PINNACLE CONSULTING ENGINEERS

EDCDUB06
PIN-RP-00-C001-V2
TRAVEL PLAN

- BUILDING INFORMATION MODELLING (BIM)
- CIVIL DESIGN & ENGINEERING
- DUE DILIGENCE
- OFFSHORE & ONSHORE ENGINEERING
- PRE-DEVELOPMENT
- STRUCTURAL ENGINEERING
- TRANSPORTATION & HIGHWAYS

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1 Introduction

1.1 Introduction

Pinnacle Consulting Engineers Ltd have been commissioned to produce a Travel Plan for EDCDUB06 on lands located off the R120 in response to a request for Additional Information under SDCC Planning Ref. SD22A/0333.

1.2 Development Proposal

The development will consist of the construction of 2 No. adjoined single storey data centres with associated office and service areas with an overall gross floor area of 15,274sqm that will comprise of the following:

- Construction of 2 no. adjoined single storey data centres with a gross floor area of 12,859sqm that will include a single storey goods receiving area / store and single storey office area (2,415sqm) with PV panels above, located to the east of the data centres as well as associated water tower, sprinkler tank, pump house and other services.
- The data centres will also include plant at roof level; with 24 no. standby diesel generators with associated flues (each 25m high) that will be located within a generator yard to the west of the data centres.
- New internal access road and security gates to serve the proposed development that will provide access to 36 no. new car parking spaces (including 4 no. electric and 2 no. disabled spaces) and sheltered bicycle parking to serve the new data centres.
- New attenuation ponds to the north of the proposed data centres; and
- Green walls are proposed to the south and east that will enclose the water tower and pump house compound.

The development will also include ancillary site works, connections to existing infrastructural services as well as fencing and signage. The development will include minor modifications to the permitted landscaping to the west of the site as granted under SDCC Planning Ref. SD19A/0042 / ABP Ref. PL06S.305948 and Ref. SD21A/0042. The site will remain enclosed by landscaping to all boundaries. The development will be accessed off the R120 via the permitted access granted under SDCC Planning Ref. SD19A/0042 / ABP Ref. PL06S.305948 and SD21A/0042.

The site has an area of 5.1 Ha.

The site is adjacent to the Grange Castle Business Park and is bounded to the north by the Grand Canal; the realigned R120 to the east; agricultural land to the west and south.

The site of the proposed data centre is currently accessed from the Adamstown Road (R120) which has recently been realigned.

The site is currently a greenfield site.

1.3 Refences

To complete this report, Pinnacle Consulting Engineers has referred to National, Regional, Local and county policies when preparing this Travel Plan.

1.4 Background

The purpose of the report is to outline the objectives of the Travel Plan (TP) for the staff and visitors to this development.

The purpose of the Travel Plan is to ultimately reduce the number of single occupancy car trips and promote the use of more sustainable modes of travel.

The aim being to minimise vehicle trip rates, the volume of which has been outlined in the Traffic and Transport Assessment (TTA) for the proposed development.

The measures as outlined within this document will be introduced to achieve the target of minimising vehicle trips from staff and visitors of the proposed project, along with a timeframe for the implementation of the various measures outlined.

A Travel Plan Co-ordinator (TPC) shall be appointed to provide ongoing management for the TP.

In conjunction with the on-site management team, the TPC will prepare a document detailing the progress of The Travel Plan and the strategy for its future development as stated within it.

A Travel Plan (TP) is thus a document which seeks to increase sustainable travel to/from the development by:

- reducing the need for travel
- reducing single-occupancy car travel
- providing and encouraging the use of more sustainable travel choices, such as walking, cycling, public transport, car sharing and car clubs

A TP addresses all types of trips to, from and within the development, including trips made by staff and visitors. It sets out the implementation, marketing, monitoring, and review of a variety of travel measures to meet pre-agreed targets.

A TP is site-specific and considers the characteristics of the development such as its location, surrounding transport infrastructure and proximity to local facilities. It is not a static document; it is flexible and should be adapted to suit changes in the site's characteristics over time.

The benefits to staff of the proposed development, and the wider community in the local area, will include:

- increased choice and quality of travel modes
- reduced traffic congestion and saving travel time on roads.
- reduced harmful impacts on the environment due to fewer vehicles being on the roads and promoting less environmentally intrusive forms of travel, such as walking and cycling.
- improved air quality and minimised greenhouse gas emissions due to a reduction in traffic growth and congestion and an increased choice of more sustainable modes of transport
- reduction in the harmful effects to the existing biodiversity and the built and historic environment as a result of reduced traffic growth

- improved health due to less pollution from vehicles and the take up of more active modes of travel, such as walking and cycling.
- financial savings from free or discounted travel vouchers and the take up of less costly alternatives of travel, such as walking or car sharing.
- safer communities through reduced number of accidents and other incidents, for example by reducing traffic on roads, restricting traffic speeds, creating road crossings, or forming shared surfaces.
- improved sustainable access to local services, facilities, and the natural environment such as open spaces and green corridors for non-motorised forms of transport.
- reduced social isolation as a result of extended or new public transport services, worker walking/cycling groups, worker travel forums and building links with the wider community.

