MALONE O'REGAN
CONSULTING ENGINEERS

SOCIAL HOUSING BUNDLE 4 & 5

DEVELOPMENT AT BALLYMUN, DUBLIN 11

TRAFFIC MOBILITY MANAGEMENT PLAN

DUBLIN CITY COUNCIL

October 2024

Job: 23006

Contents Amendment Record

2B Richview Office Park, Clonskeagh, Dublin 14
Tel: +353-1-260 2655 Fax: +353-1-260 2660 E-mail: info@MORce.ie

MALONE O'REGAN

Title: **Social Housing Bundle 4 & 5, Development at Ballymun, Dublin 11 Traffic Mobility Management Plan/ Dublin City Council**

Job Number: **23006**

Prepared By: **Michelle Gaughan** **Signed:** Mgaughan

Checked By: **Douglas Weir** **Signed:** DWeir

Approved By: **Douglas Weir** **Signed:** DWeir

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0	22/10/2024	Planning	P3	MG	DW	DW

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1 INTRODUCTION

1.1 Introduction

This report is prepared in support of the planning application for Dublin City Council for the construction of 288 apartment/duplex and housing units at a site of c. 2.6 ha (c. 2.2 ha net) bound by Balbutcher Lane to the north, Balcurris Park to the west, the Ballymun Road to the east, and Balcurris Gardens to the south-west, Ballymun, Dublin 11.

The purpose of this document is to define a Traffic Mobility Management Plan (TMMP). The TMMP provides an assessment of existing traffic and mobility issues accessing the site. It outlines the process of development of the TMMP Strategy and finally it examines the scope available for sustainable modes of transport to and from the site.

This TMMP has been prepared to guide the delivery and management of a package of integrated initiatives which seeks to encourage and embed sustainable travel choices by residents from the outset of the development's occupation.

A successfully implemented TMMP can provide reductions in car usage, particularly influencing levels of single-occupancy car travel, with increased trips made by car-sharing, public transport, walking and cycling, and can improve road safety and personal security for pedestrians and cyclists.

Mobility Management is about improving the development site's access from the outset – by designing for and enabling and promoting sustainable travel options (e.g., walking, car-sharing, cycling and public transport) to residents – and by reducing the need to travel by car from the development to access essential services and amenities. TMMPs can also improve the health and wellbeing of residents through the benefits of active travel and reduce the transport-related carbon impact of the development. A TMMP specifically focuses on journeys made from a single origin (home) to multiple destinations.

1.2 Site Overview

The location of the proposed development is illustrated in Figure 1. The site is of c. 2.6 ha (c. 2.2 ha net) bound by Balbutcher Lane to the north, Balcurris Park to the west, the Ballymun Road to the east, and Balcurris Gardens to the south-west, Ballymun, Dublin 11.

The proposed site 5 is bordered to the north by a new plaza called St. Pappins Square and further north by a residential development known as the Turnpike Apartments, to the east by the main Ballymun Road, to the west by new residential development sites 15 and 16 and to the south by a Lidl retail unit. The proposed sites 15 and 16 are bordered to the north by new residential development site 17, to the east by Balcurris Road and development site 5, to the west and south by existing residential 2-3 storey housing units. The proposed site 17 is bordered to the north by a residential development known as Linnbhla, to the east by the new plaza and development site 5, to the west and part south by existing residential 2-3 storey housing units. The remaining southern border links onto Balcurris Road and the development site 16. The proposed site 18 is bordered to the north by Balbutcher Lane, to the east by Balcurris Road and the existing residential development

Linnbhla, to the west by the existing Balcurris Park and to the south by existing residential 2-3 storey housing units.

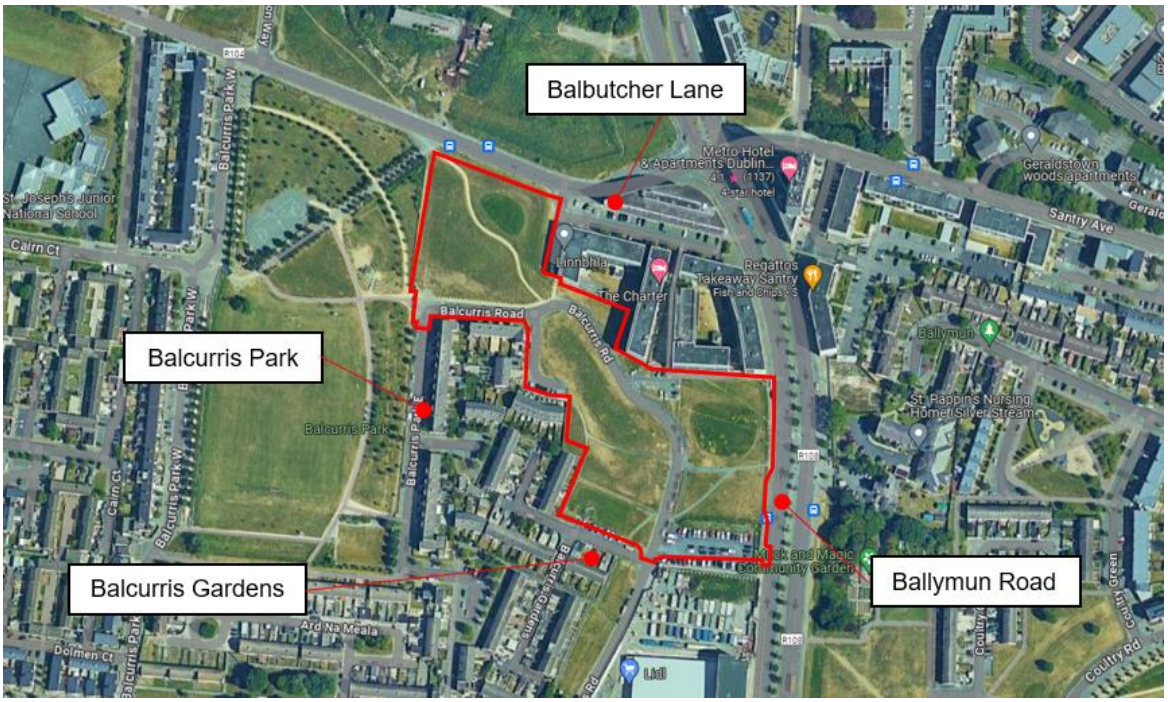

Figure 1-1 – Site Location showing the indicative Site Boundary and Adjacent Developments

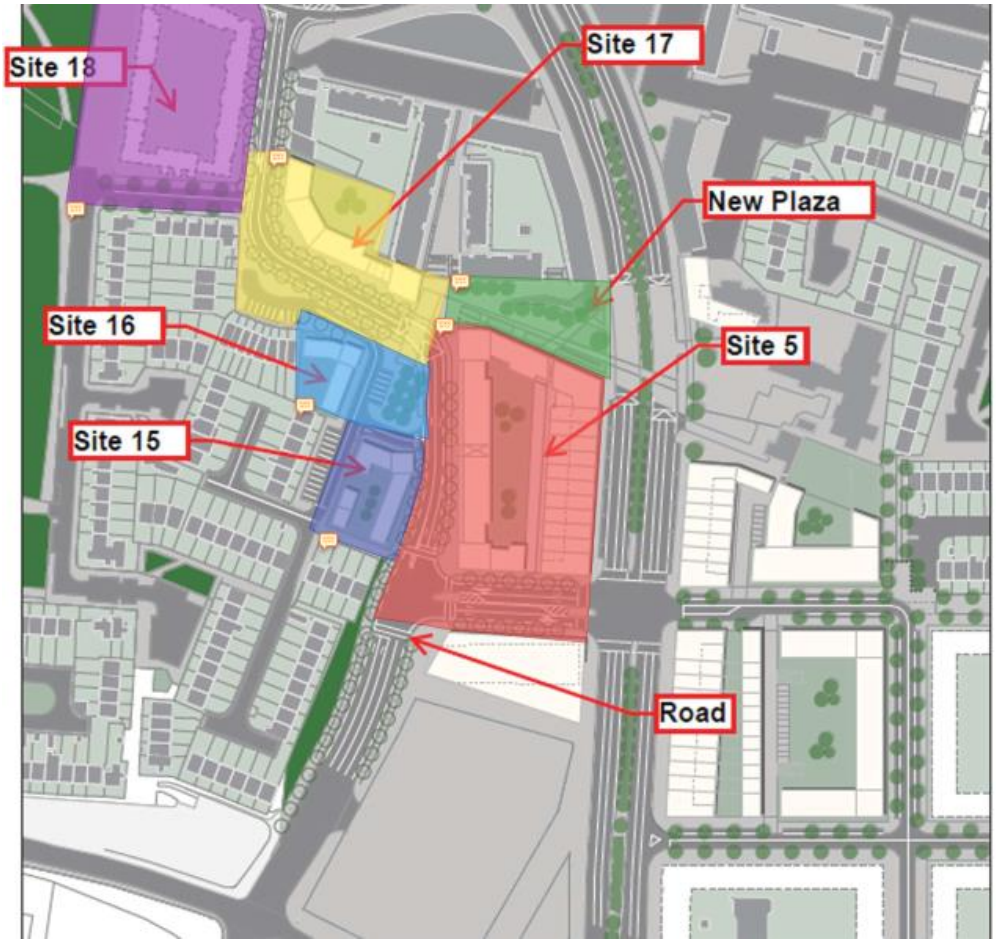

Figure 1-2 – Site Plan outlining Sites 5, 15, 16, 17, 18

1.3 Proposed Development

The proposed development will consist of the following:

- Construction of 288 apartment/duplex and housing units at a site of c. 2.6 ha (c. 2.2 ha net) bound by Balbutcher Lane to the north, Balcurris Park to the west, the Ballymun Road to the east, and Balcurris Gardens to the south-west,, Ballymun, Dublin 11, which will consist of the following
- Construction of 288 no. apartment/duplex and housing units across 5 sites (Sites 5, 15, 16, 17 and 18) ranging from 2 to 6 storeys containing 138 no one-bed, 87 no. 2-bed units, 61 no. 3-bed and 2 no. 4-bed dwellings.
  - Site 5 consists of 132 no. apartment units (66 no. 1 bed, 44 no. 2 bed units and 22 no. 3 bed units) and ranges from 4 to 5 storeys including a new urban edge along Ballymun Road;
  - Site 15 consists of 8 no. dwellings comprising 6 no. 1 bed own-door apartments and 2 no. 3 bed houses adjoining Balcurris Gardens
  - Site 16 consists of 5 no. dwellings comprising 2 no. 1 bed own-door apartments, 1 no. 3 bed house and 2 no. 4 bed houses adjoining Balcurris Gardens
  - Site 17 consists of 34 no. apartment units (17 no. 1 bed units, 9 no. 2 bed units and 8 no. 3 bed units) and ranges from 3 to 6 storeys forming an urban block with incomplete urban cell at the Linnbhla and Charter apartments;
  - Site 18 consists of 109 no. apartments (47 no. 1 bed units, 34 no. 2 bed units and 28 no. 3 bed units) and ranges from 4 to 5 storeys with edges to Balcurris Road, Balcurris Park and a new edge to Balbutcher Lane;
- 70 no. car parking spaces, 4 no. loading bays and 4 no. motorbike parking spaces
- 551 no. long stay and 180 no. short stay bicycle parking spaces to serve the housing units.
- Provision of 1611 m² Retail/Commercial floor space at ground level facing Ballymun Road/St. Pappins Square (sites 5 and 17)
- Provision of a 324 m² childcare facility at ground floor in Site 5.
- Provision of 1,058 m² of community, cultural and arts space located at ground floor level in sites 5 and 17.
- Provision of 91 no bicycle spaces to serve the non-residential uses distributed across the site.
- The provision of a public open space in a new plaza at St Pappin's Square (1,953 m²) and additional areas of 979m², 496m² and 839 m² with 2,969 m² of communal open space
- Realignment of Balcurris Road, provision of two new vehicular accesses (one off the Balbutcher Lane and one off the Ballymun Road) and a dedicated pedestrian and cycle lane off the Balbutcher Lane
- Boundary treatments, public lighting, site drainage works, internal road surfacing and footpaths, ESB meter rooms, ESB substations, stores, bin and cycle storage, plant rooms, landscaping; and
- All ancillary site services and development works above and below ground.

Figure 1-3 – Proposed Site Layout

1.4 Report Structure

This report sets out the background, context, and objectives of the plan, and describes a package of measures to promote and provide for the use of sustainable modes as an alternative to single occupancy car use to the development. A strategy for implementation, target setting and monitoring is also discussed. The report is set out in the following structure:

Chapter 1: Introduction.
Chapter 2: An introduction to the Mobility Management.
Chapter 3: Planning Policy Context.
Chapter 4: Baseline Site Transport Review.
Chapter 5: Traffic Impact.
Chapter 6: Pre-occupation Baseline Mode Share.
Chapter 7: TMMP Objectives and Targets.
Chapter 8: MMP measures.
Chapter 9: Monitoring and Review.

2 MOBILITY MANAGEMENT: CONTEXT

2.1 What is Mobility Management

Mobility Management is a concept to promote sustainable transport and manage the demand for car use by changing travellers' attitudes and behaviours. Mobility Management is about improving a site's access, by designing for and enabling and promoting sustainable travel options (e.g., walking, cycling and public transport) to residents. The use of Mobility Management is well established in Ireland through the Development Control process and policy documents set out in Chapter 3. The process involves key stakeholders such as the Local Authority, public transport operators, the developer, and future residents.

2.2 The Benefits of Mobility Management

Implementing a TMMP has the following local benefits:

- Promoting alternative uses to the car can result in less congestion and therefore improves safety on local roads by promoting alternatives to the car.
- Reduced highway capacity problems can enable more sustainable travel choices.
- The local environment will be improved from reduced congestion, carbon emissions, pollution, and noise.
- A range of travel options makes the development site attractive to potential residents.
- Increases opportunities for active healthy travel, such as walking and cycling.
- Reduces demand for parking spaces, enabling land to be put to more cost-effective or commercially beneficial use and freeing space for active travel initiatives.
- Improved travel choice, quality and affordable access to services for all users.

2.3 Mobility Management Plan Objectives

The overarching objectives of the TMMP are to reduce levels of private car use by encouraging people to walk, cycle, use public transport and car share. It can also reduce the number of lengths trips undertaken/ required.

