

**PROPOSED PART 8 RESIDENTIAL DEVELOPMENT
BALALLY, SANDYFORD, DUBLIN 16**

TRAFFIC MOBILITY MANAGEMENT PLAN

**DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL
December 2023**

Contents Amendment Record

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CONTENTS

	Page No.
1 INTRODUCTION.....	1
1.1 Introduction	1
1.2 Site Overview	2
1.3 Proposed Development	3
1.4 Report Structure	4
2 MOBILITY MANAGEMENT CONTEXT	5
2.1 What is Mobility Management	5
2.2 The Benefits of Mobility Management	5
2.3 Mobility Management Plan Objectives	5
2.4 Making Residential Mobility Management Plans Work	6
3 PLANNING POLICY CONTEXT	7
3.1 Planning Policy Overview	7
3.2 National Policy Context	7
3.2.1 Ireland 2040 Our Plan – National Planning Framework	7
3.3 Regional and Local Policy Context	7
3.3.1 Greater Dublin Area Transport Strategy, 2022 – 2042	8
3.3.2 Greater Dublin Area Cycle Network Plan, 2013	9
3.3.3 Dun Laoghaire – Rathdown County Development Plan 2022 – 2028.....	10
4 BASELINE REVIEW OF EXISTING TRANSPORT NETWORK.....	12
4.1 Overview	12
4.2 Existing Traffic Conditions	12
4.3 Existing Pedestrian / Cyclist Environment	13
4.3.1 Existing.....	13
4.3.2 Proposed.....	15
4.4 Public Transport Infrastructure	16
4.4.1 Existing.....	16
4.4.2 Proposed.....	18
4.5 Other	19
4.5.1 Car Sharing	19
4.5.2 Bike Sharing	20
5 PUBLIC TRANSPORT IMPACT	21
5.1 Public Buses	21

5.2 Public Trains	22
6 TRAFFIC IMPACT	23
6.1 Construction Traffic Impact	23
6.2 Operational Stage	24
6.2.1 Car Parking	24
6.2.2 Bicycle Parking	24
7 PRE – OCCUPATION BASELINE MODE SHARE	27
7.1 Purpose of the Baseline	27
7.2 Mode Share	27
8 AIMS AND OBJECTIVES OF THE TMMP	33
8.1 Overview	33
8.2 Aims and Objectives	33
8.3 Targets	33
9 MOBILITY MANAGEMENT MEASURES	35
9.1 Proposed TMMP Action Plan Measures	35
9.2 Mobility Manager	35
9.3 Reducing the need to travel	35
9.4 Welcome Travel Pack	36
9.5 Marketing and Travel Information	36
9.6 Walking	37
9.7 Cycling	37
9.8 Public Transport	37
9.9 Managing Car Use	38
10 MONITORING AND REVIEW	39
10.1 Monitoring and Review	39
10.2 Data Collection Analysis	39

1 INTRODUCTION

1.1 Introduction

Dún Laoghaire-Rathdown County Council proposes a residential development on a site located in the townland of Balally, Blackthorn Drive, Sandyford, Dublin 16. The site is bound by Cedar Road to the north, Balally Shopping Centre to the west, Blackthorn Drive to the south and open space to the east.

The purpose of this document is to define a Traffic Mobility Management Plan (TMMP) for the proposed development.

The TMMP provides an assessment of existing traffic and mobility issues relating to 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 seek 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 proposed site is located at Balally, a townland and residential area between Dundrum Village and the Sandyford Industrial Estate. The site is located approximately 8.25km to the south of Dublin City Centre and 1.70km to the southwest of Dundrum as displayed in Figure 1-1.



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

The primary routes serving Balally are:

- The M50 motorway, which begins at Dublin Port, running northward through the Dublin Port Tunnel and along a portion of the Airport Motorway. It then turns west at its junction with the M1, circling the northern, western, and southern suburbs of Dublin, before merging with the M11 at Shankill in Southeast Dublin. The Sandyford interchange is located approximately 600m to the south of the development site.
- The R133 regional road running along the eastern border of the site (starting at Goatstown and running in a southerly direction towards Sandyford before acting as a link road for the M50).
- The R117 regional road to the eastern border of the site (starting in Harcourt Road passing through Grand Canal and through the suburbs of Ranealgh, Dundrum, Sandyford before merging with the N11 at Enniskerry).

A large residential area lies to northwest (Hawthorns Road) and to the south (Blackthorn) of the site. There is a commercial centre to the west of the site that accommodates a

SuperValu, Pharmacy, Bar and Dry Cleaner & Launderette and to the east of the site is the Sandyford Business Park.

1.3 Proposed Development

The proposed development includes:

- i. 62 no. apartment units in a 5-6 storey building over undercroft area, including 31 no. one bed units; 21 no. two bed units; and 10 no. three bed units;
- ii. 1 no. community facility of 249sqm;
- iii. Energy Centre at sixth floor level and an external plant area set back at fifth floor roof level.
- iv. Undercroft area at lower ground level comprising (a) 1 no. ESB substation (b) car and bicycle parking; (c) bin storage; (d) bulk storage area; and (e) supporting mechanical, electrical and water infrastructure.
- v. Landscaping works including provision of (a) communal open space; (b) new pedestrian and cycle connections linking Blackthorn Dive with Cedar Road; and (c) public realm area fronting onto Blackthorn Drive.
- vi. All associated site development works including (a) vehicular access off Cedar Road; (b) pedestrian and cycle access off Blackthorn Drive; (c) public lighting; (d) varied site boundary treatment comprising walls and fencing; and (e) temporary construction signage.

There is car and bike parking with plant areas at lower ground floor and a creche and apartment units at upper ground floor level; refer to Figure 1-2.



Figure 1-2 – Proposed Lower Ground and Upper Ground Floor Levels

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: Mobility Management Context.
- Chapter 3: Planning Policy Context.
- Chapter 4: Baseline Review of Existing Transport Network.
- Chapter 5: Traffic Impact.
- Chapter 6: Pre-Occupation Baseline Mode Share.
- Chapter 7: Aims and Objectives of the TMMP.
- Chapter 8: Mobility Management 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.
- 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:

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.

The Local Community

- Make local streets less dangerous, less noisy and less 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.

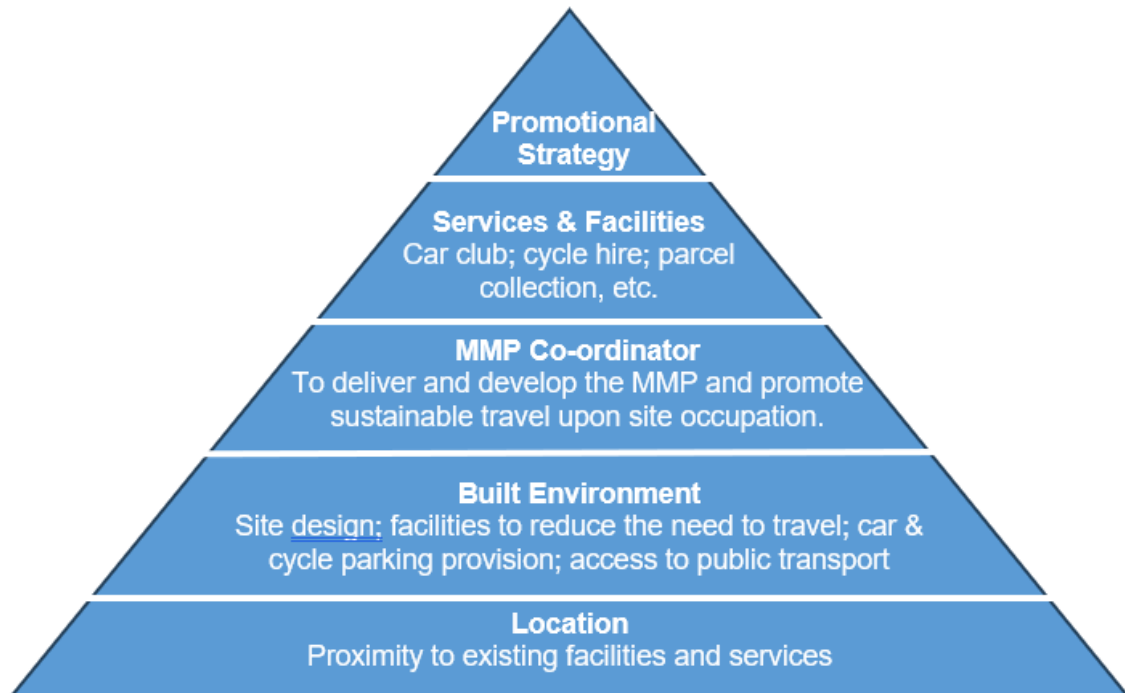


Figure 2-1 – The Travel Plan Pyramid

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 PLANNING POLICY CONTEXT

3.1 Planning Policy 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 Balally 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

The current Transport Strategy for the Greater Dublin Area provides a framework for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (GDA) (Dublin, Meath, Wicklow, and Kildare).

The strategy set out high-level proposals for walking, cycling, public transport and road networks, as well as parking management measures and other supporting measures for the entire GDA. The strategy aims to “To provide a sustainable, accessible, and effective transport system for the GDA which meets the regions climate change requirements, serves the needs of urban and rural communities, and supports the regional economy.