1.5 Report Structure

Section 2 of this report will give a summary on the current thinking regarding mobility management and best practice when preparing a Travel Plan.

Section 3 of this report will summarise the existing public transport, walking and cycling facilities at the subject site, together with the existing commuter travel patterns for the local area (information extracted from the submitted parking and mobility study for the proposed development).

Section 4 takes the commuter travel patterns for the area and proposes year-of-opening modal splits for the proposed development, plus target modal splits for year-of-opening plus 5 years.

Section 5 details the objectives of the Travel Plan and what measures will be implemented to facilitate the achievement of these objectives.

Section 6 outlines the predicted post development travel patterns.

Section 7 details the central role of the Travel Plan Coordinator in the attainment of the objectives as set out within this document.

Section 8 Summary & Conclusion

2 National & International Policy

2.1 National Policy

Transport Strategy for the Greater Dublin Area 2016-2035

National Transport Authority Transport Strategy for the Greater Dublin Area 2016-2035 sets out the following modal share targets for commuter-based trips for 2035:

'Based on the modelling work carried out for the Strategy, commuting to work will be reduced to 45%, from a base year of 62%. The mode share for walking and cycling is estimated to increase upwards from 16% to 20%, with the numbers cycling increasing from 18,700 in 2011 to 44,340 in 2035. A significant increase in public transport mode share rising from 22% to 35% is also forecast, corresponding to a growth in passengers from 73,400 to 166,100. As such, the Strategy will achieve the primary aim of Smarter Travel – to reduce commuting by car to 45%. Figure 9.8 sets out the changes in mode share in work commuting trips in the 7am to 10 am peak period from the Base Year 2011 to 2035 'without Strategy' and 2035 'with Strategy'.

These targets are illustrated in the figure below.



Figure 1 Target Mode Share for Commuting Trips (Source: Transport Strategy for the Greater Dublin Area 2016-2035)

Making Residential Travel Plans Work (Department for Transport, UK, 2007)

UK document providing a framework for residential travel plans, detailing the content that should be provided within the Travel Plan. The structure advocated by this document is incorporated within this report.

Dublin City Centre Transport Study 2015-2033

The Study seeks to address major transport issues facing the core city centre area, to facilitate the implementation of the Dublin City Council Development Plan, and to safeguard the future growth of the city, specifically in terms of new transport infrastructure. The construction and operation of Luas Cross City will require a significant reconfiguration of current transport arrangements. This study addresses these issues and proposes measures to counter long-standing constraints of the existing City Centre transport network. This will ensure that capacities are in place to meet the demands of future growth in the City, as well as optimising the use of the City Centre's limited road space to maximise the benefits for people living, working and visiting Dublin City Centre. The key objectives include increasing the capacity, reliability and use of public transport into and within the City Centre as well as improving the quality of service for cycling and walking, with particular emphasis on the 'core' City Centre.

The Study advocates significant reductions in the modal split for private cars for the journey to work over the short to medium term in the Greater Dublin Area.

The achievement of these targets requires developments such as subject development to advocate sustainable modes of transport for Staff travelling to work and college. Achievement of the objectives and targets as outlined within this document. The residential travel plan framework will be entirely consistent with the aims of the Dublin City Centre Transport Study.

Dublin City Development Plan 2016-2022 - chapter 8: Movement and Transport

The transportation elements of this document aim to work in tandem with the Dublin City Centre Transportation

Study referred to above. The strategy within the draft document makes optimum use of existing and proposed transport infrastructure, and Dublin City Council works Transport Infrastructure Ireland and relevant transport agencies to deliver key projects. Sustainable forms of transport such as public transport, walking and cycling are strongly promoted in this plan, which takes a pro-active approach to influencing travel behaviour and effective traffic management. A key challenge listed within the document is the prioritisation of transport and movement schemes, particularly those that increase the use of public transport, walking and cycling, which can be implemented in the short term.

The Plan states that a mobility management plan / travel plan seeks to encourage as much travel as possible by sustainable means such as public transport, walking and cycling. This is best achieved at a strategic level by locating developments in the most accessible locations.

