

Proposed Alterations To Permitted SHD On Lands At Palmerstown Retail Park, Kennelsfort Road Lower, Palmerstown, Dublin 20

Traffic and Transport Assessment

Randelswood Holdings Ltd.

Project number: 60556657

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1. Introduction

1.1 Background

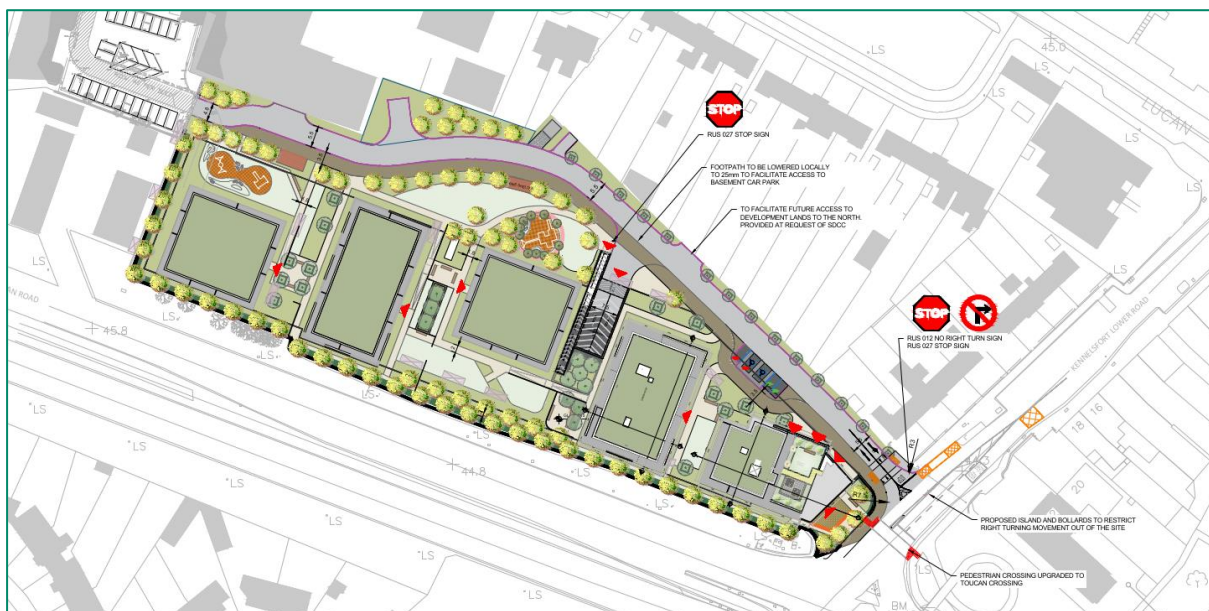
AECOM has been commissioned by Randelswood Holdings Ltd. to prepare a Traffic and Transport Assessment in support of proposed alterations to the permitted (Ref. ABP-307092-20) 250 unit 'Build to Rent' residential development on lands at Palmerstown Retail Park, Palmerstown, Dublin 20.

The development was granted planning permission by An Bord Pleanála in September 2020. The planning consent consisted of the provision of 250 no. 'Build to Rent' apartments (128 no. 1 beds, 122 no. 2 beds) in 5 no. blocks; with a café and ancillary residential amenity facilities.

The lands on which the permitted scheme is being constructed are brownfield which previously consisted of commercial properties which have since been demolished and the permitted scheme is being built, as of the writing of this report.

The proposed alterations are the result of consultation between the applicant and their legal advisors following legal complaints made by the management company of the adjoining business park. It has since transpired that the established right of way via the business park could potentially be restricted to use only by occupants of Block E, and this is now subject of a legal case with the adjoining landowners. In light of this to ensure the completion of the development, whilst taking account of the management company concerns, it is now proposed to limit this access to pedestrian/cyclist access only for Block E residents/visitors.

This alteration therefore proposes that all vehicular movements, including refuse vehicles, will now be solely accommodated via the vehicular priority junction access off the Kennelsfort Road Lower which is the main access to/from the site and to be taken in charge. It is proposed to provide a turning head within the site such that refuse vehicles and other such vehicles can also then utilise the main access to/from the site on Kennelsfort Road Lower. Minor alterations to the configuration of the previously permitted access at Kennelsfort Road Lower are also proposed. This has been the subject of pre-planning consultation with South Dublin County Council prior to lodgement of this S.146B application. The purpose of this TTA is to examine and to demonstrate that there is no adverse impact on the road network due to the redistribution of traffic from the subject site onto the surrounding road network.



1.2 Pre Application Consultation

Pre-application discussions took place with Graham Murphy, SDCC Roads Dept (Forward Planning) in October 2021. Graham Murphy confirmed that the following information should be submitted as part of a planning application: an autotrack or similar for the turning manoeuvre within the development; a refuse truck route plan from the development back to the N4 and also a waste management plan for the development.

1.3 Objectives

The main objective of this assessment is to examine the potential traffic impact of the proposed amendment development and its access arrangements on the adjacent local road network. The net change in traffic on the network due to the redistributed traffic has been calculated and its influence on the adjacent local road network has been investigated.

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

- South Dublin County Development Plan (2016 – 2022);
- Design Manual for Urban Roads and Streets, DMURS, May 2019 (Dept of Transport, Tourism and Sport/ Dept of Environment, Community & Local Govt);
- Geometric Design of Junctions (priority junctions, direct accesses, roundabouts, grade separated and compact grade separated junctions), DN-GEO-03060, (TII, June 2017);
- PE-PDV-02045 Traffic and Transport Assessment Guidelines (May 2014), Transport Infrastructure Ireland;
- Greater Dublin Area Cycle Network Plan (National Transport Authority);
- National Cycle Manual (National Transport Authority, 2011); and
- Transport for Ireland Dublin Area Train and Tram Services (Transport for Ireland).

1.4 Study Methodology

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

- **Existing Traffic Flow Assessment** – Traffic flow data for the morning and evening peak conditions was obtained by classified junction turning count surveys in November 2017.
- **Existing Transport Infrastructure** – AECOM collated information on the public transport, walking and cycling in the area of the site.
- **Development Proposals** – Description of the proposed development, including proposed improvements to the road accessing the site, servicing provision and facilities for pedestrians and cyclists.
- **Development Trip Generation** – Based on the removal of the secondary access point into the subject site, the trip generation utilised as part of the parent application has been redistributed onto the road network with all traffic now entering and existing from the access point onto the Kennelsfort Road Lower.
- **Percentage Impact** – The development traffic impact on the key junctions, with and without the proposed development was undertaken to determine future operation and any requirements for further analysis or required mitigation measures.

1.5 Structure of the Report

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

- Section 2 of this report describes the existing conditions at the subject site location and the surrounding area;
- Section 3 provides a summary of the proposed development itself, including the proposed amendments to the site layout;
- Section 4 provides a summary of the vehicle trip generation, vehicle distribution, and network assignment exercise is detailed, in addition to quantifying the potential level of impact, as generated by the subject proposals, upon key junctions across the local road network; and
- Finally, a summary of our appraisal together with the main conclusions of the assessment are provided in Section 5.

2. Existing Conditions

2.1 Introduction

This chapter includes a review of the existing baseline conditions of the site including public transport, walking and cycling facilities and the current operation of the surrounding public network. AECOM undertook numerous site audits to identify the existing conditions in the vicinity of the site. The findings from AECOM's analysis are presented within this chapter.

2.2 Location

The subject site is situated in Palmerstown, approximately 8km from Dublin City Centre, and approximately 0.8km from M50 Junction 7. The previous commercial land uses on the subject site have been demolished and the permitted scheme is currently under construction, as of the writing of this report.

The site is bounded by the Chapelizod Bypass to the south, residential dwellings to the north, the Kennelsfort Road Lower to the east and commercial properties to the west.

Figure 2.1 below shows the developments location in relation to Dublin City and Figure 2.2 showing the surrounding environs of the proposed development.

The posted speed limit along the Kennelsfort Road Lower, travelling northeast bound from the subject site is 30km/hr, whilst travelling south westbound along Kennelsfort Road Lower, the posted speed limit is 60km/hr. The Chapelizod Bypass is also subject to a speed limit of 60km/hr.

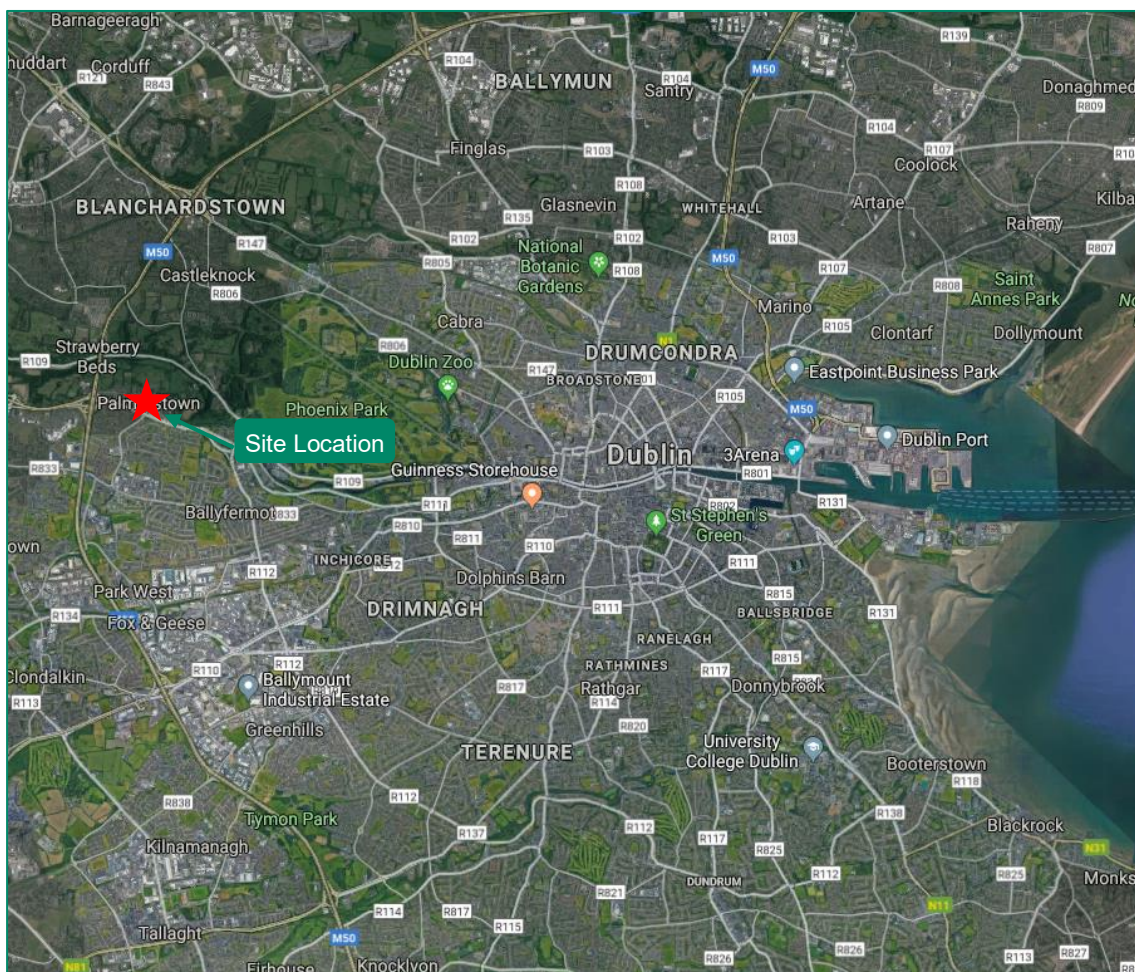


Figure 2.1 – Development Location in Relation to Dublin City Centre (Source: Google Maps)



Figure 2.2 – Existing Site Layout (Source: Bing Maps)

2.2.1 Land Use Zoning

The subject lands are zoned for Village Centres 'Objective VC' within the current South Dublin County Development Plan (2016 – 2022) as illustrated within Figure 2.3 below.

The zoning objective of 'VC' is 'To protect, improve and provide for the future development of Village Centres'.

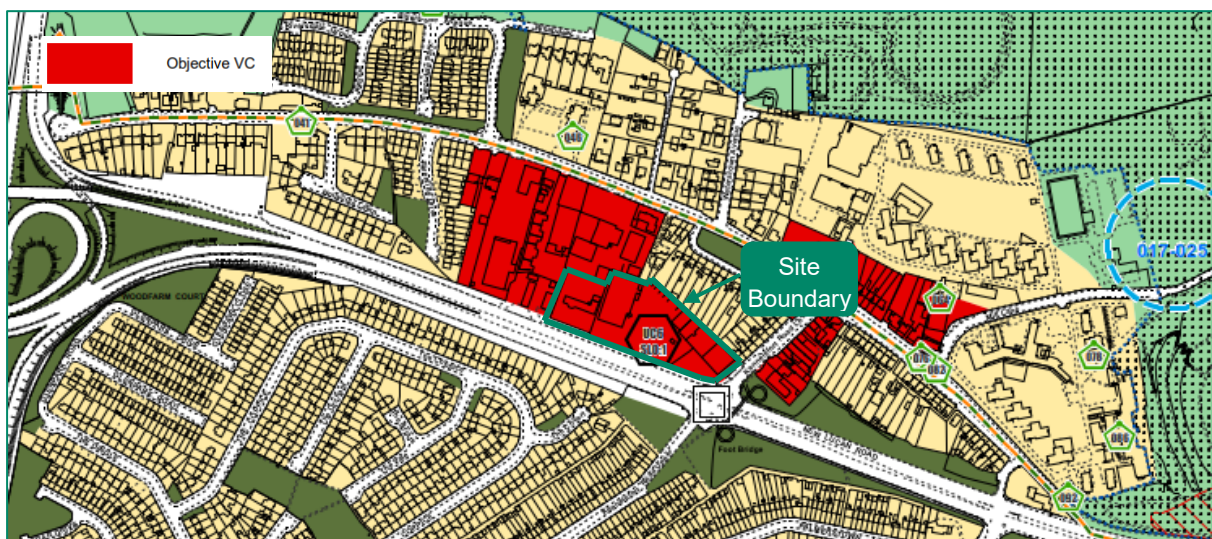


Figure 2.3 – Site Zoning (Source: South Dublin County Development Plan)

2.3 Existing Transportation Structure

2.3.1 Background

An important stage in the development of a Traffic and Transport Assessment is the identification and appreciation of the local network's existing transport conditions and vehicle movement characteristics.

