# CHAPTER 13

# MATERIAL ASSETS
# TRAFFIC AND TRANSPORT

# 13.0 MATERIAL ASSETS – TRAFFIC AND TRANSPORT

## 13.1 INTRODUCTION

This chapter of the Environmental Impact Assessment Report assesses the likely effects of the proposed development in terms of vehicular traffic impact together with pedestrian and cycle access during the construction and operational phases of the land at the proposed residential development site at Fosterstown North, Swords, Co. Dublin.

The proposed development, for which a seven year permission is sought, comprises a Strategic Housing Development of 645 residential units, a community facility, a childcare facility, 5 commercial units, car and cycle parking, landscaping, public and communal open space, road upgrades and vehicular access and associated internal roads, pedestrian and cycle paths and all associated site and infrastructural works. A full description of the development can be found in Chapter 2.

This chapter describes: the methodology; the receiving environment at the application site and surroundings; the characteristics of the proposal in terms of physical infrastructure; the potential impact that proposals of this kind would be likely to produce; the predicted impact of the proposal examining the effects of the proposed development on the local road network; and the remedial or reductive measures required to prevent, reduce or offset any significant adverse effects.

This chapter has been prepared by Emma Caulwell, Chartered Civil Engineer at Waterman Moylan Consulting Engineers and Joe Gibbons, Chartered Civil Engineer and Director, Waterman Moylan Consulting Engineers.

The approach to the assessment of likely significant impacts on traffic and transportation in this chapter accords with policy and guidance at EU, national and local level. Accordingly, the adopted methodology responds to best practices, current and emerging guidance, exemplified by a series of publications, all of which advocate this method of analysis. Key publications consulted include:

- “Guidance on the preparation of the Environmental Impact Assessment Report” (EC, 2017);
- Environmental Protection Agency (EPA) Guidelines on the information to be contained in the EIAR (2017);
- ‘Traffic and Transport Assessment Guidelines’ (May 2014) National Road Authority (now TII),
- ‘Traffic Management Guidelines’ Dublin Transportation Office & Department of the Environment and Local Government (May 2003);
- ‘Guidelines for Traffic Impact Assessments’ The Institution of Highways and Transportation;

## 13.2 STUDY METHODOLOGY

The following methodology has been adopted for this assessment:

- Review of relevant available information including Fosterstown Masterplan and Fingal Development Plan 2017-2023, existing traffic information and other relevant studies;
- Site visit to gain an understanding of the site access and observe the existing traffic situation;
- Consultations with Fingal County Council to agree the site access arrangements and determine the scope of the traffic analysis required to accompany a planning application;
- Review of the “Traffic Impact Assessment” carried out by OCSC;
- Car parking requirements
- Accessibility of the site by sustainable modes including walking, cycling and public transport.

## 13.3 THE EXISTING RECEIVING ENVIRONMENT (BASELINE SITUATION)

This section considers the baseline conditions, providing background information for the site in order to determine the significance of any traffic implications. This section also considers the existing accessibility of the site by sustainable modes of transport.


**Figure 13.1: Site Location**

### Site Location

The site is located in Fosterstown North, Swords, Co. Dublin and is bounded to the north by an area of greenfield which also forms part of the Fosterstown Masterplan. To the east the site is bounded by the R132. To the south and west the development site is bounded by the Boroimhe residential development. The subject site is located 2km north of Dublin Airport and 1km south of Swords Main Street. Refer to Figure 13.1 for the location of the proposed development.

### Existing Road Network

The site is located directly adjacent to the artery road R132. To the north of the site, R132 intersects with R125 at a four-arm roundabout. The speed limits along R132 immediately adjacent to the site is 60kph. There are no cycle lanes along R132 however there is a bus lane and footpaths on both sides of the road.

The R125 is a single carriageway road subject to a speed limit of 50kmph. Travelling in a east-west direction toward the Pinnock Hill Roundabout to the north of the development, the R125 terminates at this four-arm roundabout with the R132 Dublin Road. There is a footway along the length of the carriageway on the north side of the road.