The Transport Strategy seeks to address all aspects of land-based transport with the GDA and set outs a variety of actions covering:

- Planning for Sustainable Transport.
- Integration and Inclusion.
- Walking, Accessibility and Public Realm.
- Cycling and Personal Mobility Vehicles.
- Public Transport – Bus, Luas, and Rail.
- Road.
- Traffic Management and Travel Options.
- Freight, Delivery and Servicing.
- Climate Action Management.

The strategy also highlights how it is necessary for the expansion of attractive public transport alternatives to car travel, to reduce congestion and emissions and enable the transport sector to cater for the demands associated with longer term population and employment growth in a sustainable manner.

The National Transport Authority (NTA) has developed a strategic transport plan, known as BusConnects, which will transform and overhaul the current bus network to provide a more efficient network. The proposed network will deliver the ‘next generation’ of bus corridors on the busiest routes and redesign routes with the aim of offering fast, predictable, and reliable bus journeys.

BusConnects is part of the overall Greater Dublin Area Transport Strategy and aims to overhaul the current bus systems in the Dublin Region through several measures, as outlined below. The measures will improve public transport access and reliability for future residents of the proposed development. The BusConnects programme includes:

- Building a network of “next generation” core bus corridors (CBC) on the busiest bus routes to make bus journeys faster, predictable, and reliable.
- Introducing Bus Rapid Transit, a higher quality of bus systems, on three of the busiest corridors.
- Completely redesigning the network of bus routes to provide a more efficient network, connecting more places, and carrying more passengers.
- Developing a state-of-the-art ticketing system using credit and debits cards or mobile phones to link with payment accounts and making payment much more convenient.
- Implementing a cashless payment system to vastly speed up passenger boarding times.
- Revamping the fare system to provide a simpler fare structure, allowing seamless movement between the different transport services without financial penalty.
- Implementing a new bus livery providing a modern look and feel to the new bus systems.
- Transitioning to a new bus fleet using low-emission vehicle technologies.

The Green Line Capacity Enhancement (GLCE) Project has been identified in the NTA's Transport Strategy for the Greater Dublin Area. As set out in the TII Publication 'Luas Green Line – Peak Hour Capacity Requirements South of Charlemont' (2019), “The primary objective of the GLCE project is to optimise the public transport network along Dublin's southeast corridor and cater for the future demand for services, ensuring optimal use of existing infrastructure in advance of other major public transport investments”.

Phase 1 which provides the following improvements to the Luas Green Line has been completed:

- Forty percent overall increase in service capacity.
- Increase of 3,000 passengers per direction per hour.
- Future proof line capacity into 2030's.
- Purchase of eight new trams.
- Increase length of the existing fleet (26 trams) to 55m long.
- Increase tram capacity.
- Increase service frequency.

Phase 2 which involves increased frequency of service by operating 30no. 55m trams per hour (in each direction) – one every two minutes, is at the project planning and design stage. Included in the NTA's Transport Strategy are proposals to extend the Luas Green Line from Brides Glen to the Bray Area.

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. GDA Cycle Network Plan, consists of the Urban Network, Inter-Urban Network and Green Route Network for each of the seven Local Authority areas comprising the GDA was adopted as part of the GDA Transport Strategy 2022-2042. The counties covered by this plan includes:

- Dublin City Council (DCC)
- South Dublin County Council (SDCC)
- Dun Laoghaire Rathdown County Council (DLRCC)
- Fingal County Council (FCC)
- Meath County Council (MCC)
- Kildare County Council (KCC)
- Wicklow County Council (WCC)

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 Dun Laoghaire – Rathdown County Development Plan 2022 – 2028

The Dun Laoghaire – Rathdown County Development Plan 2022 – 2028 sets out an overall vision for the county that includes strategies for planning and sustainable development over the period of 2022 – 2028. Chapter 5 - Transport and Mobility - of the Development Plan, the Council sets out its overall policy as “Avoid – Shift – Improve” as indicated in the Figure 3-1.

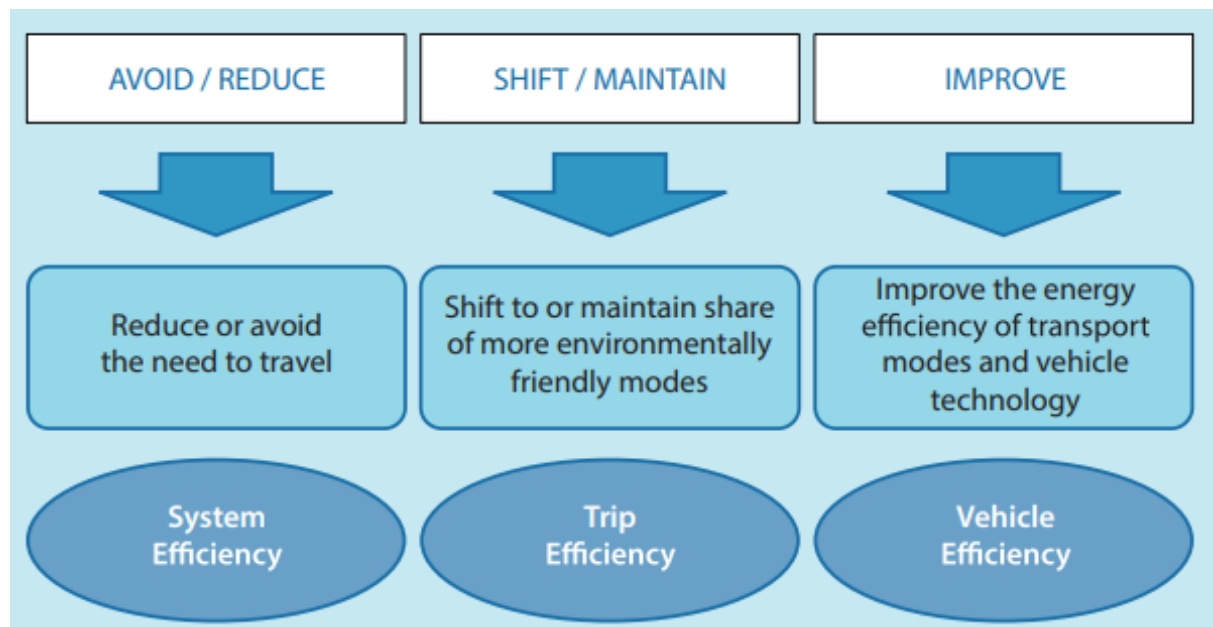


Figure 3-1 – Avoid – Shift – Improve (Dun Laoghaire – Rathdown CDP 2022 – 2028)

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

Table 3-1 – Extracts from Dun Laoghaire – Rathdown CDP 2022 – 2028 Policies

Policy No.	Details
T5	Public Transport Improvements To expand attractive public transport alternatives to car transport by optimising existing or proposed transport corridors, interchanges, developing new park and rides, taxi ranks and cycling network facilities at appropriate locations.
T6	Quality Bus Network/ Bus Connects To co-operate with the NTA to facilitate the implementation of the bus network measures as set out in NTA'S Greater Dublin Area Transport Strategy, 2022 – 2042 and the BusConnects Programme, and to extend the bus network to other areas where appropriate.
T8	Green Line Capacity Enhancement Project To promote, facilitate and co-operate with other agencies in supporting The Luas Green Line Capacity Enhancement Project to cater for the demand for Luas Trips in the County.
Policy No.	Details
T11	Walking and Cycling To secure the development of high quality, fully connected and inclusive walking and cycling network across the county and the integration of walking, cycling and physical activity with placemaking including public realm permeability improvements.
T12	Footways and Pedestrians Routes To maintain and expand the footway and pedestrian route network to provide for accessible, safe pedestrian routes within the County.
T16	Travel Demand Management To implement Travel Demand Management measures aims at reducing the demand for travel and increasing the efficiency of the transport network.
T26	Traffic and Transport Assessments and Road Safety Audits To require Traffic and Transport Assessments and/or Road Safety Audits for major developments – in accordance with the TII's 'Traffic and Transport Assessment Guidelines' (2014) - to assess the traffic impacts on the surrounding road network and provide measures to mitigate any adverse impacts - all in accordance with best practice guidelines.
T31	Accessibility To support suitable access for people with disabilities, including improvements to transport, streets, and public spaces.

4 BASELINE REVIEW OF EXISTING TRANSPORT NETWORK

4.1 Overview

This 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 Existing Traffic Conditions

Drummartin Link Road is a single carriageway to the north of that junction at the Beacon and then a dual carriageway to the south. The road includes wide footpaths and cycle tracks on both sides of the road. There is adequate street lighting. The carriageway is separated by a refuge island where pedestrians can stop before finishing crossing the road. The traffic signals on the Drummartin Link Road – Blackthorn Drive junction provide for a pedestrian crossing phase. Kerbs are dished and tactile paving is provided.



Figure 4-1 - Existing Road Network

Blackthorn Drive, along the eastern boundary of the site, has the same features as Drummartin Road. The road includes wide footpaths and cycle tracks on both sides of the road. There is adequate street lighting. The carriageway is separated by a refuge island where pedestrians can stop before finishing crossing the road. The traffic signals on the Drummartin Link Road – Blackthorn Drive junction provide for a pedestrian crossing phase. Kerbs are dished and tactile paving is provided.

4.3 Existing Pedestrian / Cyclist Environment

This section details and examines the existing and proposed pedestrian and cyclist environment, facilities and infrastructure in the vicinity of the site.

4.3.1 Existing

In the vicinity of the development there is currently a good existing pedestrian network. Majority of the pedestrian network includes footpaths on either side of the road and street lighting. There are many local creches, school, convenience shops and supermarkets, and medical centre within each walking distance to the site. The local amenities and walking catchment are shown in Figure 4-2.