The specific objectives of an TMMP can vary depending upon the organisation, site characteristics and specific land uses which vary with each site. Nevertheless, in the context of a residential TMMP, objectives can include:

2.3.1 Residents

- Address residents need for sustainable access to a full range of facilities for work, education, health, leisure, recreation and shopping.
- Promote healthy lifestyles and sustainable, vibrant local communities by improving the environment and the routes available for cycling and walking.

2.3.2 The Local Community

- Make local streets less dangerous, less noisy and les polluted and enhance the viability of public transport.
- Reduce the traffic generated by the development for journeys both within the development and on the external road network.
- Promote equal opportunities by offering wider travel choices.
- Improve personal and wider community health.
- Reduce air and noise pollution.

2.4 Making Residential Mobility Management Plans Work

A successful TMMP will address all aspects of a development that create a need for travel by site residents. The TMMP 'pyramid' below demonstrates how successful plans are built on the firm foundations of location and site design. A TMMP should combine hard measures (e.g., cycle parking, routes to bus stops) and soft measures. All measures should be integrated into the design, marketing and occupation of the site – with parking restraint often crucial to the success of the TMMP in reducing car use.

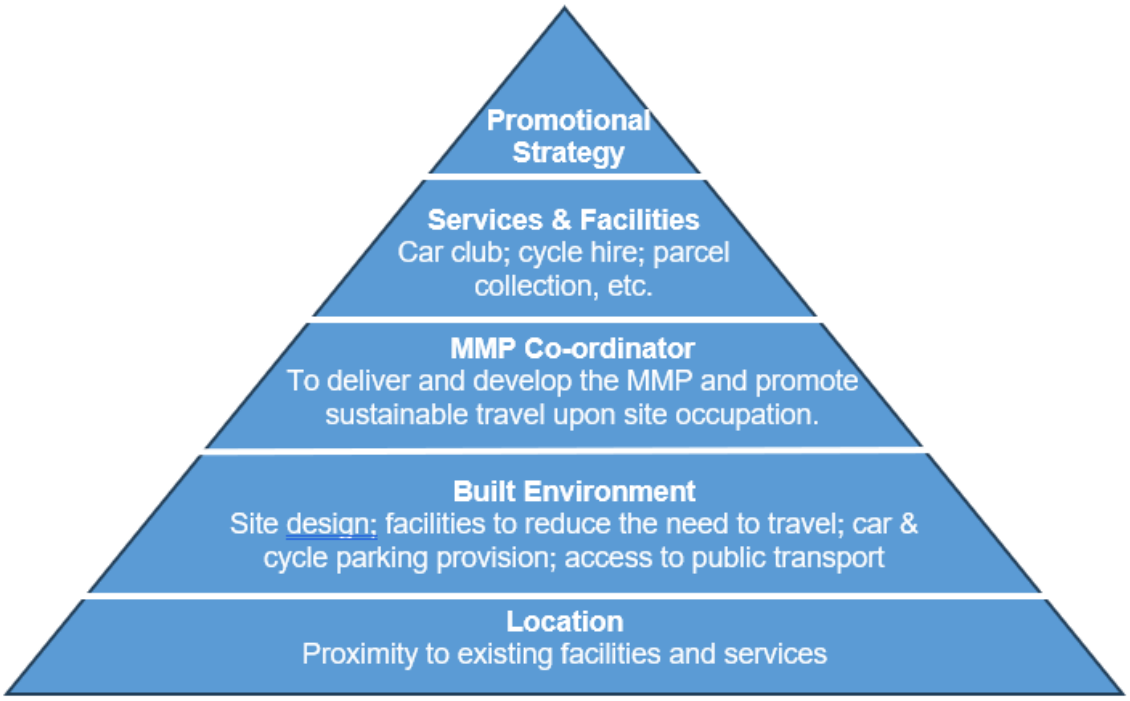

Figure 2-1– The Travel Plan Pyramid

TMMPs are evolutionary documents that should be regularly updated. In this way, TMMP targets and Action Plans can be reviewed and tailored to take account of ongoing changes in travel patterns. It is therefore intended that this TMMP is the starting point of a live process and will be updated when required by circumstances.

3 POLICY AND PLANNING CONTEXT

3.1 Policy and Plan Overview

This section provides an overview of the national, regional and local transport and other policy drivers and strategies that underpin the requirements and benefits of implementing a TMMP for the proposed residential development.

3.2 National Policy Context

This section provides an overview of the main national policy drivers and strategies that underpin the requirements and benefits of implementing a TMMP for a residential development at the Ballymun site.

3.2.1 Ireland 2040 Our Plan – National Planning Framework

The Project Ireland 2040 - National Planning Framework (NPF) recognises that improvements in connectivity are achievable and are necessary to boost competitiveness and quality of life. The Ireland 2040 vision include the following key elements which direct relevance to mobility management.

i. More sustainable choices and options for people, businesses and communities that can positively influence sustainable patterns of living and working.
ii. The highest possible quality of life for our people and communities, underpinned by high quality, well managed built and natural environments.
iii. Significant improvement in local and international connectivity that underpins that competitiveness and quality of life of our people, businesses, communities, and regions.

The NPF has been developed to deliver the following National Strategic Outcomes which are pertinent to this report. These are to:

i. Improve accessibility to and between centres of mass and scale and provide better integration with their surrounding areas.
ii. Ensure transition to more sustainable modes of travel (walking, cycling, public transport) and energy consumption (efficiency, renewables) within an urban context.

The NPF seeks to enable people to live closer to where they work, moving away from unsustainable trends of reduced community. It supports more energy efficient development through the location of housing and employment along public transport corridors, where people can choose to use less energy intensive public transport, rather than being dependent on the car.

3.3 Regional and Local Policy Context

This section provides an overview of the main regional and local policy drivers and strategies that underpin the context, requirements, and benefits of a TMMP for the proposed residential development.

3.3.1 Greater Dublin Area Transport Strategy, 2022 – 2042

This strategy aims to contribute to the economic, social, and cultural progresses of the Greater Dublin Area by providing for the efficient, effective, and sustainable movement of people and goods – helping to reduce modal share of car-based communities to a maximum of 45%. To achieve these principles, future developments must:

i. Have transport as a key consideration in land use planning – integration of land use and transport to reduce the need to travel, reduce the distance travelled, reduce the time taken to travel, promote walking and cycling especially within development plans.
ii. Protect the capacity of the strategic road network.
iii. Ensure a significant reduction in share of trips taken by car, especially those trips which are shorter or commuter trips.
iv. Consider all day travel demand from all groups.
v. Provide alternate transport modes to reduce the strain on the M50 as current increase in traffic is unsustainable.

Dublin City Councill is working with the National Transport authority (NTA) to bring forward additional and extended public transport routes to services newly developed and existing areas, to address gaps in existing areas to improve access to public transport stops and services and to improve the integration between high density development and public transport nodes.

3.3.2 Greater Dublin Area Cycle Network Plan, 2013

The Greater Dublin Area (GDA) Cycle Network Plan sets out a 10-year strategy plan to expand the urban cycle network from 500km to 2,840km. The overarching ambition of the scheme is to increase the number of commuters who commute by bike to the same amount of those commute by bus.The network will consist of a series of primary, secondary, feeder and greenway routes. These routes will comprise of a mix of cycle tracks and lanes, cycleways and infrastructure-free cycle routes in low traffic environment.

3.3.3 Dublin City Development Plan, 2022 – 2028

The Dublin City Development Plan (DCDP) provides a coherent, integrated framework to ensure the city develops in an inclusive and sustainable manner which is resilient on social, economic and environmental fronts in the short and longer term. The plan emphasises the need for Dublin to become a low-carbon city and the role of compact, self-sustaining communities and neighbourhoods, urban form and movement has to play in achieving this goal. The plan details a Core Strategy which includes housing, settlement, employment, retail and public transport strategies. The strategy translates into 3 broad strands which form the basis for the policies and objectives outline in the plan. These are:

- Compact, quality, green, connected city.
- A prosperous, enterprising, creative city.
- Creating sustainable neighbourhoods and communities.

Table 3-1 below provides a summary of the policies and objectives most relevant to this TMMP.

Table 3-1 - Extracts from most relevant DCDP 2022 – 2028 Policies

Policy	Details
CEE13	**Towards a Green and Circular Economy** To support the growth of the 'green economy' including renewable energy, retrofitting, and electric vehicles and charging infrastructure and to support the transition towards a circular economy in line with national policy and legislation.
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.
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.
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.
SMT27	**Car Parking in Residential and Mixed Used Developments** i. To provide for sustainable levels of car parking and car storage in residential schemes in accordance with development plan car parking standards so as to promote city centre living and reduce the requirement for car parking. **ii.** To encourage new ways of addressing the transport needs of residents (such as car clubs and mobility hubs) to reduce the requirement for car parking.
SMT33	**Design Manual for Urban Roads and Streets** To design new streets and roads within urban areas in accordance with the principles, approaches and standards contained within the Design Manual for Urban Roads and Streets (DMURS) and to carry out upgrade works to existing road and street networks in accordance with these standards where feasible.
Policy	**Details**
SMT34	**Street and Road Design** To ensure that streets and roads within the city are designed to balance the needs and protect the safety of all road users and promote place making, sustainable movement and road safety providing a street environment that prioritises active travel and public transport whilst ensuring the needs of commercial servicing is accommodated.
SMT35	**Traffic Calming and Self-Regulation Street Environments** To ensure that all streets and street networks are designed to passively calm traffic through the creation of a self-regulating street environment that are suited to all users, including pedestrians and cyclists.
SMTO34	**Speed Limits and Traffic Calmed Areas** To expand the 30kph speed limits and traffic calmed areas at appropriate locations throughout the city and subject to stakeholder consultation.

Volume 2, Section 4 of the DCDP sets out the car and cycle parking standards for proposed new development.

The Development Plan notes that reduced car parking provision may be acceptable where the Council is satisfied that good public transport links are already available or planned and/or a Mobility Management Plan for the development demonstrates that a high

percentage of modal shift in favour of the sustainable modes will be achieved through the development.

4 BASELINE REVIEW OF EXISTING TRANSPORT NETWORK

4.1 Overview

The following chapter discusses the existing transport network surrounding the site. A detailed commentary is provided on the existing walking, cycling and public transport facilities near the site.

4.2 Road Environment

The site is bounded by Balbutcher Lane to the North and South and the Ballymun Road to the East as described in Figure 4-1. Balbutcher Lane includes 2.5m wide footpath on both sides of the road and the Ballymun Road includes 2.5m wide footpath, 2m wide cycle lane, 3m wide bus lane and 6m wide dual carriageway on both sides of the road.

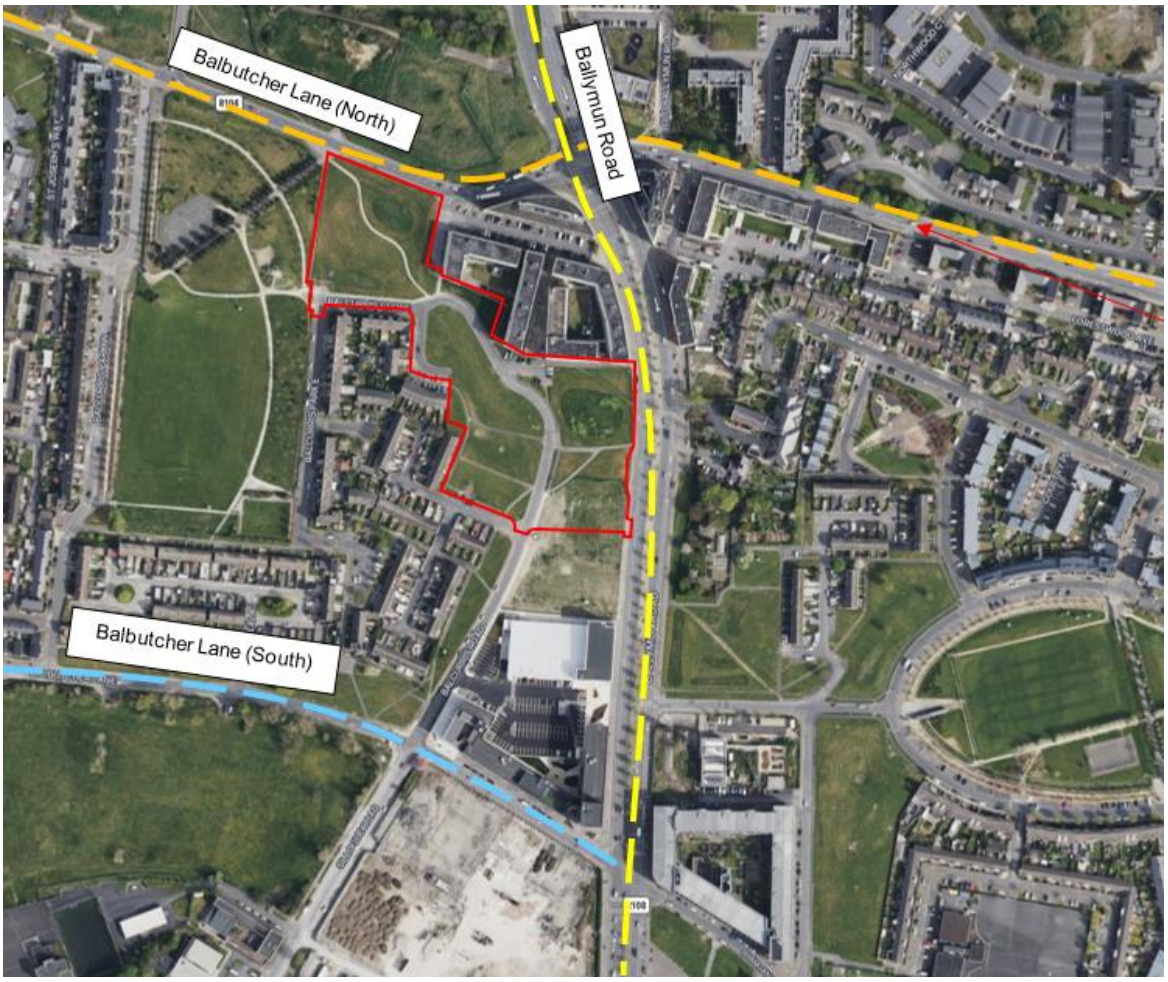

Figure 4-1 – Existing Road Environment

Figure 4-2– Ballymun Road street view towards the M50

The Ballymun Road is a dual-carriageway street and is located along the eastern boundary of the site. 2m wide cycle-tracks and 2.5m wide raised footpaths are provided on both sides of the road, along with public lighting. The layout of the footpaths and cycle-tracks has been designed to allow safe and comfortable crossing of the road infrastructure by pedestrians and cyclists at a number of points along its route. The cycle-track and footpath are separated from the carriageway by a bus lane on both sides of the road.