An audit of the local road network has therefore been undertaken to establish the existing transport conditions and vehicle movement patterns across the existing network.

2.3.2 Existing Pedestrian Environment

In the vicinity of the subject site there are pedestrian footways along both sides of the Kennelsfort Road Lower. There is a signalised pedestrian crossing provided on Kennelsfort Road Lower adjacent to the site, north of the existing vehicular access point. The aforementioned crossing leads to a pedestrian footbridge across the Chapelizod Bypass, which allows pedestrians to access Kennelsfort Road Upper.

East of the subject site, there are pedestrian footways available along the Chapelizod Bypass providing access to the bus interchanges situated adjacent to the pedestrian footbridge.

2.3.3 Existing Cycling Environment

Cycle lanes are provided to the south of the proposed development along Kennelsfort Road Upper connecting with the Ballyfermot Road at Cherry Orchard Industrial Estate. From there, there are staggered cycle lanes to the east and west along Ballyfermot Road and Oldcut Road.

To access this cycle lane from the entrance to the site, cyclists can cycle through the existing signalised junction between the Chapelizod Bypass and the Kennelsfort Road.

There is also a pedestrian and cyclist bridge to the south east of the development to facilitate pedestrians and cyclists crossing the M50 and with access to Liffey Valley Shopping Centre. The recently completed Palmerstown Cycle Track commences close to the site, which enhances connectivity towards Dublin City Centre from Palmerstown.

Figure 2.4 shows the existing cycle network in the vicinity of the site with Figure 2.5 to Figure 2.8 below showing the existing pedestrian/cycle network in the vicinity of the site.

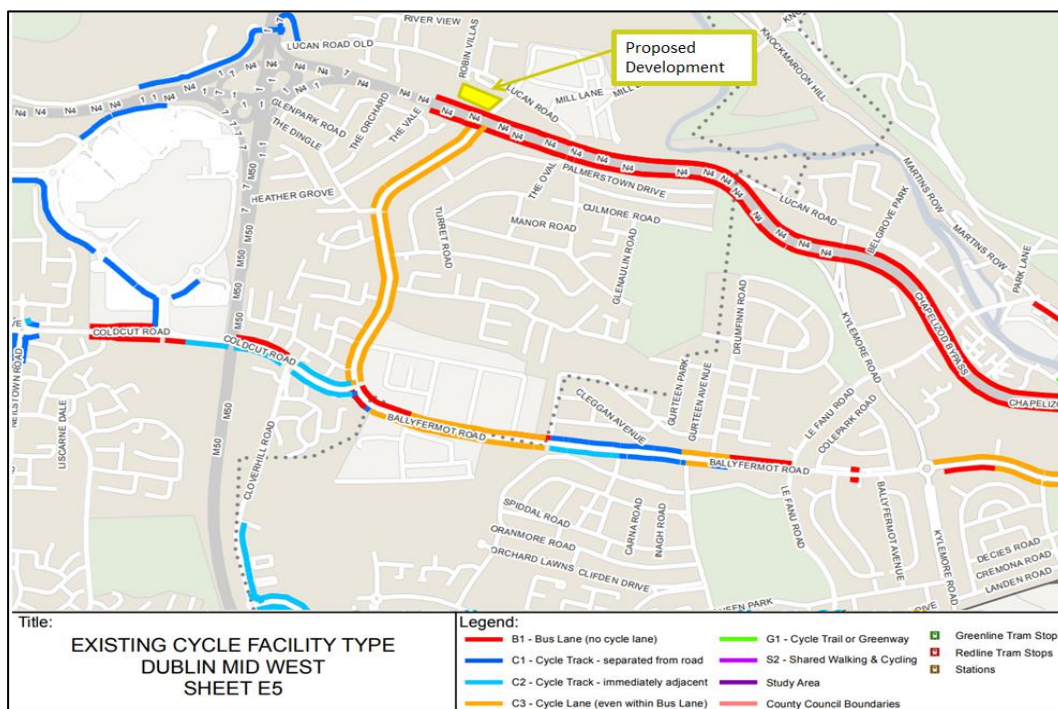


Figure 2.4 – Existing Cycling Facilities (Source: NTA)



Figure 2.5 – Eastbound Approach to Chapelizod Bypass / Kennelsfort Road Junction Adjacent to Site



Figure 2.6 – Westbound Approach to Chapelizod Bypass / Kennelsfort Road Junction



Figure 2.7 – Southbound Approach to Chapelizod Bypass / Kennelsfort Road Junction



Figure 2.8 – Northbound Approach to Chapelizod Bypass / Kennelsfort Road Junction

2.3.4 Public Transport – Bus

As graphically illustrated in Figure 2.9 below, the site is situated to benefit from bus transport connections allowing residents of the subject site to travel by this sustainable mode.

The closest bus stops to the site are located on Kennelsfort Road Lower and Chapelizod Bypass approximately 50 meters north-east of the site and 50m south-east of the site, respectively. These bus stops are served by a number of Dublin Bus Routes, as detailed in Figure 2.10 below. The majority of these services are destined for the Dublin City Centre (Merrion Square), travelling on the Chapelizod Bypass and there are high frequency services travelling along these routes. In the opposite direction, travelling outbound from the city, there are services destined for Maynooth, Dodsboro, Lucan and Adamstown, also travelling on the Chapelizod Bypass.

Importantly, the area is serviced by the Lucan QBC, a high Quality Bus Corridor that gives dedicated road space and traffic signal priority to buses in order to reduce journey times and improve service consistency.

To the east of the site, on the Kennelsfort Road Upper bus services are provided in the destination of Sandymount, servicing Kimmage, Rathmines, Ranelagh, Ballsbridge and Sandymount.

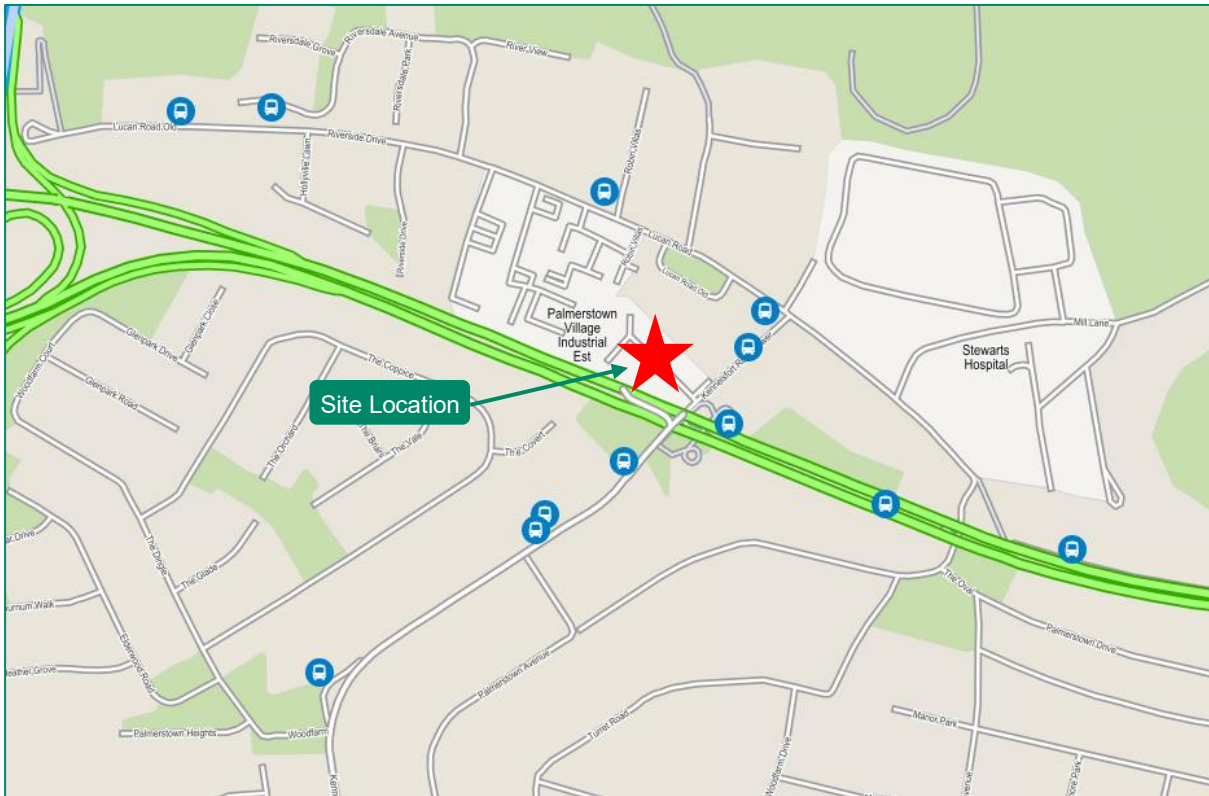


Figure 2.9 – Bus Stops in the Vicinity of the Site (Source: www.journeyplanner.transportforireland.ie)

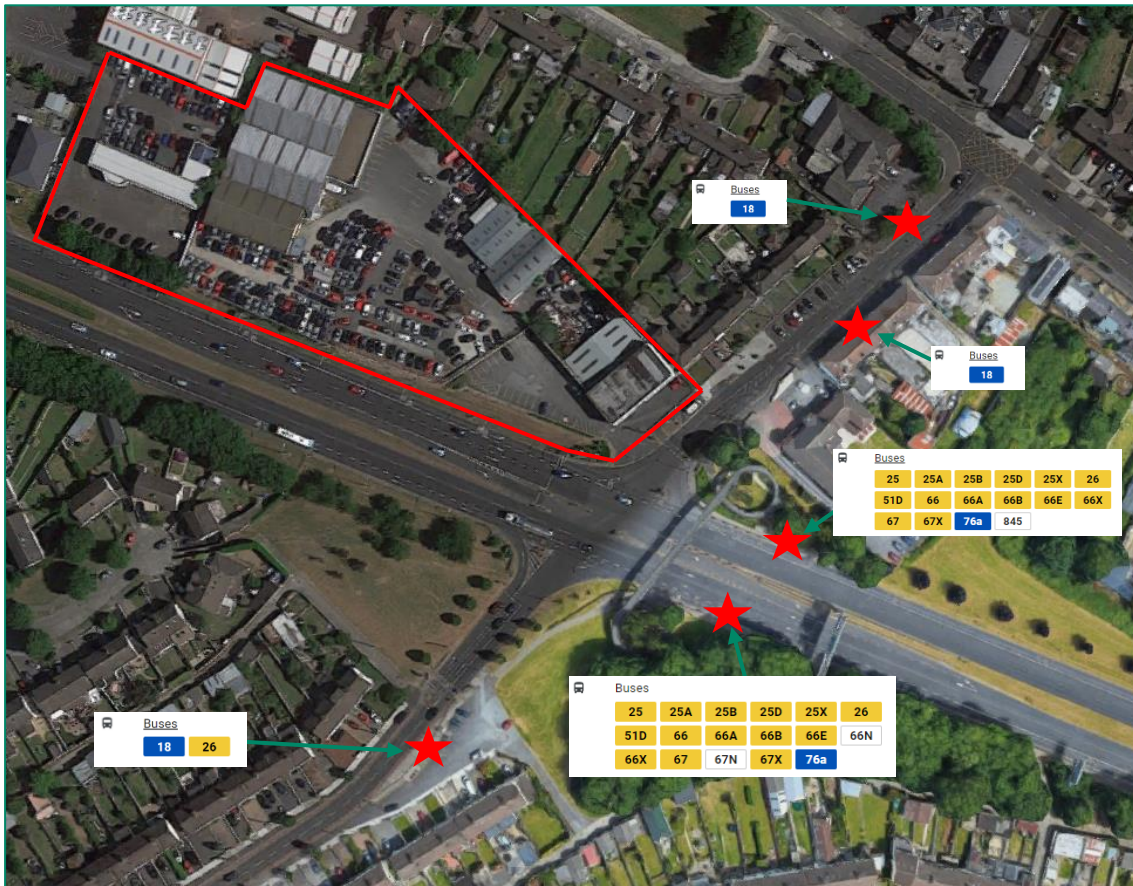


Figure 2.10 – Existing Bus Services (Source: Google Maps)

2.3.5 Public Transport – Heavy Rail

The closest railway station to the site is Park West and Cherry Orchard, located 3.3km (45 minute walking distance) to the south of the development. It provides commuter rail services to/from Dublin Heuston and Dublin Grand Canal Dock. Alternatively Heuston Station is accessible via Dublin Bus route 25a and 25b with an approximately 12min travel time.