Dublin City Development Plan: Appendix 4-Mobility Management and Travel Plan

Dublin City Council regards mobility management as an important element in the promotion of sustainability and in the achievement of a substantial increase in the modal share of public transport, walking and cycling during peak travel times. Mobility management is a proactive

approach to influencing how people travel. While it plays an important role at a strategic level, the adoption of this approach at a site or business level can be very influential in achieving sustainable travel patterns. Travel planning is a tool for implementing mobility management in specific situations and environments such as developments, schools/colleges and mixed-use developments by pro-actively encouraging sustainable travel.

A Travel Plan is stated to consist of a package of measures, initiatives and incentives aimed at encouraging a target group of people to shift from travelling individually by private car to walking, cycling, public transport and car-sharing. The plan sets out percentage targets for modal splits to be achieved over a specified time period.

Regular monitoring and updating of the plan are required as travel planning is an on-going process. Dublin City Council has established a Mobility Management section with responsibility for implementing Dublin City Council's own Development Travel Plan. This section also has responsibility for the management and monitoring of all existing and future Travel Plans submitted as part of the planning process.

Thus, the above documents confirm and emphasise the importance of maximising the use of sustainable modes of travel and minimising the use of the private car, particularly for the journey to work / college.

Smarter Travel Initiative, A Sustainable Transport Future, Department of Transport, 2009.

Smarter Travel is the transport policy for Ireland for the period of 2009-2020. The policy recognises the vital importance of continued investment in transport to ensure an efficient economy and continued social development, but it also sets out the necessary steps to ensure that people choose more sustainable transport modes such as walking, cycling and public transport. The policy is a response to the fact that continued growth in demand for road transport is not sustainable from a number of aspects; it will lead to further congestion, further local air pollution, contribute to global warming, and result in negative impacts to health through promoting increasingly sedentary lifestyles.

Transport Strategy 2011 – 2030, National Transport Authority, 2011.

Chapter 11 of the Draft Transport Strategy 2011 – 2030, discusses travel demand management in great detail. The chapter discusses the impact of congestion in the Greater Dublin Area and the subsequent need to meet the Smarter Travel targets. The NTA also provides a discussion on numerous demand management measures that could be implemented within the Greater Dublin Area, including a section on mobility management, car clubs, lift sharing and marketing.

'Achieving Effective Development Travel Plans Guidance for Local Authorities' by the National Transport Authority

This guidance document produced by the NTA is for use by Local Authorities and other groups that are preparing Development Travel Plans as part of the planning process with a view reducing the dependency on the car for Staff commuting to/from work and other work-related journeys. The paper discusses the principles of Development Travel Plans and why an organisation would consider implementing a Development Travel Plans, including the benefits of a plan to employers and Staff.

The paper outlines how to prepare, design and implement a Development Travel Plans. It discusses the measures that could be used for car use, public transport, walking and cycling in order to reduce singular car occupancy.

'The Route to Sustainable Commuting – An employer's guide to mobility management plans' by NTA (formerly Dublin Transportation Office), March 2001.

This guidance document produced by the NTA is for use by organisations that are considering, or already implementing measures to reduce dependency on the car for Staff commuting and other work-related journeys. The paper discusses the principles of mobility management plans and why an organisation would consider implementing a mobility management plan, including the benefits of a plan to employers and Staff.

The paper outlines how to prepare, design and implement a mobility management plan. It discusses the measures that could be used for car use, public transport, walking and cycling in order to reduce singular car occupancy. It then outlines how to market a Residential Travel Plan and how to measure the success of one.

'DTO Advice Note – Mobility Management Plans' by NTA (formerly Dublin Transportation Office), July 2002.

This Advice Note is intended as guidance for Local Authorities in the Greater Dublin Area. The Advice Notes set out what the DTO considers to be current best practice in relation to the development of mobility management plans.

The advice note outlines the principals of mobility management, when a Development Travel Plan is required, the planning process in relation to mobility management, the motivations for implementing a plan and the staged approach to the preparation of mobility management plans.

'The Essential Guide to Travel Planning' by Department of Transport, UK, March 2008.

This document provides a guide on developing and implementing travel plans in the UK. A travel plan is the UK equivalent of a Residential Travel Plan in Ireland. The document draws together extensive experience from travel plans already in operation and offers an overview of what is required to prepare a travel plan and ensure it is successful. The guide provides the following:

- · An explanation of the benefits of travel plans,
- The essential measures required to ensure the success of the travel plan,
- Identification of potential savings that could form the basis of a business case for the implementation of a travel plan,
- An indication of what data is required from travel surveys in order to measure the success of travel plans.

'Making travel plans work – Lessons of U.K. case studies' by Department of Transport (U.K.), 2002.