As part of the Traffic Impact Assessment, six junctions in the vicinity of the site have been analysed in order to calculate the existing volume of traffic and assess the impact that traffic will have on the operation capacity of the junctions. The existing junctions that have been analysed are the following:

- Junction 1: Dublin Road/Forest Road/Main Street;

- Junction 2: R132/R125/R132/R836;
- Junction 3: R132/L2305 Nevinstown Lane/L2300;
- Junction 4: Forest Road/L2300/Rathingle Road;
- Junction 5: Forest Road/Hawthorn Road;
- Junction 6: Forest Road/River Valley Road.

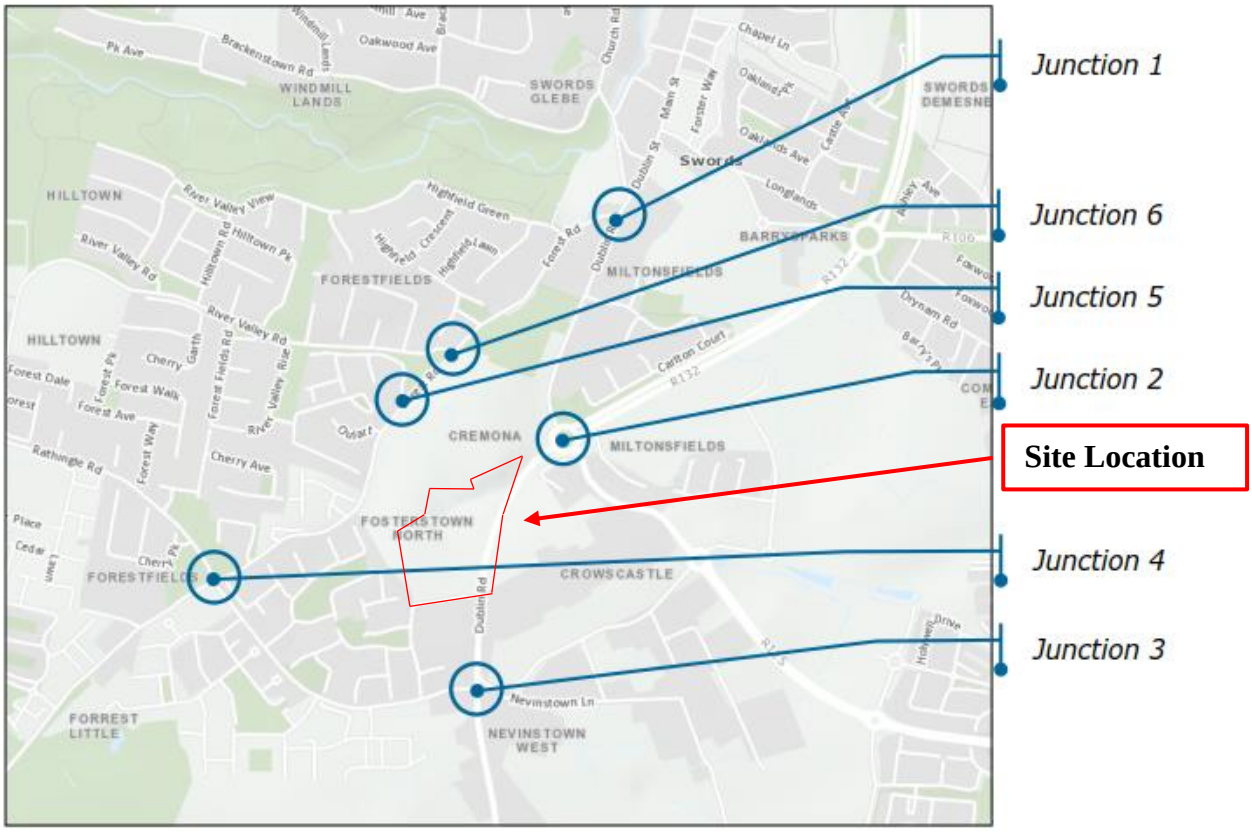


**Figure 13.2: Location of Junctions Surveyed**

The results of this survey indicated that the peak traffic levels through the junctions occurred between the hours of 08:00 – 09:00 in the morning and 17:15 – 18:15 during the evening.

