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O'CONNOR | SUTTON | CRONIN

Multidisciplinary
Consulting Engineers

PUBLIC TRANSPORT CAPACITY STUDY

ST. VINCENT'S HOSPITAL FAIRVIEW REDEVELOPMENT

St. Vincent's Hospital Fairview
R517
23 March 2023



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DOCUMENT CONTROL & HISTORY

OCSC Job No: R517	Project Code	Originator	Zone Volume	Level	File Type	Role Type	Number	Status / Suitability Code	Revision
	R517	OCSC	XX	XX	RP	C	0006	S4	P06

Rev.	Status	Authors	Checked	Authorised	Issue Date
P01	S2	W Marais	P Raggett	A Horan	23/09/2022
P02	S2	W Marais	P Raggett	A Horan	29/09/2022
P03	S4	W Marais	P Raggett	A Horan	18/10/2022
P04	S4	W Marais	P Raggett	A Horan	13/02/2023
P05	S4	W Marais	P Raggett	A Horan	3/03/2023
P06	S4	W Marais	P Raggett	A Horan	23/03/2023

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1 INTRODUCTION

APPOINTMENT

O'Connor Sutton Cronin & Associates (OCSC) have been appointed by St. Vincent's Hospital Fairview to carry out the design of the civil engineering services associated with the proposed development of a site at St. Vincent's Hospital, Richmond Road and Convent Avenue, Fairview, Dublin 3.

ADMINISTRATIVE JURISDICTION

The proposed development is located primarily in the jurisdiction of the Dublin County Council (DCC).

STUDY AREA

The site fronts Richmond Road. The site is bound by the Grace Park Wood residential development to the northwest, Griffith Court and the 'Fairview Community Unit' nursing home to the north, the An Post depot on Lomond Avenue and residential properties on Inverness Road to the east, existing residential and commercial properties on Richmond Road and Convent Avenue to the south and Charthouse Business Centre, Dublin Port Stadium / Stella Maris FC and Ierne Sports and Social Club to the west of the site.

The exact location of the development can be seen in the figure overleaf:

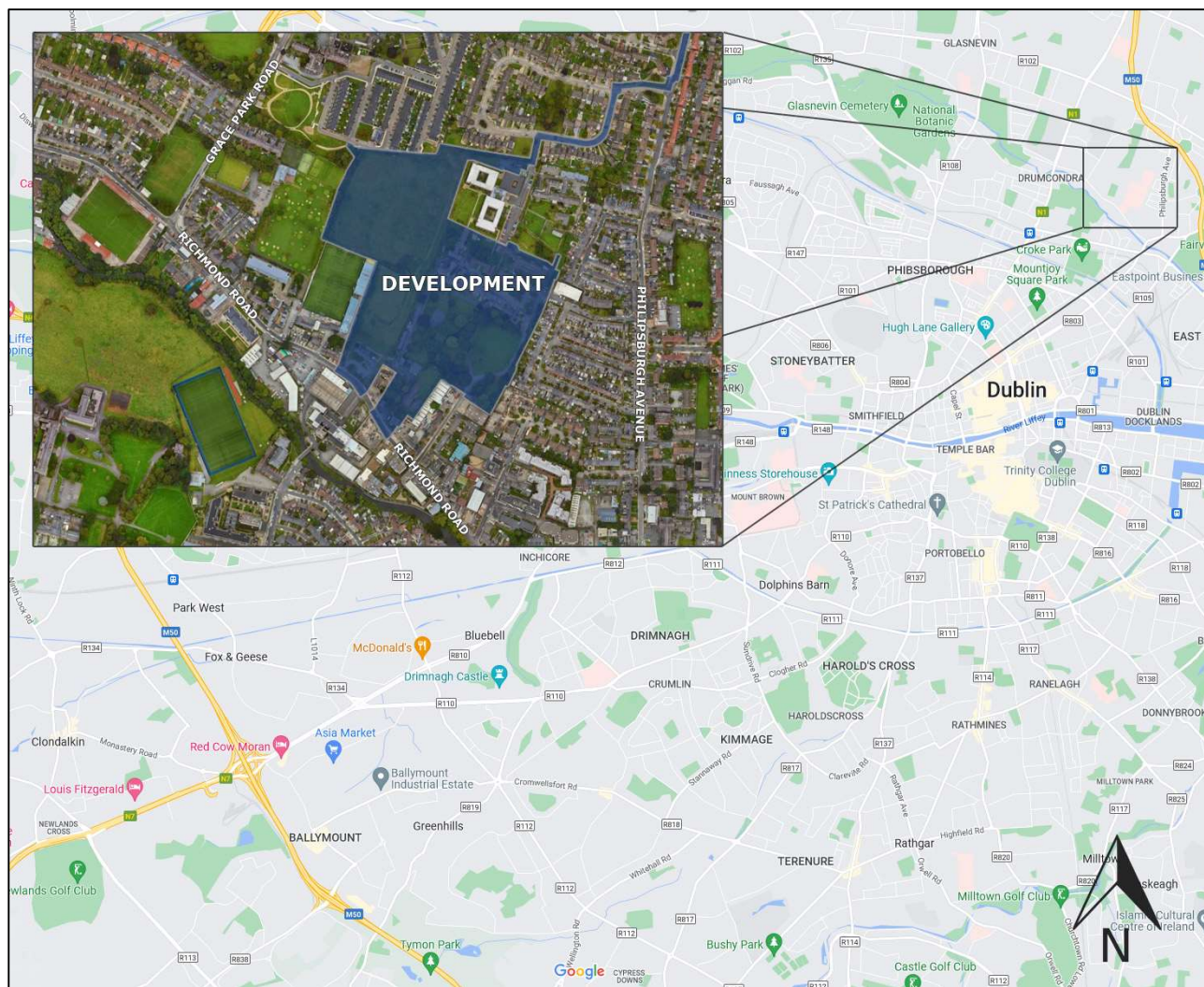


Figure 1: Locality Plan

PURPOSE OF THE REPORT

The movement strategy associated with the site places a significant emphasis on travel by sustainable means. As outlined within this report and in the Mobility Management Plan prepared for the site and submitted under separate cover, the site is highly accessible by a variety of means with considerable potential for travel by public transport and non-motorised transport given its proximity to Dublin City Centre as well as other suburbs and local amenities. The public transport services locally will play a key role in meeting the transportation needs of residents, workers, visitors and customers at the development.

OCSC has conducted a detailed review of the existing key public transport services in the area. This has considered the carrying capacity of the respective services combined with their frequency. This was then compared against the estimated demand generated by the proposed

development along with bespoke survey observations carried out on these key services during peak times to assess their current operating capacity.

The peak public transport demand is considered to be during the A.M. period when both commuters to work and school tend to travel at similar times whereas, in the P.M. period, schools traditionally finish earlier than the working day, resulting in a demand being spread across a longer time and limiting the concentration of demand. Demand during this period is expected to be driven by residents at the site who will be boarding services at this time. Workers and visitors travelling to the non-residential uses will be limited in number during the A.M. period and will be inbound trips, alighting at stops near the development site meaning they will free up capacity.

DEVELOPMENT DESCRIPTION

A **ten-year planning permission** is sought for the proposed development comprising of the following (see public notices for the detailed description):

- Provision of a new part two and part three storey hospital building, providing mental health services, accommodating 73 no. beds, associated facilities, a single storey facilities management building, plant rooms and service areas, associated car and cycle parking, access roads, and open space, all on a proposed hospital site of c. 2.67 ha.
- Refurbishment and repurposing of existing buildings on site including Brooklawn (RPS Ref.: 8789), Richmond House, including chapel and outbuildings (RPS Ref.: 8788), the Laundry building and Rose Cottage for ancillary uses associated with the new hospital. The existing gate lodge building will remain in residential use and used by visiting members of staff to the new hospital.
- Change of use, refurbishment, alterations and extensions, to the existing hospital building (part protected structure under RPS Ref.: 2032), to provide residential amenity areas, a gym, a café, co-working space, a library, a childcare facility, and a community hall (referred to as Block K).
- The proposal includes the demolition of existing structures on site with a GFA of 5,872 sq.m, including the (1) westernmost range of the hospital building, which includes St. Teresa's and the Freeman Wing, (2) extensions to the south and north of the main hospital building, including the conservatory extension, toilet block extension, an external corridor, toilet core, lift core, and stair core (which are all part of / within the curtilage of RPS Ref.: 2032), (3) hospital buildings and outbuildings located to the north of the existing main hospital building, (4) St. Joseph's Adolescent School located in the southeast of the site, (5) Crannog Day

Hospital located in the southwest of the site, and (6) extensions to the Old Laundry Building and Rose Cottage.

- Provision of 9 no. residential buildings (Blocks A, B, C, D-E, F, G, H, J, and L) providing a total of 811 no. residential units, including 494 no. standard designed apartments (in Blocks A, B, C, G, H, J, and L) and 317 no. Build to Rent apartments (in Blocks D-E and F). Residential amenities and facilities are proposed in Block C, D-E, J and K. A retail unit is proposed in Block A and a café in Block F. Block J is proposed as an extension of the existing hospital buildings (protected structure RPS Ref.: 2032- referred to as Block K).
- The building heights of the proposed residential blocks range from part 2 to part 13 storeys. A proposed basement / lower ground level, containing car and cycle parking and plant areas, is located below and accessed via Blocks C, D-E and F.
- Access to the new hospital and associated grounds is provided from Richmond Road and Convent Avenue, with separate internal access points. A separate vehicular access to the residential development is provided from Richmond Road. The development includes a proposed pedestrian / cycle connection to Griffith Court, requiring alterations to the service yard of the Fairview Community Unit, pedestrian / cycle connections to the Fairview Community Unit campus to the north (providing an onward connection to Griffith Court), a pedestrian / cycle connection to Grace Park Wood, and makes provision internally within the site for a potential future connection to Lomond Avenue / Inverness Road.
- The proposal includes public open space, including allotments, children's play areas, a central park, a linear park and an entrance plaza, with a set down area at Richmond Road, and communal open space at surface level. The proposal includes communal roof terraces on Block C and Blocks D-E and private balconies / terraces for the apartments.
- The proposal also includes provision of internal access roads, car and cycle parking, pedestrian and cycle infrastructure, associated set down areas, alterations to existing landscape features, landscaping, boundary treatments, lighting, telecommunications infrastructure at roof level of Block B, green roofs, lift overruns and plant at roof level, site services, including a watermain connection / upgrade via Griffith Court, Philipsburgh Avenue and Griffith Avenue, site clearance, and all associated site works.