This report is based on the experience and findings of a number of large employers e.g., hospitals, councils, large companies and third level educational facilities in the U.K. The guide was published for employers who want to reduce congestion around their respective sites, improve travel

options for their Staff and reduce costs using a travel plan. The main findings of the report are as follows:

- It found that parking restrictions through a parking permit scheme can reduce staff car
 use.
- Financial incentives such as subsidies on public transport tickets have been found to work better in combination with parking restrictions.
- The initiatives would need the full support of the management of the company and also a staff member would need to be appointed to form a travel plan. Local recruitment is found to be useful when reducing travel distances.

2.2 Local Policy

The South Dublin County Development Plan 2022-2028 contains the following commitments for modal shift away from signal car occupancy trips.

A Workplace Travel Plan or Mobility Management Plan outlines a series of measures to encourage sustainable travel modes and reduce car borne traffic within a development. Initiatives might include proposals to encourage cycling and walking, car sharing (including car clubs), car-pooling, flexible working hours, cycling and public transport use. The National Transport Authority (NTA) guidelines on Achieving.

Effective Workplace Travel Plans - Guidance for Local Authorities note that:

'International experience has shown that a methodical and planned approach to targeting commuting and visitor patterns at an organisational level, can pay major dividends in terms of promoting sustainable travel'.

Workplace Travel Plans are required for larger sized developments as defined in Table 12.26. All Workplace Travel Plans are required to be prepared in accordance with the NTAs Achieving Effective Workplace Travel Plans. Mobility Management Plans are required for all new schools or for existing schools where 25% or greater expansion in classrooms is proposed.

Land Use	Workplace Travel Plan Statement	Indicative Number of Jobs	Standardised Workplace Travel Plan	Indicative Number of Jobs
Offices / Financial	>500 sq m	25-100	>2,000 sq m	>100
Retail / Shops	>600 sq m	25-100	>2,500 sq m	>100
Industrial	>2,500 sq m	25-100	>6,000 sq m	>100
Leisure		25-100		>100 or>100,000 visitors per annum
Hospitals / Medical Centres		25-100		>100 or>100,000 visitors per annum
Warehousing	>2,500 sq m	25-100	>10,000 sq m	>100

Figure 2 Thresholds for the Submission of a Workplace Travel Plan

2.3 The Travel Plan Pyramid

A Travel Plan outlines a set of measures and operating procedures that are tailored to meet the demands of individual circumstances of different locations, but with the common goal of minimising the impacts of travel and transport activity. A variety of companies, organisations and institutions adopt Travel Plans to manage the transport needs of commuters by raising awareness, promoting alternatives, facilitating change and implementing a system of continuous management and review.

In its publication 'The Route to Sustainable Commuting' the Dublin Transport Office (now the National Transport Authority) states that a Travel Plan outlines a package of measures and initiatives put in place by an organisation to encourage more sustainable modes of transport amongst its staff and visitors.



Services & Facilities

Public transport; car clubs; parking management; sub site travel plans; etc

Coordinator

To develop, maintain and update strategy

Built Environment

Site design; public transport infrastructure; facilities to reduce the need to travel, parking provision, off-site measures

Location

Proximity to existing faculties and services

Figure 3 The Travel Plan Pyramid (Source: 'Making Residential Travel Plans Work' Dept of Transport UK (2007)

The Travel Plan Pyramid "helps demonstrate how successful plans are built on the firm foundations of a good location and site design. A Plan should also combine hard measures – such as new bus stops and cycle ways and soft measures – such as discounts on season tickets and help with individual journey planning. All measures should be intergraded into the design, marketing and occupation of the site. In addition, parking restraint is often crucial to the success of the plan in reducing car use."

In order to minimise the impacts of the development and to encourage sustainable modes of transport a Travel Plan sets out the following actions in order to achieve this:

- Introduction of appropriate parking management
- Optimise links with public transport.
- Provide and enhance cyclist and pedestrian facilities.

- Encourage modes of transport other single car trips
- For the development, the primary purpose of the Travel Plan is to review current levels of transport accessibility and suggest measures that reduce the potential of continued reliance on private car use as the main mode of transport to and from the site.

The travel pyramid, as detailed within 'Making Residential Travel Plans Work', contains the following five key concepts that are central to a good RTP:

- Location Staff need to be within easy reach of shops and services so that walking or cycling becomes the natural choice.
- Built Environment Low density developments are hard work to get round by bike and foot. Encouraging compact development that is walking and cycling friendly, with low parking allowances, is crucial in encouraging sustainable travel choices.
- Travel Plan Coordinator Successful travel plans need people. The coordinator plays a
 crucial role in developing the plan and working with Staff and management to ensure the
 plan meets their needs for access and evolves over time.
- Services and facilities Good public transport and a car club can help reduce the need for on-site parking. Other measures, such as broadband internet access and home deliveries can reduce the need to travel off site.
- Promotional strategy Welcome packs, public transport discounts and cycling incentives can all help introduce the travel plan to Staff and build enthusiasm.
- In terms of location and built environment, one can see the significant advantages of the subject site, within easy access of bus and LUAS facilities, with the layout of the proposed development making cycling and walking safer and more efficient.
- This report will demonstrate the central role that will be undertaken by the Travel Plan Coordinator in setting targets, updating the Travel Plan, monitoring use of car club spaces and maximising the circulation of promotional material among Staff.