- There is a commercial/ retail centre to the immediate eastern boundary of the site within a few minutes of walk.
- Queen of Angels Primary School is within a 10-minute walk from the site.
- Ballawley Lodge Montessori School is within a 15-minute walk.
- Sandyford Business Park is within a 20-minute walk.
- St. Tiernan's Community School is within a 30-minute walk.
- Dundrum Town Centre and Dundrum Medical Health Centre are within a 30-minute walk from the site.

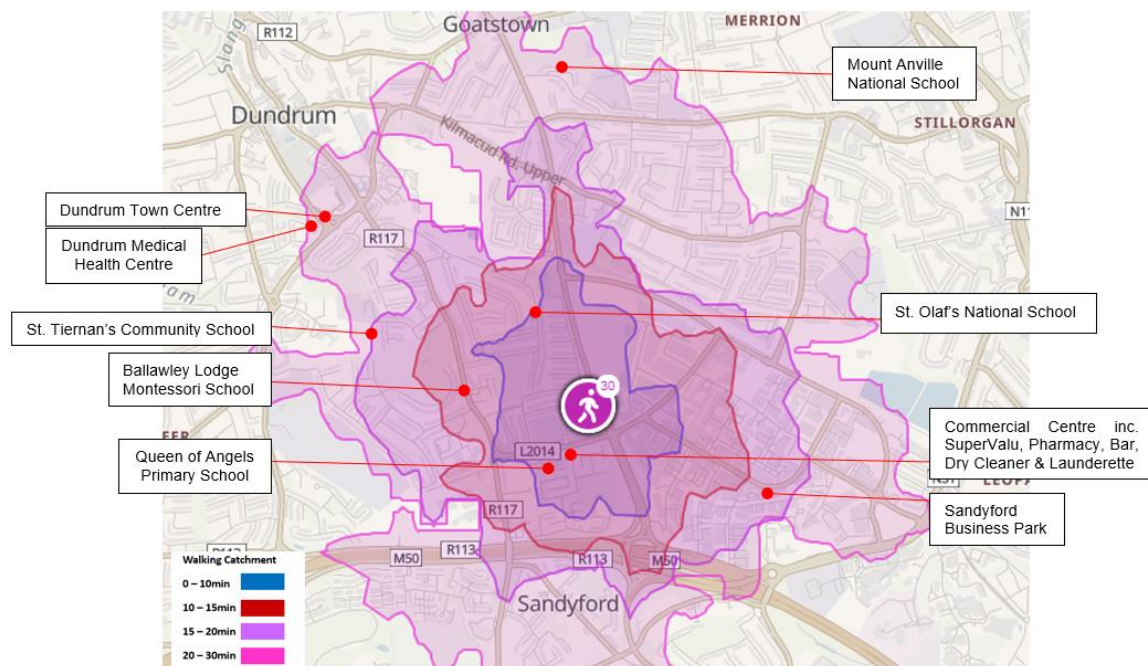


Figure 4-2 – Walking Catchment

The site is also highly accessible by cycling:

- Sandyford, Dundrum and Goatstown are within a 10-minute cycle from the site.
- Stepaside, Ballyogan, Foxrock, Leopardstown, Stillorgan, Clonskeagh, Windy Arbour and Ballinteer are within a 15-minute cycle.
- Carrickmines, Deansgrange, Blackrock, Booterstown, Donnybrook and Milltown are within a 20-minute cycle.
- Ballyboden, Templeogue, Harolds Cross, The Liberties, Ranelagh, Ringsend, and Dun Laoghaire are within a 30-minute cycle.

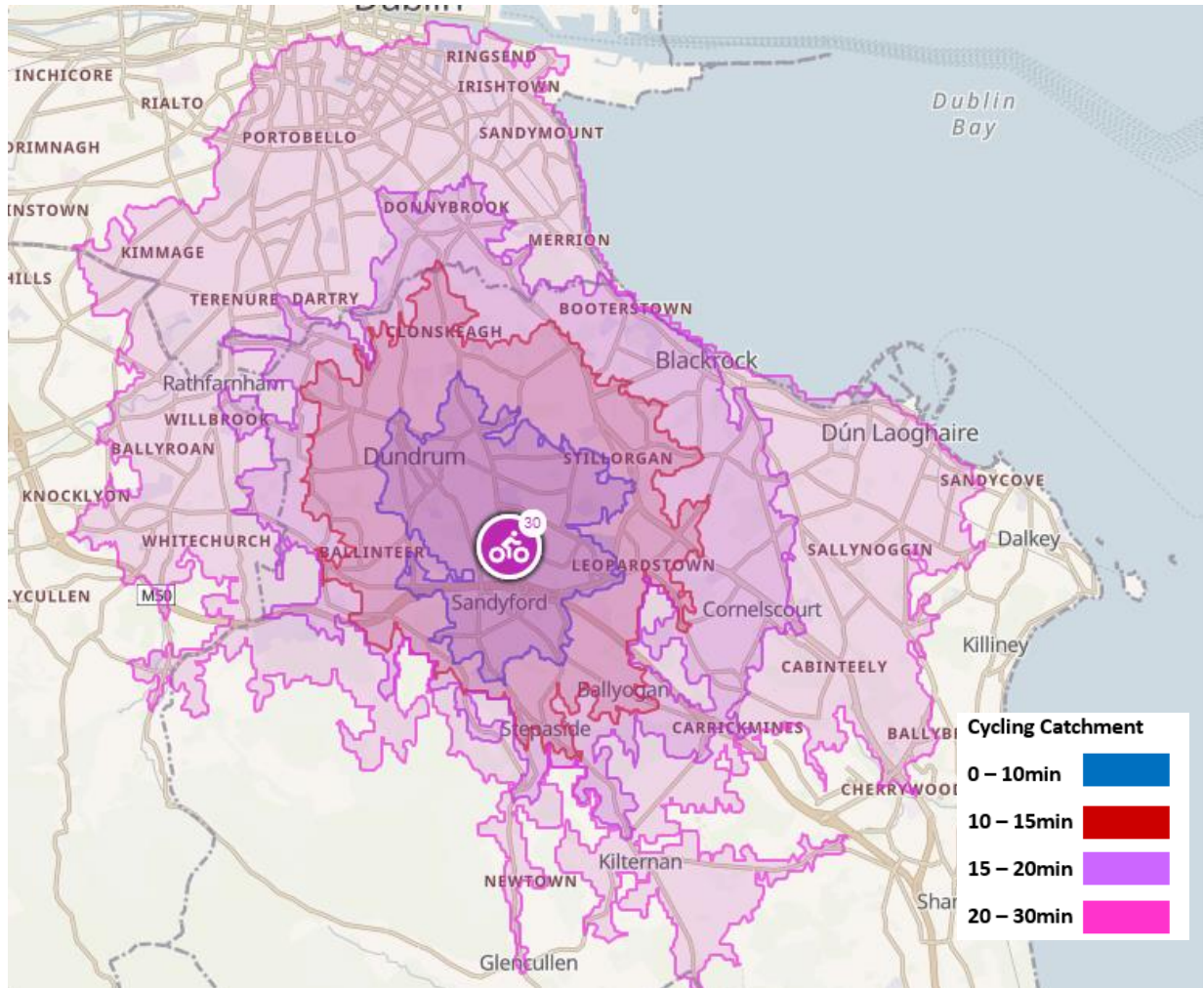


Figure 4-3 – Cycling Catchment

The NTA has surveyed the cycle facilities for the greater Dublin Area (GDA) as part of the GDA Cycle Network Plan. An extract from this plan showing the existing facilities in the vicinity of the proposed development is shown below. Immediately adjacent to the site there are 'C2 – Cycle Tracks'. Drummartin Link Road and Blackthorn Road are 'C2 – Cycle Tracks'. Surrounding roads are 'C3 – Cycle Tracks' and 'C1 – Cycle Tracks'.