DEVELOPMENT & SITE OVERVIEW

The 9.46 ha development consists of the following:

- 811 no. residential units (including 494 no. standard designed apartments and 317 no. BRT units);

- Proposed mental health facility building to house existing operations on-site providing up to 73 beds;
- Several facilities which are considered ancillary to the hospital and residential developments and will not generate separate trips:
 - 406 sqm community facilities;
 - 4 064 sqm gym, café, co-working space, childcare facilities and retail;
 - 1264,4 sqm dedicated BTR amenity areas; and
 - 3713.35 sqm total resident support facilities.

A key aspect of the overall development design is based on sustainable living, embracing the highly accessible nature of the site and local amenities to specifically target residents and employees who do not need a car. The demand for a more sustainable living continues to grow in line with objectives to improve quality of life as well as address significant environmental issues such as climate change, a key contributor to which is the burning of fossil fuels created by car-based travel. As people are becoming more aware of these issues, which are becoming more and more prominent in day-to-day life, it is leading to a cultural shift and change in priority for many people who would prefer to lead a more sustainable lifestyle. The proximity of the site to high-quality public transport options, including both Luas and Irish Rail services, employment opportunities and common amenities predisposes the development to facilitate this type of person which the development has been designed to embrace.

The proposed site plan can be seen in the figure overleaf.



Figure 2: Proposed Site Plan

2 EXISTING PUBLIC TRANSPORT

EXISTING INFRASTRUCTURE

Relative to the development site, there are numerous cycleways within the near vicinity. Sections of Drumcondra Road incorporate different forms of cycleways, however, there are sections along the stretch of road which have no specific cycle measures in place. Similarly, the Annesley Bridge Road offers mixed-cycle use with certain sections designed without cycle lanes.

Richmond Road, on which the development fronts, does not have any dedicated cycle infrastructure at present, with cyclists travelling on-road. This is possible due to the low speeds on this road. An example of the on-road travelling of bicycles is shown in the figure below.



Figure 3: Cyclists Travelling On-Road along Richmond Road

To the east, along Fairview Strand, bicycles mainly travel along shared facilities, transitioning onto dedicated cycle lanes and crossings at junctions, as shown overleaf:



Figure 4: Dedicated Cycling Infrastructure along Fairview Strand

Similarly, along Drumcondra Road to the west, cyclists travel along shared facilities, with dedicated cycling infrastructure at junctions, as shown below:

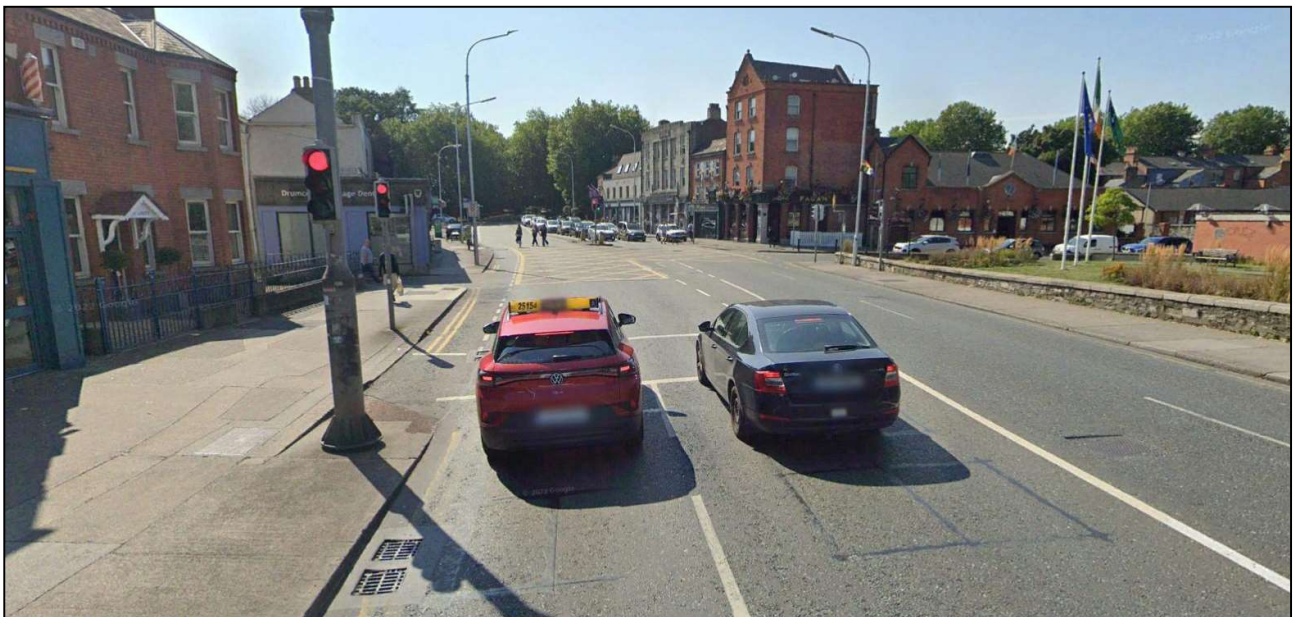


Figure 5: Dedicated Cycling Infrastructure along Drumcondra Road

Overall the cycling infrastructure around the development, and towards public transport nodes is of good quality and sufficient. Some upgrades are proposed to the existing infrastructure as detailed in the Mobility Management Plan, submitted under separate cover.

In terms of pedestrian access, the existing footpaths on the nearby public road are moderately-lit and in fair condition. There are dedicated pedestrian crossing facilities in the wider area including signalised crossing facilities at the minor and priority junctions along Drumcondra Road and signalised crossing facilities at the Fairview Road and Griffith Avenue Road junctions.

In addition to the major crossings, there are several minor signalised crossings along Richmond Road, Philipsburgh Avenue and Grace Park Road.

Dedicated pedestrian infrastructure is present along both sides of Richmond Road. Infrastructure is of adequate width and condition, with cyclists travelling on road. An example of the infrastructure is shown below:

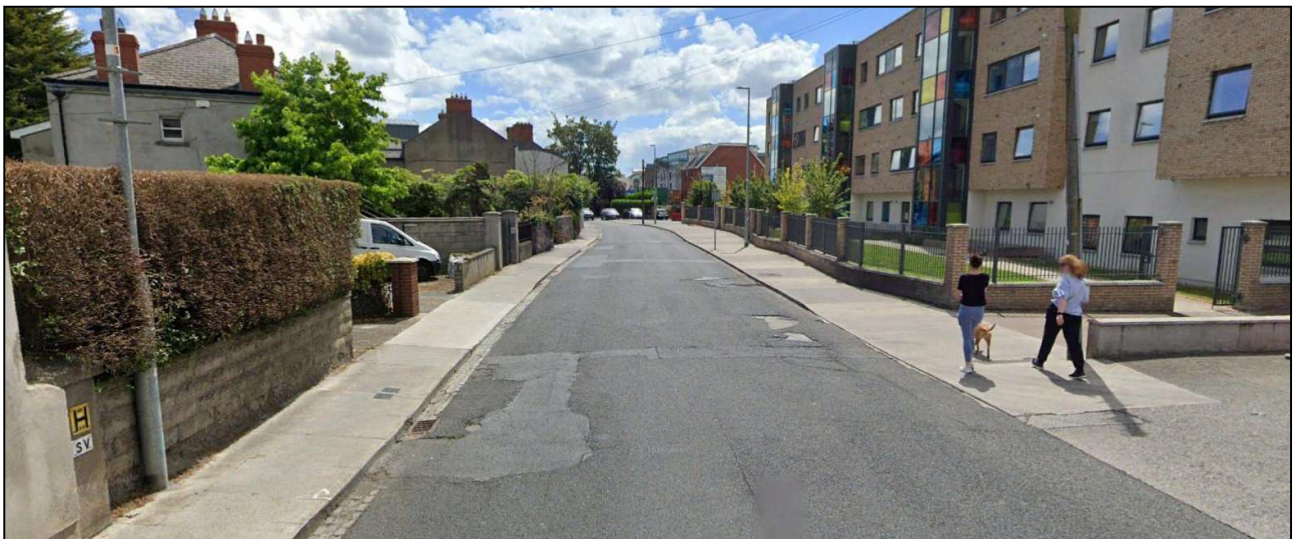


Figure 6: Pedestrian Infrastructure along Richmond Road

Further east, infrastructure remains similar along Fairview Strand, with adequate width and condition. Infrastructure does transition to a shared facility along this road, however, there is sufficient width to accommodate both modes.



Figure 7: Pedestrian Infrastructure along Fairview Strand

Similar to Fairview Strand, Drumcondra Road also has pedestrian infrastructure on both sides of the road, with good width and condition. Sections of this infrastructure are also used as shared facilities to accommodate cyclists in the area.



Figure 8: Pedestrian Infrastructure along Drumcondra Road

SITE ACCESSIBILITY

The site accessibility map is shown in the figure below.