2.4 Objectives

The following modal targets have been adopted as part of this Travel Plan:

- Car 45%
- Public Transport (Bus, light rail, train, etc) 35%
- Walking 10%
- Cycling 10%

This Travel Plan will set out measures to achieve the minimal modal targets between now and 2035. These targets maybe exceeded due to existing modal patterns.

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PUBLIC TRANSPORT, WALKING AND CYCLING FACILITIES AND COMMUTER TRAVEL PATTERNS

3.1 Site Location

The application site is located in South County Dublin, approximately 13km west of Dublin City Centre, and around 4km west of Clondalkin Village, immediately south of the Grand Canal.

The site is adjacent to the Grange Castle Business Park and is bounded to the north by planting and the Grand Canal; the R120 to the east; agricultural land to the south and west.

The location of the site is shown on the map extract at Figure 4 below.



Figure 4 Site Location (Source: Google Maps)

3.2 Public Transport

3.2.1 Background

Local public transport infrastructure is illustrated in Figure 5 below.

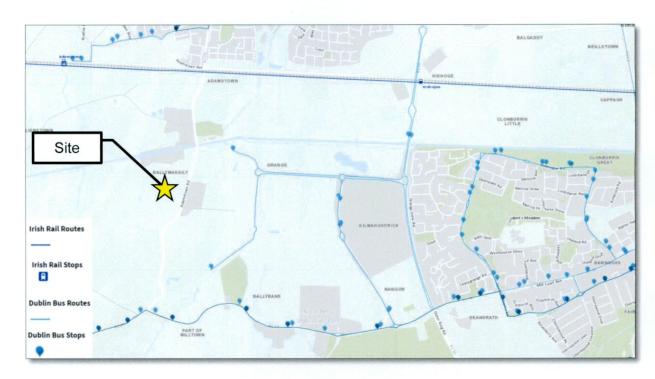


Figure 5 Local Public Transport Infrastructure

3.2.2 Bus

There are a number of bus stops within 700-800m walking distance of the application site. The nearest stops are on route no. 68 that connects Newcastle with the city centre. These stops are some 700m to the south of the subject site.

The bus stops within the Grange Castle Business Park, such as those serving the no. 13 and 151 buses also have the ability to serve the site with stops located within 800m of the site. The following table illustrates that there are regular services on all days for routes 13, 151 and 68.

Table 1 illustrates local bus routes.

No.	Route	Service		Mon-Fri	Sat	Sun
	Harristown – Dublin City Centre – Clondalkin Village – Grange Castle	Llamiatavum	First	05:30	06:05	08:00
		Harristown	Last	23:15	23:15	23:30
13		Grange	First	06:00	06:00	08:00
		Castle	Last	23:30	23:30	23:30
		Frequency	1	15min	15min	15min
	Docklands – Dublin City Centre – Clondalkin – Grange Castle Business Park – Lucan	Dealdanda	First	06:30	07:10	08:30
		Docklands	Last	23:20	23:20	23:20
151		Grange	First	06:00	06:30	07:30
		Castle	Last	23:30	23:30	23:30
		Frequency		20min	20min	30min
	Newcastle / Greenogue Business Park - Cherrywood Villas - Clondalkin Village - Bulfin Rd Camden St Hawkins St.	Newcast	First	06:25	06:40	09:15
		le	Last	23:30	23:30	23:30
68		Hawkins	First	06:25	06:40	10:10
		St	Last	22:30	23:30	00:00
		Frequency		60min	70 min	115m

Table 1 Local Bus Routes

Dedicated bus lanes are provided in both directions on the R136 Outer Ring Road and the R134 Nangor Road east of the Grange Castle Business Park roundabout. These routes are part of Dublin's Quality Bus Corridor (QBC) network.

3.2.3 Rail

The nearest stations are Adamstown, approximately 2.4km to the north-west of the site and Clondalkin-Fonthill approximately 6km to the east of the site. These stations are served by around 20 suburban commuter trains in each direction during weekdays.



Figure 6 Route to Adamstown Rail Station (Source: Google Earth)

3.3 Walking and Cycling

The realignment of the R120 created cycle paths on either side of the road that will connect into other cycle paths along the realigned R134.

There is a current planning application proposed to the north of the canal to the immediate north of the site by South Dublin County Council to extend the greenway to the west of the lock and bridge. A cycle greenway already runs along the Royal Canal with access on to the R136. In addition, pedestrian and cycleways are available on all internal roads within Grange Castle Business Park, and along the R136.