**Existing Pedestrian and Cycling Facilities**

Pedestrians are well catered for in the area by way of the existing footpaths together with safe pedestrian crossings. The new development will improve the pedestrian permeability within the site and along the R132.

Details of existing cycle network in the area are shown in Figure 13.3 below:-

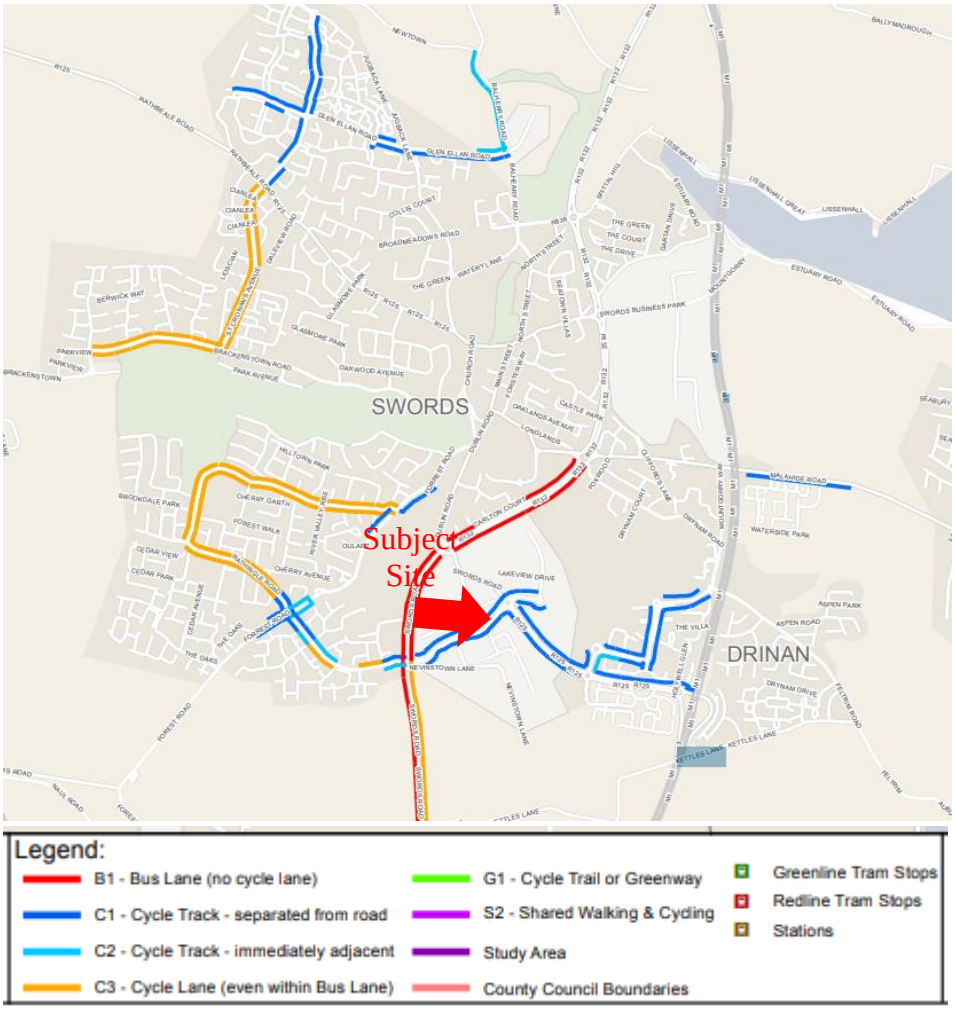


**Figure 13.3: Existing Cycle Infrastructure**

## Existing Public Transport Accessibility

### Dublin Bus

There are 7 no. Dublin Bus routes and 1 no. Go Ahead route serving stops on the R132 and on Forest Road, directly adjacent the development site with the nearest stops located an approximate 100m (1 minute) walking distance of the development site.