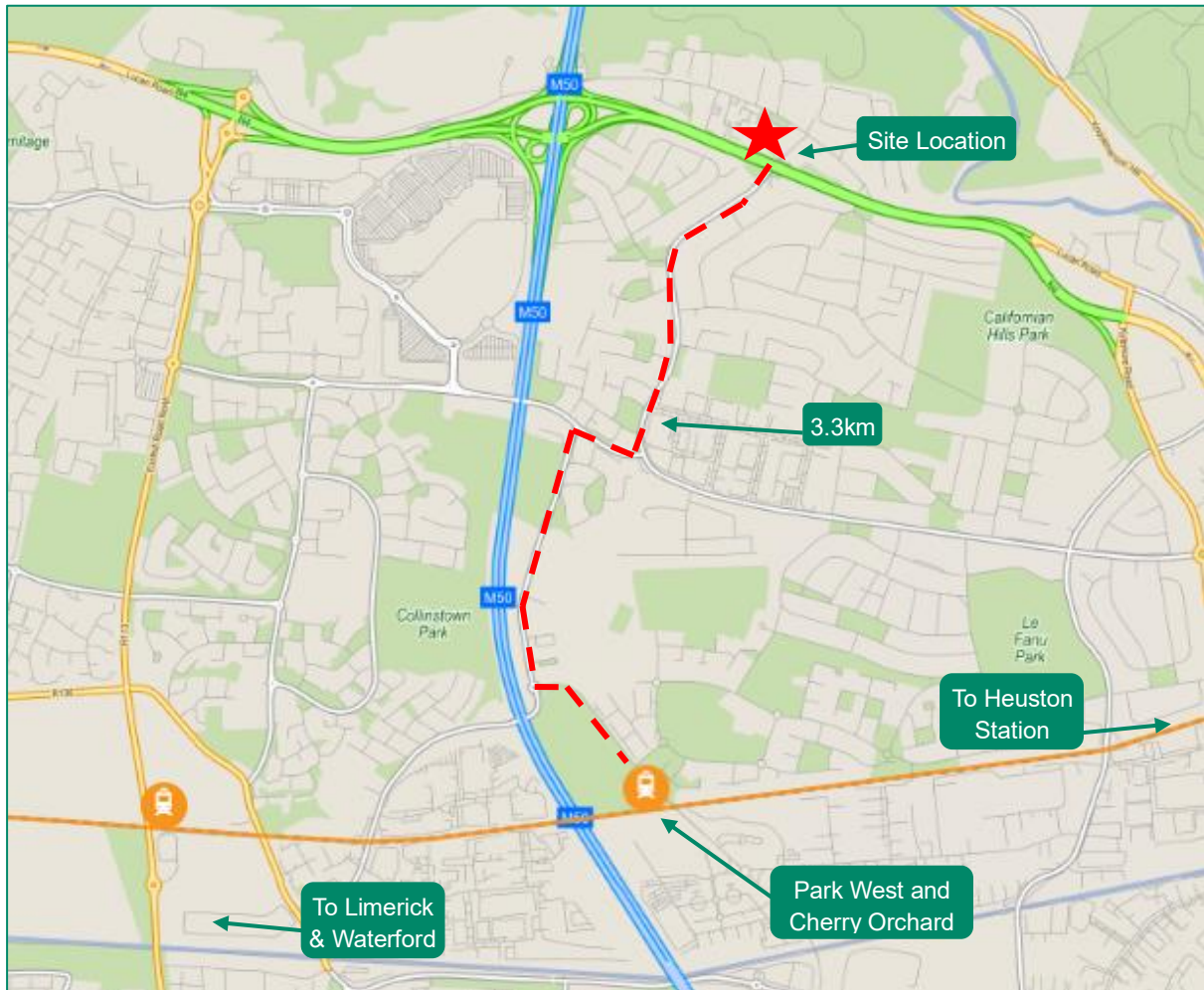


Figure 2.11 – Park West and Cherry Orchard (Source: www.journeyplanner.transportforireland.ie)

2.3.6 Public Transport – Light Rail

There is no light rail within walking distance of the site with the nearest Luas stop being Kylemore on the Luas Red Line approximately 5.2km from the site however, the Luas Red Line running from Saggart/Tallaght to Connolly/The Point is accessible at Heuston Station which can be reached via Dublin Bus route 25a and 25b in 12min from the proposed development.

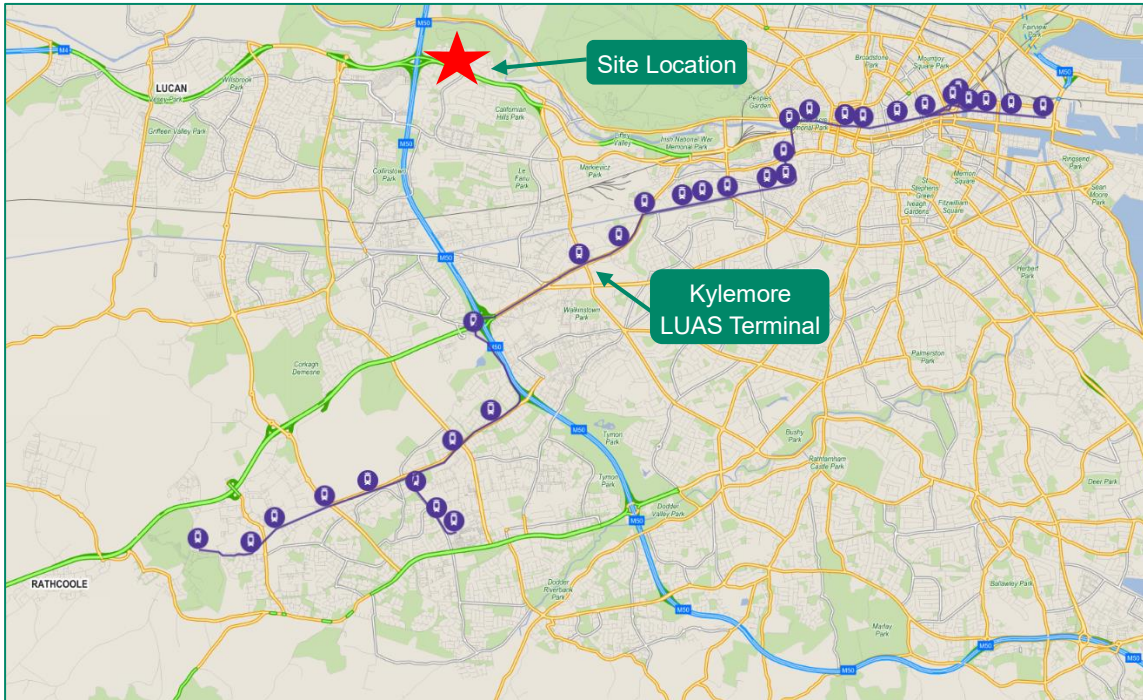


Figure 2.12 – LUAS Red Line Route (Source: www.journeyplanner.transportforireland.ie)

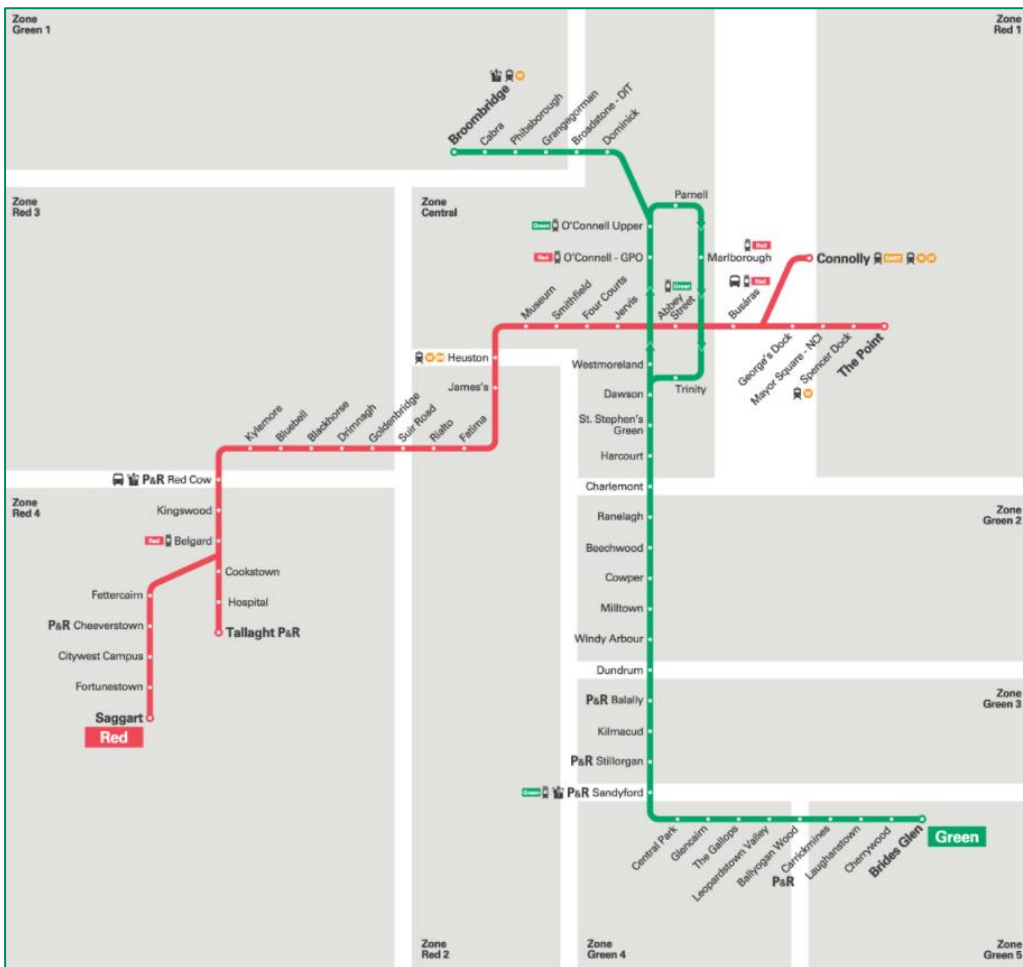


Figure 2.13 – LUAS Stops and Zones (Source: www.luas.ie)

2.3.7 Sustainable Transport – Car Sharing

There are a variety of GoCar hire stations located within a 2km walking distance of the site. GoCar members can book cars online or via the app for durations as little as an hour. 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, but which may not be tested;
- Increases use of public transport, walking and cycling as the need for car ownership is reduced; and
- Car sharing allows those who cannot afford a car the opportunity to drive, encouraging social inclusivity.

There are a 5 No. Go Car bases situated within a 2.5km walking of the site, with the closest facility available on the Lucan Road, approximately 0.25 km from the subject site, as illustrated in Figure 2.14 and Table 2.1.

Table 2.1 – GoCar GoBase Locations

Ref No.	Go Base	Vehicle Class	Approx. Distance from the Development
1	Lucan Road, Palmerstown	GoCity	0.25 km
2	Kennelsfort Road Upper	GoCity	0.35 km
3	Manor Road, Palmerstown	GoCity	0.75 km
4	Tesco, Liffey Valley Retail Park	GoCity, GoCargo	2.5 km
5	Liffey Valley Retail Park	GoCity, GoCargo	2.4 km

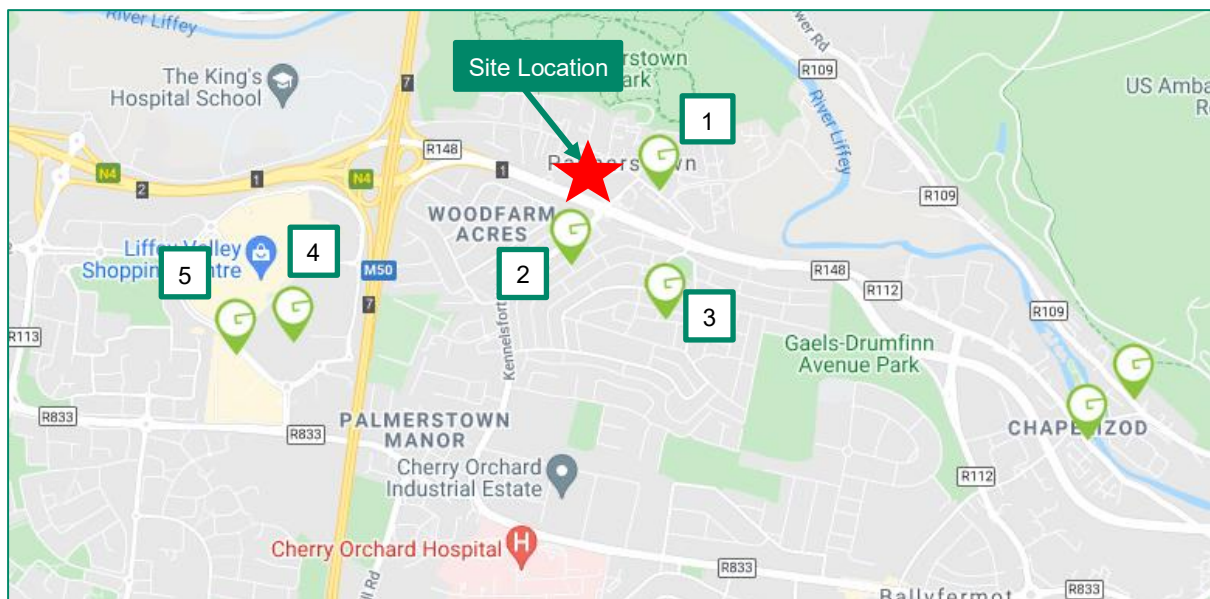


Figure 2.14 – GoBase Locations (Source: www.gocar.ie)

2.4 Emerging Transportation Infrastructure

2.4.1 Cycle Network Proposals

In the vicinity of the subject site, it is planned to upgrade the Old Lucan Road north of the site as illustrated in Figure 2.15. Figure 2.15 shows the proposed cycle network upgrades as part of the Cycle Network Plan for the Greater Dublin Area.