There is a pedestrian crossing with traffic signals for both pedestrians and vehicular traffic forming a pelican crossing. The crossing is usually formed of two lights on either sides of the road and a call button for pedestrian to operate the crossing. The crossing also features paving and are flush with the road.

The dual carriageway is separated by a refuge island, where pedestrians can stop before finishing crossing the road. this significantly improves amenity for pedestrian trying to cross busy streets.

Balbutcher Lane (South) is a single carriageway road which is located to the south of the site. Looking towards the Ballymun Road, there is a 2.5m wide footpath is provided on the south side of the road. There is a wider footpath on the northern side to facilitate commercial businesses.

A single yellow line is marked along the edge of the road indicating restricted parking.

There are no cycle tracks along the road. The posted speed limit is 50km/hr. There is a pedestrian crossing with traffic signals for both pedestrians and vehicular traffic forming a pelican crossing. The crossing also features blister strip paving and kerbs are flush with the road.

Figure 4-3– Balbutcher Lane (South of the site) Street View towards Ballymun Road

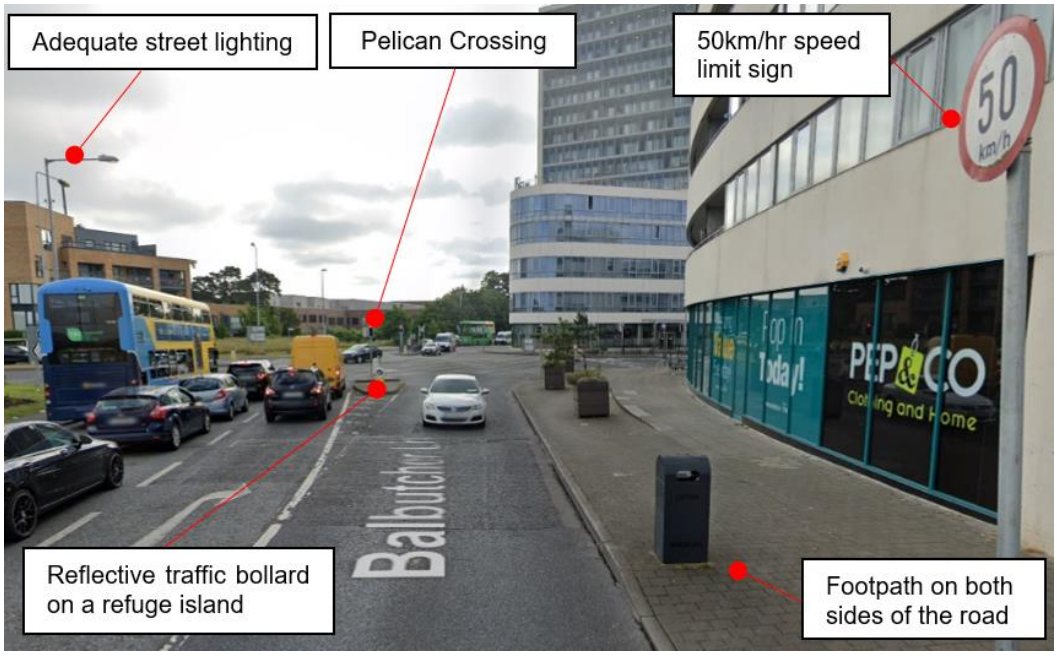

Figure 4-4 – Balbutcher Lane (North of the site) Street View towards the Ballymun Road

The R104 (Balbutcher Lane) Regional Road is a single carriageway road and runs along the northern boundary of the site. Footpaths are provided on both sides of the road. There is a pelican crossing that also features a refuge island for pedestrians to stop before finishing crossing the road and blister strip paving that are flush with the road. There is a reflective traffic bollard before the traffic lights creating a roadway demarcation.

4.3 Pedestrian/ Cyclist Environment

4.3.1 Existing Pedestrian/ Cyclist Environment

The site is within a convenient walking distance to number of educational, residential, and medical and retail facilities as displayed by the catchment map in *Figure* 4-5. Catchment maps use the development location and time periods to analyse where those within the development can reach with a certain amount of time via a certain mode of transport. The catchments are broken down into 10-minute (green), 15-minute (pink), 20-minute (purple) and 30-minute (red) catchments, with the site being denoted as a black star on the map.

The walking catchment analyses walking facilities and infrastructure and uses an average walking speed to create the walking catchments.

- Holy Spirit Girls and Boys National School, St. Josephs National School, Spar, Poppintree Pharmacy, St. Josephs Church, Balcurris Park, Lidl, Centra, and Gulliver's Retail park are accessible within a 10-minute walk.
- Scoil an tSeachtar Laoch, Our Lady's Nursery, Santry GP, Trinity Comprehensive School, Northwood Business Campus can be reached in under a 15-minute walk/
- Within a 20-minute walk the following can be reached: Costa, Eurospar, Shangan Park, Ballymun Library, Trinity Sports Grounds, Decathlon, Ikea and City of Dublin ETB Adult Education Service.
- Ballymun Golf Club, Our Lady of Victories Catholic Church, Eurospar, Glasnevin Lawn Tennis Club, Our Lady of Victories Boys School, Albert College Park, Dublin College University and Poppintree Park is within a 30-minute walk.
- Dublin Airport is just outside the 30-minute walking catchment.

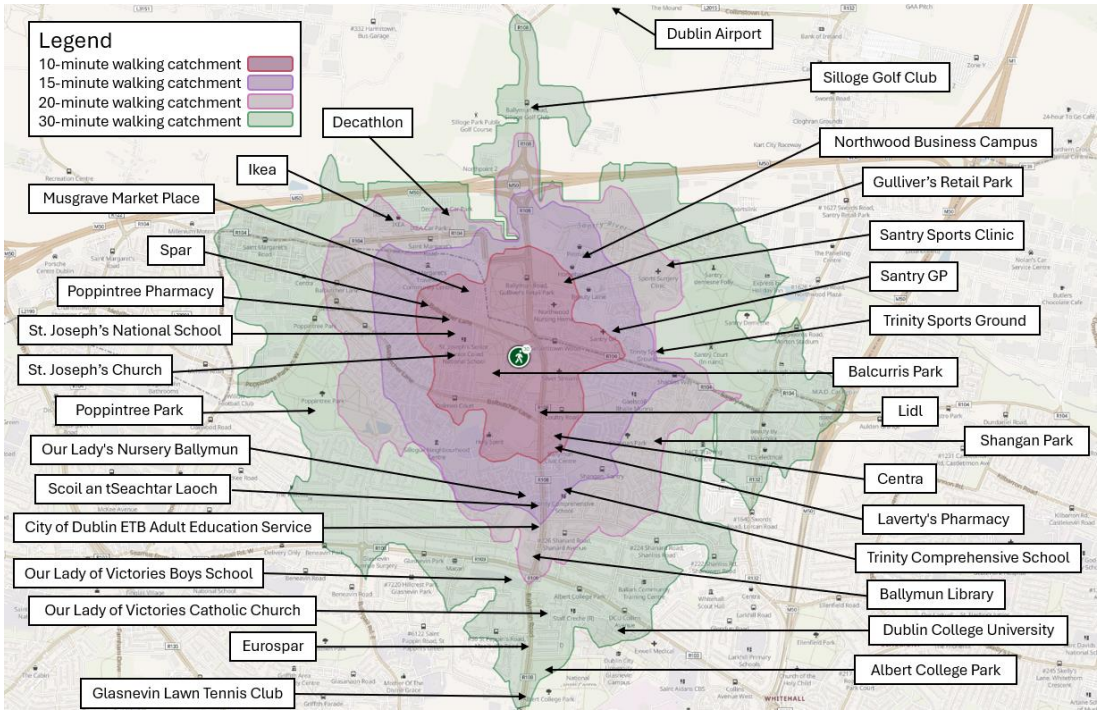

Figure 4-5– Walking Catchment

The site is also highly accessible by cycling as seen in Figure 4 6. The cycle catchment uses cycle infrastructure, facilities and average cycle speeds to create the catchment boundaries:

- Area including Glasnevin, Ballymun, Whitehall and Santry are within a 10-minute cycle,
- Areas including Finglas, Drumcondra and Beaumont are within a 15-minute cycle,
- Cabra, Grangegorman, Ballybough, Killester, Marino, Donnycarney and Artane are within a 20-minute cycle, and
- The Liberties, Islandbridge, Kilmainham, Portobello, North Wall, Dublin City Centre, Rialto, Ashtown, Saint Margarets, Darndale, Coolock, Clontarf, and Raheny are within a 30-minute cycle.

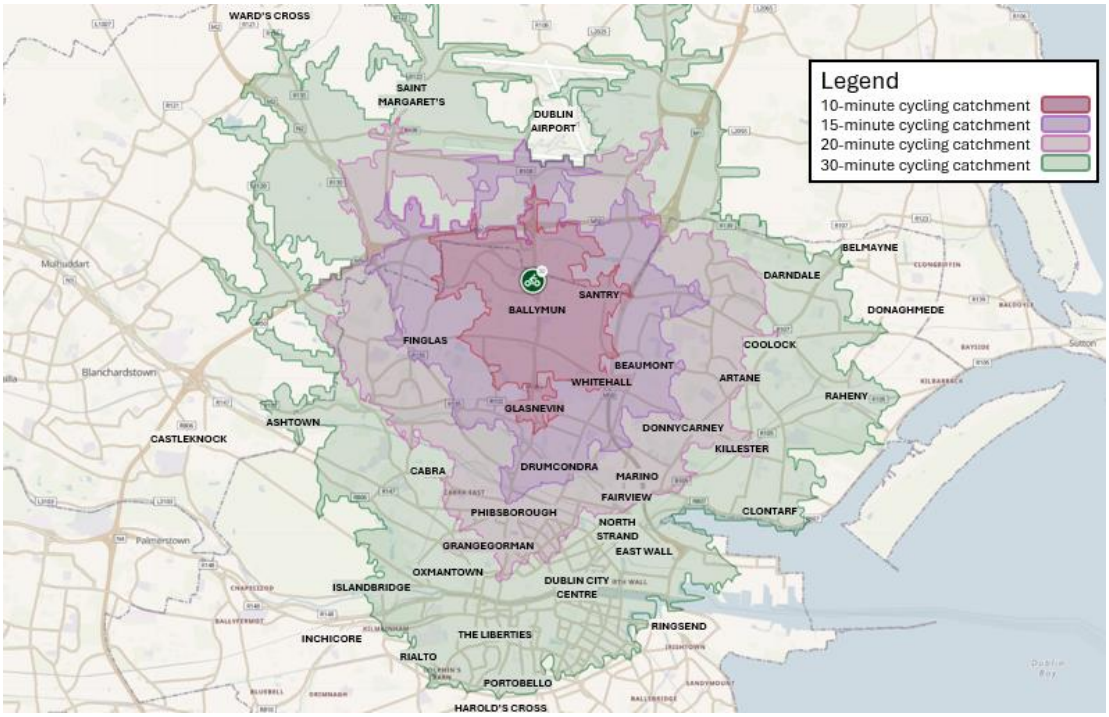

Figure 4-6– Cycling Catchment

As shown in the existing facilities map extracted from the Greater Dublin Area Cycle Strategy and illustrated in Figure 4-7, there are 'C3 - Cycle Lanes' provided most of the way along the R104 Ballymun Road, which turns into a 'C2 – Cycle Lane' north of the site location. There is no cycle lanes present within the residential roads. However, larger roads including Finglas Road, North Road, St Margarets Road, Santry Avenue, Collins Avenue and Swords Road have some level of cycle lanes available whether it is within a bus lane, segregated or adjacent to the road.

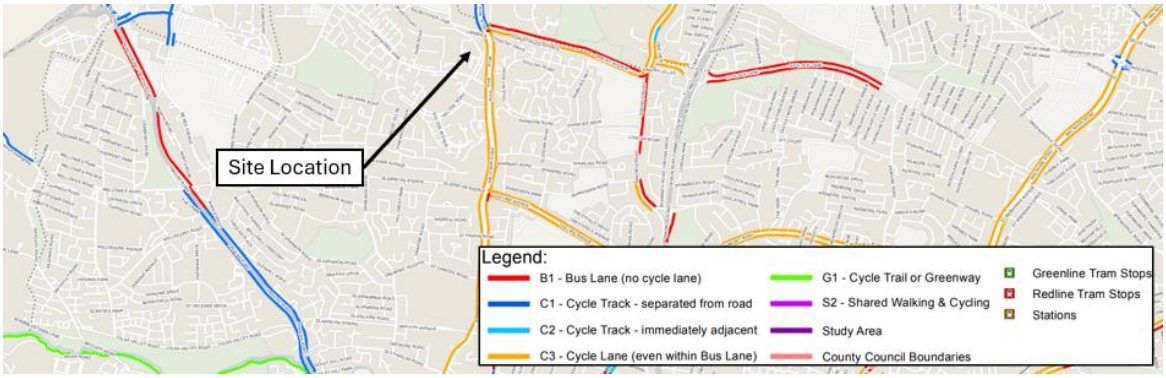

Figure 4-7 – Existing Cycle Network Map (Source: National Transport Authority)

4.3.2 Proposed Pedestrian/ Cyclist Environment

The proposed cycle network surrounding the development is shown in Figure 4-8, taken from the Greater Dublin Area Cycle Network Plan. The with the closest Primary Routes are (highlighted in red in the extract):

- Primary Route 2A: Route 2A is a branch from Route 2. Route 2A starts at Drumcondra Road. Route 2a starts from Dorset Steet to Bolton Street/ Henrietta Street Junction.
- Primary Route 3A: From Prospect Road – Royal Canal at Phibsborough – Royal Canal Bank – Blessington Street – Parnell Street.

The closest Secondary Route (highlighted in blue):

- Route NO5: From the coast at Kilbarrack to Donaghmede and Coolock.
- Route 2B: Route 2B is a branch from Route 2A. Route 2B starts at Drumcondra Road – Clonliffe Road – Jones' Road – Mountjoy Square – Parnell Square – O'Connell Street.

The following greenway route (highlighted in green) is proposed so as to avail of the natural corridors for a mix of amenity and commuter cycling:

- Santry River Greenway: From Dollymount through Raheny to Santry via a series of public parking and open spaces.