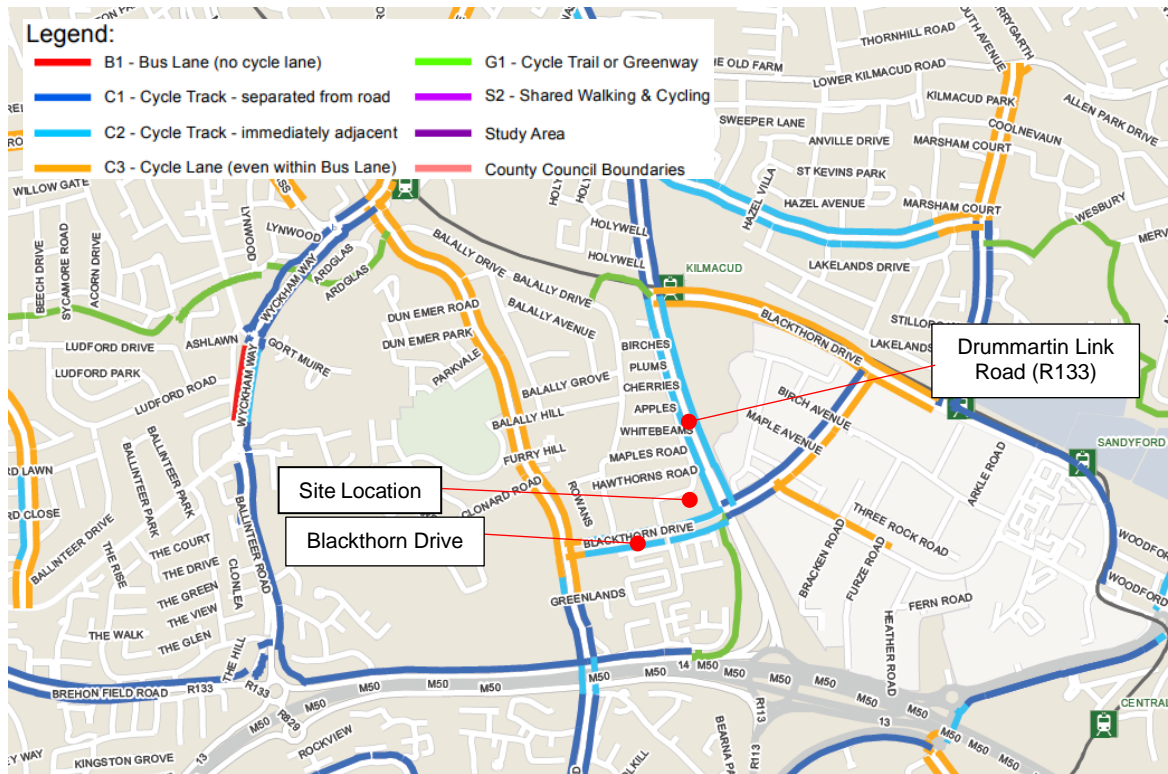


Figure 4-4 – Existing Cycle Network Map (Source: National Transport Authority)

4.3.2 Proposed

Currently, there are high quality cycling facilities along Drummartin Link Road and Blackthorn Drive as part of the BusConnects Programme. The cycle lanes are segregated from the bus lanes and general traffic lanes as far as is practicable.

The Greater Dublin Area (GDA) Cycle Network Plan aims to expand the cycle network in GDA. Route 11 is a key route around the site that is part of the Dublin South Central Cycle network Route 11 starts along Ranelagh Road and Clonskeagh Road to Goatstown Cross with branches:

- Route 11C: South from Goatstown Cross on Drummartin Link Road/ Kilgobbin Road/ Ballyogan Road to Carrickmines.
- Route 11D: From Taney Road/ Overend Way/ Wyckham Way to Ballinteer.
- Route 11E: From Dundrum along Sandyford Road/ Enniskerry Road to Stepside (and rural route onward to Enniskerry and the Wicklow Mountains), with spur north into Dundrum Village.

There are six orbital routes in the Dublin South Central Sector that provide cross-links between the radial routes and give access to destinations within this sector. They key orbital routes around the site are as follows:

- Route SO5: From Dun Laoghaire to Dundrum via Stillorgan and westward to Ballyboden.
- Route SO6: From Dun Laoghaire to Tallaght via Sandyford and Ballinteer.



Figure 4-5 – Proposed Cycle Network Map

4.4 Public Transport Infrastructure

This section details and examines the existing and proposed public transport environment, facilities and infrastructure in the vicinity of the site.

4.4.1 Existing

Bus

As graphically illustrated in Figure 4-6, the development site is well situated to benefit from public bus connections with Table 4-1 detailing the frequency of services per day. The closest bus stops to the site are located along the Blackthorn Drive which is within a few minutes walking distance of the site. The 11 bus route is close to the site within 10 minutes walking distance on Blackthorn Road with services every 15-30minutes daily.

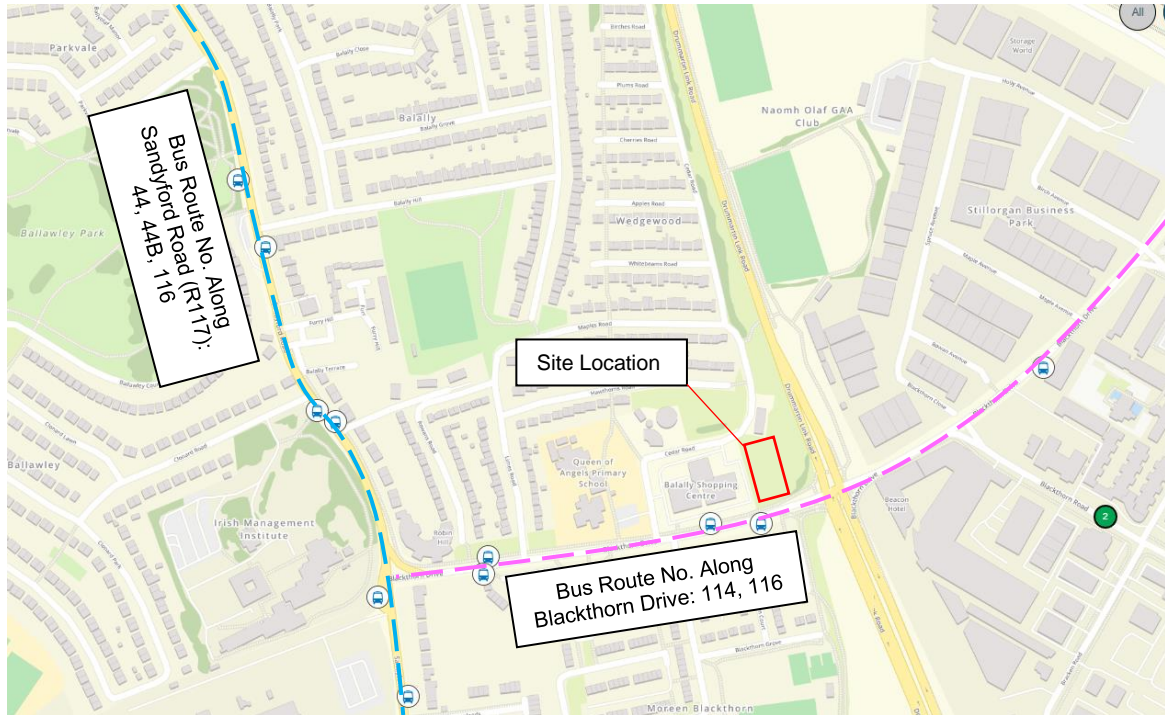


Figure 4-6 – Bus Stops in the Vicinity of the Site (Source: www.journeyplanner.transportforireland.ie)

Table 4-1 - Bus Timetable

Operator	Route No.	Route	No. of services		
			Monday to Friday	Saturday	Sunday
Dublin Bus	44	DCU – Larkhill – O’Connell Street – Dundrum – Stepside – Enniskerry	From 6:35 – 22:30 service every 45 mins	From 7:00 – 22:30 service every hour	From 8:00 – 22:30 service every hour
	44B	Dundrum Luas Station – Dundrum – Sandford – Glencullen	From 7:15 – 18:10 service every hour	No service	No service
	116	Whitechurch – Dundrum – Sandford – Stillorgan – Parnell Square	1 service only – leaves at 7:30	No service	No service
Transport for Ireland	114	Rockview Estate – Sandford Luas – Newtown Park Avenue – Blackrock Station	From 7:40 – 23:45 service every 55 mins	From 9:50 – 23:45 service every hour	From 12:50 – 21:50 service every 55 mins
	S8	Citywest – Tallaght – Ballyboden – Kingston – Sandford – Stillorgan – Dun Laoghaire	From 5:00 – 23:30 service every 20 mins	From 5:00 – 23:30 service every 30 mins	From 7:00 – 23:30 service every 30 mins

Luas/Light Rail

The Green Luas connecting Cherrywood to the City Centre passes through the area. The closest Luas stop to the site is the Kilmacud Luas stop on Drummartin Link Road approximately 1km to the north of the site, a 9-minute walk or a 3-minute cycle, refer to Figure 4-7. The frequency of the trains are every 3 minutes at peak times.

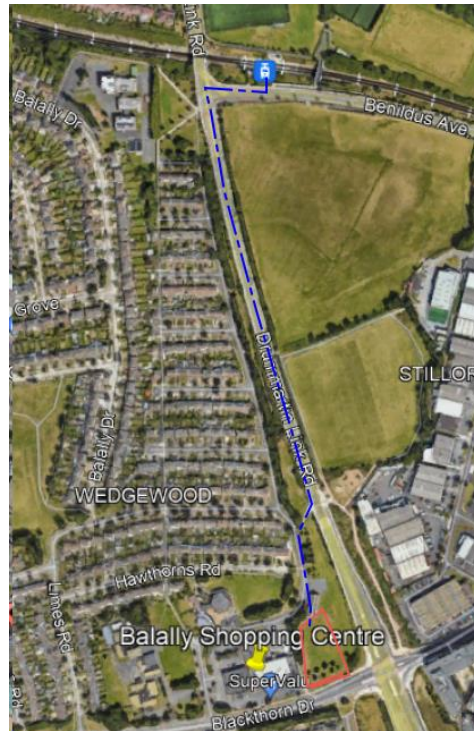


Figure 4-7 – Distance to LUAS Station

4.4.2 Proposed

Bus Connects is a National Scheme to improve Bus services within Dublin, Limerick, Cork and Galway. The scheme aims to improve Bus and cycle lane infrastructure, provide network redesign, state of the art ticketing system, new bus livery, new bus stops and shelters, zero transmission bus fleets, new park and rides and a simpler fare structure to encourage those to use public and active travel modes of transportation. The scheme includes eight key spines (spines A to G) which all travel to Dublin City Centre, each spine will have multiple additional stems of the spines (i.e A1, A2, A3). In addition to the spines there will be a series of orbital routes connecting Dublin together. The Proposed Scheme is a key measure that delivers on commitments within the National Development Plan (2021-2030), the Transport Strategy for the Greater Dublin Area (2016-2035) the Climate Action Plan (2021) and the National Planning Framework 2040.

