan should be subject to constant review and should be amended to suit the changing transport situation in Dublin's City Centre.

In summary, the proposed development will generate no material car-based trips. Trips to/from the proposed development will predominately be via public transport and/or walking/cycling. Generally, car based trips will already be present on the network and will either be diverted or pass by trips with no impact on the surrounding network. Mobility management measures will be deployed to compensate for the lack of car parking and to ensure sustainable travel to/from the proposed development.

UK and Ireland Office Locations