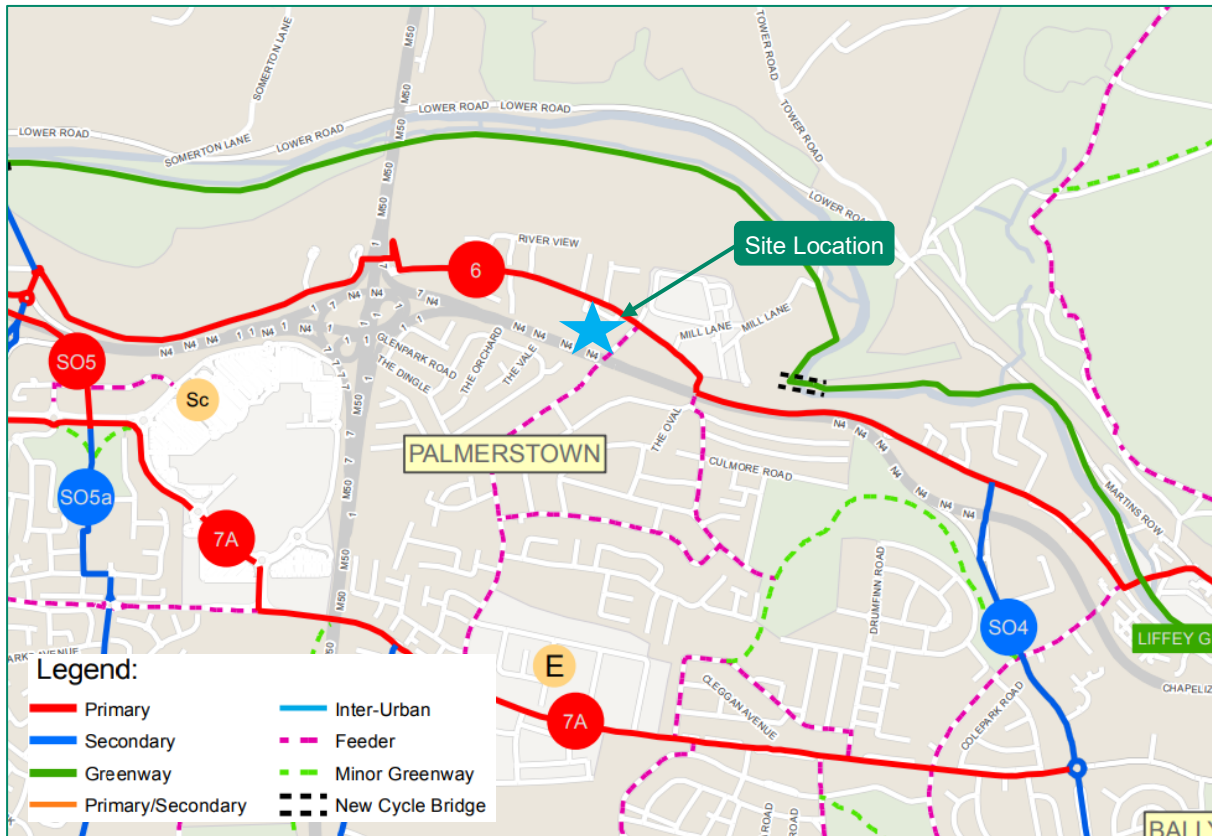


Figure 2.15 – Proposed Cycle Network Upgrades (Source: www.nationaltransport.ie)

2.4.2 Bus Network Proposals

BusConnects is the National Transport Authority’s (NTA) programme to greatly improve bus services in Irish cities.

It is a key part of the Government’s policy to improve public transport and address climate change in Dublin and other cities across Ireland. BusConnects Dublin includes the Network Redesign and the Core Bus Corridor project. The benefits of the redesigned bus route network are illustrated in Figure 2.16 below, extracted from the ‘New Dublin Area Bus Network Summary Report’, published September 2020.

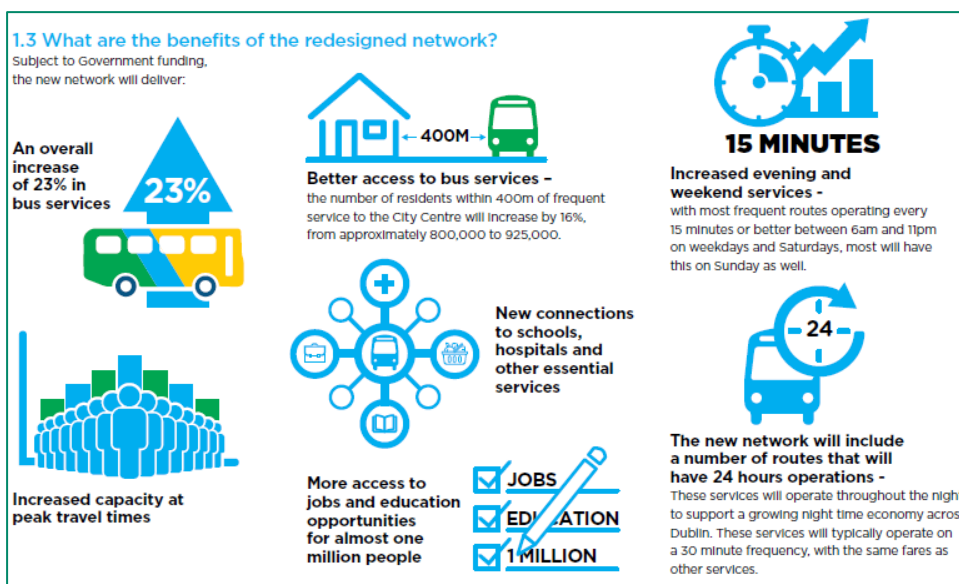


Figure 2.16 – BusConnects Redesigned Bus Network Benefits (Source: www.busconnects.ie)

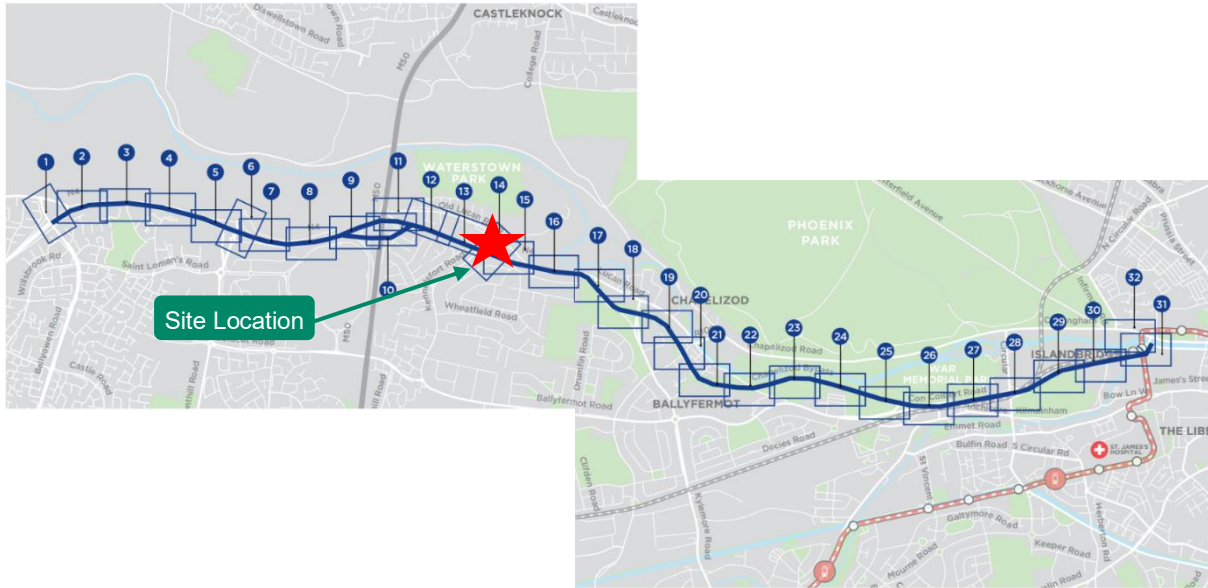


Figure 2.17 – Site Location in Relation to Bus Connects Core Bus Corridors Proposal (Source: www.busconnects.ie)



Figure 2.18 – BusConnects Proposal (Source: www.busconnects.ie)

Figure 2.19 and Table 2.2 below indicates the proposed bus service peak hour frequencies in the vicinity of the subject site, after the BusConnects network redesign. The subject site is ideally located to benefit from the enhanced accessibility levels delivered by the BusConnects proposals. It can be seen that the Palmerstown area will be served by a range of bus services operating with as little as a 4-8 minute peak hour frequency weekdays (8 minutes Saturday & Sunday), thereby making bus travel an attractive mode choice for journeys to/from the subject site.

Table 2.2 – Bus Service Frequency

Service	Route	Weekday Peak Hour Frequency	Saturday Peak Hour Frequency	Sunday Peak Hour Frequency
C-Spine	Lucan - City Centre - Ringsend	4-8 mins	8 mins	8 mins
C1	Adamstown - City Centre - Sandymount	8 mins	30 mins	30 mins
C2	Adamstown - City Centre - Sandymount	8-15 mins	30 mins	30 mins
C3	Maynooth - City Centre - Ringsend	30 mins	30 mins	30 mins
C4	Celbridge - City Centre - Ringsend	30 mins	30 mins	30 mins
52	Collinstown - Easton Road - City Centre - Ringsend	60 mins	60 mins	60 mins
80	Liffey Valley - City Centre - Ballinteer	10-15 mins	15 mins	20 mins

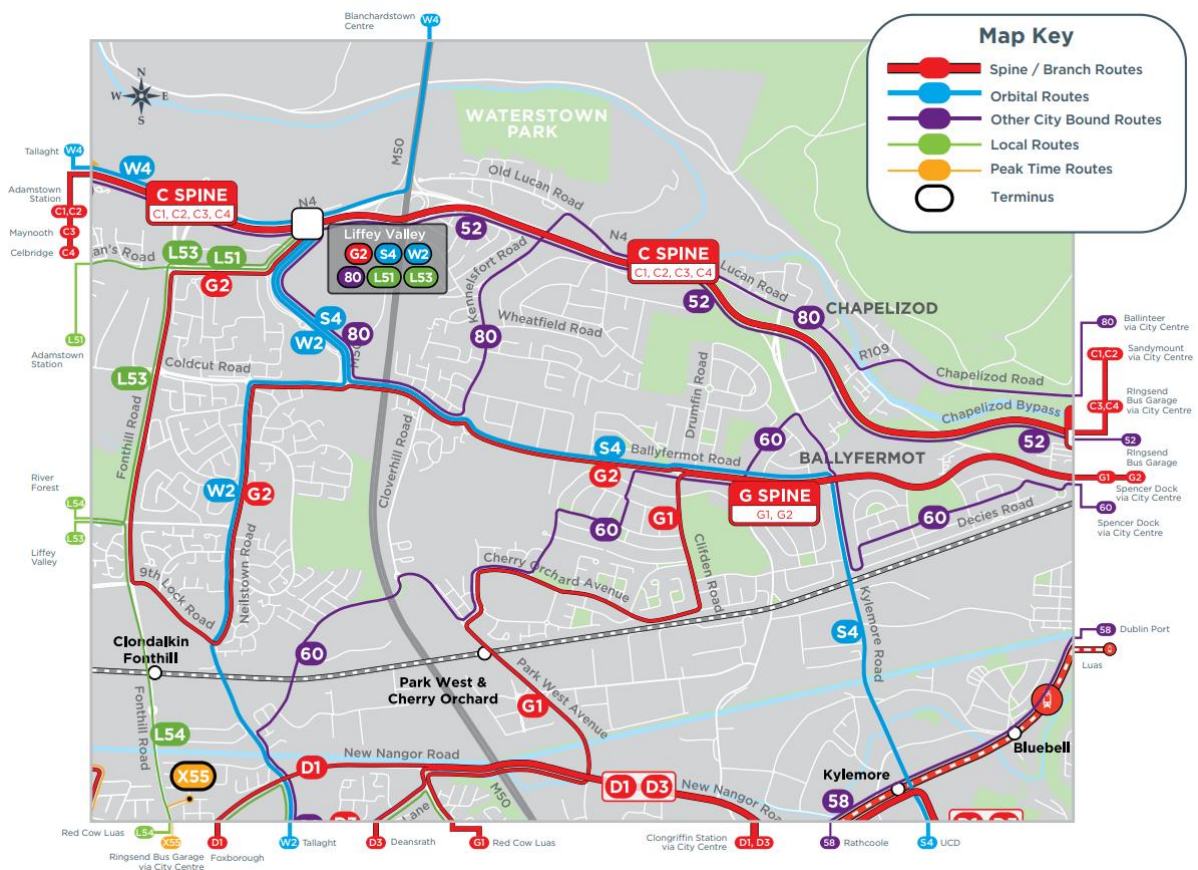


Figure 2.19 – Proposed Ballyfermot Area BusConnects Map (Source: www.busconnects.ie)

Under the Bus Connects proposals, the subject site is ideally located to benefit from the enhanced accessibility levels delivered by Bus Connects scheme as the Chapelizod Bypass (C-Spine) will offer a service every 4 to 8 minutes.

2.4.2.1 Core Bus Corridors

The National Transport Authority (NTA) has recently initiated the third round of public consultation for the Core Bus Corridors (CBC) scheme. The aim of BusConnects Core Bus Corridors is *“to provide enhanced walking, cycling and bus infrastructure on key access corridors in the Dublin region, which will enable and deliver efficient, safe, and integrated sustainable transport movement along these corridors.*

A CBC is an existing road with bus priority so that buses can operate efficiently, reliably and punctually. This generally means full length dedicated bus lanes on both sides of the road from start to finish of each corridor or other measures to ensure that buses are not delayed in general traffic congestion. The bus lanes will be alongside segregated cycle lanes/tracks where feasible and general traffic.”

The public consultation has been completed with construction due to commence in 2022 (Figure 2.20).

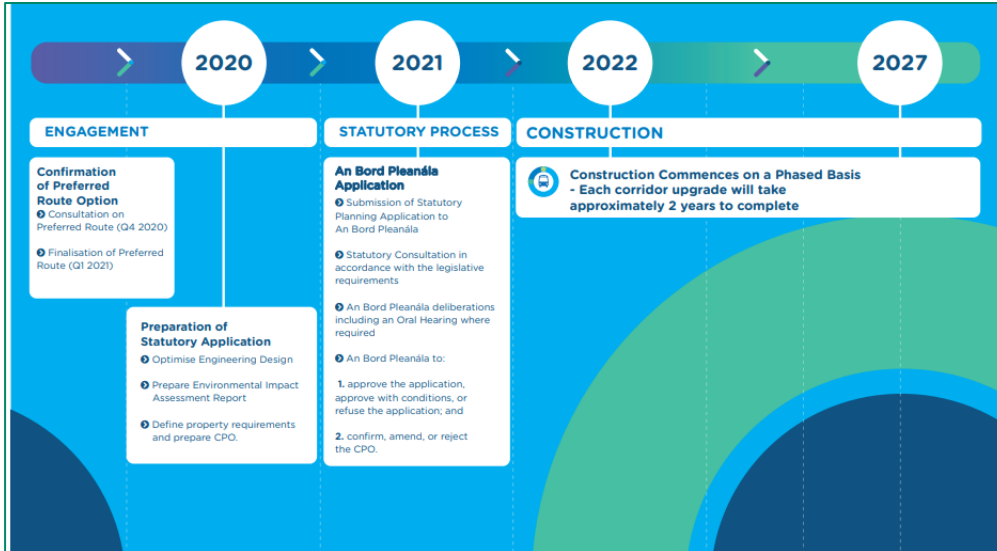


Figure 2.20 – Timeline for Core Bus Corridors (Source: www.busconnects.ie)

2.4.3 Local Road Proposals

The South Dublin County Development Plan 2016-2022, has outlined long-term road network proposals which will be phased 'according to need' and 'may be brought forward for construction at an earlier date, subject to funding being available'. In the general vicinity of the subject site there are junction proposals identified for the Kennelsfort Road Lower/Chapelizod Bypass junction (refer to Figure 2.21 below).