The Core Bus Corridor (CBC) infrastructure works will include the following radial routes and from the city centre:

- The Bray to Centre CBC which will run through Shankill and along the N11.
- The Blackrock to Merrion CBC which will run along Temple Hill, Frascati Road and Rock Road.
- The UCD to Ballsbridge CBC which will run along the N11 and Nutley Lane.

The BusConnects programme will improve access to bus services close to the proposed development. As illustrated below, the subject site is located close to an Orbital Route S8. The S8 is the outer south orbital route connecting Tallaght, Sandyford, and Dun Laoghaire with frequencies of every 20 minutes/ 15 minutes at peak hours.

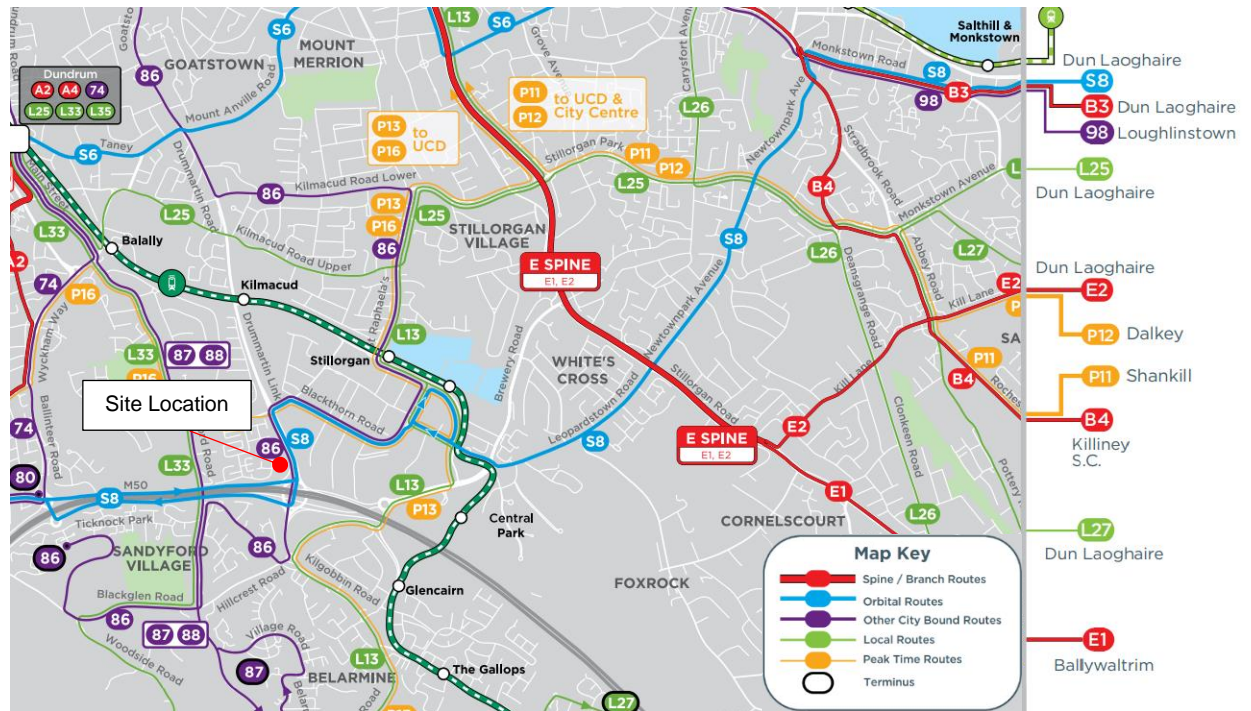


Figure 4-8 - Proposed BusConnects Service Redesign Dublin City Centre

Additionally, Luas Finglas is the proposed extension of the Luas Green Line from its terminus in Broombridge to the north of Finglas in Charlestown. The extension will include the addition of four Luas stops along its 3.9-kilometre length (St. Helena’s, Finglas Village, St. Margaret’s Road and Charlestown), with a new park and ride located at the Charlestown Luas Stop. The line will be constructed mostly using grass track and will include a parallel cycle path along much of the route. The extension will reduce journey times, encourage safe walking and cycling, improve accessibility and social inclusion, improve transport interchange and reduce reliance on private cars. Therefore, extending the distance and accessibility from the development.

4.5 Other

4.5.1 Car Sharing

On-site car parking is considered to be an inefficient use of space, particularly at a constrained location in a highly developed peri-urban area where the development site is located. 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 7 GoCar hire stations located within a 1km walk from the site. The locations of the GoCar bases are illustrated in Figure 4-9 with Table 4-2 providing additional details in relation to walking distance from the site and the type of GoCar vehicle available.

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 twenty private car parking spaces.

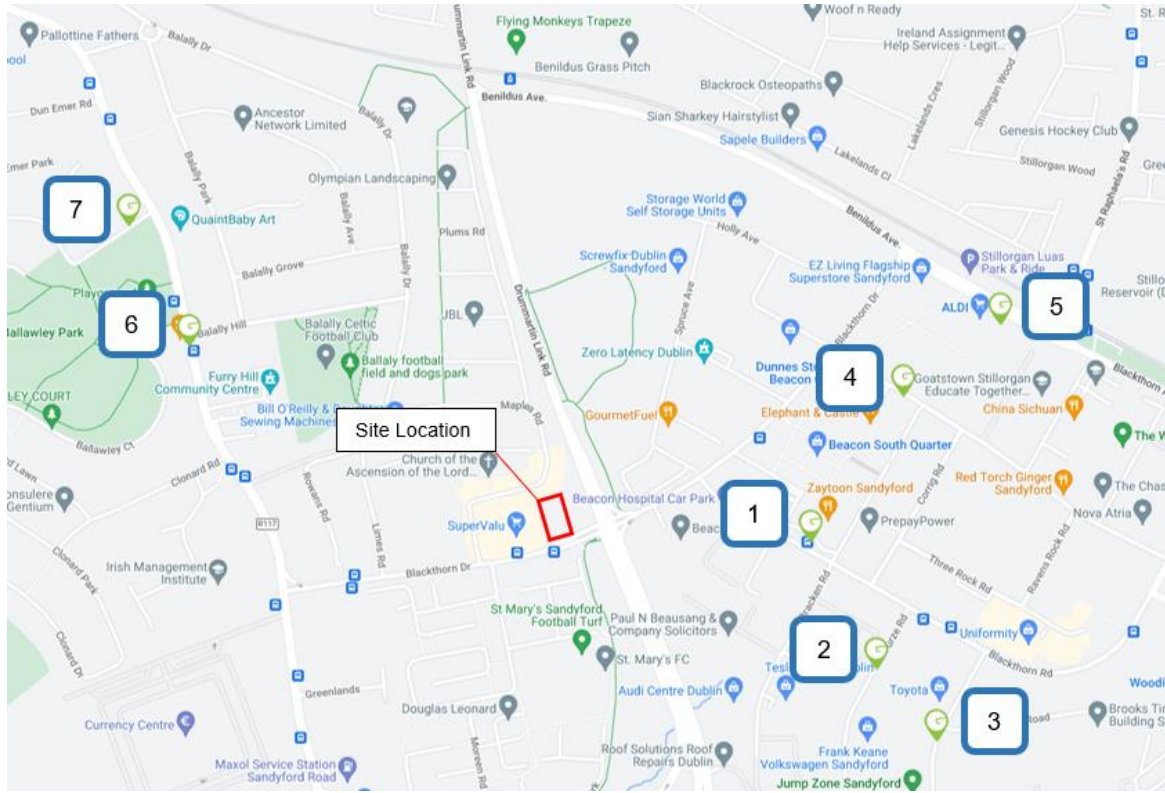


Figure 4-9 – GoBase locations in the Vicinity of the site (Source: www.gocar.ie/locations/)

Table 4-2 – GoBase Details

No.	GoBase Locations	Approximate Distance from the Development	Vehicle Class/ Cars Available
1.	Blackthorn Road, BSQ	630m to the east	
2.	Furze Road, BSQ	500m to the southeast	
3.	Heather Road	700m to the southeast	
4.	Carmanhall Road, BSQ	520m to the east	
5.	Rockbrook Sandyford,	750m to the northeast	
6.	Sandyford Road by Balally Hill	510m to the west	
7.	Parkvale (off Sandyford Road)	810m to the northwest	

4.5.2 Bike Sharing

There are no Dublin Bike stations within the vicinity of the site. However, Bleeper and MOBY Bikes are two station-less bike sharing services currently operating in Dublin. station-less bikes are mainly located in areas currently underserved by Dublin Bikes. These bikes are occasionally located within the vicinity of the development; however, since they are station-less it is not always a given that a bike will be available within the location.

5 PUBLIC TRANSPORT IMPACT

A public transport assessment was undertaken by Punch Consulting Engineers in November 2022 with the report and findings issued in March 2023 supporting a planning application for a residential/commercial development at the site adjacent to the proposed site. The report reviewed local buses and trains in the vicinity of the site. A survey was undertaken during school and college term on a mid-week working day at the following locations as per Figure 5-1. The survey was conducted at peak times in the morning and evening; 8:00 to 9:00 for am and 17:00 to 18:00 for pm.