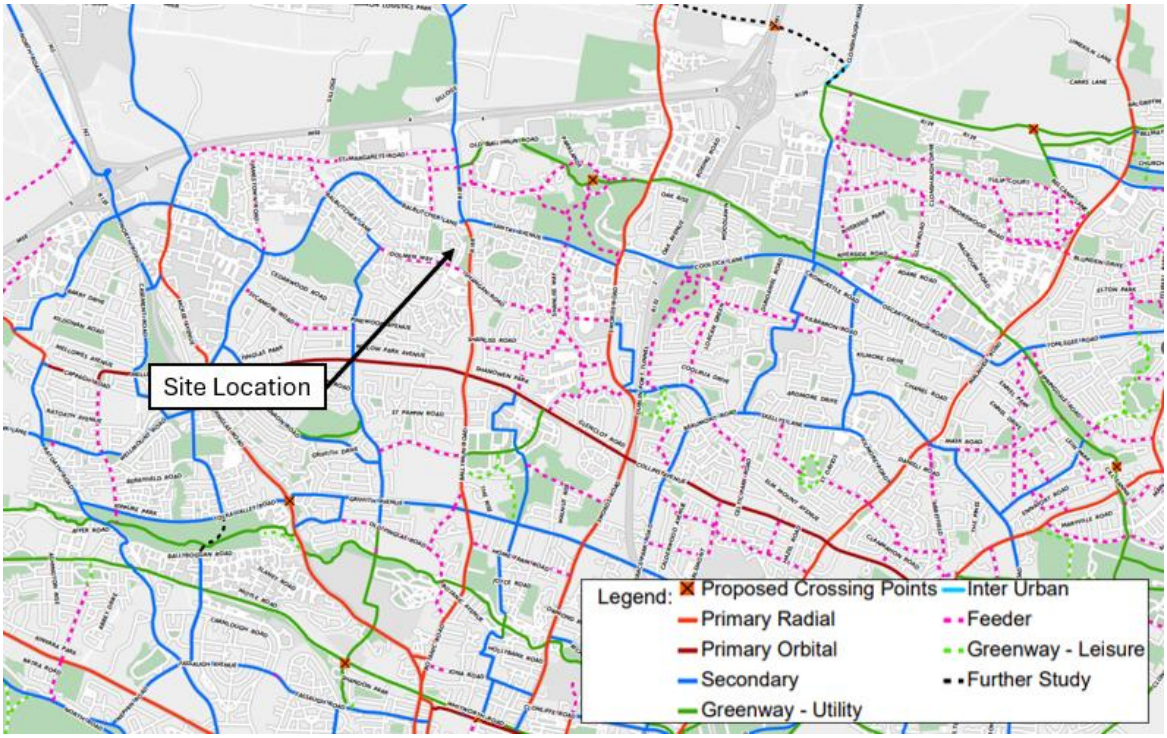

Figure 4-8 – Proposed Cycle Network Map (Source: National Transport Authority)

Additionally, the implementation of BusConnects will result in better quality walking and cycling infrastructure and facilities throughout the greater Dublin region. This program is detailed in the following section.

4.4 Public Transport Infrastructure

4.4.1 Existing Public Transport Infrastructure

Public Bus

Six buses serve the area with four bus stops located along the red line boundary of the site development. As graphically illustrated in Figure 4-9 and Figure 4-9, the site is well situated to benefit from public bus connections, with Table 4-1 detailing the number of services per day. The closest bus stops to the site are located along the Ballymun Road which are within a few minutes walking catchment of the site. The buses that serve the site are operated by:

- Dublin Bus: covers a region from Newcastle in County Wicklow to the south, Balbriggan in north County Dublin and Maynooth in County Kildare to the west. Dublin Bus operates nitelink services as well.
- Go Ahead: is a public transport provider, running services under contract to the National Transport Authority since September 2018.

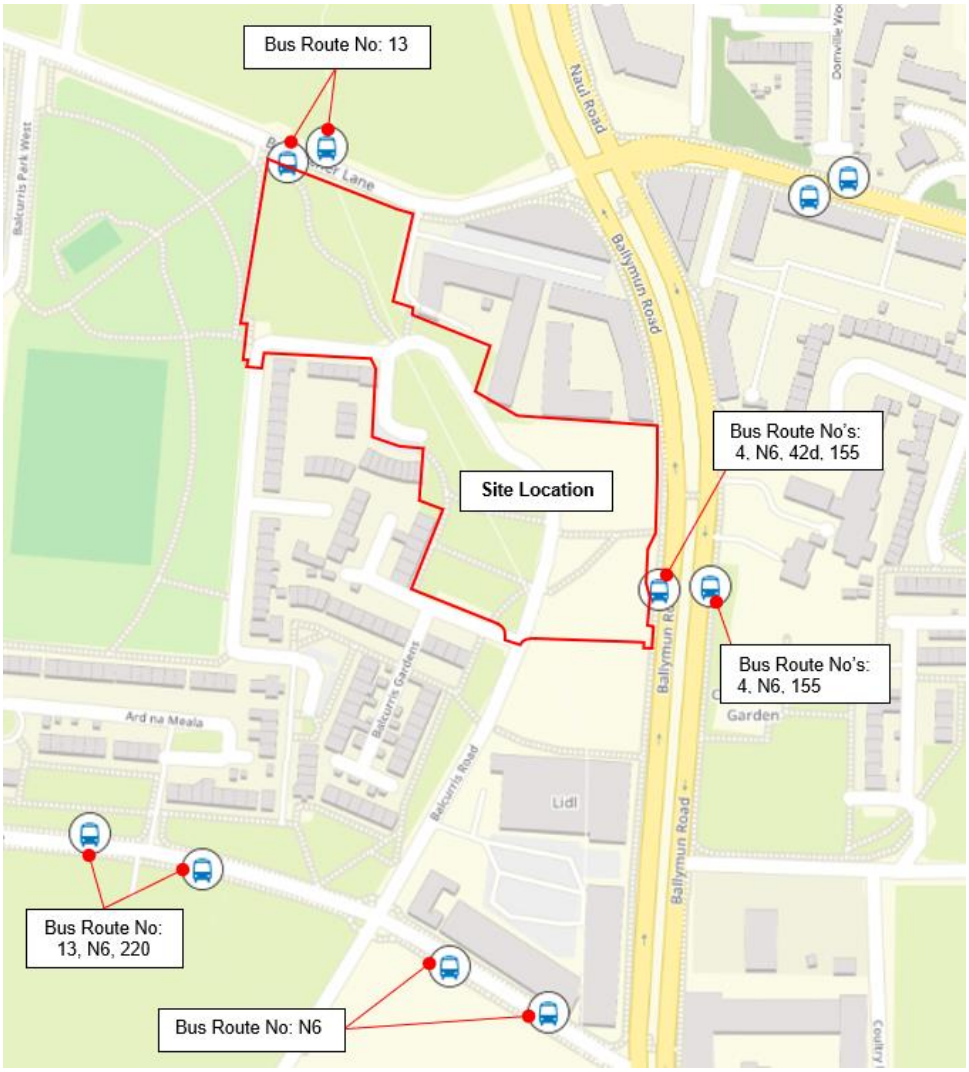

Figure 4-9 – Bus Stops in the Vicinity of the Site (Source: www.journeyplanner.transportforireland.ie)

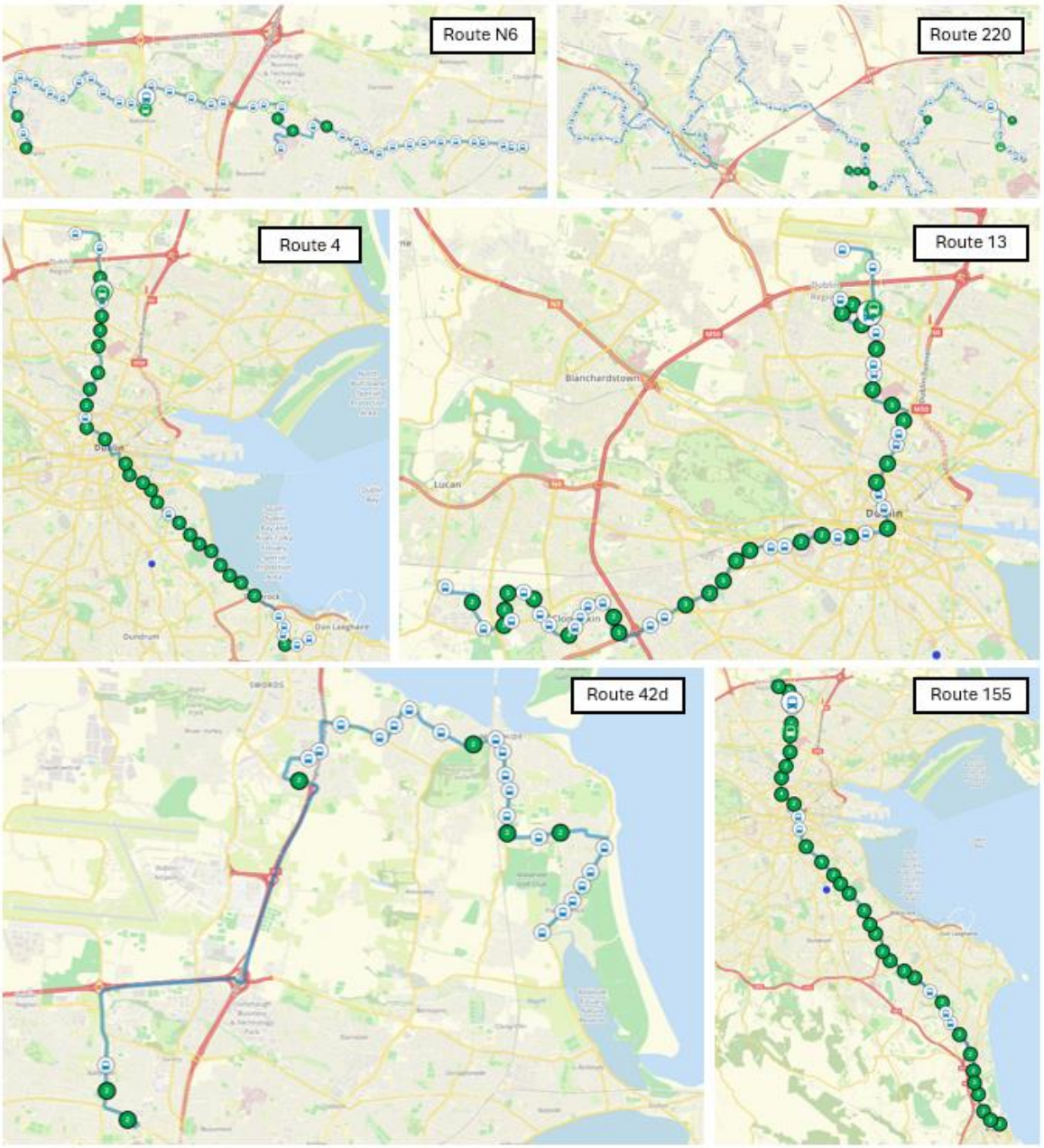

Figure 4-10 - Bus Routes Serving the Site

Table 4-1 – Bus Timetable

Operator	No.	Route	No. of services		
			Monday- Friday	Saturday	Sunday
Go-Ahead Ireland	N6	Finglas–Kilbarrack	Starts 5:20 From 5:40 – 22:50 service every 10 mins	Starts 5:20 From 5:40 – 8:25 service every 15 mins From 8:40 – 18:50 service every 10 mins From 19:05 – 23:20 service every 15 mins	From 7:20 – 9:30 service every 20 mins From 09:50 – 18:50 service every 15 mins From 19:10 – 23:20 service every 20 mins

Dublin Bus	4	Monkstown Ave – Harristown	From 6:00 – 7:00 service every 15 mins Every 12 mins until 19:00 From 19:20 – 23:20 service every 20 mins	From 6:00 – 7:00 service every 30 mins From 7:15 – 19:00 service every 15 mins From 19:20 – 23:20 service every 20 mins	From 8:00 – 11:30 service every 30 mins From 11:45 – 19:00 service every 15 mins From 19:00 – 23:30 service every 30 mins
	13	Grange Castle – Harristown	From 5:50 – 17:18 service every 12 mins From 17:30 – 23:30 service every 15 mins	From 6:10 – 8:30 service every 20 mins From 8:45 – 23:30 service every 15 mins	From 7:00 – 11:00 service every 30 mins From 11:00 – 23:30 service every 15 mins
	42d	Strand Road– DCU	1 service only – leaves at 7:30	No service	No service
	155	Bray Rail Station –Ballymun Road	1 service every 20 mins	1 service every 20 mins	1 service every 20 mins
Go-Ahead Ireland	220	DCU (The Helix) - Lady's Well Road	From 6:15 – 22:10 frequencies vary between 48 mins and 70 mins.	From 6:55 – 22:10 frequencies vary between 42 mins and 75 mins.	From 8:50 – 22:10 frequencies vary between 45 mins and 70 mins.

4.4.2 *Proposed Public Transport Infrastructure*

Bus

BusConnects is the National Transport Authority's (NTA) programme to greatly improve bus services in Irish cities. BusConnects is included in the Government's National Development Plan 2021 – 2030 and the Climate Action Plan 2023. The redesign of the bus network is one of the key elements of BusConnects, the other elements include:

1. Sustainable Transport Corridors
2. Cashless payment system
3. Simpler fare structures
4. New bus livery
5. New Park and Ride facilities
6. Zero emissions bus fleet
7. New bus stops and shelters

The Bus Corridors project involves the development of on-going bus priority infrastructure, as well as improved pedestrian and cycling facilities on key corridors across the Dublin region. Its objective is to increase the capacity of the public bus system by improving the speeds, reliability and punctuality of buses by providing bus lanes and other measures to prioritise the movement of buses over general traffic movements and to increase cycling capacity through the provision of safe cycle infrastructure, where feasible separated from general traffic. The new services and routes will utilise these corridors.