According to the Development Plan, the function of these upgrades will be:

'Provision of grade separated junction to enhance the efficiency of the junction, particularly for buses on the N4/Lucan Road QBC and ensure safe crossing facilities are provided for all users'.

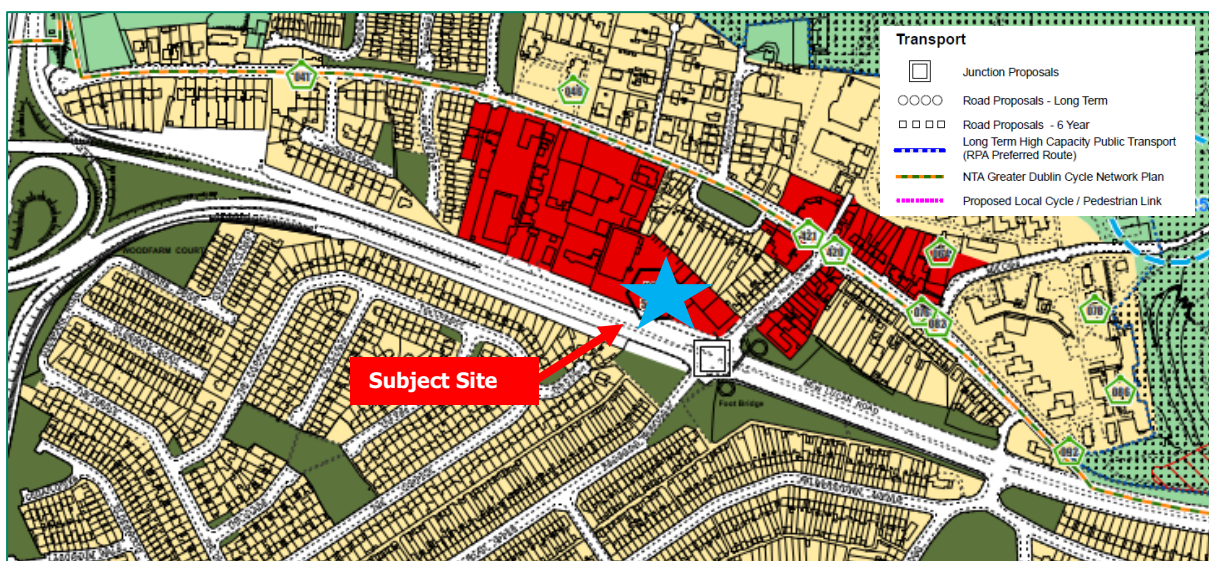


Figure 2.21 – SDCC Infrastructure Objectives in Vicinity of the Subject Site (Extract of Map 8 SDCC Development Plan)

2.4.4 Timescales

The implementation of the above cycle, public transport and road infrastructure schemes by the local authority / NTA will be subject to further design, public consultation, approval, and importantly availability of funding and resources.

2.5 Existing Site Access

Existing vehicular access to the eastern section of the site is provided at Kennelsfort Road Lower. This access point serves the existing commercial properties located on the subject site.

The western section of the site is currently accessed from the Old Lucan Road via the Palmerstown Business Park as illustrated in Figure 2.22 below.



Figure 2.22 – Existing Site Access Locations

2.6 Road Collision Statistics

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

Traffic collision data was obtained for the period 2005 – 2016, which is the most recent data available from the RSA website. It should be noted that information relating to reported incidents for the years 2017-2020 is not yet available on the Road Safety Authority (RSA) website. The RSA records detail only those occasions where the incident was officially recorded such as the Garda being present to formally record details of the incident.

The incidents are categorised into class of severity, which includes minor serious and fatal collisions. The collision locations are shown in Figure 2.23 below.

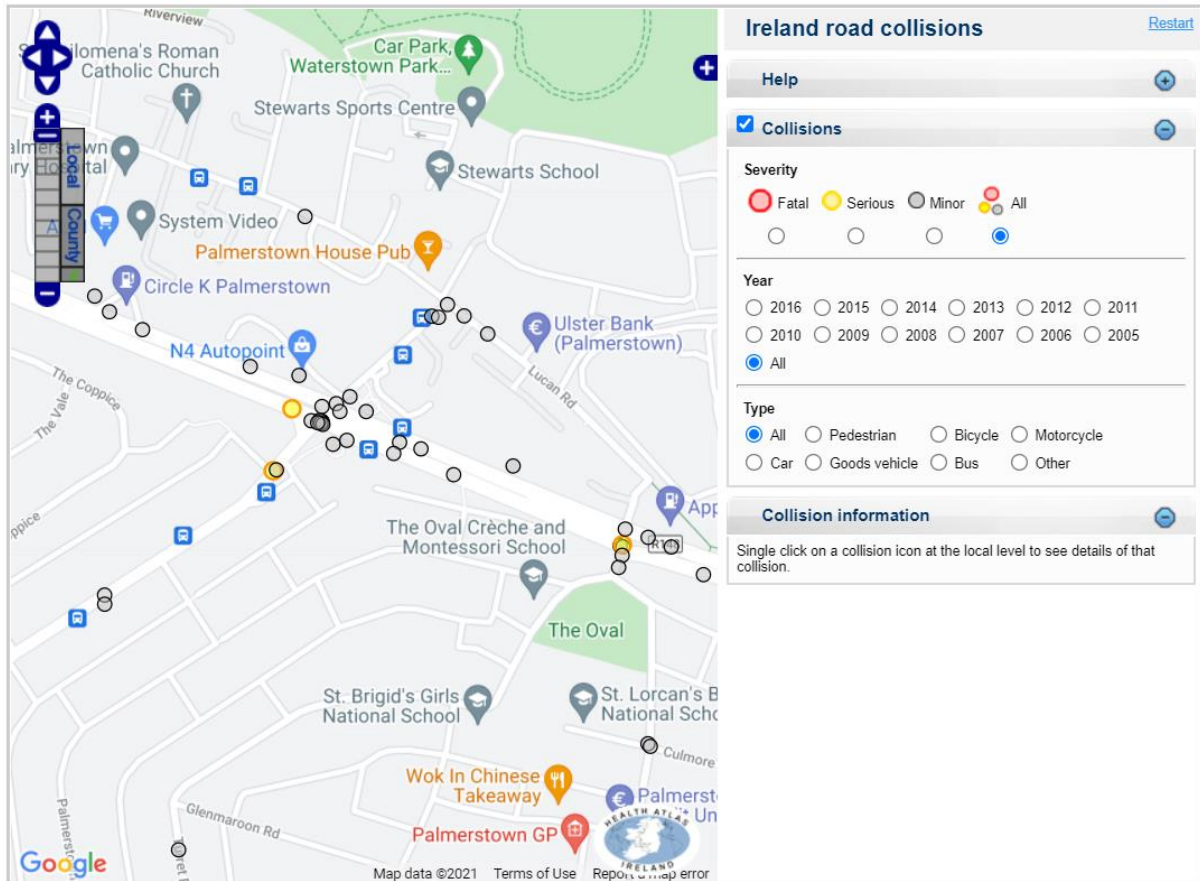


Figure 2.23 – Collision Records Within the Vicinity of the Subject Site (www.rsa.ie)

Upon inspection there are a number of collisions recorded at the junction of R148 and Kennelsfort Road Upper/Lower. The majority of the collisions are recorded as minor collisions however there was one serious collision in the vicinity of the junction which occurred in 2007, involving a HGV.

It is considered that the number of collisions at this location is reflective of an arterial road into Dublin City Centre, a regional road with the volumes experienced.

However, a road safety concern is the existing uncontrolled site access, located within a signalised junction which is shown in Figure 2.24 below. This existing scenario is undesirable as vehicles entering and exiting the site are not controlled by the adjacent traffic signals on Kennelsfort Road Lower. Therefore there is a risk that there could be conflict between vehicles exiting the site (and turning right) and traffic travelling southwest along Kennelsfort Road.

A key safety improvement of the permitted design (which will be discussed later in this report) is the relocation of the current uncontrolled access from within the junction.



Figure 2.24 – Existing Site Access to be Relocated (Source: Google Maps)

Road Safety is entrenched in the design proposals, within the immediate vicinity, with a view to improve safety where possible. To supplement this, a Quality Audit which includes a Road Safety Audit formed part of the parent application and can be referred to.



Figure 2.25 – Existing Site Access (Source: Google Maps)

2.7 Previous Planning Applications

2.7.1 Mixed Use Development, Planning Ref: SD09A/0021/EP

The subject site was previously granted planning permission as part of an overall mixed use development (which also encompassed the 'Printworks' lands to the west), by South Dublin Council in July 2009 (Ref SD09A/0021), and subsequently by ABP in May 2010 following a third party appeal.

The proposed development comprised of the following, of which was amended at part of Significant Further Information:

Table 2.3 – Mixed Use Development Schedule

Initial Development Schedule Submitted for Planning		Significant Further Information Amendments	Resulting Development Schedule Approved Planning Permission	
5,957sqm Retail	Main Anchor Unit 3,158sqm	Reduction in size to 1,535 sqm	4334sqm Retail	Main Anchor Unit 1,535 sqm
	Secondary Anchor Unit 952sqm	-		Secondary Anchor Unit 952sqm
	14 no. retail units (50-241 sqm)	Omission of 1 retail unit		14 no. retail units (50-241 sqm)
	Restaurant 156 sqm	-		Restaurant 156 sqm
	Café 156 sqm	-		Café 156 sqm
	Office space 733 sqm	-		Office space 733 sqm
	Library 348 sqm	-		Library 348 sqm
	Health Centre 708 sqm	-		Health Centre 708 sqm
	Apart-hotel 220 no. bedrooms	Omission of 56 no. hotel bedrooms		Apart-hotel 164 no. bedrooms
	102 residential units	Omission of 26 no. residential units		76 residential units
'Printworks' Building <i>*Does not form part of the subject site lands</i>	Office space 3,630sqm	-		Office space 3,630sqm
		Creche 197sqm		Creche 197sqm
		Café 215sqm		Café 215sqm

Initial Development Schedule Submitted for Planning		Significant Further Information Amendments	Resulting Development Schedule Approved Planning Permission
Vehicle Access	Primary Access via Kennelsfort Road Lower	-	Primary Access via Kennelsfort Road Lower
	Secondary Access Via existing junction on Old Lucan Road		Secondary Access Via existing junction on Old Lucan Road
		Bar 555sqm	Bar 555sqm
		Restaurant 555sqm	Restaurant 555sqm

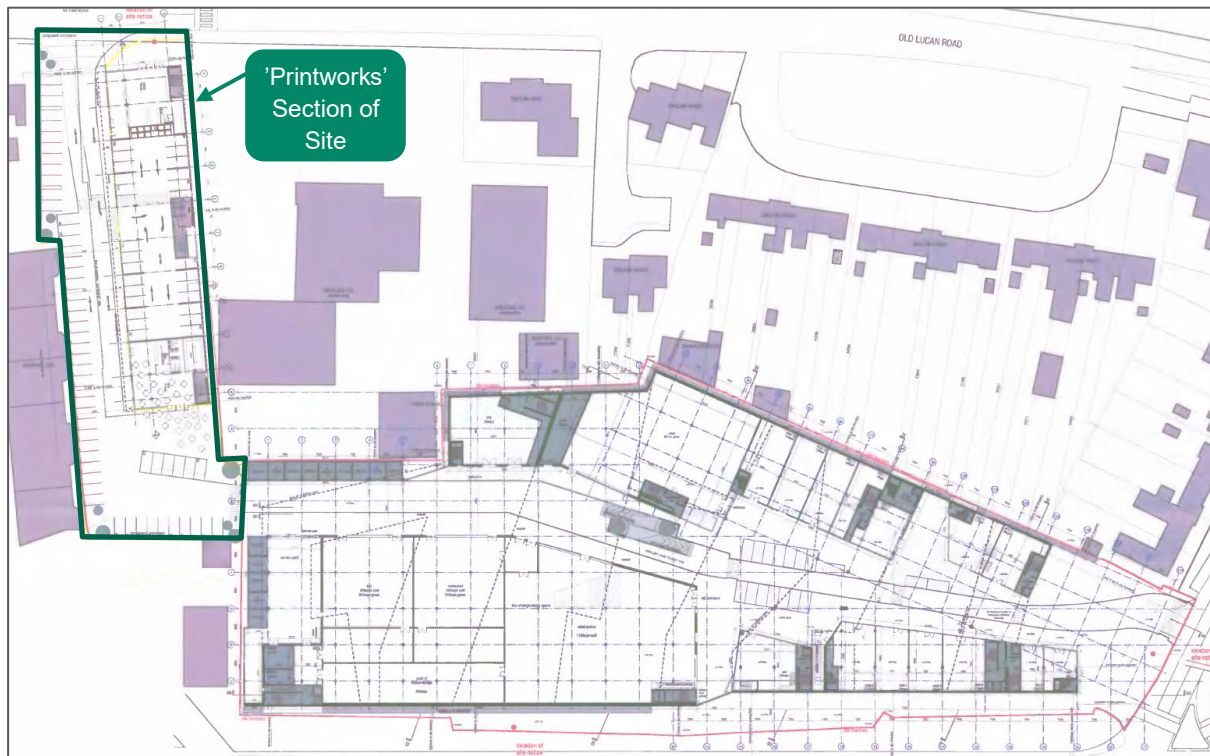


Figure 2.26 – Site Layout, SDCC Ref SD09A/0021 (Additional Information Stage)

The aforementioned planning consent was extended (Ref. SD09A/0021EP) by SDCC in January 2015, subject to two number planning conditions, one of which stated that ***‘the development shall be completed no later than 20th May 2020***’.