Existing cycle routes identified by the National Transport Authority (NTA) in the vicinity of the application site are indicated in figure below.

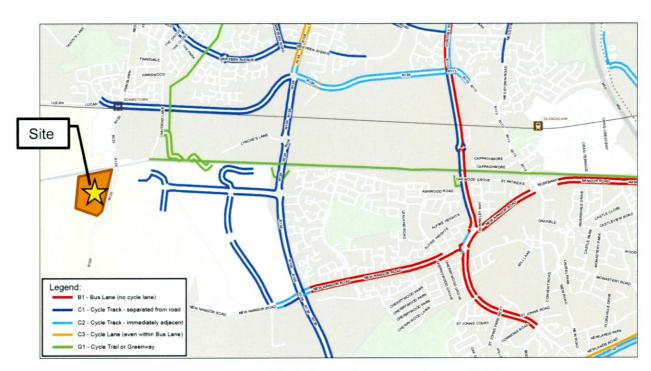


Figure 7 Existing cycle routes (Source: NTA)

The Grand Canal Greenway runs from east to west immediately north of the site. This pedestrian and cycle route provides an 8.5km off-road route from 12th Lock, Newcastle Road to Davitt Road, Inchicore. The route also links north to Adamstown and Lucan, via a walking and cycling bridge over the Grand Canal. The route can be accessed from the R136, approximately 1km from the site.

3.4 Permeability

3.4.1 Introduction

Permeability for staff and visitors to the proposed development is a key factor in determining the long-term sustainability when considering modal choice.

To encourage a shift away from car dependency, staff and visitors to the development must have viable alternative choices such as walking routes, cycle routes and public transport links.

3.4.2 Walking

Figure 8 outlines the walking distance covered by the average person in a 15-minute period. It illustrates the local amenities that are available to the proposed development which includes access to public transport nodes.

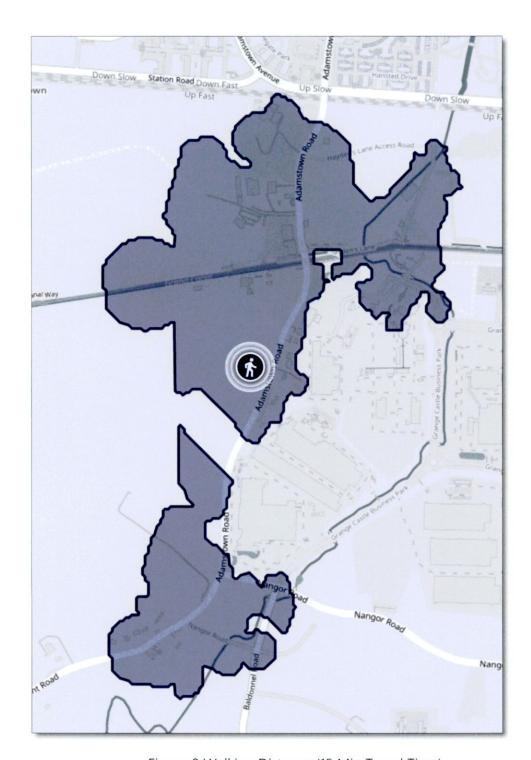


Figure 8 Walking Distance (15 Min Travel Time)

3.4.3 Cycling

Figure 9 outlines the cycling distance covered by the average person in a 30-minute period by bike. It illustrates the local amenities that are available to the proposed development. Local amenities within 30-minutes cycle of the proposed development include:

Access to rail network

- Access to bus network
- Access to the site from local residential catchments
- Access to areas of employment (Citywest Business Campus, Grange Business Park)
- Allows access to/from surrounding areas including:
 - o Tallaght
 - o Clondalkin
 - o Lucan
 - Leixlip
 - o Celbridge

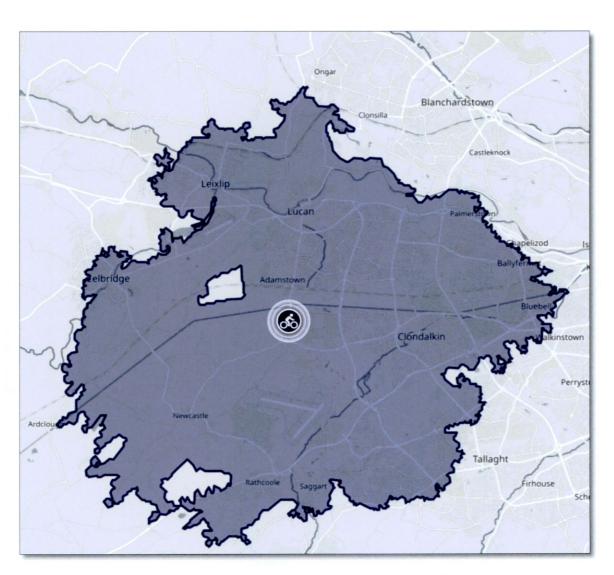


Figure 9 Cycle Distance (30 Min Travel Time)

3.4.4 Public Transport

Figure 10 outlines the distance that maybe covered on a 90minute public transport journey.