The new routes will consist of:

- Spines (A-H) – frequent routes made up of individual bus services timetabled to work together along a corridor. At the end of the corridor, the individual services branch off to serve different areas

- Orbitals (O, N, S, W) – services operating around the city. They provide connections between suburbs and town centres, without having to travel into the City Centre. They also provide connections to rail, Luas and other bus routes
- Other City Bound Routes (1-99) – services operating into Dublin City Centre. These services are not part of any spine and operate on their own timetable
- Local Routes (L) – services providing important connections within local areas, linking to local retail centres and to onward transport connections. (e.g. to Rail, Luas and Spine routes)
- Peak-Only Routes (P) – services operating during the peak travel periods, generally weekday mornings and evenings, providing additional capacity along key bus corridors
- Express Routes (X) - direct services from outer suburbs to the City Centre at peak commute hours, operating a limited stop service to get passengers to their destinations faster

The site will be served by:

1. The Ballymun/Finglas to City Centre corridor,
2. E-spine (frequency every 4 to 10 mins)
   - E1: Northwood - City Centre - Bray Main St. - Ballywaltrim
   - E2: Charlestown - City Centre - Dún Laoghaire
3. F-spine (frequency every 5 to 10 mins)
   - F1: Charlestown - Finglas Bypass - City Centre – Tallaght
   - F2: Charlestown - Finglas NW - City Centre – Templeogue
   - F3: Charlestown - Finglas SW - City Centre - Greenhills
4. Orbital route N6: Finglas - Santry - Coolock – Donaghmede (frequency 10-20 mins)
5. Radial route 19: Airport - Balbutcher Lane - Wadelai - Parnell Square (frequency every 60 mins)

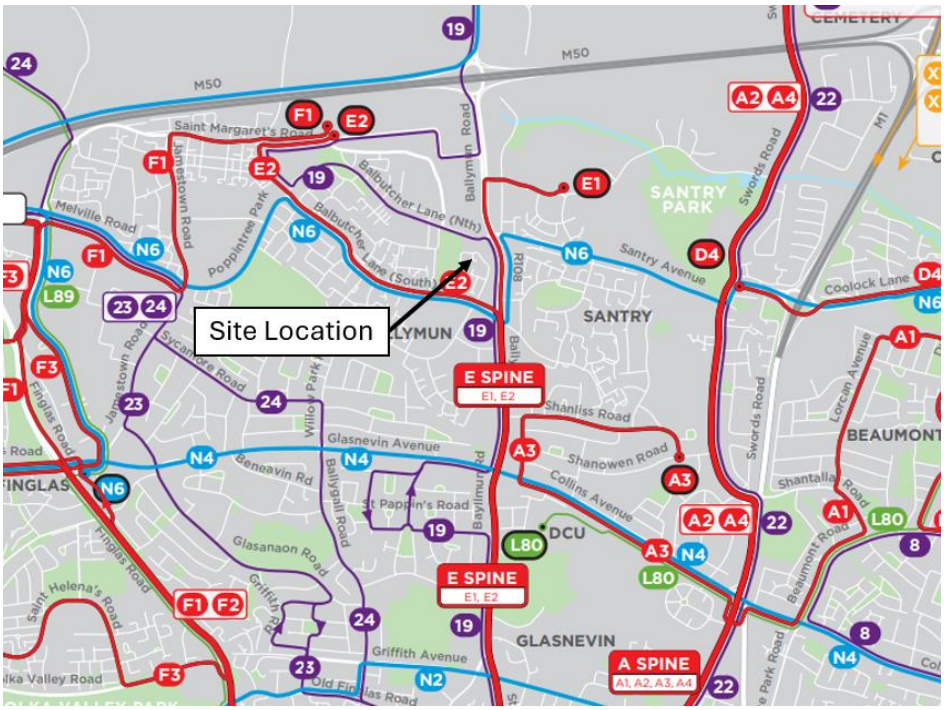

Figure 4-11: BusConnects Network Map

Luas

Luas is Dublin city's Light Rail Transit System (tram). It operates two lines:

- Luas Red Line has 32 Stops. It runs from Tallaght to The Point and from Saggart to Connolly.
- Luas Green Line has 35 Stops. It runs from Brides Glen to Broombridge via the City centre.

The Luas operates Monday to Friday 05:30 to 00:30, Saturdays 06:30 to 00:30 and Sundays and Public Holidays 07:00 to 23:00. The services regularly run every 3 to 4 minutes at peak times and every 15 minutes at night. Currently, there are no Luas stops within the vicinity of the site; however, Luas Finglas is the extension of the Luas Green Line from Broombridge to Charlestown via Finglas. It will add four new stops to the line and create a key public transport connection between the communities of Charlestown, Finglas Village, Finglas west, St Helena's and Tolka Valley and the city centre. The Luas extension is anticipated to open from 2028.

From Charlestown the Luas stop would be within a 10min cycling ride or 19min by public transport from the development site.

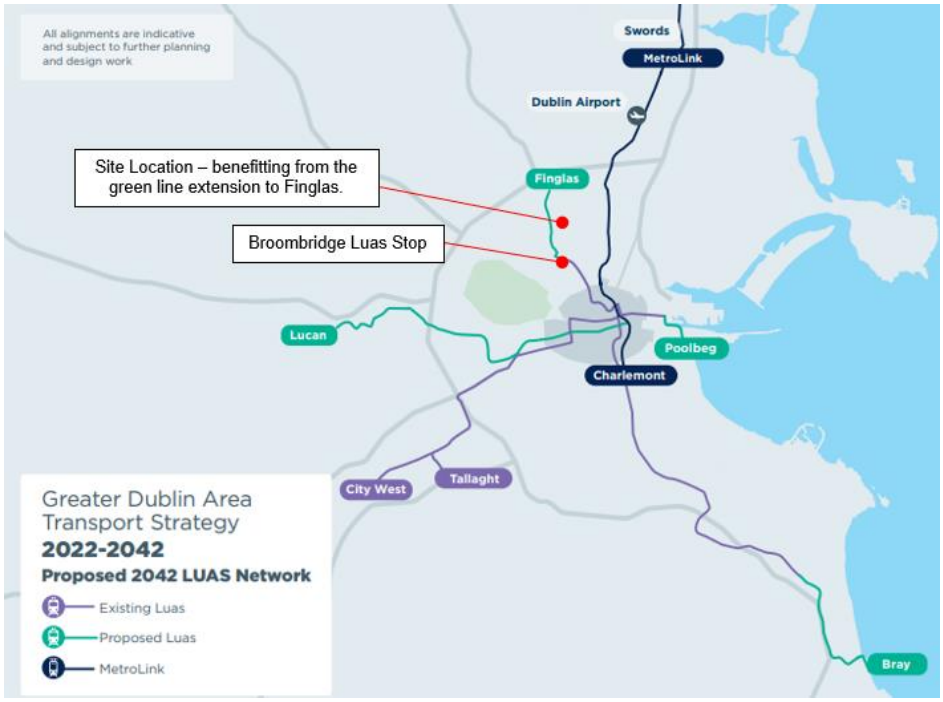

Figure 4-12 – Proposed 2042 Light Rail Network (Source: GDA Transport Strategy 2022 – 2042)

4.5 Shared Mobility

4.5.1 Car Sharing

There are various car-sharing facilities within the site vicinity:

Go car

On-site car parking is considered to be an inefficient use of space, particularly at a constrained location in a highly developed urban area such as the development site.

Taking this into consideration, the provision of car club spaces is considered a more sustainable alternative which both reduces the need for car ownership and provision of dedicated car parking while also maintaining access to a vehicle for infrequent use.

There are two GoCar hire stations located within 1km walking distance of the site. The locations of the GoCar bases are illustrated in Figure 4-13 with Table 4-2 providing additional details in relation to walking distance from the site and the type of GoCar vehicle available.

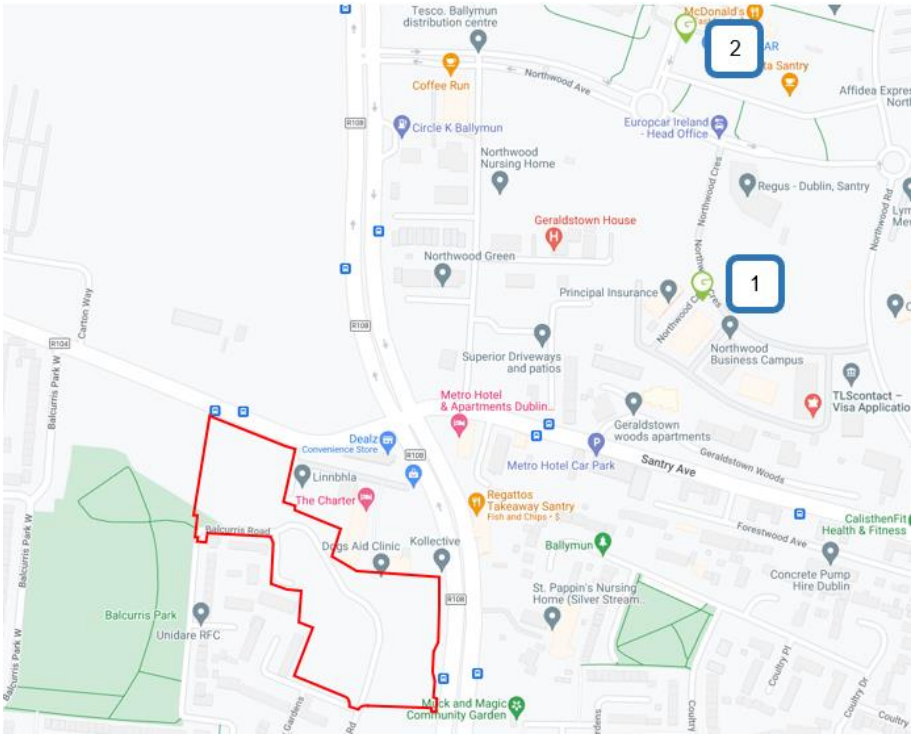

Figure 4-13 – GoBase locations in the Vicinity of the site (Source: www.gocar.ie/locations/)

GoCar members can book cars online or via the app for durations of as little as an hour. They then unlock the car with their phone or a GoCard; the keys are in the car; with fuel, insurance and city parking all included. The benefits of such car sharing services include:

- The reduction of cars on the road and therefore traffic congestion, noise and air pollution.
- Frees up land traditionally used for private parking spaces.
- Encourages and potentially increases use of public transport, walking and cycling as the need for car ownership is reduced.
- Car share replaces approximately 20 private car parking spaces.

Table 4-2 - GoBase Details

No.	Location	Vehicle Class/ Cars Available	Approximate Distance from the Development
1	Northwood Court	GoExplore Auto 	400m to the north-east

2	Gulliver's Retail Park	GoCargo GoCity 	650m to the north

Driveyou

Driveyou is a 24-hour 7 day a week station-based car sharing service. The service is drive by the hour. The steps include the user signing up to become a member, book and collecting the car from a nearby location and bring the car back to the same area when the user is finished. All expenses including insurance, tax and fuel are included in the hourly cost of the car and you receive up to 75km free. The car can be hired for as little as 1 hour or up to a few weeks. Each shared car replaces approximately 15 private cars and helps to reduce car dependency, which helps to cut down on congestion, pollution, noise, and costs. The closest Driveyou station is on Shanowen Road which is a 25-minute walk or 9-minute cycle from the development site and offers Hyundai i20 (small family vehicle) and Hyundai Staria (Van).

Yuko

Yuko Share is a drive by the hour service which offers hybrid Toyota vehicles 24 hours a day. Prices start from €9 per hour or €52 per day; The minimum booking time is one hour, and you are charged in 15-minute blocks thereafter. There is a selection of ten vehicles and the price per hour varies depending on the vehicle type. As per Figure 4-14, there are three Yuko share vehicles within walking distance of the site.

Figure 4-14 – Yuko Locations

4.5.2 Bicycle Sharing

There are various bicycle sharing facilities throughout Dublin:

Dublin Bikes

Dublin Bikes is a public bike rental scheme facilitated by numerous stations around Dublin City primarily within the Canal Cordon. Bikes are available from 5am to 12.30am daily but can be returned 24/7. Dublin bikes offers both pedal and E-bikes with various subscription options from a 1-day ticket to an annual subscription. There are no Dublin Bikes within the vicinity of the site.

Bleeper

BleeperBikes is a station-less bike sharing scheme where users park the bike at designated parking spaces throughout the city with the scheme of extending well beyond the canals and into the north and south of Dublin city. Bleeper operates pay as you go for both pedal and electric bikes, as well as offering a monthly pass. Since Bleeper bikes are station-less, the bike availability in the vicinity of the site cannot be quantified. However, Figure 4-15 displays the operating region.

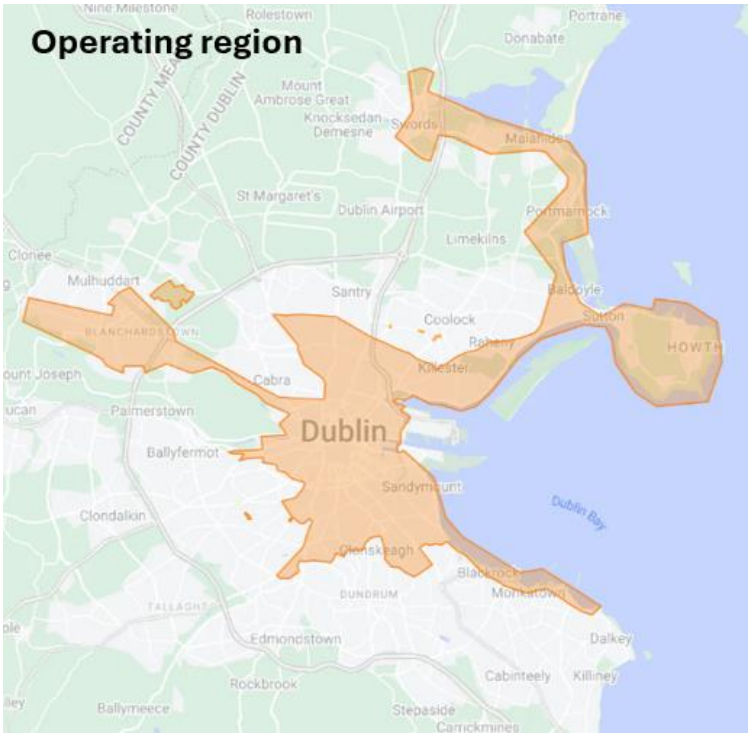

Figure 4-15 – Bleeper Bikes operating zone

Moby

Moby Move Dublin is a 'marked hub' bike sharing scheme where users park and lock the bicycle at a public bike parking stand within the geofence (the geofence covers most of Dublin city centre and smaller areas in south Dublin). There are no marked hubs within the vicinity of the site.

Zipp

Zipp offers a dock-based pay as you go scooter or bike share service. The service operates between 5:00 a.m. - 12:00 a.m. every day within the service area (South Dublin); therefore there are no Zipp bikes within the vicinity of the site.