Figure 5-1 – Public Transport Stop Survey (Source: Punch CE Report 172454-PUNCH- XX-XX-RP-C-0007)

5.1 Public Buses

The summary of the findings is listed below in Table 5-1. Thus, it can be seen that all public transport had 75% usage allowing for a potential 25% spare capacity. Based on standard public buses seating 90 passengers this equates to 472no. available seats. The proposed number of new residents in the development will be 115 for the 62 units. With projected modal splits that will equate to approx. 66 people for public transport use overall with 44 for buses. Thus, the capacity is adequate for future proposed residents.

Table 5-1 – All Bus Stops Am and PM Survey Results (Source: Punch CE Report 172454-PUNCH- XX-XX-RP-C-0007)

Time	No. Buses	Bus Capacity	No. Passengers	Spare Capacity	Spare Capacity (%)
8:00 - 9:00	7*	630	158	472	75%
17:00 - 18:00	7	630	158	472	75%

5.2 Public Trains

Services northbound towards Broombridge and southbound towards Brides Glen are provided at the nearest LUAS Green Line station to the proposed site. The summary of the findings is listed below in Table 5-2 below. The proposed number of new residents in the development will be 115 for the 62 units. With projected modal splits that will equate to approx. 66 people for public transport use overall with 22 for trains. Thus, the capacity is adequate for future proposed residents.

Table 5-2 – Kilmacud LUAS Stop Am and Pm Survey Results (Source: Punch CE Report 172454-PUNCH- XX-XX-RP-C-0007)

Time	No. Luas	Luas Capacity	No. Passengers	Spare Capacity	Spare Capacity (%)
8:00 - 9:00	33	13464	7548	5916	43%
17:00 - 18:00	29	11832	5406	6426	55%

6 TRAFFIC IMPACT

6.1 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 fifty construction site staff at peak time, and it is expected that the site would generate approximately 10 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 construction traffic:

- In general, the construction day will begin and end outside of peak travel hours. As a result, most workers travelling to and from the site will arrive before the AM peak hour and depart after the PM peak hour.
- On site parking will not be prohibited due to the site constraints and to encourage staff to travel by numerous public options serving the area.
- 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, roofing materials, and prefabricated element deliveries on HGVs.
- Internal finishing, including the mechanical and electrical fit out; and
- External landscaping

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.

6.2 Operational Stage

6.2.1 Car Parking

The proposed provision for car parking on the site has been guided by and fulfils the requirements of the Dun Laoghaire – Rathdown County Council Parking Standard as described in the development plan 2022 – 2028. Car parking standards are set out in Chapter 12, Table 12.5 of the development is shown below. The location of the development is classified as Parking Zone 3.

Land Use		Zone 1 MTC Areas and Blackrock	Zone 2 Near Public Transport	Zone 3 Remainder of County (non-rural)	Zone 4 Rural
Houses:	Criterion	Maximum	Standard	Standard	Standard
House 1 bed	unit	1	1	1	Case by case
House 2 bed	unit	1	1	1	Case by case
House 3 bed or more	unit	1	2	2	Case by case
Apartments and Sheltered Housing:					
Apt 1 bed	unit	1	1	1*	Case by Case
Apt 2 bed	unit	1	1	1*	Case by Case
Apt 3 bed +	unit	1	2	2*	Case by Case

Figure 6-1 – Car Parking Zones and Standards (Source: Dun Laoghaire – Rathdown County Development Plan 2022 – 2028)

Table 6-1 - Car Parking Requirement

Unit Type	No. of Units	Maximum Permitted by DLR Development Plan R	Proposed
1-bed	31	31	25
2-bed	21	21	
3-bed	10	20	
Total	62	72	

It is proposed to provide 25no. car parking spaces, i.e., less than permitted by the Development Plan. 25 no. spaces are considered acceptable for the number of spaces since the site is located in zone 3; This zone generally comprises the remainder of the County, excluding rural areas. These are areas, which are generally characterised by:

- Access to a level of existing or planned public transport services,
- A reasonable level of service accessibility, existing and planned, by walking or cycling, and
- A capacity to accommodate a higher density of development than rural areas.

Furthermore, where a deviation from the parking standards set out in Table 12.5 is being proposed, the applicant should engage with the Council where it concerns zone 1 and 2; however, this site is zone 3 and no engagement with the council is required.

6.2.2 Bicycle Parking

As per Table 4.1 from the DLCRR cycle standards, 1 short stay (visitor) parking space is required per 5 units, and 1 long stay parking space per unit is required. Since there are 62 apartments proposed; 13 short stay cycle parking is required, and 62 long stay cycle

parking is required. Which is a total of 75 cycle parking spaces. In addition, there is a 297sqm. Creche which will require

Table 4.1 Cycle parking for residential development		
Residential Development type	1 short stay (visitor) parking space per: (Minimum of 2 spaces)	1 long stay parking space per: (Minimum of 2 spaces)
Apartments, Flats, Sheltered housing	5 units	1 unit
Houses - 2 bed dwelling	5 units	1 unit
Houses - 3+ bed dwelling	5 units	1 unit
Sheltered housing	5 units	1 unit
Student Accommodation	5 bedrooms	2 bedrooms

Figure 6-2 – Cycle Parking Requirements

The quantity of long-stay cycle parking proposed is 121no. spaces. The 105no. long-stay parking will be secured in indoor bike rooms accessible by residents only in the undercroft. In addition to the long stay parking there will be 16no. visitor parking spaces provided at surface level within the development. For the creche there are 2 staff spaces and 11 visitor spaces allowed for in the design.

6.2.3 Traffic Impact

The traffic impact of the proposed development is expected to be negligible primarily given the low level of car parking proposed which will considerably reduce car-based trips to and from the development, particularly during peak hours. 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 6-2 - Proposed Residential Development Trip Rates

Land Use	Unit	AM Peak Hour (07:30-08:30)		PM Peak Hour (17:15-18:15)	
		Arrival	Departures	Arrivals	Departures
Houses	Per unit	0.120	0.348	0.415	0.274
Apartments	Per unit	0.062	0.143	0.219	0.130

Table 6-2 summarises the TRICS generated trip rates for site, whilst Table 8 summarises total number of anticipated trips for the development during the weekday morning and evening peak hour periods.

Table 6-3 - Total Number of Estimated Trips for the Development

Land Use	Unit	AM Peak Hour (07:30-08:30)		PM Peak Hour (17:15-18:15)	
		Arrivals	Departures	Arrivals	Departures
Apartments	Total Trips	4	9	14	8
Total		4	9	14	8

The above-estimated number of trips for the proposed development is considered conservative given the low level of car parking proposed which will considerably reduce car-based trips to and from the development, particularly during peak hours.

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

Table 6-4 - Traffic Management Guidelines Thresholds for Transport Assessments

Traffic Management Guidelines Thresholds for Transport Assessments
Residential development of 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 6-5 - 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 development will provide 62 dwelling units and, with just 13 vehicle movements in the AM peak hour and 22 vehicle movements in the PM peak hour, the impact of the development on the surrounding road network is expected to be negligible.

7 PRE – OCCUPATION BASELINE MODE SHARE

7.1 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 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.

7.2 Mode Share

The travel mode share from the Census 2011 and 2016 for all trips to work, school or college for residents of Dun Laoghaire – Rathdown is shown in Figure 7-1. While the car remained the dominant mode of transport with 52% of trips this is reduction of car use on the 2011 figure of 55%. The mode of share target for car as set out in the Dublin City Development Plan is 17% for car usage by 2028. The reduction of the car usage for commuting is therefore in the positive direction.

Means of Travel	2011	% of Total	2016	% of Total	2011-2016 Change
On Foot	17,462	14%	18,387	14%	925
Bicycle	6,723	5%	8,864	7%	2,141
Bus/Minibus/Coach	13,796	11%	15,180	11%	1,384
Train/DART/LUAS	15,646	12%	19,040	14%	3,394
Motorcycle	937	1%	861	1%	-76
Car (Driver)	49,558	39%	50,021	37%	463
Car (Passenger)	19,560	16%	20,614	15%	1,054
Van/lorry/other	2,419	2%	2,466	2%	47
Total	126,101	100	135,433	100	9,332

Figure 7-1 – Means of Travel to Work, School, or College for Residents in DLR (Source: Dun Laoghaire – Rathdown County Development Plan 2022 – 2028)

The number of those cycling has increased significantly from 6,723 persons in 2011 to 8,864 persons in 2016 and representing an increase from 5% to 7% of the mode share. Similarly, the numbers taking public transport has also increased from 23% in 2011 to 25% in 2016. These are encouraging figures and demonstrate a shift in travel mode share towards more sustainable modes of transport.

Comparing the above results to census 2022 findings outlines that travelling on foot has remained approx. the same while cycling has increased double between 2002 to 2022.

Bus travel has also remained approx. the same while commuting by train/LUAS/DART has increased double between 2002 to 2022. Car sharing has remained approx. the same while private car use has increased by circa 25% between 2002 to 2022. Refer to Figures below for graphical information from Census of Population 2022 from the Central Statistics Office.