Dublin Bus operates several staged services connecting Swords to a number of areas of interest or with access to further public transport such as the LUAS, DART, and Irish Rail. Those areas easily accessible include Santry, Drumcondra, O'Connell Street, Georges Street, Rathmines, Rathgar and Terenure.

The site is located directly adjacent to a major public transport corridor being the Swords Quality Bus Corridor (QBC). The Swords QBC has high frequency bus services direct to the City Centre. Access from the subject site to the primary bus stops on the Swords QBC is via R132.

A summary of Dublin Bus routes and location of bus stops served by these routes are presented below.

| Route No | From | To | Weekday Frequency (Rush hour) |
|---|---|---|---|
| 33 | Lower Abbey | St Towards Balbriggan | 20-30 minutes |
| 33a | Swords | Balbriggan | 10-20 minutes |
| 33e | Irish Life Mall | Mourne View | 3 per day |
| 41 | Lower Abbey Street | Swords Manor | 20-45 minutes |
| 41b | Lower Abbey Street | Rolestown | 5 times a day |
| 41d | Swords Business Park | Marlborough Street | 2 times a day |
| 41x | UCD Belfield | Knocksedan | Once a day |

**Table 13.1: Dublin Bus Express Frequencies**

**Swords Express**

The Swords Express has an existing express bus service to Dublin City Centre which has a service along R132 and has a travel time of approximately 20min to The Point.

The Swords Express coach service links Swords to Dublin City Centre via the Port Tunnel. There is a stop 450m from the site entrance on the L2300 in Boroimhe and another 350m from the site entrance in Airside Retail Park. The coach routes that serve the site are the 500, 501, 502, 503, 504, 505, 500X and 501X.

During peak hours, this is a high frequency service of 5-15 minutes. Outside of peak hours, the Swords Express runs at least every 30min Monday to Saturday and once per hour on Sundays.

The summary of the Swords Express routes that service the subject area is presented in Table 13.2.

On 01 March 2022, Waterman Moylan undertook a survey of the capacity in the Bus Network which would directly serve the subject site. This capacity study was undertaken in the Airside Retail Park which provides the direct service to Dublin City. The survey was undertaken during the peak morning hours and it was found that all busses were operating at approximately 50% capacity or less. A copy of the capacity report is included in under separate cover.

| Route No | From | To | Weekday Frequency (Rush hour) |
|---|---|---|---|
| 500 | Abbeyvale Brackenstown Road | Dublin, Eden Quay | 5-30 min |
| 501 | Pavilions Shopping Centre, Swords | Dublin, Eden Quay | 10-20 min |
| 502 | Highfields | Dublin, Eden Quay | 40-60 min |
| 503 | Abbeyvale Brackenstown Road | Dublin, Merrion Square | 10-20 min |
| 504 | Boroimhe Laurels | Dublin, Eden Quay | Once a day |
| 505 | Rathingle Road | Dublin, Eden Quay | 30-40 min |
| 500-X | Abbeyvale Brackenstown Road | Dublin, Eden Quay | 20 min |
| 501-X | Pavilions Shopping Centre, Swords | Dublin, Eden Quay | 2 times a day |

**Table 13.2: Swords Express Frequencies**

The development lands are therefore within less than 5 minutes walking of a high frequency bus service.

**Other Services**

There are a number of other bus stops in close proximity to the subject site that provide access to the City Centre and surrounding area. Details of these stops have not been included as it is considered that the nearest bus stop provides excellent bus connectivity as outlined above. Nevertheless there are other options which will be available to the future residents of this development.

Go-Ahead Ireland – Go-Ahead Ireland operates a 20-hour service through Swords, linking Balbriggan with City Center through Dublin Airport. Route 33a is a go-ahead Ireland route and is shown in Table 13.1.