A 90-minute public transport journey allows access from locations such as:

- Enfield
- Portarlington
- Swords
- Blanchardstown
- Blessington

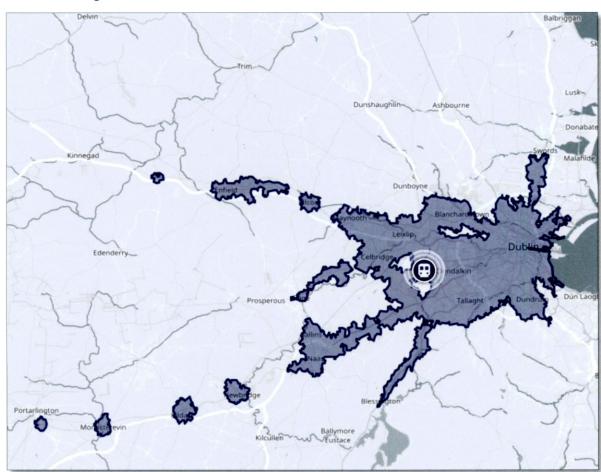


Figure 10 Public Transport (90min Travel Time)

3.5 Road Safety Data

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

Traffic collision data was obtained for the period 2005-2016 which is the most recent data available from the RSA website. These incidents are categorised into class of severity, which includes minor, serious or fatal collisions. The analysis is shown in Figure 11.

No collisions have been reported in the vicinity of the proposed development.

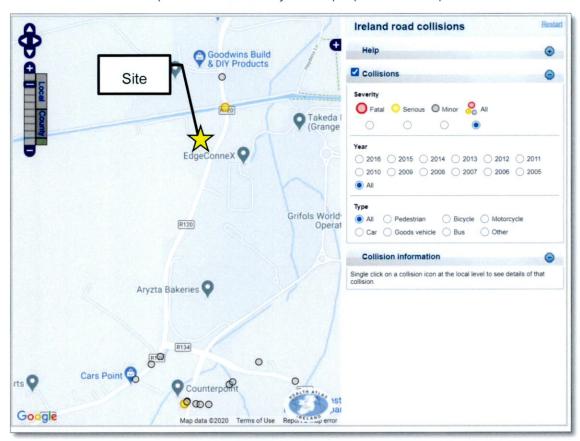


Figure 11 Road Collisions (Source: RSA)

3.6 Potential/Proposed/Committed Infrastructure Works

3.6.1 Introduction

There are several potential new infrastructure schemes in the vicinity of the proposed development site. Consideration has been given to the impact that these infrastructure schemes may have on the development. This will ensure that provision is allowed for these schemes to be delivered in the future.

A summary of the potential road infrastructure schemes is outlined below.

3.6.2 Bus Connects

The emerging Bus Connects Dublin plan proposes revisions to Dublin's bus system through: -

• building a network of new bus corridors on the busiest bus routes to make bus journeys faster, predictable and reliable.

• completely redesigning the network of bus routes to provide a more efficient network, connecting more places and carrying more passengers.

The Dublin Area Bus Network Redesign (which is currently under review following the public consultation stage) aims "to provide a network designed around the needs of Dublin today and tomorrow, rather than based on the past".

Figure 12 below presents the proposed public transport provision in the vicinity of the subject site compared to the existing provision.

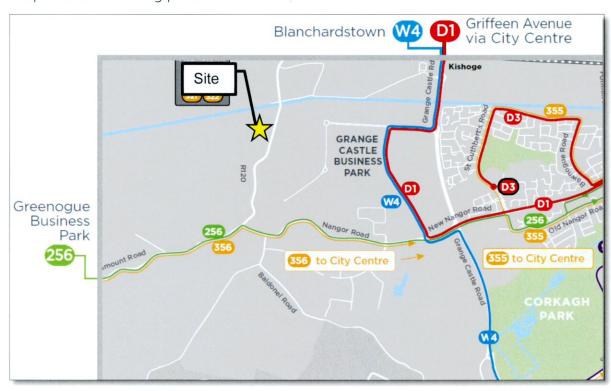


Figure 12 Bus Connects (Source: Map 2 of Bus Connects)

3.6.3 Cycle Network Improvements

Under the National Transport Authority's Cycle Network Plan for the Greater Dublin Area, the Dublin Southwest Sector extends outward from the twin corridors of Camden Street and Clanbrassil Street in the city centre, through the inner suburbs of Rathmines and Harold's Cross, to serve the areas of Terenure, Kimmage, Walkinstown, Tallaght, Firhouse and Rathfarnham. There is considerable overlap between the West and Southwest sectors, with interconnecting routes between the two. Some radial cycle routes originate in one sector at the city centre but end up in the neighbouring sector.