2.7.2 Strategic Housing Development, ABP Ref: 302521-18

The subject site was previously refused planning permission for a Strategic Housing Development (ABP Ref. 302521-18) by ABP in December 2018. The planning application consisted of the following:

- Demolition of existing structures;
- Provision of 303 No. Apartments in two blocks consisting of;
 - 26 no. studios;
 - 125 no. one bed;
 - 133 no. two bed;
 - 19 no. three bed;
- Creche;
- Concierge office;

- Community room;
- Community/ sports hall;
- Basement parking consisting of:
 - 269 No. car spaces;
 - 22 No. motorcycle spaces;
 - 262 No. cycle spaces;
- Surface Parking consisting of:
 - 5 No. car spaces;
 - 44 No. cycle spaces;
- Upgrades to the existing vehicular access; and
- Associated site works

This application was refused planning permission by ABP subject to five number reasons, two of which were in relation to traffic and transportation items:

Condition 2

“The proposed development would be self-contained with a single access and egress point onto Kennelsfort Road Lower. It is considered that the layout of the proposed development provides limited opportunities to facilitate potential future access to the rear gardens of the house to the north, or for future connectivity (pedestrian, cyclist and vehicular) to the lands to the west of the application site. The proposed development is therefore premature pending the preparation of a masterplan for the subject site and adjoining industrial sites that addresses connectivity and permeability for all road users, and to permit the development of this site, as proposed, would prejudice the future redevelopment of adjoining lands in a comprehensive fashion.”

Condition 3

It is considered that the traffic generated by the proposed development of 303 residential units and the provision of a single vehicular access/ egress point at the junction of the Kennelsfort Road Lower and the R-148 regional road, would endanger public safety by reason of traffic hazard from increase traffic movements and would lead to conflict between road users, that is, pedestrians, cyclists and vehicular traffic. Furthermore, the proposal for a pedestrian and cycle route through an existing industrial/ commercial area, which appears to be in private ownership, is inappropriate and would mitigate against the creation of an attractive pedestrian environment. The proposed development would therefore, be contrary to the proper planning and sustainable development of the area.

Within the Board Direction, ABP provided three notes, of which Note 2 and Note 3 are in relation to Condition No. 2 and 3. These notes provide additional information as to why ABP refused permission on these particular issues.

Note 2

“In including reason number 2, the Board had regard to the Urban Development and Building Heights Guidelines for Planning Authorities, and in particular paragraph 2.11 of these Guidelines, which refer to the need to prepare master plans for areas that have the potential for comprehensive urban development or redevelopment, and where assessment of movement, public realm, design and other issues are best addressed at a neighbourhood level rather than at an individual site scale.

Note 3

In including reason number 3, the Board did not consider that the trip generation predictions for the development were convincing and was of the view that the selection parameters and filtering selection chosen for the model used in the submitted Traffic and Transport Assessment were inappropriate and were not properly representative of the location and circumstances of the site. In addition, the Board noted the planning history of this site, which provided for entry only at the location of the proposed access, with exit for vehicular traffic onto the Old Lucan Road, and considered that the proposed traffic arrangements, with the sole egress as well as access adjoining the junction of Kennelsfort Road Lower and the R-148, would be unacceptable.”

2.7.2.1 Subject Development Proposals

The subject site development proposals i.e. planning Ref. ABP-307092-20 for 250 unit ‘Build to Rent’ residential development, were designed to address the previous reasons for refusal on traffic grounds. The development was

granted planning permission by An Bord Pleanála in September 2020. The scheme included an additional access point at the western boundary of the site through the Palmerstown Business Park which would allow residents to access the site from the Old Lucan Road by means of car, bicycle or on foot. Provision has also been made along the northern boundary of the site to facilitate for future connections to the north.

The proposed alterations are the result of consultation between the applicant and their legal advisors following legal complaints made by the management company of the adjoining business park. It has since transpired that the established right of way via the business park could potentially be restricted to use only by occupants of Block E, and this is now subject of a legal case with the adjoining landowners. In light of this to ensure the completion of the development, whilst taking account of the management company concerns, it is now proposed to limit this access to pedestrian/cyclist access only for Block E residents/visitors.

This alteration therefore proposes that all vehicular movements, including refuse vehicles, will now be solely accommodated via the vehicular priority junction access off the Kennelsfort Road Lower which is the main access to/from the site and to be taken in charge. It is proposed to provide a turning head within the site such that refuse vehicles and other such vehicles can also then utilise the main access to/from the site on Kennelsfort Road Lower. Minor alterations to the configuration of the previously permitted access at Kennelsfort Road Lower are also proposed. This has been the subject of pre-planning consultation with South Dublin County Council prior to lodgement of this S.146B application. The purpose of this TTA is to examine and to demonstrate that there is no adverse impact on the road network due to the redistribution of traffic from the subject site onto the surrounding road network.

2.8 Existing Conditions Summary

The subject site is ideally positioned within the urban environment to maximise access to/from the site utilising sustainable forms of travel including walking, cycling and public transport.

The sites proximity to public transport interchanges on both the Kennelsfort Road Lower and the Chapelizod Bypass (circa 50m / 200m walking distance to the inbound / outbound bus stops, respectively) further enhances the sustainability characteristics of the site.

The subject site is ideally located to benefit from the enhanced accessibility levels delivered by the emerging BusConnects bus network improvements with the provision of a bus service to the City Centre (C-Spine) with a 4 – 8 minute peak hour frequency.

3. Proposed Development

3.1 Introduction

This chapter details the proposed development with regard to the transportation elements which includes the internal roads layout, proposed pedestrian/cycling infrastructure and parking provisions within the development area.

3.2 Permitted SHD Development (Ref. ABP-307092-20)

The subject site was granted planning permission by An Bord Pleanála in September 2020. The planning consent consisted of the demolition of all existing structures on site and the construction of a residential development of 250 no. 'build to rent' apartments (128 no. 1 beds, 122 no. 2 beds) in 5 no. blocks; with a café and ancillary residential amenity facilities, to be provided as follows:

- Block A containing a total of 27 no. apartments comprising of 13 no. 1 beds and 14 no. 2 beds, in a building ranging from 3-6 storeys over basement in height, with 1 no. communal roof garden (at third floor level), and most apartments provided with private balconies/terraces. Block A also provides a café, a reception/concierge with manager's office and bookable space at ground floor level; meeting rooms and workspace/lounge at first floor level; a gym at second floor level; and a cinema and a games room at basement level;
- Block B containing a total of 46 no. apartments comprising of 18 no. 1 beds and 28 no. 2 beds, in a building 6 storeys over basement in height, and all apartments provided with private balconies/terraces;
- Block C containing a total of 47 no. apartments comprising of 30 no. 1 beds and 17 no. 2 beds, in a building 6 storeys over basement in height, and all apartments provided with private balconies/terraces;
- Block D containing a total of 67 no. apartments comprising of 33 no. 1 beds and 34 no. 2 beds, in a building 7 storeys over basement in height, and most apartments provided with private balconies/terraces;
- Block E containing a total of 63 no. apartments comprising of 40 no. 1 beds and 23 no. 2 beds, in a building 8 storeys over basement in height, and all apartments provided with private balconies/terraces.

It was proposed to provide a total of 125 car parking spaces (120 basement spaces & 5 surface level spaces) which includes 26 Electric Vehicle (EV), 5 visitor parking spaces, 5 mobility impaired spaces, 2 Car Club, 10 motorbike parking spaces. In addition, 276 No. cycle parking spaces will be provided (250 within the basement and 26 at surface level).

It must be noted that proposed alterations to the approved SHD scheme were submitted under Ref. ABP-309899-21, which the Board deemed would not be material and therefore made the said alterations to the permitted development on 20th May 2021. The alterations made to the permitted development on 20th May 2021 under Ref. ABP-309899-21 were as follows:

- Proposed external and internal alterations to previously permitted Blocks A & B only including elevational changes; increase in height to accommodate construction method requirements including lift shaft overrun, AOV and parapet; minor increase in footprint of Blocks A & B to accommodate construction method requirements; alterations to and increase of residential amenity spaces within Block A and at basement level including removal of basement plant room; alterations to previously permitted apartment layouts and communal spaces within Block A; alterations to previously permitted apartment layouts and communal spaces within Block B and alterations to the previously permitted apartment unit mix within this block only from 18 no. 1 beds and 28 no. 2 beds (46 units) to now provide 12 no. 1 beds and 34 no. 2 beds (46 units)
- Proposed alterations to previously permitted landscaping proposals including relocation of vents and of 1 no. bike shelter; and,
- Proposed alterations to previously permitted basement plan.

3.2.1 ABP Conditions (Ref. ABP-307092-20)

A number of planning conditions were applied to the planning consent, the following of which are of relevance in terms of traffic and transportation and have been addressed as part of the current amendment application:-

2. The proposed development shall be amended as follows:

Future connectivity into the commercial lands, as per the submitted masterplan, along the north of the site shall be integrated into the internal road layout.

Revised drawings showing compliance with these requirements shall be submitted to, and agreed in writing with, the planning authority/An Bord Pleanála prior to commencement of development.

Reason: In the interests of residential amenity and to ensure future connectivity is retained.

3. The proposed cycle access into the site and the basement area shall be designed so as to comply with all necessary standards in the NTA National Cycle Manual.

Details of the layout, marking demarcation and security provisions for the cycle spaces and cycle infrastructure shall be as submitted to An Bord Pleanála with this application, unless otherwise agreed in writing with, the planning authority prior to commencement of development.

Reason: To ensure that adequate bicycle parking provision is available to serve the proposed development, in the interest of sustainable transportation.

4. The proposed car parking layout shall be modified so that at least 6 no. spaces are provided for persons with impaired mobility. These spaces shall be located as close as possible to the building entrance. The layout, dimensions and markings for these spaces shall be in accordance with the guidance set out in the document "Building for Everyone - a Universal Design Approach" (National Disability Authority). Revised drawings showing compliance with these requirements shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

Reason: To ensure a satisfactory parking provision for the proposed development that is accessible to all users.

16. Prior to the opening/occupation of the development, a Mobility Management Strategy (including an interim or temporary strategy reflecting any requirements or adjustments relating to Covid-19 movement and travel patterns) shall be submitted to and agreed in writing with the planning authority. This shall provide for incentives to encourage the use of public transport, cycling, walking and carpooling by residents/occupants/staff employed in the development and to reduce and regulate the extent of parking. Details may include the provision of centralised facilities within the commercial element of the development for bicycle parking, shower and changing facilities associated with the policies set out in the strategy. The interim or temporary strategy, where applicable, should reflect the requirements of DMURS Interim Advice Note – Covid Pandemic Response (May, 2020). The mobility strategy shall be prepared and implemented by the management company for all units within the development.

Reason: In the interest of encouraging the use of sustainable modes of transport and reflecting the needs of pedestrians and cyclists during Covid-19 pandemic.

3.3 Proposed Amendment to Permitted SHD Development

The proposed alterations pertain to the previously permitted utilisation of the existing vehicular and pedestrian/cyclist access via Palmerstown Business Park (onto Old Lucan Road) to now limit this access to pedestrian/cyclist access only for Block E residents/visitors, and proposed alterations to the previously permitted site layout plan and landscaping proposals to accommodate the provision of a turning head within the site, and minor proposed alterations to the configuration of the permitted access at Kennelsfort Road Lower, which has been the subject of pre-planning consultation with South Dublin County Council prior to lodgement of this S.146B application.

3.4 Site Access

As per the permitted scheme (Ref: ABP-307092-20) the access through the Palmerstown Business Park to the west is to be removed and there will be 1 no. access location serving the subject site, on the Kennelsfort Road Lower, this access point will serve pedestrians, cyclists and vehicles. The site access has been redesigned to accommodate a refuse vehicle exiting through the access onto the Kennelsfort Road Lower.

3.5 Internal Road Layout

The main east-west thoroughfare through the development is to be 5.5m wide as per the requirements of DMURS with the road width in the underground car park being minimum 6.0m.

The proposed roads layout can be seen in AECOM drawing PAM-ACM-XX-00-DR-CE-01-0001.

There has been an inclusion of a future access (Figure 3.1) along the north-eastern boundary of the site, to the rear of the residential dwellings to the north, and to the commercial site to the north (by way of condition on ABP-307092-20) which further enhance pedestrian / cyclist / vehicle permeability in the future should these lands be developed.

As part of this amendment application a turning head has been provided within the subject site to accommodate vehicles turning and exiting onto Kennelsfort Road Lower.

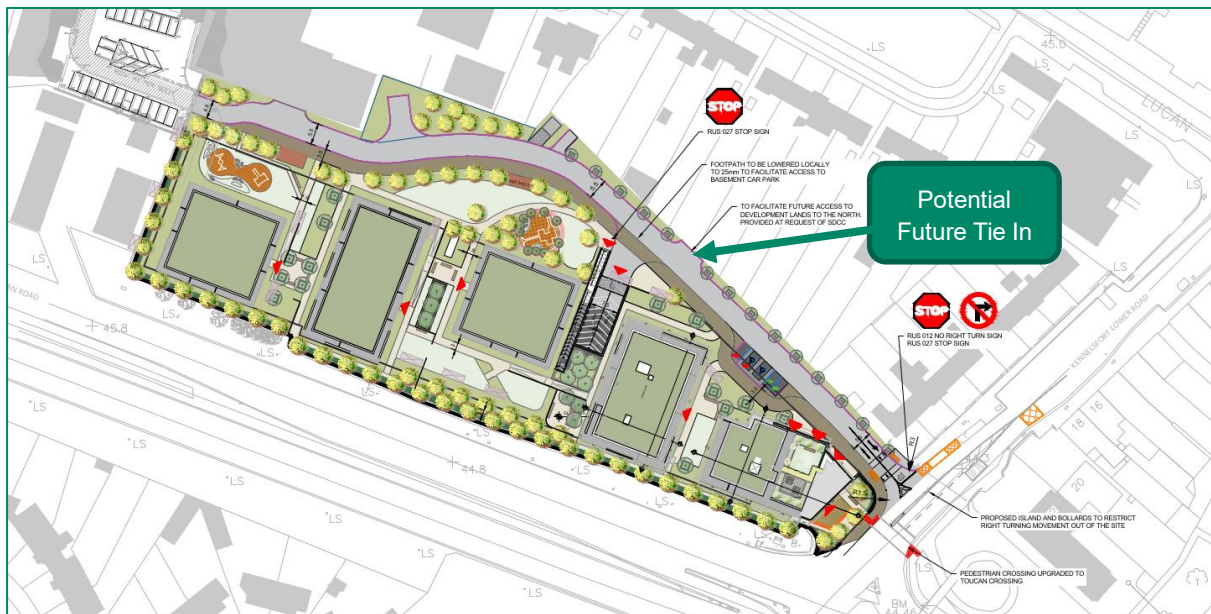


Figure 3.1 – Potential Future Tie In (AECOM Drawing: PAM-ACM-XX-00-DR-CE-01-0001)

3.6 Pedestrian and Cyclists Permeability

The subject site will be highly accessible to pedestrians and cyclists from the adjacent Kennelsfort Road Lower. The proposed development achieves filtered permeability, primarily for walking and cycling at the site access location on Kennelsfort Road Lower, as illustrated in Figure 3.2.