Bolt

Bolt offers On-demand e-bikes which are available 24/7, with a charge of €0.18 per minute (and an unlock fee of €0.20 after the first 2 months). These shared electric bikes are currently located in Sligo, Kilkenny, Wexford, Bray, and Dún Laoghaire-Rathdown. The bikes are stationed in designated mandatory parking locations on the public realm and private property, as agreed with landowners); therefore there are no Zipp bikes within the vicinity of the site.

5 TRAFFIC IMPACT

5.1 Construction Traffic Impact

Relative to the operational stage, the construction period will be temporary in nature. Construction traffic is only expected to consist of materials delivery and removal vehicles.

It is difficult to assess the exact quantum of traffic that will be generated during the construction period as it will vary throughout the construction process as different activities have different associated transportation needs. However, due to the nature of this development it can be assumed that there will be approximately 100 construction site staff at peak time, and it is expected that the site would generate approximately 40 vehicles during the morning and evening peak hours.

The number of HGVs generated during the construction phase will be evenly spread out throughout the day and in general will not coincide with peak commuter periods.

The following points are noted regarding to construction traffic:

- In general, the construction day will begin and end outside of peak travel hours. As a results, most workers travelling to and from the site will arrive before the a.m. peak hour and depart after the p.m. peak hour.
- On site parking will be prohibited due to the site constraints and to encourage staff to travel by numerous public options serving the area.
- Development of the proposed substructure and superstructure. This will include deliveries of machinery, steel rebar, brick, and concrete, roofing materials, and prefabricated element deliveries on HGVs.
- Material delivery vehicles travelling to and from the site will be spread across the course of the working day meaning the number of HGVs travelling during the peak hours will be relatively low.

Construction traffic associated with the construction of the proposed development will vary during the construction phase. The proposed sequencing of the construction of the proposed development is as follows:

- Initial set-up of the site, including security and construction compound.
- Identifying and locating above and below ground utilities and services at the site.
- Development of the proposed substructure and superstructure. This will include deliveries of machinery, steel, rebar, brick, and concrete deliveries on HGV's.
- Internal finishing, including the mechanical and electrical fit out.
- External landscaping.

To ensure the construction traffic has negligible impact on the surrounding traffic network, construction travel should arrive on site before peak travel times. These peak travel times are highlighted in section 6.2 Mode Share.

Overall, it is expected that the level of traffic generated by the construction works will be negligible during the peak traffic hours, and as a result, it is expected to have negligible impact on the surrounding road network with respect to capacity.

5.2 Operational Stage

5.21 Car Parking

Car parking standards are set out in Appendix 5, Section 4, Table 2 of the Dublin City Development Plan 2022-2028. The parking standards are divided into three zones:

- 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.
- The remainder of the city falls under Parking Zone 3.

The development falls under Parking Zone 2. The relevant maximum parking standards of the Development Plan 2022 – 2028 are tabulated below:

Category	Land-Use	Zone 1	Zone 2	Zone 3
Accommodation	Hotel[1]	None	1 per 3 rooms	1 per room
	Nursing Home Retirement Home	1 per 3 residents	1 per 2 residents	1 per 2 residents
	Elderly Persons Housing Sheltered Housing	1 per 4 dwellings	1 per 2 dwellings	1 per 2 dwellings
	Student Accommodation	None[2]	1 per 20 bed spaces	1 per 10 bed spaces
	Houses Apartments/ Duplexes	0.5 per dwelling	1 per dwelling	1 per dwelling
Civic, Community and Religious	Bank Community Centre Library Public Institution	1 per 350 sq. m. GFA	1 per 275 sq. m. GFA	1 per 75 sq. m. GFA
	Place of Worship	1 per 100 seats	1 per 25 seats	1 per 10 seats
	Funeral Home	4 off street parking spaces	4 off street parking spaces	4 off street parking spaces
Education	College of Higher Education	None	1 per classroom plus 1 per 30 students	1 per classroom plus 1 per 30 students
	Crèche/ Childcare Services[3]	1 per 100sq.m. GFA	1 per 100 sq. m. GFA	1 per 100 sq. m. GFA
	School[4]	None	1 per classroom	1 per classroom
Retail and Retail Service	Café Restaurant and Takeaways	None	1 per 150sq. m. seating area	1 per 150sq. m. seating area
	Public Houses	None	1 per 300 sq. m. NFA	1 per 50 sq. m. NFA
	Club[5]	None	1per 10 sq. m. floor area	1 per 3 sq. m. floor area
	Retail Supermarkets exceeding 1,000sq.m. GFA	None	1 per 100 sq. m. GFA*	1 per 30 sq. m. GFA*
	Other Retail and Main Street	1 per 350 sq. m. GFA	1 per 275 sq. m. GFA	1 per 75 sq. m. GFA
	Retail Warehousing (non-food)	1 per 300 sq. m. GFA	1 per 200 sq. m. GFA	1 per 35 sq. m. GFA

Figure 5-1– Maximum Car Parking Standards based on DCC Development Plan 2022 – 2028

Table 5-1 - Maximum Car Parking Requirements

Category	DCC Development Plan Requirements	Proposed development	Maximum parking spaces req. based on DCC Plan
Accommodation	1 per dwelling	288 apartment and duplex units	288
Community	1 per 275 sq.m GFA	1058 sq.m GFA	4
Creche/ Childcare	1 per 100 sq.m GFA	324 sq.m GFA	3
Retail	1 per 100 sq.m GFA	1611 sq.m GFA	16
Total			**311**

According to the Development Plan the maximum car parking standards required is 311 parking spaces within the development. It is proposed to provide 70 no. car parking spaces, 4 no. loading bays and 4 no. motorbike parking spaces.

These car parking spaces are not designated to any residential apartment and duplex units which allows for greater turnover for spaces and caters for community/ childcare and retail facilities.

However, the Development Plan notes that a reduced car parking provision may be acceptable where the Council is satisfied that good public transport links are already available or planned and/or a Mobility Management Plan for the development demonstrates that a high percentage of modal shift in favour of the sustainable modes will be achieved through the development.

Appendix 5, Chapter 4 Car Parking Standards of the Development Plan 2022 – 2028 states the following in relation to car parking:

"A relaxation of maximum car parking standards will be considered in Zone 1 and Zone 2 for any site located within a highly accessible location. Applicants must set out a clear case of satisfactorily demonstrating a reduction of parking need for the development based on the following criteria:

- *Locational suitability and advantages of the site.*
- *Proximity to High Frequency Public Transport service (10 minutes' walk)*
- *Walking and cycling accessibility/ permeability and improvement to same.*
- *The range of services and sources of employment available within walking distance of the development.*
- *Availability of shared mobility.*
- *Impact on the amenities of surrounding properties of areas including overspill parking.*
- *Robustness of Mobility Management Plan to support the development.*

The site has been reviewed in relation to the accessibility in Section 4 above and is summarised as follows:

Table 5-2 - Dublin CDP 2022 – 2028 Reduced Car Parking Criteria

Criteria	Response	Criteria Met
Locational suitability and advantages of the site	The location of the development is highly accessible to pedestrians and cyclists to a number of commercial and retail developments. The site benefits from excellent	Yes

	public transport accessibility levels including light rail and bus-based services.	
Proximity to Public Transport	The closest bus stop to the site is located at Ballymun Road which is less than 100m from the site. These bus stops are operated by Dublin Bus and GoAhead Ireland. The bus services are as frequent as every 10-minutes.	Yes
Walking and cycling accessibility	It avails a dense pedestrian network in its vicinity. The streets in its vicinity are catered with footways and formal crossings. There are a number of retail facilities that can be accessed within 30-minute walk. There are cycle lanes provided most of the way on Ballymun Road. There is a cycle track provide the entire length of Saint Margarets Road, approximately 500m north of the site This track leads to Ikea and Charlestown Shopping Centre along the west and a few retail and industrial parks to the east.	Yes
Availability of shared mobility	There are 2 GoCar hire stations within a 1km walking catchment of the site.	Yes
Impact on surrounding properties	The site is situated in Ballymun where a mix of land uses are situated including residential, retail, enterprise and leisure amenities. The proposed development would result in a similar level of movements and disturbances compared to the existing adjacent uses and it is therefore not considered that there will be negative impact on the surrounding properties.	Yes

In addition to the relaxation on maximum car parking standards outlined in the Development Plan, Department of Housing, Local Government and Heritage publication titled *'Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities'* actively promotes a reduction in car parking numbers within urban neighbourhoods. This document includes a Specific Planning Policy Requirement (SPPR) in relation to car parking. SPPR 3 (i) states the following:

"In city centres and urban neighbourhoods of the five cities, defined in Chapter 3 (Table 3.1 and Table 3.2) car-parking provision should be minimised, substantially reduced or wholly eliminated. The maximum rate of car parking provision for residential development at these locations, where such provision is justified to the satisfaction of the planning authority, shall be 1 no. space per dwelling."

Table 3.1 outlines density ranges for the city and suburbs areas of Dublin and Cork. Urban neighbourhoods are defined as follows:

"The city urban neighbourhoods category includes: (i) the compact medium density residential neighbourhoods around the city centre that have evolved overtime to include a greater range of land uses, (ii) strategic and sustainable development locations, (iii) town centres designated in a statutory development plan, and (iv) lands around existing or planned high-capacity public transport nodes or interchanges (defined in Table 3.8) – all within the city and suburbs area. These are highly accessible urban locations with good access to employment, education and institutional uses and public transport. It is a policy and objective of these Guidelines that residential densities in the range 50 dph to 250 dph (net) shall generally be applied in urban neighbourhoods of Dublin and Cork"

Chapter 13 of the Dublin City Development Plan 2022-2028 details Strategic Development and Regeneration Areas (SDRA). Ballymun has been designated a SDRA because of its regeneration milestones including new homes for all residents of the flat blocks, new private housing, the construction of a new Main Street with new improved linkages throughout the area, new community facilities, hotels, an arts centre, new parks etc.

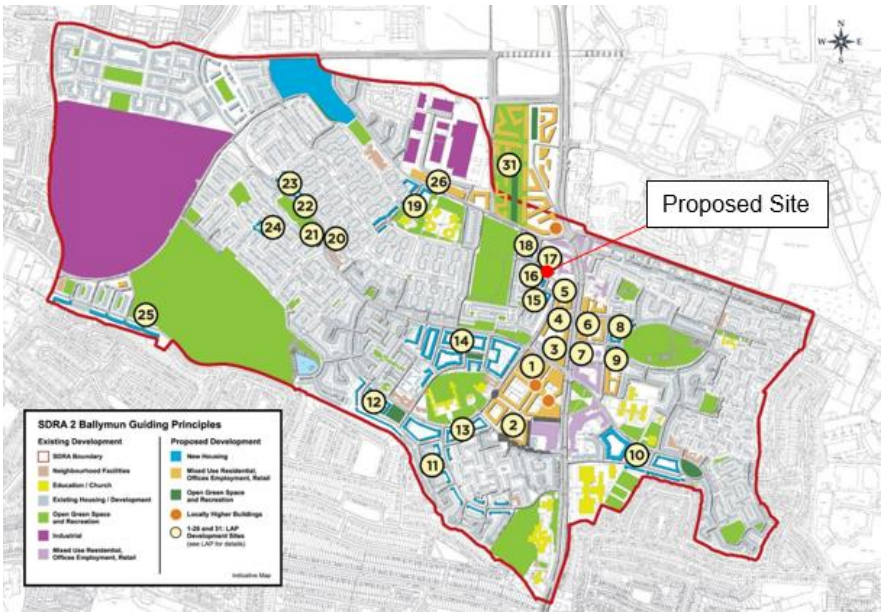

Figure 5-2 – SDRA 2 Ballymun (Extract from Figure 13-3 of the Dublin City Development Plan 2022 – 2028)

Table 3.8: Accessibility, High-Capacity Public Transport Node and Interchanges are defined as those which are located within 500 metres walking distance of an existing or planned BusConnects 'Core Bus Corridor' stop.

Dublin City Councill is working with the National Transport authority (NTA) to bring forward additional and extended public transport routes to services newly developed and existing areas, to address gaps in existing areas to improve access to public transport stops and services and to improve the integration between high density development and public transport nodes. As part of the strategy, indicative radial and orbital core bus corridors were identified. The NTA has refined and altered the proposals across these corridors and have endeavoured to design a new bus system that is efficient and effective. Part of this scheme included the corridor of Ballymun/ Finglas to City Centre.

SPPR 3(i) thereby gives justification for a substantial reduction in the quantum of car parking provision due to the public transportation offerings in close proximity to the site.

The proposed parking provision of 70 no. parking spaces is therefore considered appropriate for the reasons outlined above.

5.2.2 Bicycle Parking

Bicycle parking standards are set out in Appendix 5, Section 4, Table 2 of the Dublin City Development Plan 2022-2028. The parking standards are divided into three zones:

- 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.
- The remainder of the city falls under Parking Zone 3.

The development falls under Parking Zone 2. The relevant parking standards of the Development Plan 2022 – 2028 are tabulated below:

Category	Land-Use	Zone	Long Term	Short Stay/Visitor
Accommodation	Hotel[1]	All Zones	1 per 5 staff	To be determined by the planning authority on case by case basis
	Nursing Home Elderly Persons Accommodation/ Sheltered Housing[2]	All Zones	1 per 5 staff 1 per 5 residents	1 per 10 residents
	Residential Apartment[3]	All Zones	1 per bedroom	1 per two apartments
	Residential Dwelling	All Zones	1 per unit	1 per 5 dwellings
	Student Accommodation	All Zones	1 per bedroom	1 per 5 bedrooms
Civic, Community and Religious	Bank Community Centre Library Public Institution	All Zones	1 per 5 staff	1 per 100 sq. m. Gross Floor Area(GFA)
	Place of Worship	All Zones	-	1 per 20 seats
	Funeral homes	All Zones	-	To be determined by the planning authority on case by case basis
Education	College of Higher Education	All Zones	1 per 5 staff 1 per 2 students	
	Crèche/Childcare Services[4]	All Zones	1 per 5 staff	1 per 10 children
	Primary Schools	All Zones	1 per 5 staff 1 per 5 students	
	Post Primary Schools	All Zones	1 per 5 staff 1 per 5 students	
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 sq. m. GFA
	Retail	All Zones	1 per 5 staff	1 per 100 sq. m. GFA
	Retail Warehousing	All Zones	1 per 5 staff	1 per 100 sq. m. GFA

Figure 5-3 – Bicycle Parking Standards based on DCC Development Plan 2022 – 2028

As broken down in the project description, there are 3 no. 3-bed houses, 2 no. 4-bed houses, 138 no. 1-bed apartments, 87 no. 2-bed apartments and 58 no. 3-bed apartments; a total of 288 dwellings. Therefore, as per the requirements set out by DCC and in the above table, there is a requirement for 491 long-stay residential cycle parking spaces and 143 short stay residential cycle parking spaces.
In addition, to the residential requirements there is a requirement to provide short-term and long-term parking for the 1611 m² Retail/Commercial floor space, 324 m² childcare facility and the 1,058 m² of community, cultural and arts space. The required and provided breakdown is described in Figure 5-4.