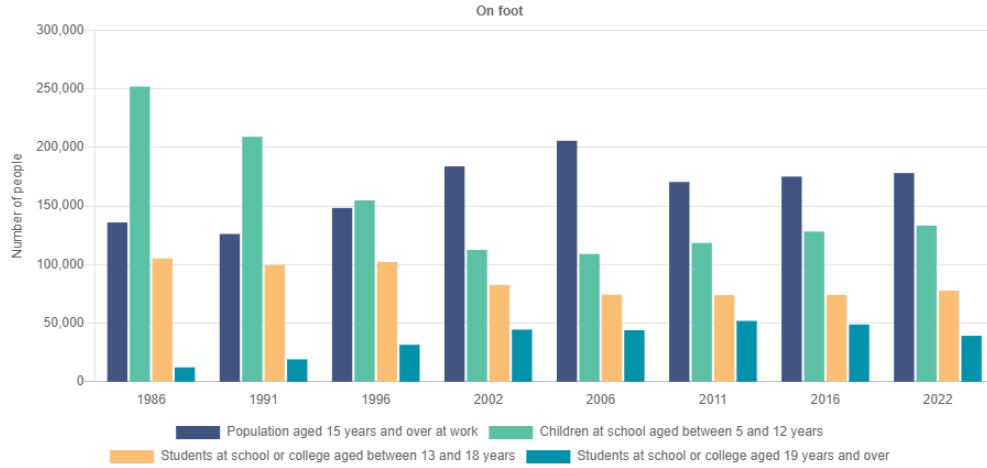


Figure 7-2 – 2022 Census Data: On Foot

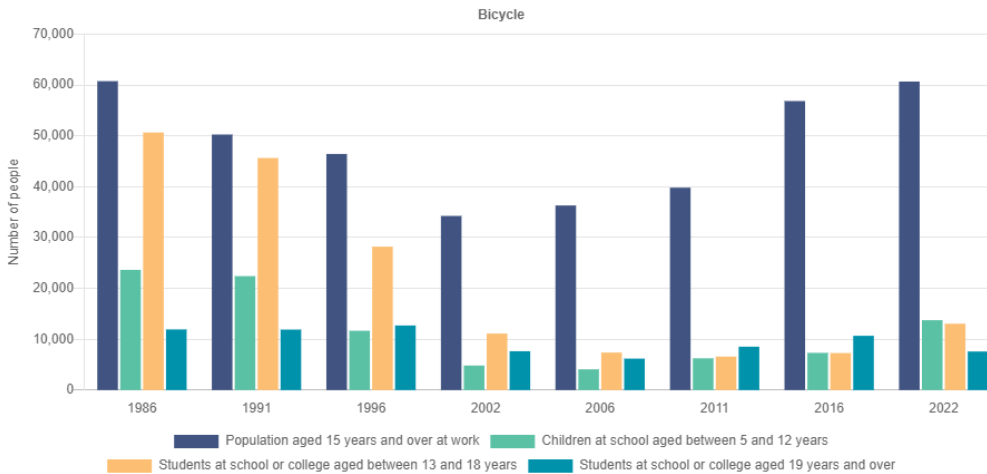


Figure 7-3 – 2022 Census Data: Bicycle

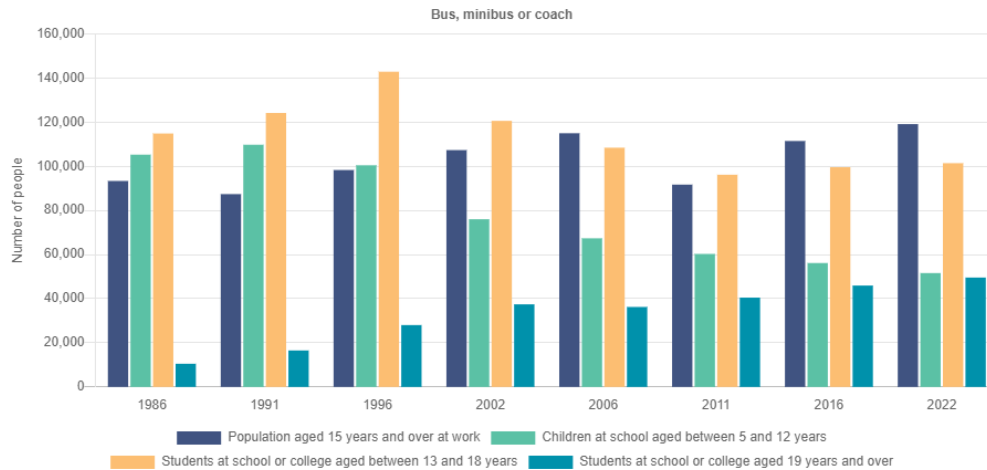


Figure 7-4 – 2022 Census Data: Bus / Minibus / Coach

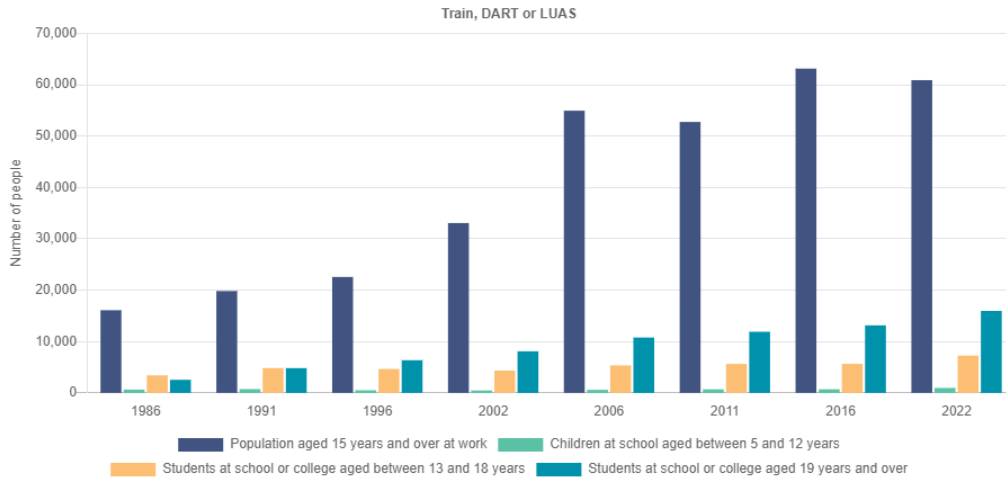


Figure 7-5 – 2022 Census Data: Train / DART / LUAS

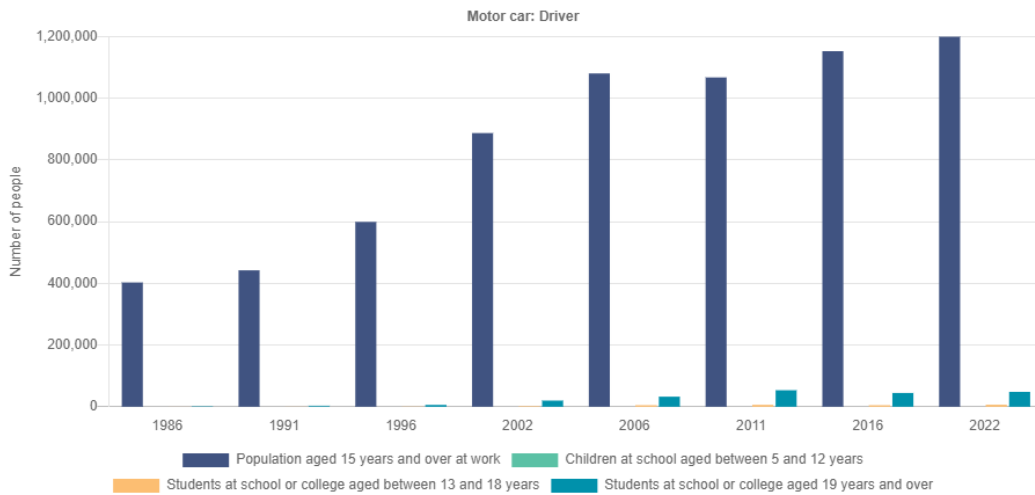


Figure 7-6 – 2022 Census Data: Motor Car: Driver

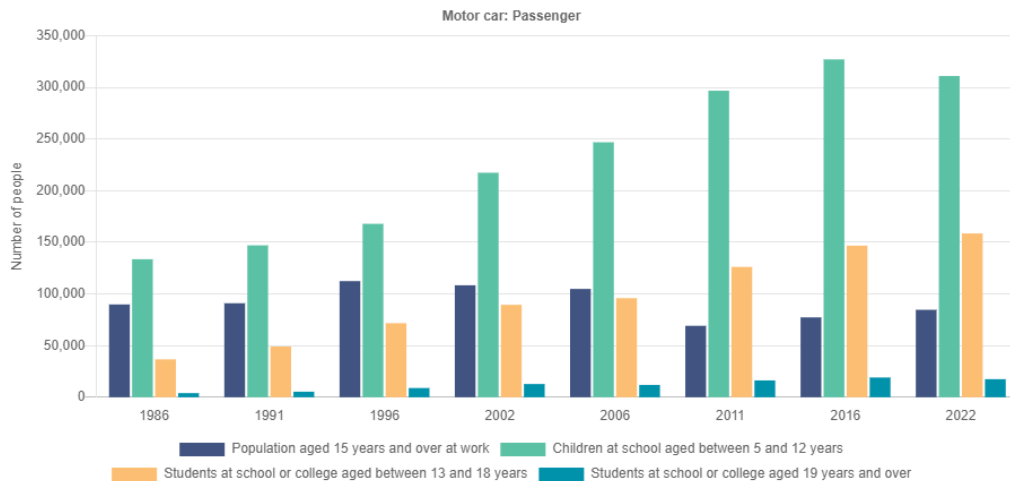


Figure 7-7 – 2022 Census Data: Motor Car: Passenger

The 2022 Irish Census gathers various data from the population of Ireland under fourteen 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. The site is located in the middle of the Dundrum-Balally ED as illustrated in Figure 7-8. The ED has a population of 8844 people; this ED is largely residential with both houses and large apartment blocks.