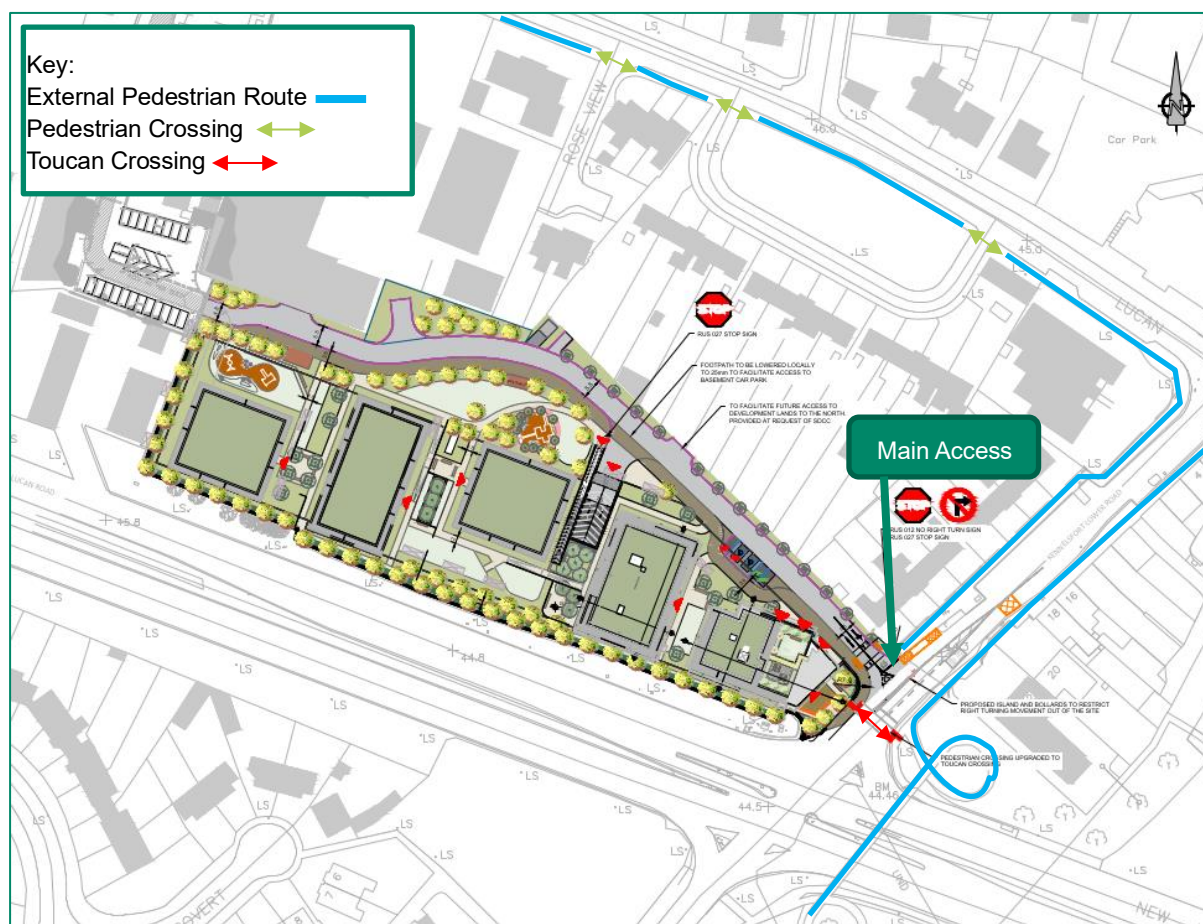


Figure 3.2 – Pedestrian and Cycle Access Locations (AECOM Drawing: PAM-ACM-XX-00-DR-CE-01-0001)

3.6.1 Internal Site

Pedestrians are given priority within the internal site layout to ensure desire lines within the site are accommodated providing a good level of service and ensures the risk of vehicle/pedestrian conflict with vehicles is minimised.

The internal pedestrian routes within the site were derived from the location of the apartment blocks, and associated facilities. This has led to the creation of pedestrian routes that lead to/from and around the development and ties into the existing pedestrian facilities along Kennelsfort Road Lower. Figure 3.2 indicates the pedestrian routes within and around the subject site.

Figure 3.2 also indicates the routes that cyclists can take around the site. In addition to the routes indicated, cyclists can also make use of the pedestrian paths indicated, should they choose to walk their bicycles along them.

3.6.2 Kennelsfort Road Lower Access

To further enhance pedestrian and cyclist accessibility to the site from Kennelsfort Road Lower, the R148 and the surrounding area, the existing pedestrian crossing on Kennelsfort Road Lower adjacent to the site access will be upgraded to a Toucan Crossing as part of the permitted scheme.

The provision of this Toucan Crossing will provide a safe transition to enable cyclists to travel between the site and the existing cycle facilities along the R148.

It should also be noted that the café element of the subject development will attract a local walk-in catchment from both the subject development and the surrounding local area. The provision of these enhanced pedestrian and cycle facilities at the Kennelsfort Road Lower site access will facilitate this new pedestrian travel desire line into the site.

3.7 Servicing

An AutoTrack analysis has been carried out at the site access junction and the internal junctions within the site to demonstrate their capability to cater for a 10.2m long refuse lorry. The results of the analysis show that the site access junction can accommodate servicing vehicles accessing, exiting and travelling through the site. This is illustrated in AECOM drawing no. PAM-ACM-XX-00-DR-CE-01-0002.

3.8 Visibility Splays

There site access junction has been widened which now allows a refuse vehicle to exit the proposed development via the Kennelsfort Road Lower vehicular access.

3.9 Parking Strategy

There has been no change to the parking strategy, refer to the parent application for details.

4. Trip Generation and Distribution

4.1 Introduction

The following paragraphs present the process by which the potential level of vehicle trips, associated with the future residential development have been generated and subsequently assigned across the local road network.

4.2 Traffic Surveys

In order to establish the existing local road networks traffic characteristics and subsequently enable the identification of the potential impact of the proposed residential development, traffic surveys were commissioned in November 2017.

The aforementioned traffic surveys (weekday classified junction turning counts) were conducted by Nationwide Data Collection over two number survey periods from 07:00-10:00 and 16:00-19:00 on Wednesday the 8th of November 2017 at the following locations (Figure 4.1):-

- Lucan Road / Kennelsfort Road Lower
- M50 Motorway (Jct 7) / N4 Motorway (Jct 1)
- Site Access / Kennelsfort Road Lower / Kennelsfort Road Upper
- Lucan Road / N4 / The Oval



Figure 4.1 – Traffic Survey Locations (Source: Bing Maps)

The traffic survey established that the local AM and PM peak hours occur between 08:00 – 09:00 and 16:00 – 17:00, respectively. The recorded 2017 peak hour traffic flows are presented within Appendix A.

4.3 Trip Generation

As this amendment application pertains to redistributing the traffic onto the road network, the trip generations as a result of the parent application have been redistributed onto the road network. Table 4.1 presents the anticipated arrivals and departures during the morning and evening peak hour period associated with the parent application.

Table 4.1 – Parent Application Trip Generation

Land Use	No of Units	AM Peak Hour (08:00 – 09:00)		PM Peak Hour (16:00 – 17:00)	
		Arrivals	Departures	Arrivals	Departures
Residential	250 Units	20	60	63	35
Total One Way Movements		20	60	63	35
Total Two Way Movements		80		98	

4.4 Trip Distribution & Assignment

To understand the potential distribution of the trips arriving and departing the site, the base traffic survey results have been interrogated. The base traffic surveys indicate the direction that motorists currently travel to / from when arriving onto the immediate road network immediately adjacent the site during the typical peak periods. Figure 4.2 illustrate the proposed trip distribution patterns during the morning and evening peak hours, respectively. Following the revised site access arrangements all traffic now arrives and departs via the Kennelsfort Road Access.

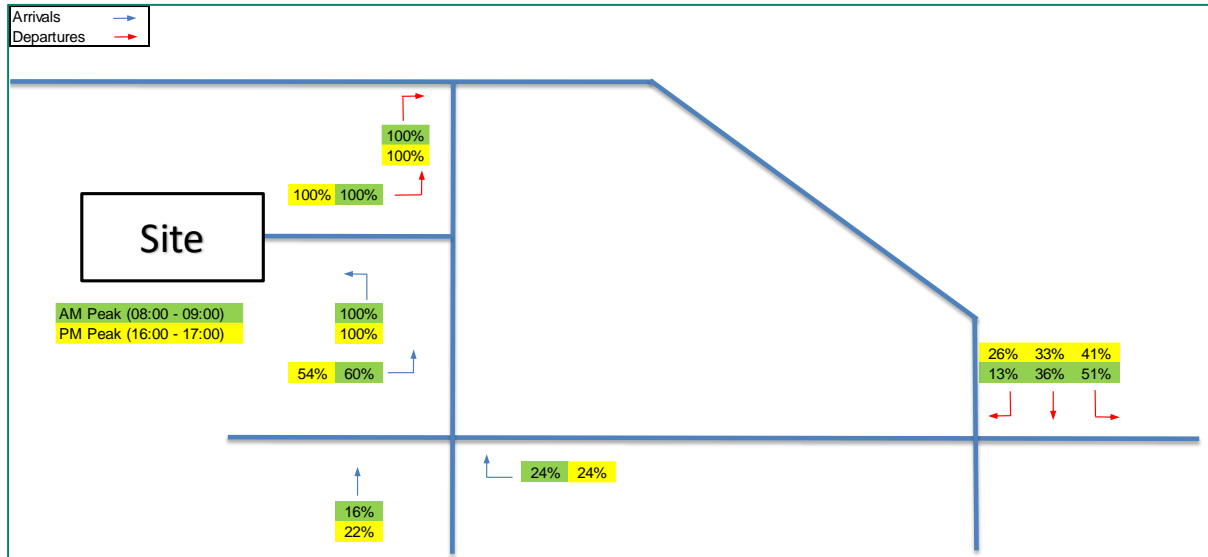


Figure 4.2 – Trip Distribution during the AM & PM Peak Hour

As shown in Figure 4.2, the Kennelsfort Rd Lower access is left turn only therefore all traffic departs the site at this location, turning left onto Kennelsfort Road Lower.

4.5 Traffic Growth

The TTA adopts an Opening Design Year of 2022. In accordance with TII Guidance, Future Design years (+5 and +15 years) of 2027 and 2037 will therefore be adopted.

The Transport Infrastructure Ireland (TII) 'Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections (May 2019)' sets out growth rates for forecasting future year traffic for use in scheme modelling and appraisal. It is noted that in respect of Palmerstown, which is in the 'Dublin Metropolitan Area', the growth during the period 2016 – 2030 is set at 1.0162% per annum for medium growth, reducing to 0.51% per annum from 2030 – 2040 (LV rates used).

The development has assessed the opening year of the development (2022) and the two horizon year assessments (2027 and 2037), as per the TII Traffic Assessment Guidelines. The assessment years used for this assessment are as follows:-

- 2017 to 2022 – 1.0837 (or 8.37%);
- 2017 to 2027 – 1.1743 (or 17.43%); and
- 2017 to 2037 – 1.2631 (or 26.31%).

4.6 Threshold Analysis

The TII Guidelines for Transport Assessments state that the thresholds for junction analysis in Transport Assessments are as follows:

- 'Traffic to and from the development exceeds 10% of the existing two-way traffic flow on the adjoining highway.'
- 'Traffic to and from the development exceeds 5% of the existing two-way flow on the adjoining highway, where traffic congestion exists or will exist within the assessment period or in other sensitive locations.'

4.7 Impact of the Proposed Development

4.7.1 Local Road Network

A comparison was made between the pre-development and post-development scenarios, to identify the percentage impact of the redistributed traffic onto the road network.

The projected percentage impact of operational traffic on the surrounding road junctions in the year of opening (2022) is set out in Table 4.2 and shown indicatively in Figure 4.3.