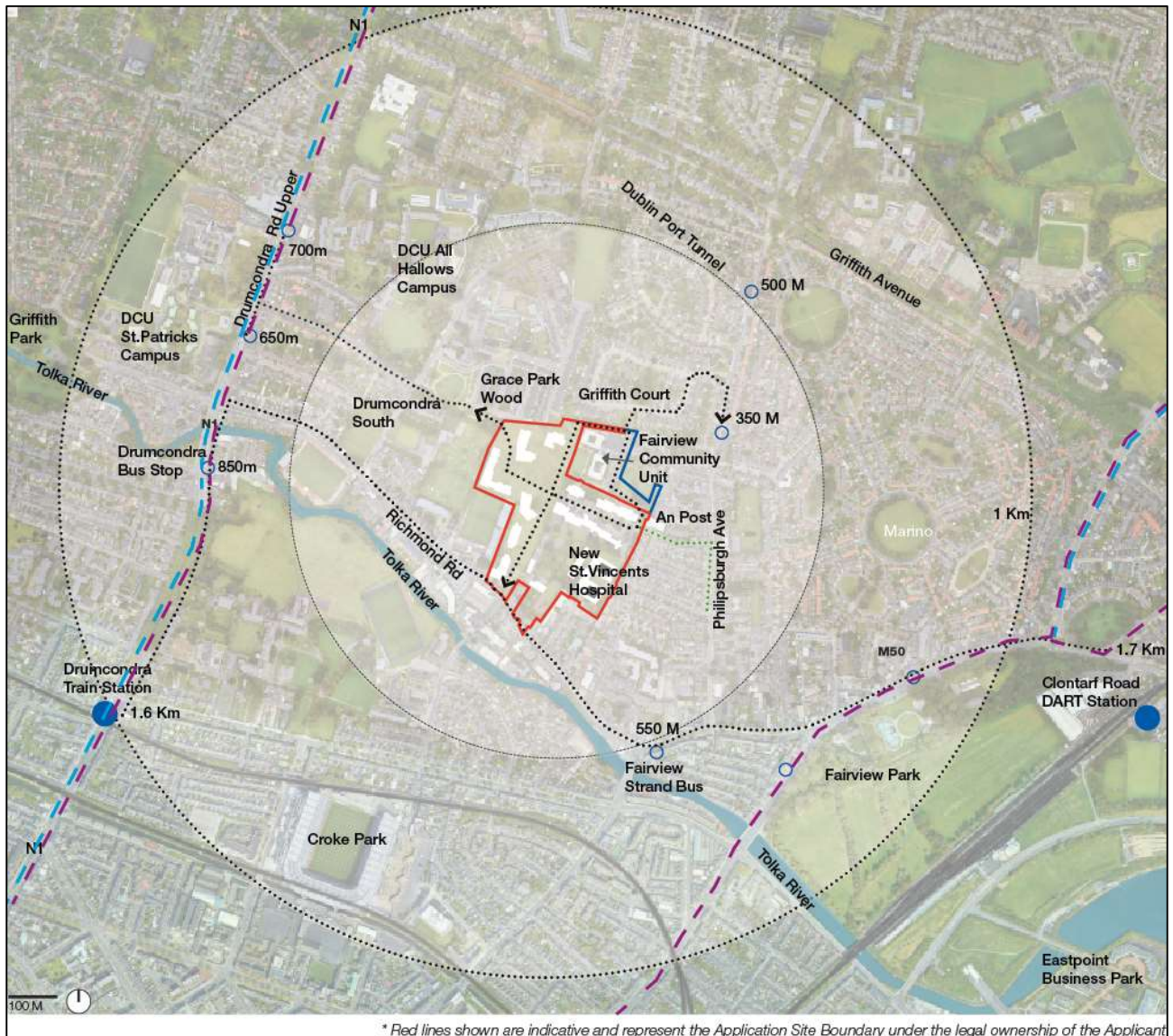


Figure 9: Site Accessibility

Three new links will be created to allow pedestrians and cyclists easier access to the surrounding road network and public transport services. The planned walking and cycling routes and proposed connections to public transport are via:

- Grace Park Wood to the west of the development; and
- Griffith Court to the northeast of the development;

Additional to the two connections listed above, provision is also made for a potential future connection to Lomond Avenue/Inverness Road to the east of the development.

RAIL ACCESS

The proposed development site is located within 1.6 km (20 min walk / 6 min cycle) of Drumcondra Station. This station is served by a vast range of routes, including routes to Maynooth, Hazelhatch/Celbridge, Sligo/Longford and the M3 Parkway stop.

The route to this station is shown below and overleaf in terms of walking and cycling:

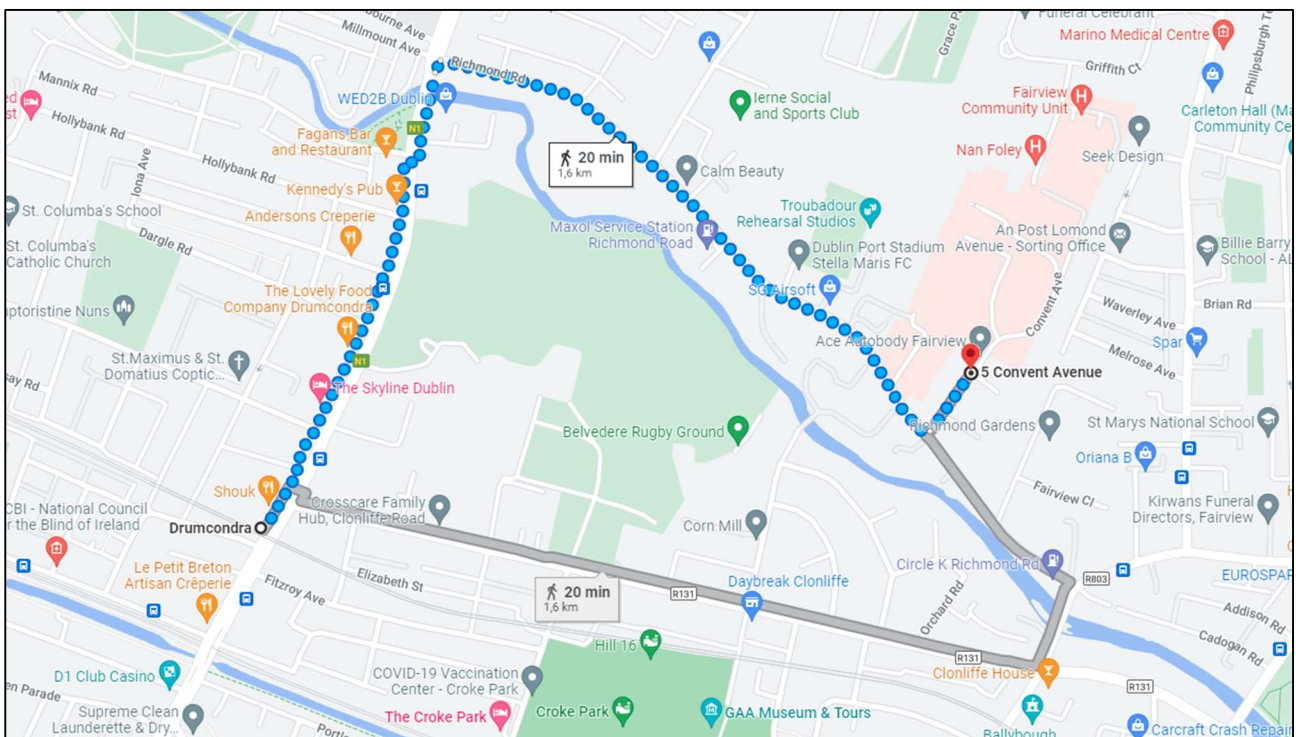


Figure 10: Walking Route to Drumcondra Station

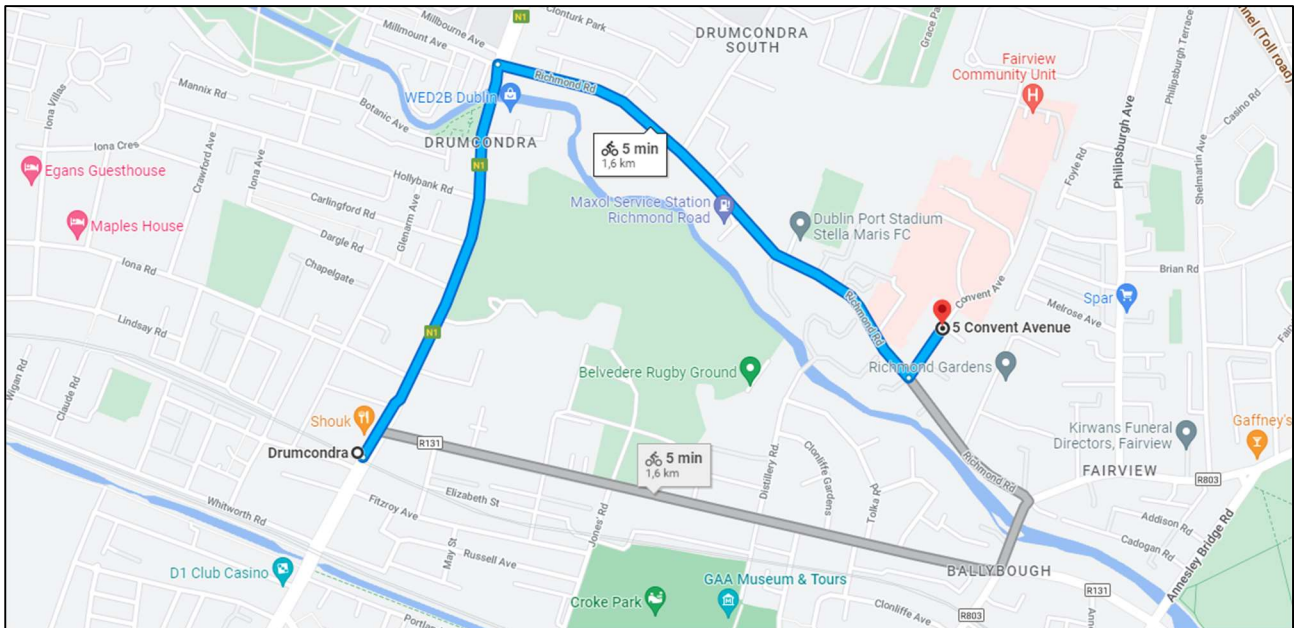


Figure 11: Cycling Route to Drumcondra Station

Additionally, the site is located within 1.7 km (22 min walk / 7 min cycle) of Clontarf Road Station. This station is served by regular DART services between Howth/Malahide and Bray/Greystones via the city centre.