Figure 7-8 – 2022 Census Data Electoral Divisions

Using the 2022 Census data, the mode share and travel habits for the Electoral Divisions (Dundrum-Balally) in which the development is located was extracted. Figure 7-9 displays the modal share breakdown, the most common modes of transport into car driver (20%), on foot (20%), and Luas (18%). Compared to the overall 2022 census mode share as detailed on the previous pages, this area sees a higher use of on foot travel and use of the Luas and a lower use of private vehicles.

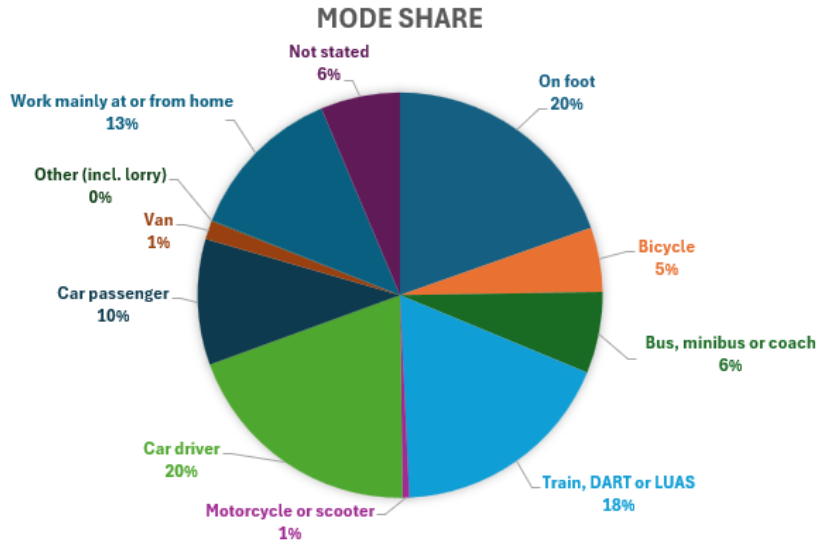


Figure 7-9 – Dundrum-Balally Electoral Division Mode Share (Census 2022)

The peak travel for those travelling within the area was between 07:31 and 08:00, followed by 08:01 and 08:30. 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.

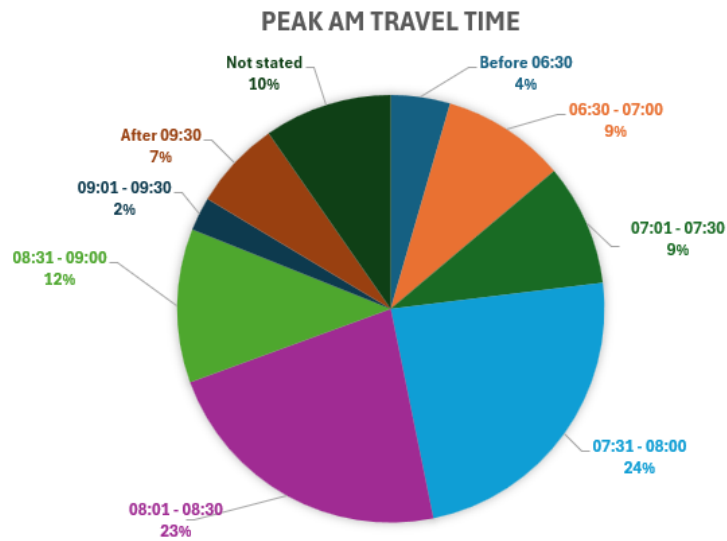


Figure 7-10 – Dundrum-Balally Electoral Division AM Peak Travel Time (Census 2022)

The most common commute time is between 15 and 30 minutes (29%), followed by 30 to 45 minutes (24%). Very few of the people living within the area travel for more than 45 minutes.

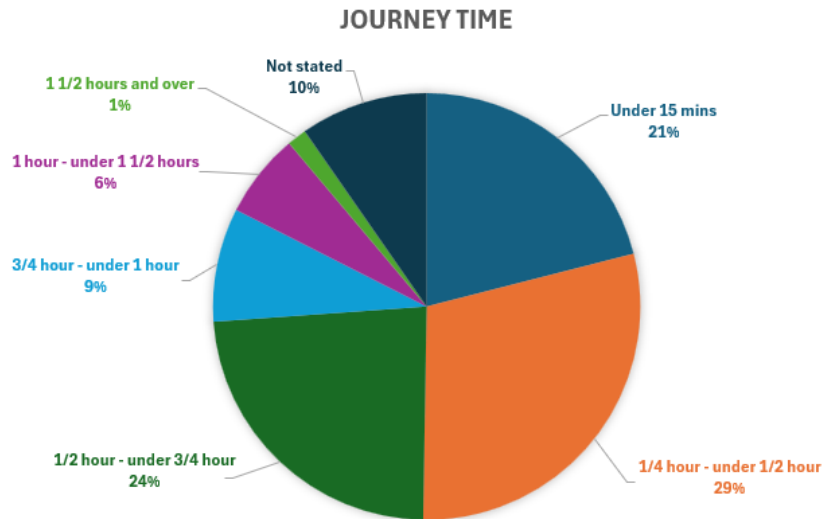


Figure 7-11 – Dundrum-Balally Electoral Division Journey Time (Census 2022)

As detailed in previous sections, the site is very well located in terms of proximity to walking, cycling and public transport infrastructure; additionally, the public transport impact assessment concluded 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.

8 AIMS AND OBJECTIVES OF THE TMMP

8.1 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.

8.2 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 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.
- Develop good urban design by ensuring permeability of the development to neighbouring areas and provisions of cycle facilities.

8.3 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 resident 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 Balally site and inform the final TMMPs targets.

As estimated in 2019 the private car usage is 29% and the target is to reduce that to 17% in 2028 for the Greater Dublin Area. This equates to a target of a 12% reduction in this travel mode. The plan to achieve this is to increase on foot and cycle travel modes by 2% and 7% respectively and public transport travel by 3% by 2028. Refer to Figure 18 above for outlined information. This aligns with the projections from the NTA Greater Dublin Area Transport Strategy 2022-2042 whereby chapter 17 outlines target reductions in private car use and increases in sustainable modes such as walking, cycling and public transport modes; refer to Figure 19 below.

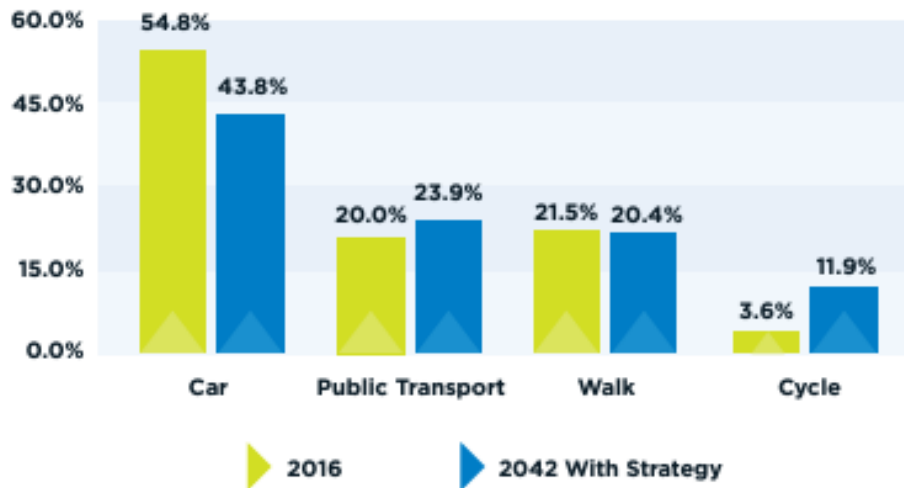


Figure 8-1 – AM Peak Period Mode Share for the GDA 2016 and 2042 (Source: National Transport Authority Greater Dublin Area Transport Strategy 2022 – 2042: Chapter 17 Strategy Outcomes)

9 MOBILITY MANAGEMENT MEASURES

9.1 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.

9.2 Mobility Manager

A Mobility Manager will be appointed, and their role will be to manage the implementation of the Residential TMMP for the Balally 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 fully occupied and operational. 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.

9.3 Reducing the need to travel

The provision of on-site or within walking distance of the 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.

9.4 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 also to public transport interchanges (e.g., Luas Red Line / Green Line Interchanges, Connolly Station, Dun Laoghaire Station, Bray Daly Station, Cherrywood etc.).
- 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.

9.5 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 CO₂ emissions, getting fit and active.

9.6 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.

9.7 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.
- Provision of information on the Bike to Work scheme.
- Promotion of Bike Week events in the Balally area.
- Promotion of cycle security and bike marking schemes to reduce bike theft.
- Promotion of cycle safety.
- Setting up of a Bicycle User Group (BUG).

9.8 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.
- Liaison with local bus companies regarding future improvements and/ or extension to local services.

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.

9.9 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:

- Designation of a section of car parking within the car park for priority use for those that car share and/ or low emission vehicles.
- Provision of details for the proposed car club and current car club operators within the vicinity of the site.

10 MONITORING AND REVIEW

10.1 Monitoring and Review

The monitoring of travel behaviour is vital to measure progress towards targets. Monitoring will 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 occupations of the development. The MM 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 MM to report any significant issues observed or any useful comments received from residents on either on-site or off-site facilities.

10.2 Data Collection Analysis

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