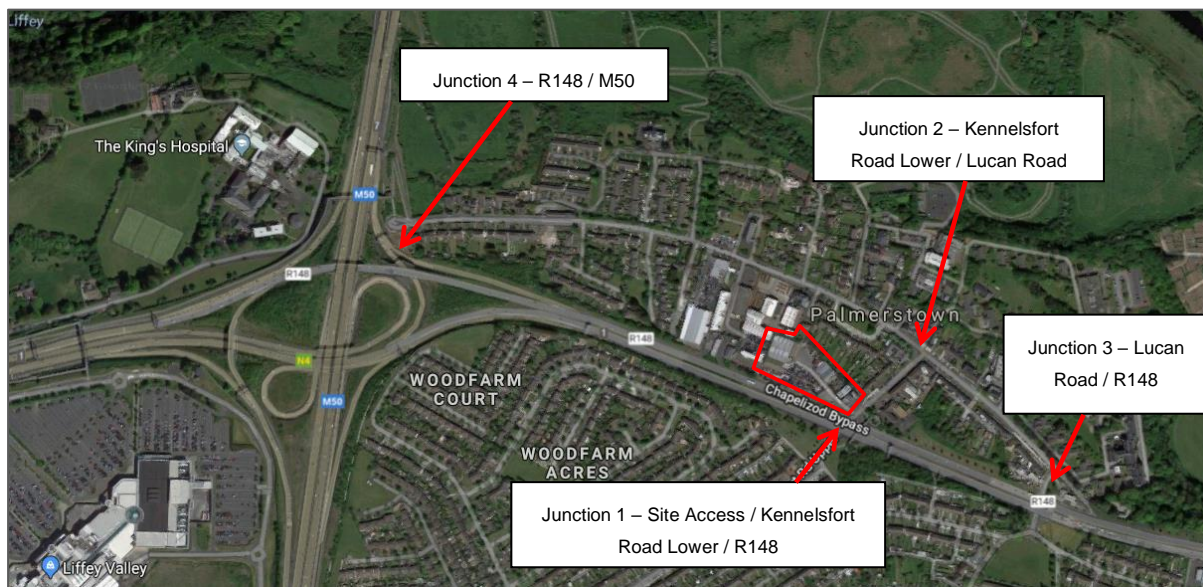


Figure 4.3 – Traffic Survey Junction Locations

We recognise the proximity between the site access and the Kennelsfort Road / R148 signalised junction to the south. The percentage impact analysis has therefore been undertaken on these junctions as a linked junction to understand the true percentage impact on the signalised junction/site access. This is considered appropriate as the proposed site access is located adjacent to the junction and its operation will be linked to the junction operation in terms of left-turns out of the site being undertaken when there is a red phase for traffic travelling northbound onto Kennelsfort Lower. It is therefore not considered representative to look at the site access junction in isolation and without consideration of the adjacent junction.

It should be noted that the opening year of the development has been assessed only. Any future year base flows would be greater than the flows presented in Table 4.2, hence a smaller percentage impact in comparison to the development flows would be recorded.

It is again noted that the below figures do not take account of the existing flows for the subject site; in fact the consented traffic generation (2009 permitted scheme) is higher than what is being proposed as per the 2020 permitted application. The percentage impact noted is therefore considered a worst-case scenario for the redistributed traffic.

Table 4.2 – Percentage Impact on the adjacent road network during Opening Year (Redistributed Traffic)

Junction Location	Traffic Flows	Opening Year – 2022	
		AM Peak (08:00 – 09:00)	PM Peak (17:00 – 18:00)
Junction 1 – Site Access / Kennelsfort Road Lower/ R148	Base Flows at Junction	5312	4755
	Development	28	72
	% Impact	0.5%	1.5%
Junction 2 - Kennelsfort Road Lower/ Old Lucan Road	Base Flows at Junction	612	639
	Development	60	35

Junction Location	Traffic Flows	Opening Year – 2022	
		AM Peak (08:00 – 09:00)	PM Peak (17:00 – 18:00)
	% Impact	9.7%	5.4%
Junction 3 - Lucan Road / R148	Base Flows at Junction	4,576	3,908
	Development	60	35
	% Impact	1.3%	0.9%
Junction 4 – M50 / R148	Discussed in Section 4.7.2 below		

The percentage impact of the operational phase will result in an impact of:

- 0.5% and 1.5% upon the Kennelsfort Road Lower / R148 / Site access junction in the respective morning and evening peaks;
- 9.7% and 5.4% upon the Kennelsfort Road / Lucan Road priority junction in the respective morning and evening peaks; and
- 1.3% and 0.9% upon the Lucan Road / R148 signalised junction in the respective morning and evening peaks;

Each junction is discussed in more detail in the paragraphs below.

Junction 1: On the basis of the thresholds outlined in the TII Traffic and Transport Guidelines (May 2014); given that the impact upon the signalised junction is considerably less than 5% of the existing two-way traffic flow, junction modelling is not required for this junction. The traffic impact upon this junction due to the proposed development will be nominal.

Junction 2: On the basis of the thresholds outlined in the TII Traffic and Transport Guidelines (May 2014); given that the impact upon this priority junction is less than 10% of the existing two-way traffic flow, junction modelling is not required for this junction. The traffic impact upon this junction due to the proposed development will be nominal. It is noted that the percentage impact noted in Table 4.2 is very conservative, as extant trip generation has not been considered.

Junction 3: On the basis of the thresholds outlined in the TII Traffic and Transport Guidelines (May 2014); given that the impact upon the signalised junction is considerably less than 5% of the existing two-way traffic flow, junction modelling is not required for this junction. The traffic impact upon this junction due to the proposed development will be nominal.

4.7.2 National Road Network

As requested during pre-application scoping for the previous 2018 SHD application, an assessment of the traffic impacts on the R148 / M50 has been completed. It shows that the increase in traffic will be well below 5% as shown in Table 4.3.

Table 4.3 – National Road Network Percentage Increase

Traffic Flows	AM Peak (08:00 – 09:00)	PM Peak (17:00 – 18:00)
Base Flows at Junction	7325	8299
Development	20	43
% Impact	0.27%	0.52%

It can be seen from Table 4.3 that the percentage impact of the proposed development flows identifies a maximum of 0.27% impact upon the morning base on the M50 Motorway, whilst in the evening peak the percentage impact

is 0.52% upon the existing base. Given that the percentage impacts are low in relation to the existing base flows, no further analysis has been undertaken at this location.

5. Summary and Conclusions

AECOM has been commissioned by Randelswood Holdings Ltd to prepare a Traffic and Transport Assessment to accompany an amendment planning application for a site on Kennelsfort Road Lower, Palmerstown, Co. Dublin. The site is located at the junction of Old Lucan Road / Kennelsfort Road Lower and is accessed from the junction.

The receiving environment has been assessed in terms of walking, cycling, public transport and road infrastructure. Notably, the site is in proximity to high frequency bus services and the proposed Bus Connects route No.6.

The permitted development, subject to this amendment application, consists of five apartment blocks with 1-2 bedroom apartments and 250 apartment units in total. It also contains supporting land uses, comprising, gym and community room. The purpose of this TTA was to examine the impact of the removing the secondary access onto the Lucan Road to demonstrate that there is no adverse impact on the road network

The site is proposed to be accessed by way of a vehicular priority junction off Kennelsfort Road Lower. Left-in and left out manoeuvres will only be permitted at this access.

The permitted site access is considered to represent a marked improvement from the existing site access, which forms an uncontrolled fifth arm of the / Kennelsfort Road Lower/ R148 signalised junction.

Visibility requirements are provided for in line with DMURS for 30kph (to the north along Kennelsfort Road Lower), however, visibility to the south is not achieved due to proximity of the R148 / Kennelsfort Road Lower junction although it is envisioned vehicle speeds will be low at this junction. Site servicing is provided for in terms of refuse lorry and fire tender access and circulation, which have been tested in AutoTrack and included in AECOMs drawings.

Both car and cycle parking remain as per the permitted application with 125 car parking spaces and 276 cycle parking spaces.

The trip generation assessment completed as part of the parent application (250 no. units) has been adopted for this amendment application. Given the alteration to the subject site the traffic arriving to and departing from the development is to be all from the Kennelsfort Road Lower site access with the wider trip distribution onto the network being cognisant of current and future traffic patterns.

A percentage impact assessment has been completed in line with TII guidance. This has established that the following percentage impacts are anticipated at local junctions:

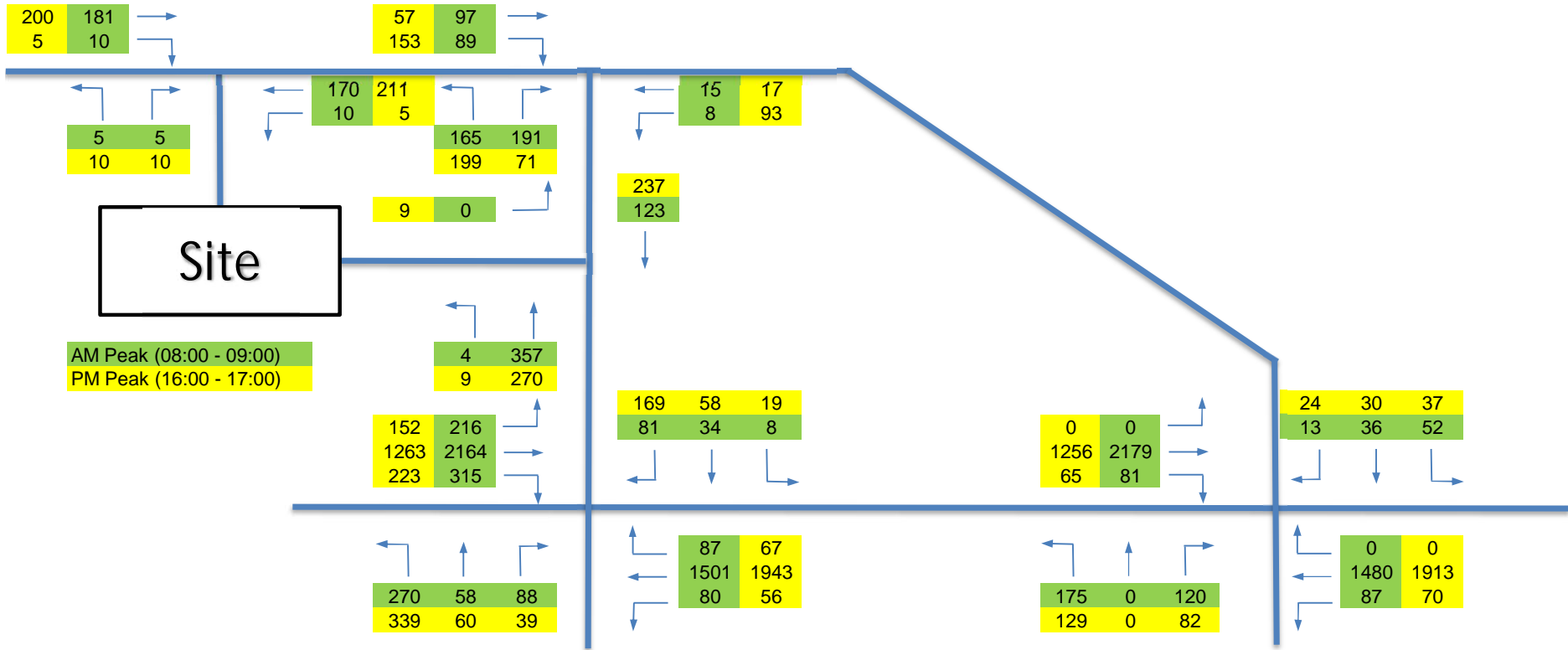
- Junction 1 – Kennelsfort Road Lower / R148 / Site Access (0.5% increase in the morning and 1.5% increase in the evening);
- Junction 2 – Kennelsfort Road Lower / Lucan Road (9.7% in the morning and 5.4% In the evening);
- Junction 3 – Lucan Road / R148 (1.3% in the morning and 0.9% in the evening); and
- Junction 4 – M50 / R148 (0.27% in the morning and 0.52% in the evening)

The removal of the secondary access onto the Lucan Road results in a relatively minor increase over the permitted and in accordance with TII Guidelines, the amended application does not meet the threshold requirements for traffic modelling analysis.

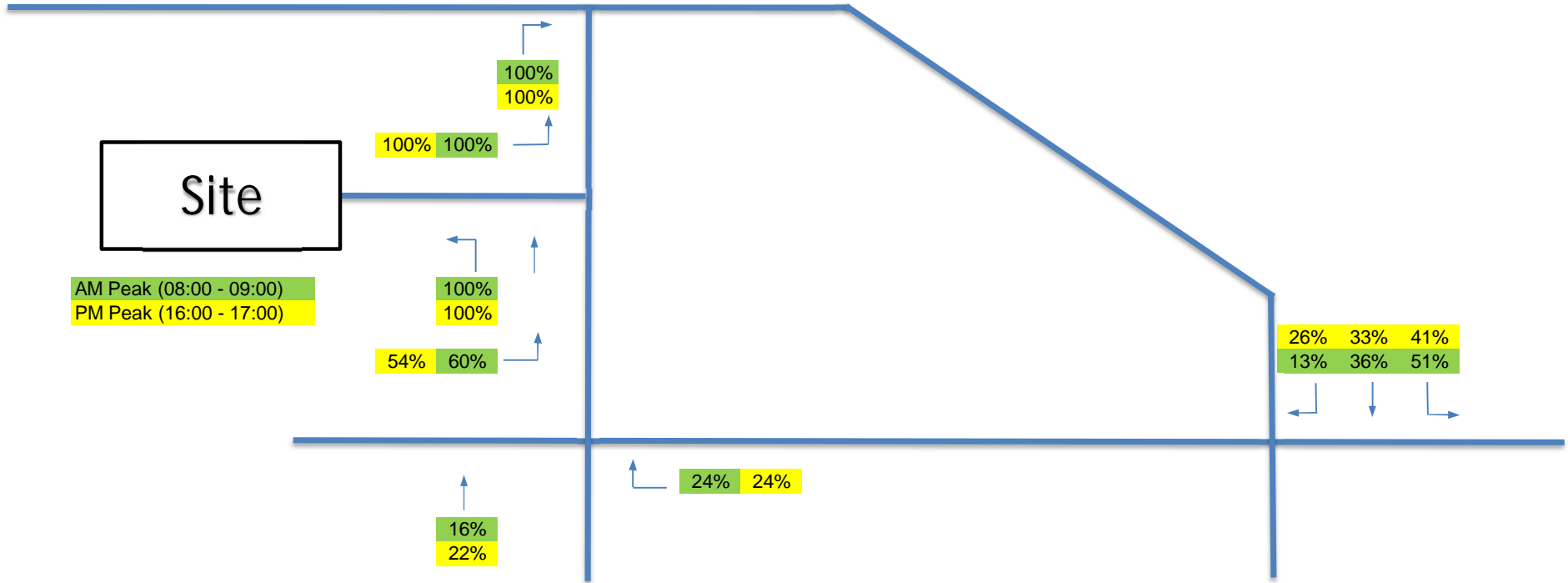
It is AECOM's considered opinion that there is no traffic or transportation reason why this development should not proceed.

Appendix A Network Flow Diagrams

2017 Baseline Trips



Development Distribution Splits



Development Trips

Time	Arrivals	Departures	Total
AM Peak	20	60	80
PM Peak	63	35	98