The route to this station is shown below and overlaid in terms of walking and cycling:

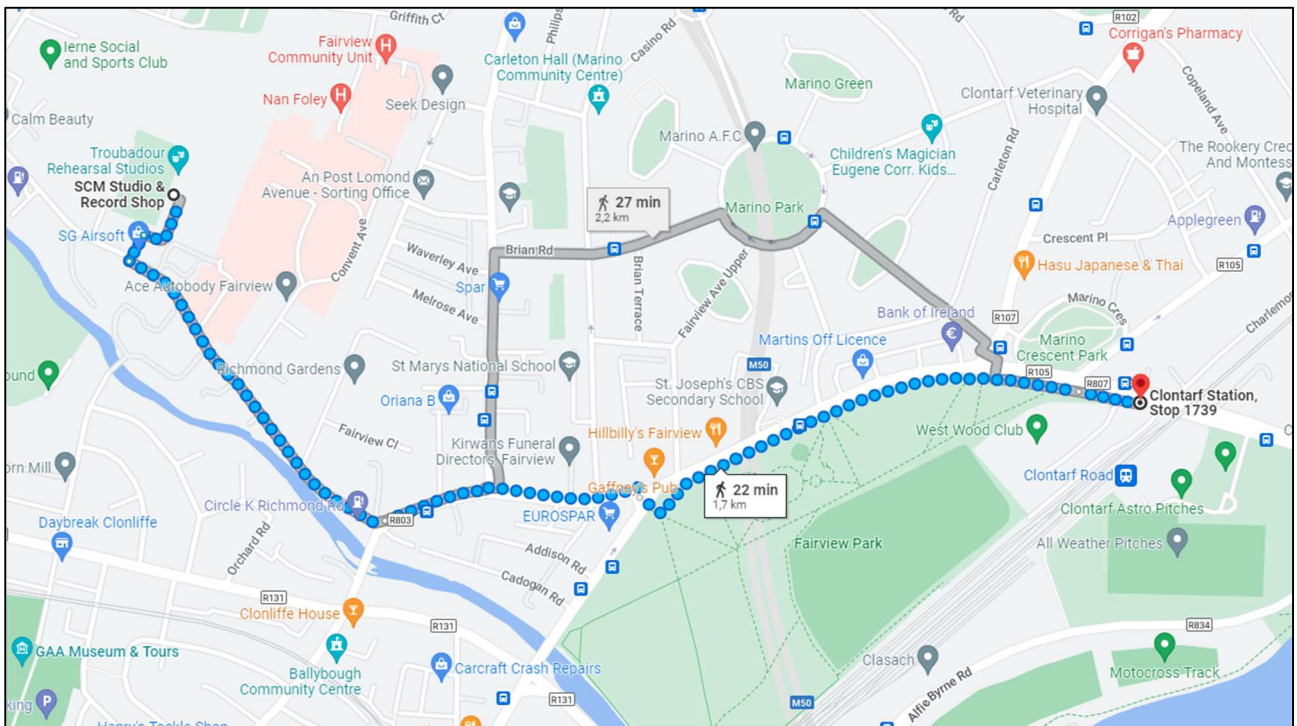


Figure 12: Walking Route to Clontarf Road Station

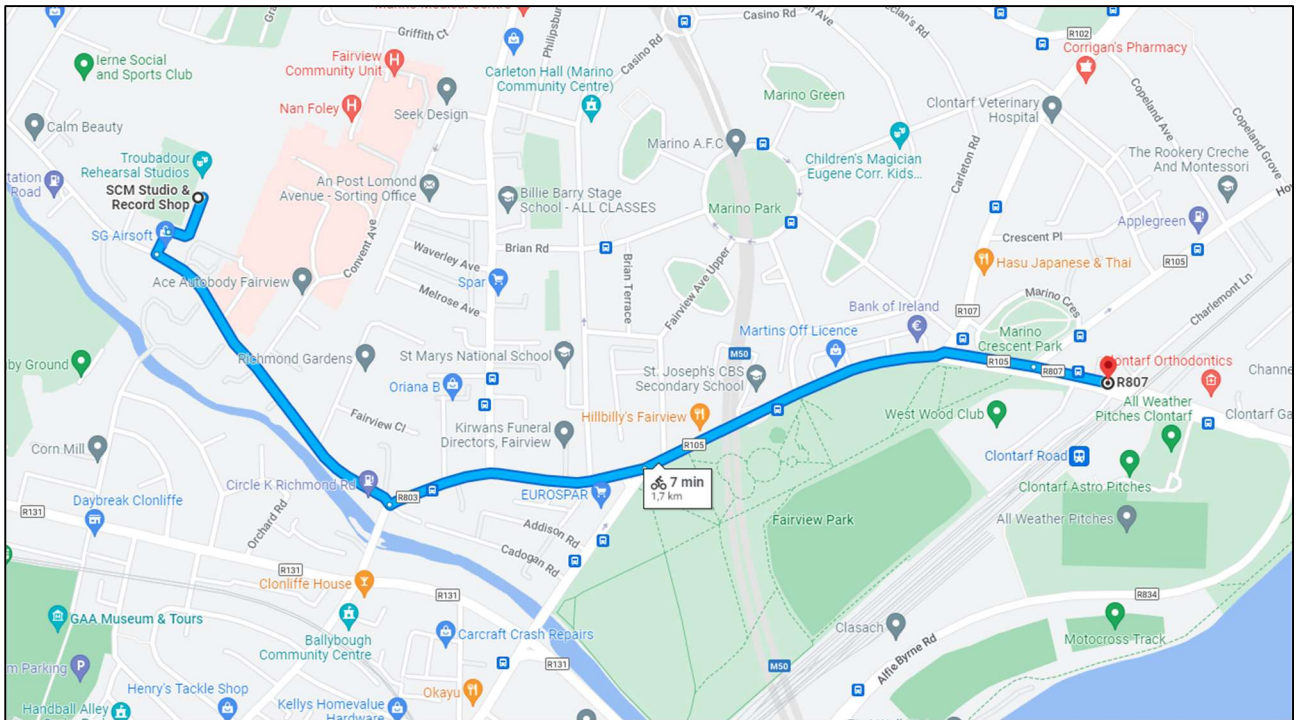


Figure 13: Cycling Route to Clontarf Station

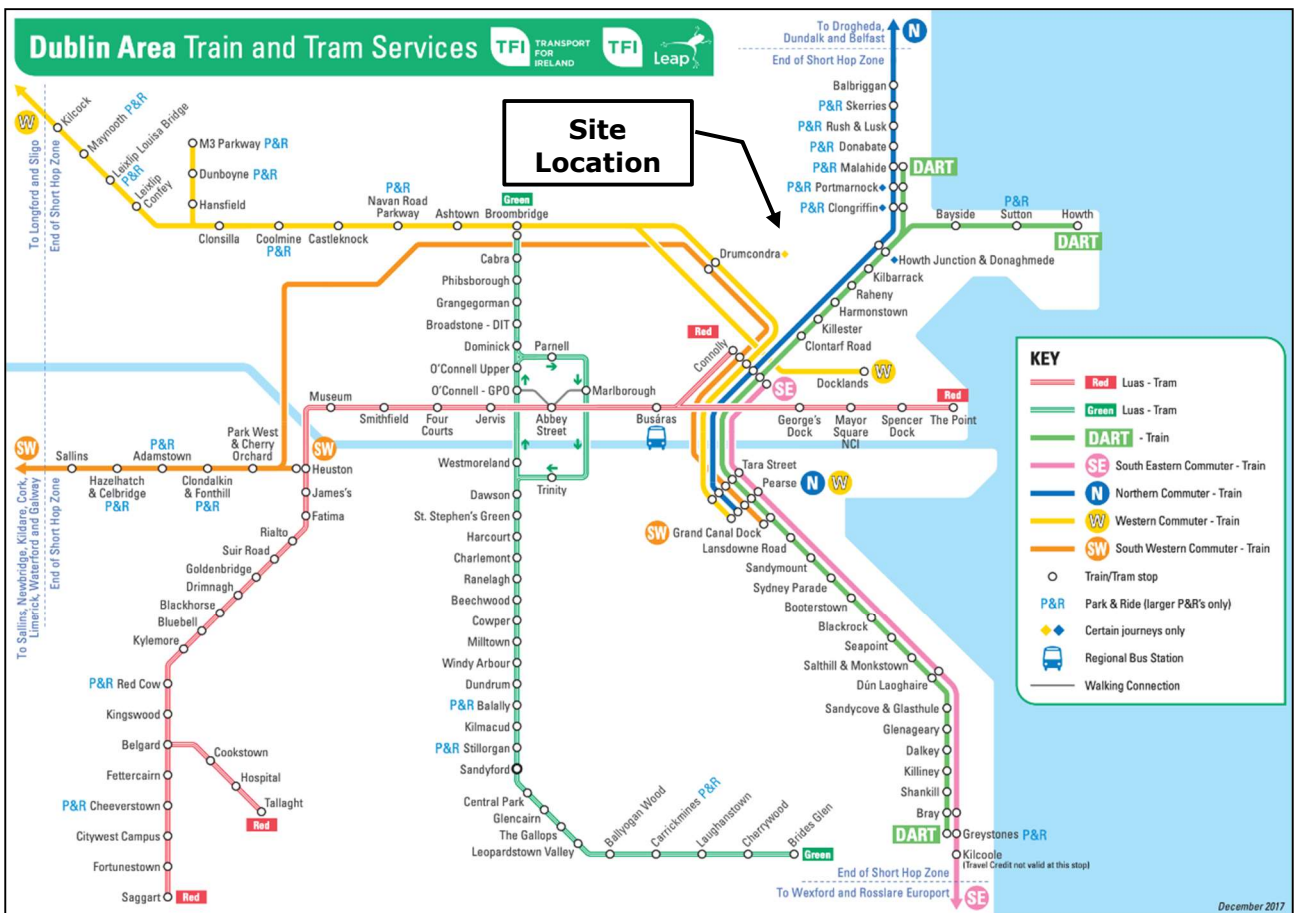


Figure 14: Dublin Rail Network Map

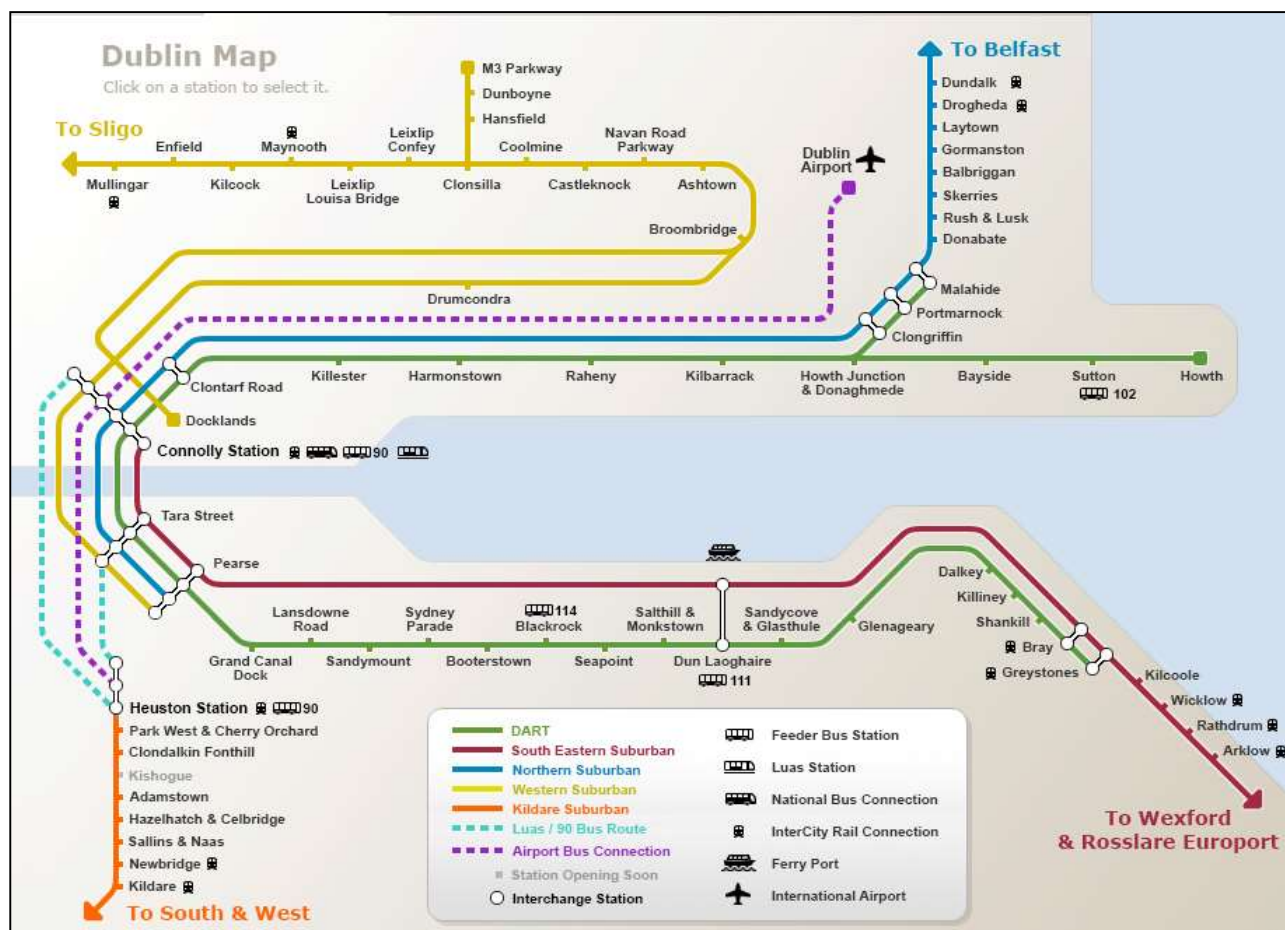


Figure 15: Irish Rail Network Map

BUS ACCESS

As outlined in the figure overleaf, the site is within reasonable walking distance of high-quality public transport. The site is within c. 4 minutes walking distance to the bus stop on Philipsburgh Avenue (350m) via the proposed connection through Griffith Court to the north and c. 6 minutes walking distance to the Fairview Strand bus stop to the east (550m) via the main entrance from Richmond Road. The bus stops at Fairview Strand and Phillipsburgh Avenue are served by Bus Route No. 123 (with a peak frequency every 10 mins).

The site is within reasonable walking distance (details included below) of high-quality public transport, including existing Drumcondra Road QBC and BusConnects Radial Core Bus Corridor 'H-Spine' at Annesley Bridge Road. The Drumcondra Road QBC is proposed as BusConnects Radial Core Bus Corridor 'A Spine' and is due to be launched later in 2023. The site is also located near two proposed Core Bus Corridors including CBC1 - Clongriffin to Marino (submitted to An

Bord Pleanála under Ref.: HA29N.313182) and CBC2 - Swords to City Centre (not yet submitted to An Bord Pleanála for approval).