Site	m^2	Required		Provided	Location
Site 5- Long Term/ Staff					
Retail/ Commercial Units 1-4	1512	1 per 5 staff	4	22	Secure Storage accessed from courtyard- Min. 22 spaces (incl. 2 cargo)
Community/ Arts/ Culture	247	1 per 5 staff	2		
Childcare/ Creche	324	1 per 5 staff	2		
Site 5- Short Stay					
Retail/ Commercial Units 1-4	1512	1 per 100m^2 short stay	15	40	Stands located to perimeter of block
Community Units 1-2	247	1 per 100m^2 short stay	2	6	Stands located to perimeter of block
Childcare/ Creche	324	1 per 10 Children	5	12	Stands located to at entrance on Balcurris Road
Site 17- Long Term/ Staff					
Retail/ Commercial Unit 1	99.1	1 per 5 staff	1	5	Spaces located in same secure storage as residential
Community Unit 1	433	1 per 5 staff	2		
Site 17- Short Stay					
Retail/ Commercial Unit 1	99.1	1 per 100m^2 short stay	1	6	Stands located to perimeter of block
Community Unit 1	433	1 per 100m^2 short stay	4		

Figure 5-4 – Non-residential cycle parking breakdown

It is proposed to provide 551 no. long stay and 180 no. short stay bicycle parking spaces to serve the housing units. In addition to the cycle spaces for the housing units, 91 no bicycle spaces are proposed to serve the non-residential uses distributed across the site. The provisions exceed the required cycle parking standards set out in appendix 5 of DCCDP.

5.2.3 Traffic Impact

Trip Generation

A review of trip generation factors contained within the TRICS database was carried out. TRICS data is primarily UK based, although a number of Irish sites have recently been included and the number of Irish sites continues to expand. Nevertheless, we consider that TRICS will provide a reasonable indication of traffic generation from the proposed development.

Notwithstanding the above, internal research undertaken by TRICS has shown that there is no direct evidence of trip rate variation by country or region. The use of English, Scottish or Welsh data can be equally applicable to Ireland if users take into account important site selection filtering factors such as levels of population, location type, local public transport provision, and development size and car ownership level, amongst others.

Data supplied for inclusion in TRICS undergoes a procedure of validation testing, and there is no evidence from this procedure suggesting that data from Ireland bears any significant fundamental differences to that from the other countries included. Consequently, we consider that TRICS will provide a reasonable indication of traffic generation from the proposed development.

Table 5-3 - TRICS Trip Rates

TRIP RATE FOR LANDUSE 03 – RESIDENTIAL /L – MIXED AFFORD HOUS (FLATS AND HOUSES) TOTAL VEHICLES Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period.									
	Arrivals			Departures			Totals		
Time Range	No. of Days	Ave DWELLS	Trip Rate	No. of Days	Ave DWELLS	Trip Rate	No. of 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	5	88	0.034	5	88	0.086	5	88	0.130
08:00-09:00	5	88	0.075	5	**88**	**0.122**	5	88	0.197
09:00-10:00	5	88	0.075	5	88	0.104	5	88	0.179
10:00-11:00	5	88	0.066	5	88	0.086	5	88	0.152
11:00-12:00	5	88	0.048	5	88	0.072	5	88	0.120
12:00-13:00	5	88	0.061	5	88	0.077	5	88	0.138
13:00-14:00	5	88	0.066	5	88	0.070	5	88	0.136
14:00-15:00	5	88	0.070	5	88	0.075	5	88	0.145
15:00-16:00	5	88	0.090	5	88	0.075	5	88	0.165
16:00-17:00	5	88	0.100	5	88	0.120	5	88	0.220
17:00-18:00	5	88	0.124	5	88	0.075	5	88	0.199
18:00-19:00	5	**88**	**0.133**	5	88	0.095	5	**88**	**0.228**
19:00-20:00	2	152	0.076	2	152	0.053	2	152	0.129
20:00-21:00	2	152	0.059	2	152	0.040	2	152	0.099
21:00-22:00									
22:00-23:00									
23:00-24:00									

Table 5-4 - Total Number of Estimated Trips for the Development

AM Peak Hour (07:30-08:30)			PM Peak Hour (17:15-18:15)		
Arrivals	Departures	Total	Arrivals	Departures	Total
10	16	26	17	12	29

Table 2.1 in the Transport Infrastructure Ireland (TII) Traffic and Transport Assessment Guidelines, 2014 sets a number of thresholds, above which a Traffic Impact Assessment must be completed.

Table 5-5 - Traffic Management Guidelines Thresholds for Transport Assessments

Traffic Management Guidelines Thresholds for Transport Assessments
Residential development more than 200 dwellings.
Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.
Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive.

Table 2.3 in the TII Traffic and Transport Assessment Guidelines, 2014 sets out a series of further threshold which include:

Table 5-6 - Traffic Management Guidelines Thresholds for Transport Assessments

Traffic Management Guidelines Thresholds for Transport Assessments	
Vehicle Movements	The character and total number of trips in/ out combined per day are such that as to cause concern.

Location	The site is not consistent with the National Guidance or Local Plan Policy, or accessibility criteria combined in the Development Plan
Other Considerations	The development is part of the incremental development that will have significant transport implications.
	The development may generate traffic at peak times in a heavily trafficked/ congested area or near a junction with a main traffic route.
	The development may generate traffic, particularly heavy vehicles in a residential area.
	There are concerns over the developments potentials effects on road safety.
	The development is in a tourist area with potential to cause congestion.
	The planning authority considers that the proposal will result in a material change in trips patterns or raises other significant transport implications.

The number of proposed apartments/ duplex units proposed are 288. With just 26no. vehicle movements in the morning peak hour and 29no. in the evening peak hour, the traffic generated by the proposed development will not exceed 10% of the traffic flow on the Ballymun Road during those hours.

6 PRE – OCCUPATION BASELINE MODE SHARE

6.1 Purpose of the Baseline

This section provides information on the travel behaviour of the existing population of the locality and similar development types. This is necessary to predict the likely travel patterns of future residents at the development sites and identifying existing constraints which may impact upon the sustainability of future development.

The subject site is located within a city suburban area with predominantly residential land uses though there are other land uses nearby within walking distances such as employment, commercial, schools and leisure.

6.2 Mode Share

The NTA's Canal Cordon Report (2022) data has also been investigation to determine the travel trends for the Greater Dublin Area. The analysis highlighted the trend in modes used by the network users when travelling to work or school/ college through various canal cordon points. The summary of the data is for the selected site within the canal cordon points have been summarised and illustrated in the Figure below.

Current Mode Share (2019)	Target Mode Share 2028
Walking 11%	Walking 13%
Cycling 6%	Cycling/Micro Mobility 13%
Public Transport (bus, rail, LUAS) 54%	Public Transport (bus, rail, LUAS) 57%*
Private Vehicles (car, taxi, goods, motorcycles) 29%	Private Vehicles (car, taxi, goods, motorcycles) 17%

Figure 6-1 – Current and Target Mode Share (Source: Dublin City Development Plan 2022 – 2028: Chapter 8 Sustainable Movement and Transport)

The cordon counts indicate a significant increase in active travel as well as a reduction in the use of private car in the area enclosed by the two canals. Currently 71% of people travel into the city by sustainable modes (walking, cycling and public transport). The current mode share is 11% for walking and 6% for cycling providing a total mode share for active travel of 17%. It is acknowledged that some of the major transport infrastructure will progress through planning and construction phases. The plan therefore seeks to significantly grow the mode share for active travel to 26% and public transport to 57%.

Whilst the Canal Cordon data is not specific to social housing developments, it provides indicative travel trends for residential developments and target mode shares for 2028.

The 2022 Irish Census gathers various data from the population of Ireland under sixteen themes, with theme 11 applying to the TMMP:

1. Sex, age and marital status,
2. Migration, ethnicity and religion,
3. Irish language,
4. Families,
5. Private households,

6. Housing,
7. Volunteers,
8. Principal status,
9. Social class and socioeconomic group,
10. Education,
11. **Commuting,**
12. Education,
13. Occupations,
14. Disability, carers and general health,
15. Industries, and
16. Motor car availability and internet access.

The data is collected in areas (counties, small areas, electoral divisions etc.), these areas allow specific locations census responses to be studied. Figure 6-2 displays the site location and all Electoral Divisions (EDs) within a 1km radius of the site.

There are ten EDs composing and surrounding the site; these include Ballymun A, Ballymun B, Ballymun C, Ballymun D, Ballymun E, Ballymun F, Whitehall B, Whitehall C, Airport and Dubber.

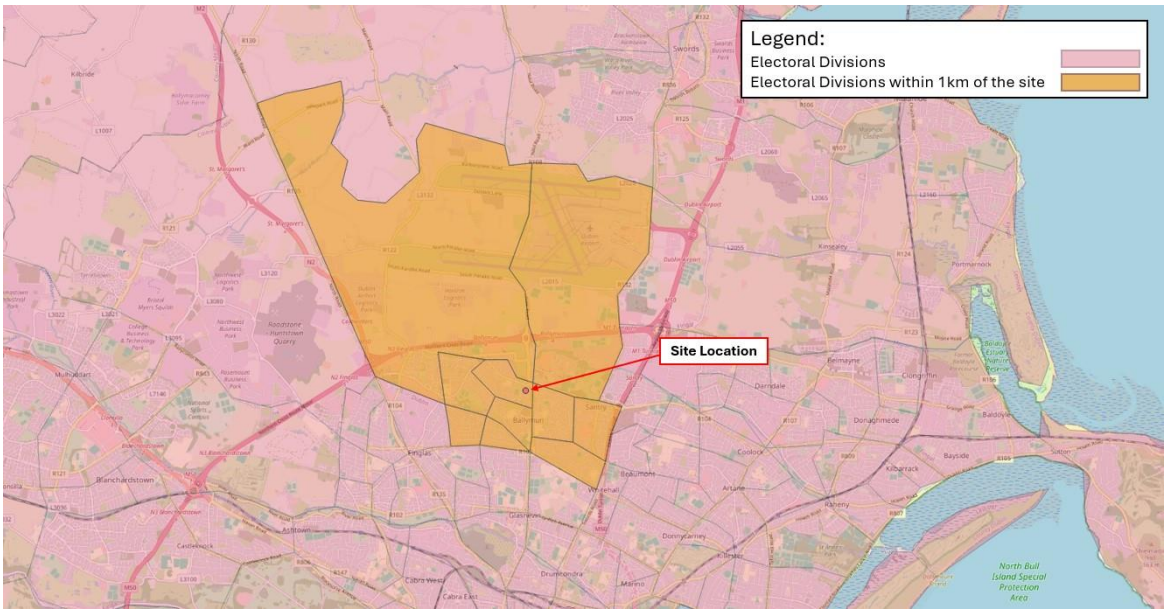

Figure 6-2 – Electoral Divisions within 1km of the site development

Figure 6-3, Figure 6-4 and Figure 6-5 details the travel habits of those living within 1km of the site. A large number of people travel as a car driver at 23% and 12% detailed their main mode of transport was as a car passenger which equates to 35% which is above the canal cordon mode share of 29%. Additionally, the use of public transport is below the canal cordon values and would require a 33% increase to meet the 2028 mode share targets. Walking within the area is on average at 11%, however the cycling mode share percentage is 3% the canal cordon value. With the implementation of the proposed walking, cycling and public transport infrastructure and facilities both the active and public transport modes are expected to increase.

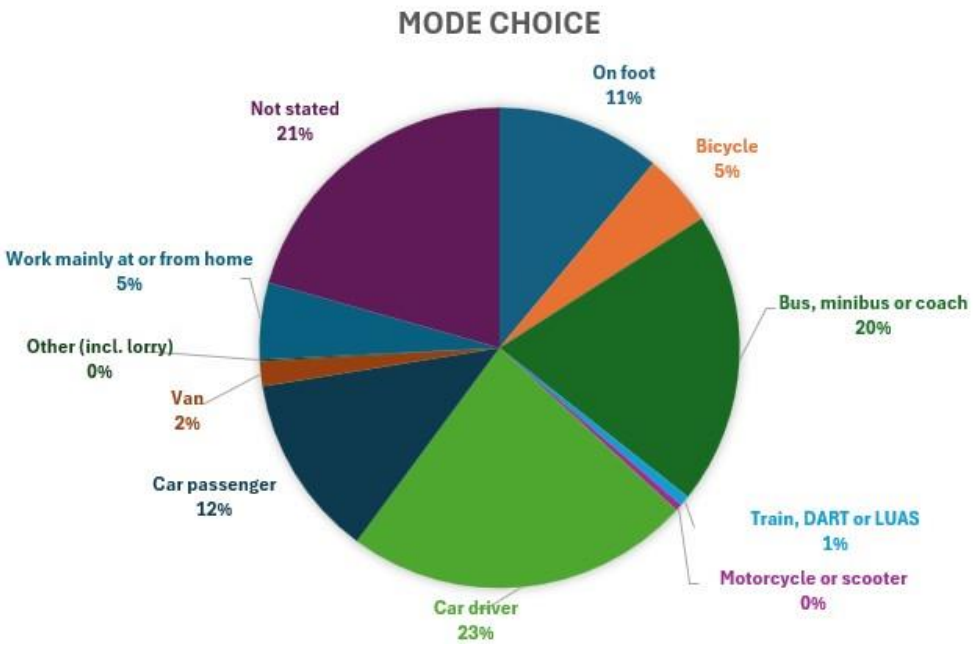

Figure 6-3 – Mode Share of those living within 1km of the site development

The peak travel for those travelling within the area was between 08:01 and 08:30, followed by 07:31 and 08:00. A small percentage travelled before 06:30 and after 09:00. Therefore, the peak AM travel period for the area can be considered between 07:30 and 08:30.