In accordance with the National Transport Authority's Cycle Network Plan for the Greater Dublin area the following improvements to the local cycle networks are proposed:

- Route 7C: Camac River Greenway branch from the Grand Canal through Clondalkin Village to Corkagh Park and City West.
- Route 8A follows Crumlin Road past the Children's Hospital, Bunting Road to Walkinstown, through Ballymount to cross the M50 at Junction 10 and out to Citywest / Fortunestown via Belgard.
- Route 9C is an alternative to the Harold's Cross route from Route 8C at Clogher Road via Stannaway Road west of Kimmage and then along Wellington Lane to join Route 9A at Spawell to connect to Tallaght. It also provides a continuation from Route 9A west of Tallaght via Fortunestown and Citywest to Saggart.
- Route 9D would provide a traffic-free option branching off Route 9A at Kimmage Crossroads and following the River Poddle Greenway to Tymon Park where a new bridge is required over the M50 in the centre of the park to connect with Castletymon Road and re-join Route 9A. West of Tallaght it provides a loop through Jobstown along the N81 and then northward into Citywest.
- The Dublin Southwest Sector extends outward from the twin corridors of Camden Street
 and Clanbrassil Street in the city centre, through the inner suburbs of Rathmines and
 Harold's Cross, to serve the areas of Terenure, Kimmage, Walkinstown, Tallaght, Firhouse
 and Rathfarnham. There is considerable overlap between the West and Southwest sectors,
 with interconnecting routes between the two. Some radial cycle routes originate in one
 sector at the city centre but end up in the neighbouring sector.
- Orbital Route SO6 (Dun Laoghaire to Tallaght via Ballycullen and Old Bawn) is part of the
 Orbital Routes in the Dublin Southwest Central Sector. There are six orbital routes
 proposed under the National Transport Authority's Cycle Network Plan for the Greater
 Dublin area in the Dublin West South Central Sector providing cross-links between the
 radial routes and give access to destinations such as Camden Street and Clanbrassil Street
 in the city centre, through the inner suburbs of Rathmines and Harold's Cross, to serve
 the areas of Terenure, Kimmage, Walkinstown, Tallaght, Firhouse and Rathfarnham within
 this sector.

The proposed cycle routes are illustrated in Figure 13 below.

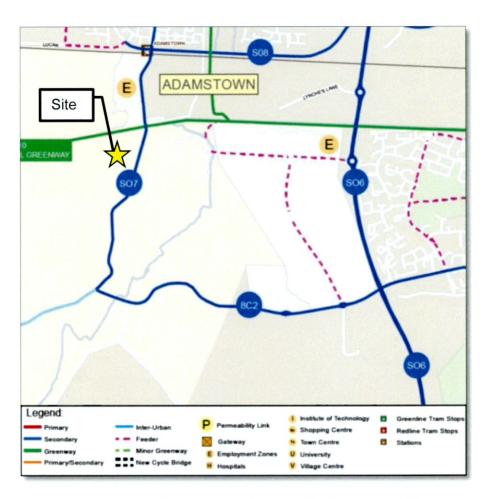


Figure 13- Proposed cycle routes (Source: NTA)

The above routes are expanded upon as part of the South Dublin County Development Plan 2022-2028 as illustrated in the image below.

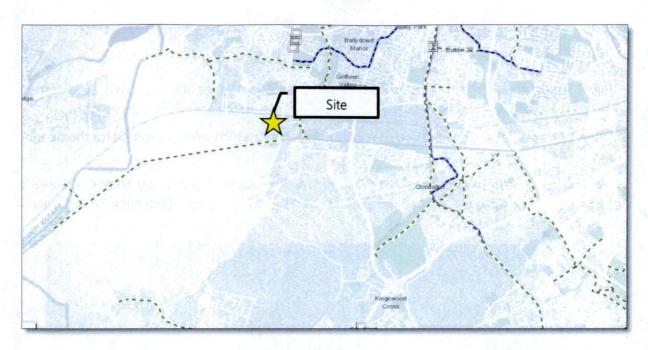


Figure 14 Extract of from the South Dublin Development Plan 2022-2028

3.7 Summary

In summary, the existing site benefits from good levels of existing public transport and walking/cycling infrastructure which will assist to encourage sustainable modes of travel for staff and visitors to/from the proposed development.