The subject site is within a 7-minute walking distance of Drumcondra Road QBC which is situated c. 560m to the west via the proposed connection through Grace Park Wood. The bus stops on Drumcondra Road Lower, which is within c. 650 metres / c. 8 minutes walking distance from the subject site include the following bus routes (peak frequencies in brackets):

- Nos. 1 (every 10 mins), 11 (every 15 mins), 13 (every 10 mins), 16 (every 10-12 mins), 41 (every 20 mins) and 44 (every 60 mins).

The proposed Bus Connects 'A Spine' indicates a frequency of between 3-4 minutes between buses during peak hours. It is c. 850m walking distance to the bus stops on Drumcondra Road via Richmond Road.

The site is also within c. 10 minutes walking distance (c. 850m) to the BusConnects Radial Core Bus Corridor 'H-Spine' and bus stops at Annesley Bridge and Fairview (Marino Mart) via the main entrance from Richmond Road. These bus stops are served by Bus Route No's 14 (every 10-12 mins), 15 (every 10 mins), 27 (every 10 mins), 27A (every 35 mins), 27B (every 15 mins), 42 (every 20 mins), 43 (every 15 mins), 130 (every 10 mins), Bus Connects H1 (every 15 mins), H2 (every 30 mins) and H3 (every 30 mins).

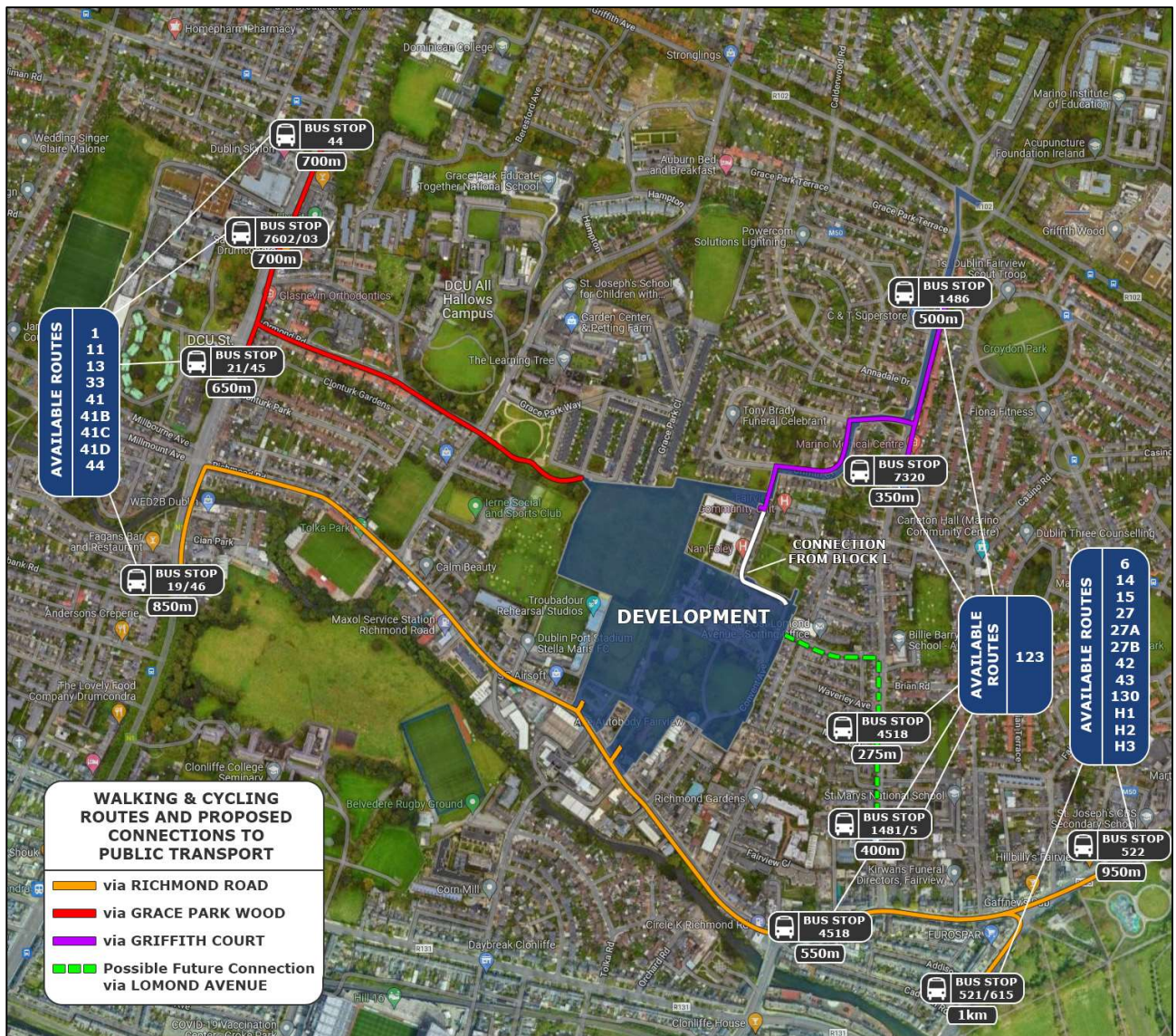


Figure 16: Existing Bus Facilities

The above figure shows the following information:

- Closest stops to the development;
- Routes served by these stops;
- Distances of stops from development accesses; and
- Proposed walking and cycling routes.