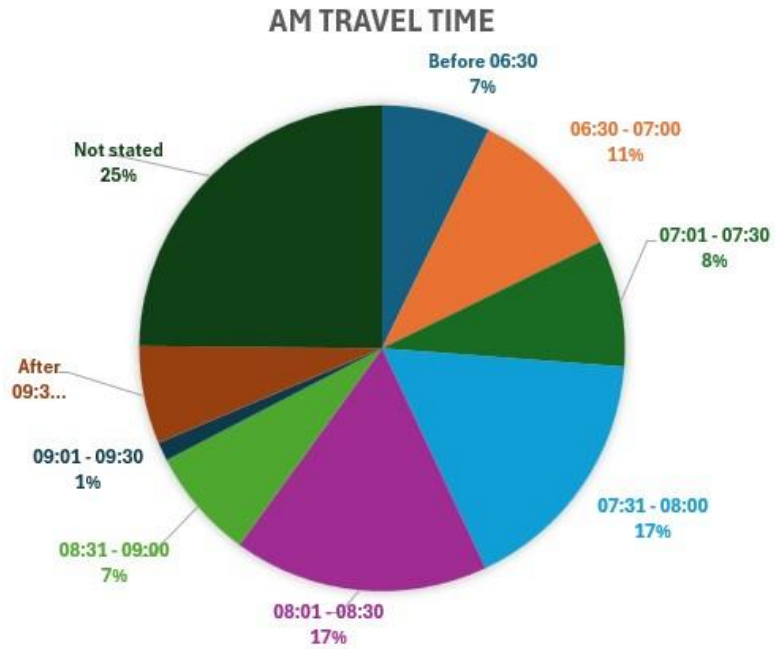

Figure 6-4 – AM peak travel time of those living within 1km of the site development

The most common commute time is between 15 and 30 minutes (30.42%), followed by 30 to 45 minutes (20.26%). Very few of the people living within the area travel for more than 45 minutes.

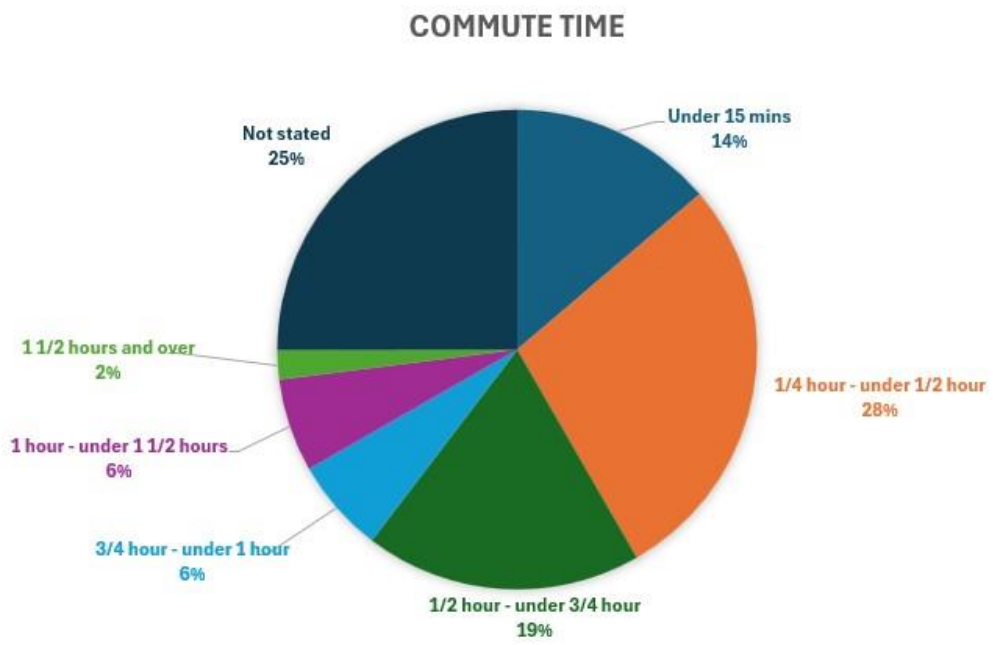

Figure 6-5 – Commute time of those living within 1km of the site development

Since the public transport levels within the area are currently low, the development is not expected to have a negative impact on the surrounding public transport facilities. Additionally, since the parking provisions are limited, the development is also not expected to have a large impact on the surrounding traffic conditions. Those living within the area on average do not travel for more than 45 minutes; accompanied with the active commercial, leisure and residential neighbourhood with good walking and cycling catchments. It can be expected that the residents of the development will avail of active modes of travel.

The development will prioritise encouraging residents to use active and public transport means of travel. Methods of encouragement is described in section 8.

7 AIMS AND OBJECTIVES OF THE TMMP

7.1 Overview

To measure the ongoing success of the TMMP and its various measures, it is important that a series of targets and objectives are set at the outset.

As this is pre-occupation residential TMMP, it is expected that the final targets of the TMMP will be taken forward upon site occupation. As such, the pre-occupation baseline targets should be at this time considered as guidance until post- occupation baseline residential surveys are undertaken.

7.2 Aims and Objectives

The overall aim of the TMMP for the proposed development is to minimise the proportion of single occupancy vehicle trips and address the forecast transport impacts of the end-users of the site. The objectives can be summarised as follows:

- Consider the needs of residents in relation to accessing facilities for employment, education, health, leisure, recreation and shopping purposes, including identifying local amenities available that reduce the need to travel longer distances.

- Reduce the vehicular traffic generated by the development – including developing measures to reduce the need to travel, such as the provision of ancillary facilities (gym, food/ beverage facilities, business area co – working spaces, convenience retail and parcel delivery/ collection services).

- Develop good urban design by ensuring permeability of the development to neighbouring areas and provision of cycle facilities.

7.3 Targets

Targets are the specific quantitative goals based on the objectives described above. Targets are important as they give the TMMP direction from its inception, providing measurable goals.

Since the overall aim of the TMMP is to reduce reliance upon the private car, it is appropriate to set a target which relates to this objective. The primary outcome indicator used will be mode share of the residents of the proposed development.

It will therefore be necessary to collect data to identify and understand the post-occupation baseline and ongoing travel habits, against which the TMMPs progress can be measured. It is recommended that resident's travel surveys will establish the post-occupation baseline travel data for the site and inform the final TMMPs targets.

8 MOBILITY MANAGEMENT MEASURES

8.1 Proposed TMMP Action Plan Measures

TMMPs have a wide range of possible “hard” and “soft” measures from which to choose from with the objective of influencing travel choices. The following section introduces proposed TMMP measures that can be implemented once the site is occupied. The finalised measures within the TMMP will be informed by the insight gained by the Post-Occupation Baseline Travel Survey results.

The proposed residential TMMP Action Plan is summarised into the following sections:

- Mobility Manager (MM).
- Reducing the need to travel.
- Welcome Travel Pack.
- Marketing and Travel Information.
- Personalised Travel Planning.
- Walking.
- Cycling.
- Public Transport.
- Managing Car Use.

8.2 Mobility Manager

A Mobility Manager will be appointed by PPP Company management, and their role will be to manage the implementation of the Residential TMMP for the Ballymun site. The role involves being the main point of contact for travel information, promotion, and improvements. This may also be organised in the form of a residents’ group once the development is operational after PPP Co. The remit of the Mobility Manager includes the following:

- To develop and oversee the implementation of the initiatives outlines in the TMMP Action Plan below.
- To monitor the progress of the plan, including carrying out annual Residential Travel Surveys.
- To actively market and promote the social, economic, and environmental benefits of sustainable travel to residents.
- To provide sustainable travel information, support and advice to residents including available bus service timetables, walking, and cycling maps, car-sharing, cycle hire services, local cycling and walking schemes and events.

8.3 Reducing the need to travel

The provision of on-site services to reduce the need of residents to utilise a vehicle to travel will be crucial to embedding a sustainable travel culture within the site from the outset. On-site services need to be actively promoted to occupants, and will include:

- Outdoor Recreational Areas.
- Childcare Facility.

8.4 Welcome Travel Pack

A 'Welcome Travel Pack' can be provided to all new residents with the intention that each resident is made fully aware of the travel choices available to them. This will also give the best possible opportunity to the new residents to consider more sustainable modes of travel.

The Welcome Travel Pack will include a variety of sustainable travel information and incentives about the development and the wider local area. It can include measures such as:

- Provision of information on services and amenities provided locally (both on-site and nearby), particularly those within walking and cycling distance.
- Maps showing the pedestrian and cycle routes in proximity to the site, including site cycle parking and cycle hire locations; advised routes (with journey times) into the city centre and to public transport interchanges (e.g., Connolly Station).
- Provision of information about local public transport services and tickets including a plan showing the location of bus stops, Luas stops, and bus routes.
- Provision of information on the health benefits of walking and cycling.
- Provision of details of online car-sharing services along with the benefits of car sharing, such as reduced congestion, better air quality, reduction in traffic noise and cost savings to the individuals taking part.
- Provision of information on the financial and environmental costs associated with driving and support regarding tips for green driving techniques.

8.5 Marketing and Travel Information

Marketing and raising awareness will involve directly engaging with individuals and raising awareness of travel options as well the benefits of sustainable and active travel.

The Mobility Manager can market and promote the TMMP to residents of the development in the following ways:

- Production and distribution of the Welcome Travel Pack as described above.
- Production of dedicated printed Travel Options Leaflets (in addition to the Welcome Travel Pack) and online information which can be personalised to suit the individual needs of the site.
- Once travel surveys have been undertaken, additional leaflets can be provided which are tailored to encourage travel by a specific mode of transport.
- Organising events and activities to coincide with Bike Week, European Mobility Week and any other national/ local sustainable travel or community events.
- Displaying regular updates on TMMP targets and activities in communal areas of the residential development.
- Promotion of sustainable travel options to residents, focusing marketing initiatives on area where there is willingness to change and promoting positive messages e.g., reducing congestion and CO_2 emissions, getting fit and active.

8.6 Walking

Walking is the most sustainable and accessible mode of travel. Any individual in fair health can incorporate walking into part of their journey. Furthermore, 30 minutes of moderate activity 5 or more times per week is likely to enhance the health and fitness of the individual. To encourage walking, a number of measures will be considered:

- Promotion of National Walking Month.
- Provision of maps of local walking routes to key destinations in the vicinity of the site.
- Making information on local pedestrian routes and facilities available.
- Raising awareness of the health benefits of walking.

8.7 Cycling

To encourage residents to cycle, the following measures will be implemented or considered:

- Provision of adequate, secure bicycle parking at convenient locations within the development.
- Posting of information on the local cycle network routes on communal notice boards and social media.
- Promotion of Bike Week events in the Ballymun area.
- Promotion of cycle security and bike marking schemes to reduce bike theft.
- Promotion of cycle safety.

8.8 Public Transport

The following measures will be considered to encourage residents and visitors to travel by public transport:

- Provision of up-to-date bus details including timetables/ contact information in the welcome packs on resident notice boards.
- Provision of wayfinding information to access key transport modes.

Cost awareness can be a contributing factor in the decision to travel by car or public transport. Residents can be made aware of the savings that can be made by purchasing season and other discounted ticket types.

8.9 Managing Car Use

To encourage lower levels of car use and private car ownership i.e. promote a car free lifestyle, the following measures can be considered:

- Provision of details for the proposed car club and current car club operators within the vicinity of the site.

9 SERVICE DELIVERY MANAGEMENT PLAN

In addition to the residential units, the development includes the following facilities that require delivery vehicles to supply goods, services, food etc. essential to the functioning of facilities:

- Provision of 1228m^2 retail/ other non-residential floor space at ground floor level facing Ballymun Road/ St. Pappins Square (Site 5 and 17).
- Provision of 193m^2 ground floor childcare/ creche facility (Site 5).
- Provision of 685m^2 ground floor community, cultural and arts space (Site 5 and 17).

The operators of each facility will be encouraged/ instructed to apply the following service delivery criteria to all their service suppliers in accordance with SMT 15 'Last-Mile' Delivery as stated in Chapter 8: Sustainable Movement and Transport of the Dublin City Development Plan 2022-2028.

- No large articulated trucks will be allowed.
- Small to medium size vans will be encouraged.
- Except in special circumstances, large vans will be discouraged.
- All service delivery trucks must attend outside the off peak traffic times e.g to avoid coinciding with the morning drop off and afternoon pick ups at the creche.

It is not possible to accurately predict the volume of traffic that will be generated by each facility, but the current estimate is:

- 1228m^2 ground floor retail/ commercial – 5 medium size vans per week and 5 small size vans per week.
- 193m^2 ground floor childcare/ creche – 5 medium size vans per week.
- 685m^2 ground floor community – 5 small vans per week.

A total of 4 loading bays will be provided within the development; the locations of the loading bays are shown in Figure 9-1 below. Parking for delivery and service vehicles has been provided for through the inclusion 1no. loading bay located at Site 18, 1no. loading bay located at Site 16. 1no. loading bay located at Site 15 and 2no. loading bays located at Site 5. Any servicing and delivery should utilise these internal loading bays as servicing cannot take place along the CBC Bus Connects Corridor / Ballymun Road.

It is expected that persons using all three non-residential facilities i.e. community use, childcare and retail, will travel by foot or cycle and will not require car parking spaces close to each facility.

Figure 9-1– Proposed Loading Bay Locations

10 MONITORING AND REVIEW

10.1 Monitoring and Review

The monitoring of travel behaviour is vital to measure progress towards targets. Monitoring may be undertaken by the management company after occupation.

The MM will consult with the occupiers to promote the concept of the TMMP, as well as identifying objectives for encouraging active travel.

Monitoring surveys will be conducted at intervals following occupation of the development. The Mobility Manager Coordinator (MMC) will organise surveys aimed at obtaining updated information on the travel patterns of the residents. The TMMP will be updated on the receipt of survey results.

The MM will be responsible for monitoring on-site and off-site facilities for sustainable modes. It will be the duty of the MMC to report any significant issue observed or any useful comments received from residents on off-site facilities.

10.2 Data Collection Analysis

As the development, has not yet be constructed, it is not possible to undertake any travel surveys.

To understand travel habits, travel surveys will be distributed to all residents after occupation. Recipients will be encouraged to participate, and the surveys would extract the following key information:

- Place of work/study.
- Usual mode of travel and reason for modal choice.
- Attractiveness of various sustainable modes.
- Any barriers of sustainable modes.
- Initiatives that would encourage residents to travel more sustainably.

The information obtained will be used to undertake travel performance indicator and modal split analysis.