EXISTING CAPACITY

The key services locally considered as part of this assessment are Irish Rail serving the nearby Drumcondra Stop and the Dublin Bus Routes which serve stops in the vicinity of the development.

RAIL

The Irish Rail InterCity Fleet Information was sourced from the Irish Rail website. The following fleet information is applicable:

22000 Class InterCity Railcar (ICR)			
Type	Number in Service	Seating Capacity	Date Built
3 Car Set	28	190	2007 – 2009/2011 – 2012
4 Car Set	25	262	2007 – 2009
5 Car (1 st Class) Set (Premier)	10	304	2008

Table 1: Irish Rail Fleet Information

The makeup of the car sets that operate at Drumcondra Station is unknown. An average capacity was used, which was calculated from the above table proportionally based on the seating capacity and number in service. This average capacity was calculated to be approximately 237 seats per service.

The following three routes are serviced at Drumcondra Station:

- Dublin Connolly – Sligo
- Dublin - Maynooth, Longford and M3 Parkway
- Grand Canal Dock and Dublin Heuston – Portlaoise (Kildare Line)

From the timetables available on the Irish Rail website, the number of services operating at Drumcondra Station on a regular weekday for each of the three routes was determined. This was then multiplied by the average capacity calculated previously to determine an approximate daily capacity for each route at the station. The results of this are shown in the table below.

Route	Number of Daily Services	Average Capacity Per Service	Estimated Total Daily Capacity
Dublin Connolly – Sligo	19	237	4 503
Dublin - Maynooth, Longford and M3 Parkway	138	237	32 706
Grand Canal Dock and Dublin Heuston – Portlaoise	47	237	11 139
Total	204	-	48 348

Table 2: Estimated Route Capacity

The *National Rail Census Report 2019* by the NTA provides data on daily boardings and alighting at the various stations. The following data is available for the Drumcondra Station during 2019:

- Daily Boarding:
 - Maynooth (Sligo) Line: 1397
 - Heuston: 559
- Daily Alighting:
 - Maynooth (Sligo) Line: 1684
 - Heuston: 551

Furthermore, the Census Report also provides information on the demand at each station, with the following demand determined for Drumcondra Station in 2018 and 2019:

- Sligo – Dublin – Bray: 20 400 (10 200 per direction)
- Kildare Line: 2 800 (1 400 per direction)

The reported Census Data was surveyed in 2019, before the pandemic. It should be noted that restrictions imposed because of the pandemic response have resulted in a significant portion of the population being forced to work from home. This has highlighted the viability of this approach in industries where it was previously thought to be incompatible. The knock-on effect is expected to be that a percentage of workers continue to be based at home on a part- or full-time basis post-pandemic. This in turn will have a knock-on effect on commuter and peak traffic levels. The National Transport Authority (NTA) has acknowledged this likelihood in a recently circulated note titled "Alternative Future Scenario for Travel Demand" dated November 2020 where it defines the Covid-19 pandemic as a "shock wave" that "can lead to an acceleration in the natural rate of change in society". The note concludes that the total number of daily trips could be up to 8%

lower than previous projections. Thus the demand figures taken from the Census Report represent a worst-case scenario as these have not been influenced by changes in travel habits due to the pandemic.

OCSC carried out observations on the operating capacity of this service on the morning of the 22nd of Sept 2022. The Sept survey in particular is noted to have been a Thursday when many third-level institutions had reopened which is considered to have resulted in a higher level of demand which would likely balance out over time.

The observations on both dates indicated that there was generally ample reserve capacity available on the Irish Rail services at the Drumcondra stop. The following pictures are a record of these observations, noted based on the time and date they were taken.



Figure 17: Drumcondra to Connolly Capacity Observations at 8:35 AM - 22nd of Sept 2022



Figure 18: Drumcondra to Connolly Capacity Observations at 8:35 AM - 22nd of Sept 2022



Figure 19: Drumcondra to Connolly Capacity Observations at 8:35 AM - 22nd of Sept 2022

As can be seen in the majority of instances there was seating available and a notable level of standing room available for additional passengers. This indicates a good level of reserve capacity is available.

BUS

The key routes serving the nearby stops are summarised in the following two tables.

Route	Description	Peak Frequency per Direction	Off-Peak Frequency per Direction
1	Santry Rd – Pearse Street	10/12 mins	20 mins
11	Wadelai Park – Sandyford Business District	15 mins	30 mins
13	Harristown – Grange Castle	10 mins	15 mins
16	Dublin Airport – Ballinteer	10 mins	15 mins
33	Abbey Street - Balbriggan	40 mins	-
41	Abbey Street – Swords Manor (24 hr)	20 mins	30 mins
41B	Abbey Street - Rolestown	5 x a Day	-
41C	Abbey Street – Swords Manor	20 mins	30 mins
41D	Abbey Street – Swords Business Park	2 x a Day	-
44	DCU – Enniskerry	30 mins	1 hr

Table 3: Dublin Bus Times (West of Development)

Route	Description	Peak Frequency per Direction	Off-Peak Frequency per Direction
6	Abbey Street – Howth Station	30 mins	1 hr
14	Beaumont – Dundrum Luas	10/12 mins	15 mins
15	Clongriffin – Ballycullen (24 hr)	10 mins	30 mins
27	Clare Hall – Jobstown	10 mins	20 mins
27A	Eden Quay – Blunden Drive	35 mins	45 mins
27B	Eden Quay – Harristown	15 mins	30 mins
42	Talbot Street – Portmarnock	20 mins	30 mins
43	Talbot Street – Swords Business Park	15 mins	20 mins
130	Talbot Street – Castle Avenue	10 mins	20 mins
H1	Abbey Street – Ballydoyle	15 mins	30 mins
H2	Abbey Street – Malahide	30 mins	1 hr
H3	Abbey Street – Howth Summit	30 mins	1 hr
123	Walkinstown – Marino	12 mins	20 mins

Table 4: Dublin Bus Times (East of Development)

More details of these bus services including full timetables and route maps can be found at www.dublinbus.ie.

Assuming that all of these Dublin Bus services operate within standard Dublin Bus operating hours of 5:00 – 24:00 daily, this means that each service operates for 2 peak hour periods (7:00 – 9:00 & 17:00 – 19:00) and 15 off-peak hours. Given this, the following calculations were made for the total daily services for each route:

Route	Frequency (mins) per Direction		Number of Services	
	Peak	Off-Peak	Peak	Off-Peak
Santry Rd – Pearse Street	10	20	48	90
Wadelai Park – Sandyford Business District	15	30	32	60
Harristown – Grange Castle	10	15	48	120
Dublin Airport – Ballinteer	10	15	48	120
Abbey Street – Balbriggan	40	0	12	0
Abbey Street – Swords Manor (24 hr)	20	30	24	60
Abbey Street – Rolestown	5 x a Day	-	10	0
Abbey Street – Swords Manor	20	30	24	60
Abbey Street – Swords Business Park	2 x a Day	-	4	0
DCU – Enniskerry	30	60	16	30
Abbey Street – Howth Station	30	60	16	30
Beaumont – Dundrum Luas	10	15	48	120
Clongriffin – Ballycullen (24 hr)	10	30	48	60
Clare Hall – Jobstown	10	20	48	90
Eden Quay – Blunden Drive	35	45	14	40
Eden Quay – Harristown	15	30	32	60
Talbot Street – Portmarnock	20	30	24	60
Talbot Street – Swords Business Park	15	20	32	90
Talbot Street – Castle Avenue	10	20	48	90
Abbey Street – Ballydoyle	15	30	32	60
Abbey Street – Malahide	30	60	16	30
Abbey Street – Howth Summit	30	60	16	30
Walkinstown – Marino	12	20	40	90
Total			680	1390

Table 5: Total Dublin Bus Services

The majority of the Dublin Bus fleet consists of buses with a passenger capacity of 95, though some increased capacity vehicles are available as part of the fleet.

Conservatively assuming this is the capacity of buses using stops in the vicinity of the development site, the following daily capacity is available across bus services within the vicinity of the development:

- Peak Hours: 64 600
- Off-Peak Hours: 132 050
- Total: 196 650

Site visits were conducted for a number of these routes to observe the demand and capacity during the morning peak hour. These are discussed below.

Route 1

Route 1 travels between Shantry (Shanard Road) and Shaw Street. A site visit was conducted Tuesday, 21 February 2023 to observe demand and available capacity on the route. Both directions were observed. Even though there was a fair amount of demand on the route, observations indicated that there was reserve capacity available with a combination of seats and standing room available, and very few waiting passengers were observed at the bus stop during the time of the site visit.



Figure 20: Waiting Passengers at Southbound Bus Stop 52 at 8:30 AM – 21 Feb 2023



Figure 21: Dublin Bus 1 Southbound Capacity Observations at 8:30 AM – 21 Feb 2023



Figure 22: Dublin Bus 1 Southbound Capacity Observations at 8:30 AM – 21 Feb 2023



Figure 23: Waiting Passengers at Northbound Bus Stop 49 at 8:45 AM – 21 Feb 2023



Figure 24: Dublin Bus 1 Northbound Capacity Observations at 8:45 AM – 21 Feb 2023



Figure 25: Dublin Bus 1 Northbound Capacity Observations at 8:45 AM – 21 Feb 2023

As can be seen from the previous photos, in the majority of instances there was seating available and a notable level of standing room available for additional passengers for the bus services assessed. This indicates a good level of reserve capacity is available.

Route 14

Route 14 travels between Beaumont (Ardlea Road) and the Dundrum Luas Station. A site visit was conducted Thursday, 23 February 2023 to observe demand and available capacity on the route. Both directions were observed. This route had slightly higher demand with some people waiting at the stops and some standing passengers on the bus. However, it was noted that even though some passengers were standing, there were some open seats, which means some capacity was still available.



Figure 26: Waiting Passengers at Northbound Bus Stop at 8:40 AM – 23 Feb 2023



Figure 27: Dublin Bus 14 Northbound Capacity Observations at 8:40 AM – 23 Feb 2023



Figure 28: Waiting Passengers at Southbound Bus Stop at 8:50 AM – 23 Feb 2023

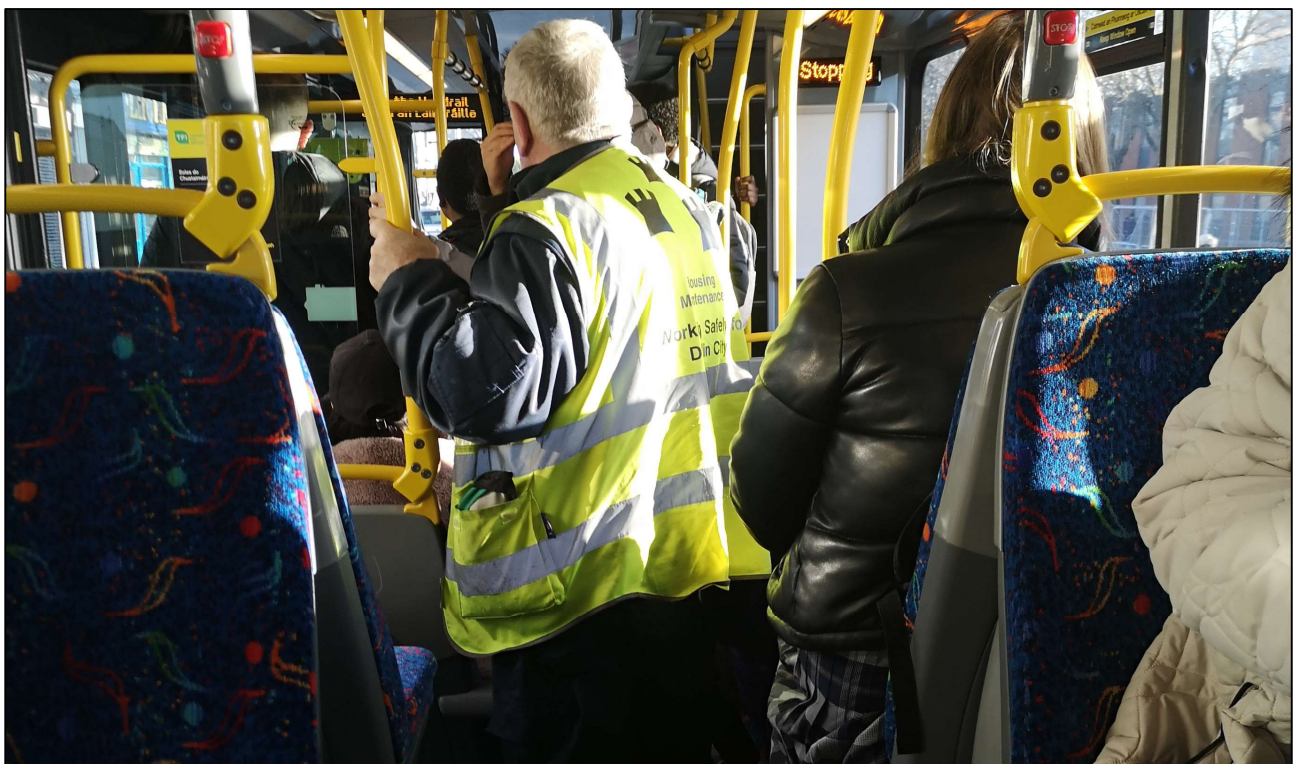


Figure 29: Dublin Bus 14 Southbound Capacity Observations at 8:50 AM – 23 Feb 2023

As can be seen from the previous photos, in the majority of instances there was seating available with some standing passengers for the bus services assessed. This indicates a fair level of reserve capacity is available.

Route 16

Route 16 travels between Dublin Airport and Ballinteer (Kingston). A site visit was conducted Wednesday, 22 February 2023 to observe demand and available capacity on the route. Both directions were observed. The observations highlighted on this route were reserve capacity is available with a combination of seats and standing room available, and no waiting passengers were observed at the bus stop during the time of the site visit.

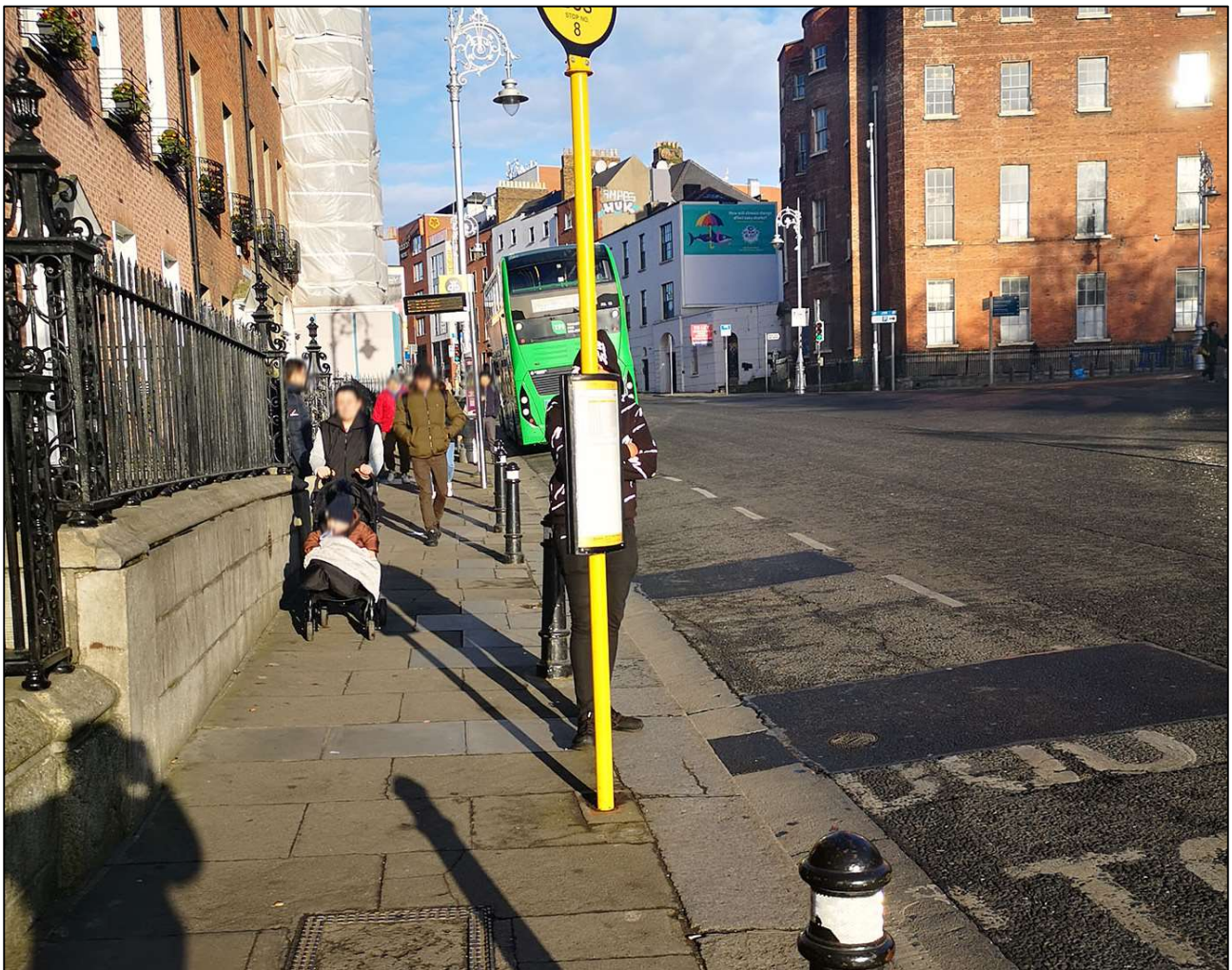


Figure 30: Waiting Passengers at Northbound Bus Stop 8 at 8:25 AM – 22 Feb 2023

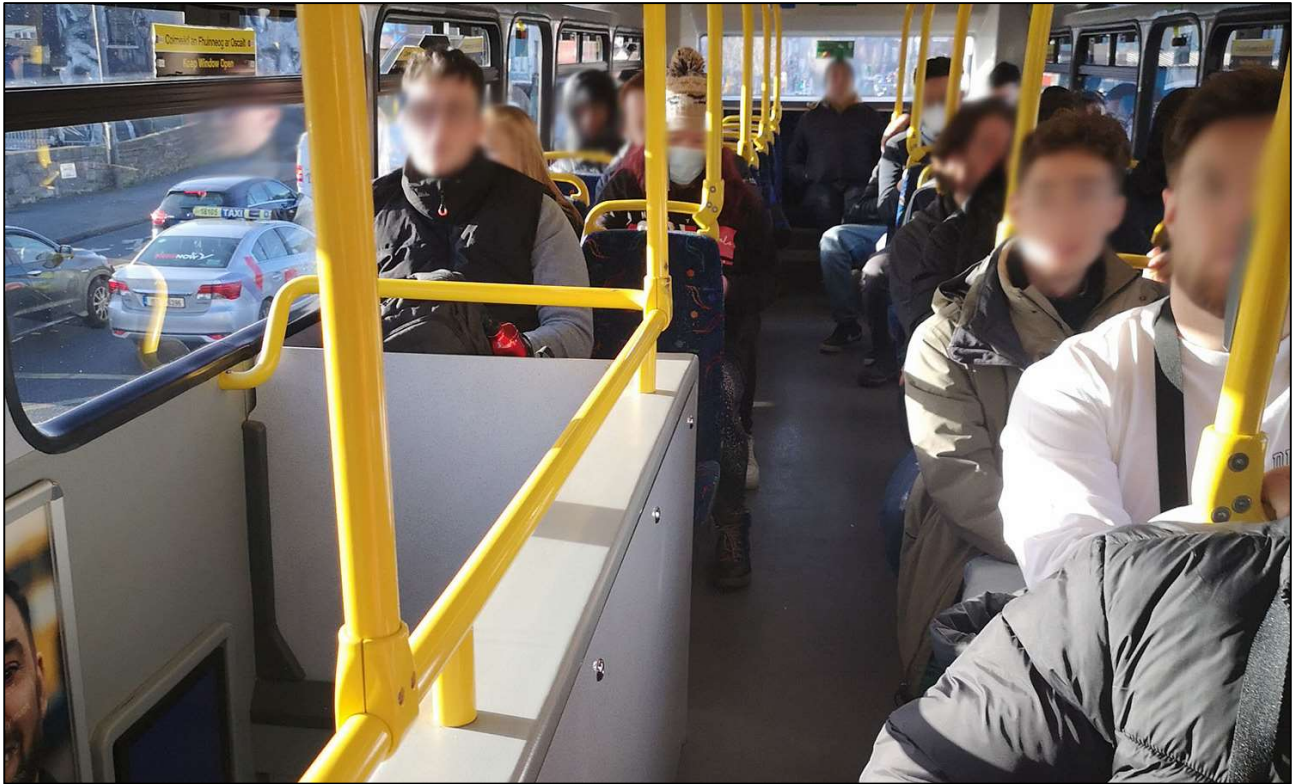


Figure 31: Dublin Bus 16 Northbound Capacity Observations at 8:25 AM – 22 Feb 2023

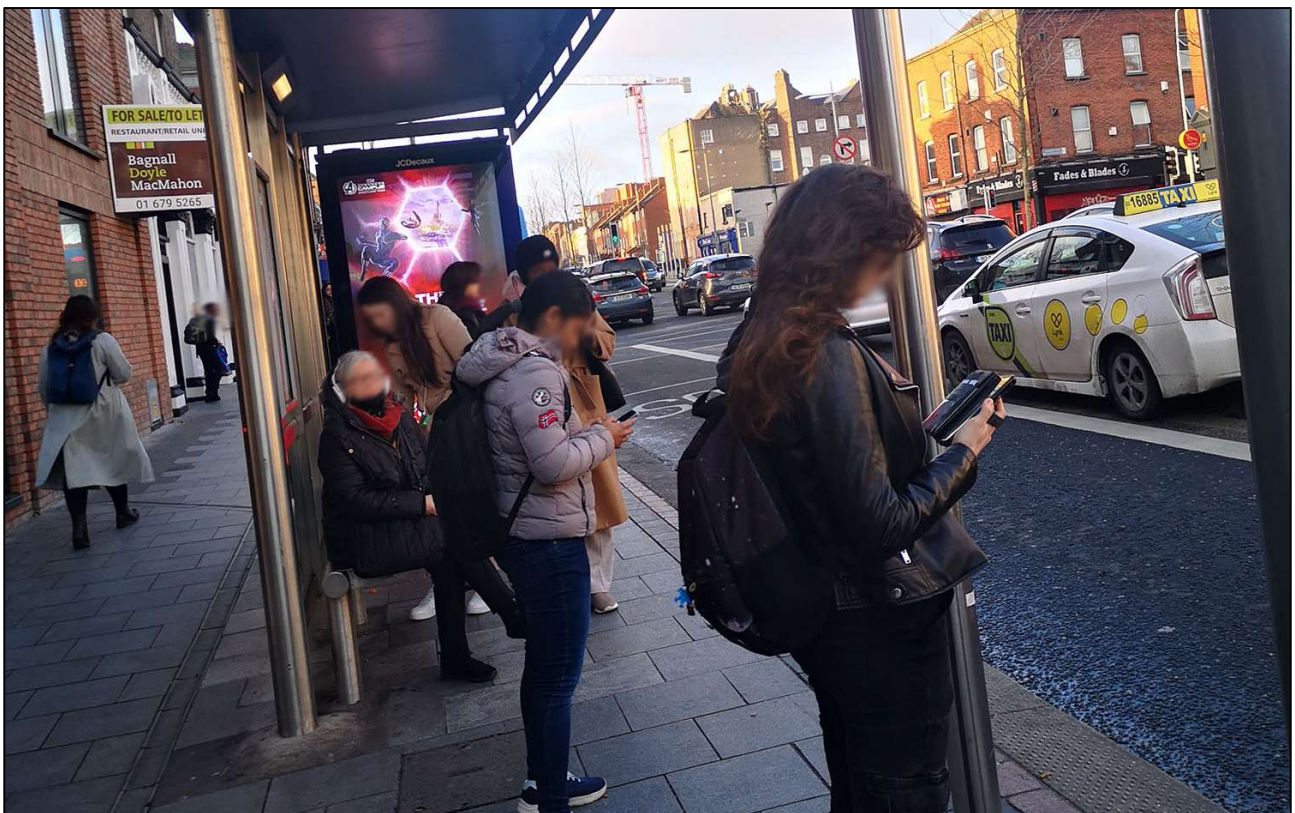


Figure 32: Waiting Passengers at Southbound Bus Stop at 8:45 AM – 22 Feb 2023



Figure 33: Dublin Bus 16 Southbound Capacity Observations at 8:45 AM – 22 Feb 2023

As can be seen from the previous photos, in the majority of instances there was seating available and a notable level of standing room available for additional passengers for the bus services assessed. This indicates a good level of reserve capacity is available.

Route 123

Route 123 travels between Walkinstown (Kilnamanagh Road) to Marino (Griffith Avenue). Capacity on Routes No. 13 & 49 was observed through means of a site visit. The observations highlighted on this route were reserve capacity is available with a combination of seats and standing room available, and no waiting passengers were observed at the bus stop during the time of the site visit.



Figure 34: Waiting Passengers at Northbound Bus Stop 500 at 8:30 AM – 20 Sept 2022



Figure 35: Dublin Bus 123 Northbound Capacity Observations at 8:30 AM – 20 Sept 2022



Figure 36: Dublin Bus 123 Northbound Capacity Observations at 8:30 AM – 20 Sept 2022



Figure 37: Waiting Passengers at Southbound Bus Stop 1485 at 8:22 AM – 20 Sept 2022



Figure 38: Dublin Bus 123 Southbound Capacity Observations at 8:22 AM – 20 Sept 2022



Figure 39: Waiting Passengers at Southbound Bus Stop 1485 at 8:41 AM – 20 Sept 2022



Figure 40: Dublin Bus 123 Southbound Capacity Observations at 8:41 AM – 20 Sept 2022



Figure 41: Dublin Bus 123 Southbound Capacity Observations at 8:41 AM – 20 Sept 2022

As can be seen from the previous photos, in the majority of instances there was seating available and a notable level of standing room available for additional passengers for the bus services assessed. This indicates a good level of reserve capacity is available.

DEVELOPMENT DEMAND

As calculated previously in the *Existing Capacity* chapter, there is an estimated maximum capacity for 48 348 daily rail trips and 196 650 daily bus trips. The residential development will be the primary trip generator, with the hospital development being an existing facility, which means that its trips are already present on the transport network.

To develop an estimate for the development population, the following average occupation of units has been assumed:

Studio & 1 Bed – 1.5 residents per unit;

2 Beds – 3 residents per unit;

3 Beds – 4 residents per unit.

Based on the above, this equates to an overall population of 1 883 residents at the development. This assessment has assumed a worst-case scenario where all residents are either working or attending school or college. In reality, there are likely to be several residents who do not work or attend school e.g. retirees or young children, meaning the assessment is conservative.

The Census data for the Electoral Division of *Drumcondra South A (Dublin)*, which has a survey population of over 3 000, in which the development site is located, has been interrogated to get an accurate estimate for modal share targets. Based on this, the estimated modal share for the development is as follows:

Mode	Modal Share
Walking	27%
Bicycle	13%
Bus	22%
Rail	4%
Work From Home	2%
Car Driver	28%
Car Passenger	5%

Table 6: Estimated Modal Share of Development

The above has a very conservative allowance for work from home which is likely to be notably higher given the long-term impact of the worldwide pandemic which has highlighted this option as a viable working practice for many.

Applying these modal shares to the estimated development population gives 414 bus users and 75 rail users. In the context of the aforementioned bus and rail service capacity locally, the demand generated by the development equates to approximately 0.2% of the bus capacity and 0.1% of the rail capacity which is considered negligible.

Taking the above into consideration, there is considered to be sufficient capacity available in the local public transport network to cater for the estimated demand for the proposed development. It is further noted that there is flexibility with respect to these services to provide increased frequency should demand on a wider basis justify it through the provision of additional buses and trams on key routes by the respective service operators.

3 SUMMARY

The objective of this report was to analyse the existing public transport capacity within the vicinity of the site. It should be noted that this was based on the existing connections from the site to public transport. It is anticipated that with the future BusConnects improvements and the connections through Grace Park and Griffith Court the access to bus services will be further improved, which will lead to a higher frequency/capacity.

In terms of rail, the routes operating at Drumcondra Station provide a high capacity for commuters throughout the day. The calculated demand generated by the development is negligible in comparison. The site visit, which was conducted on 22 Sept 2022, during which the service was used and observed during the peak hour confirmed that sufficient capacity is available for additional commuters on the various routes.

Several bus routes are available at the stops in the vicinity of the development. This results in a large available capacity, which is expected of public transport services in the area. The calculated demand at the development compared to the available capacity is negligible. This is further motivated by the site visits, which were conducted on 20 Sept 2022, 21 Feb 2023, 22 Feb 2023 and 23 Feb 2023. These site visits investigated routes 1, 14, 16 and 123 and, through observations, confirms that sufficient capacity is available on these services.

4 VERIFICATION

This report was compiled and verified by:

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