Rail Services – Swords is not currently served by rail transportation. The site is located approximately 5.2km drive (c. 9 minutes off-peak) from Malahide Rail Station which includes both on-site car parking (77 no. spaces) and cycle facilities (70 no. sheltered spaces and 13 rentable bike lockers) making it a viable option for commuters. This station provides access to the Dublin Connolly / Drogheda / Dundalk services as well as the DART. This forms part of the wider rail network throughout the Greater Dublin Area and links the site directly to Dublin City Centre.

## 13.4 PLANNED FUTURE RECEIVING ENVIRONMENT

**Pedestrian and Cycling Facilities**

The new development will improve the pedestrian permeability within the site and along the R132. The strategy for cyclists is based upon providing cycle facilities such as safe and secure bicycle parking. The existing separated cycle infrastructure in the local area is poor. In the coming years, Bus Connects and the GDA Cycle Networks Plan will improve cycle connectivity by providing dedicated cycle lanes from Swords to the City Centre. Refer to Figure 13.4 to see the proposed cycling infrastructure.

**R132 Connectivity Project**

The R132 connectivity project, which received planning from An Bord Pleanala in February 2022 will provide pedestrian connectivity improvements on the R132 from Pinock Hill Roundabout immediately north of the site to

Lissenhall. The proposals will convert existing roundabout junctions to signal controlled junctions with pedestrian crossings/phasing together with additional standalone signalised pedestrian crossings on the R132.

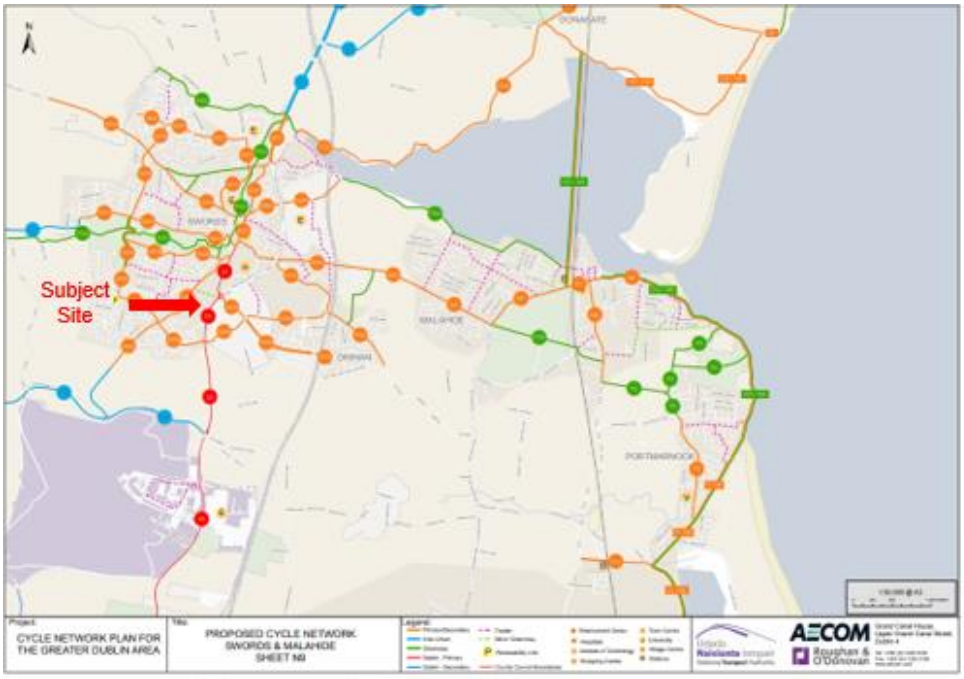


**Figure 13.4: Overall Proposed Cycle Network**

As part of the Bus Connects project, there will be footpaths, cycle lanes and bus lanes on R132 directly adjacent to the subject site (see Figure 13.5). In addition, as part of the proposed development, it is proposed to construct a segregated cycle lane along the site boundary with the R132. The proposed pedestrian and cycle facilities will make the subject site highly accessible by a wide variety of transportation options which will facilitate a modal shift away from private vehicle usage.

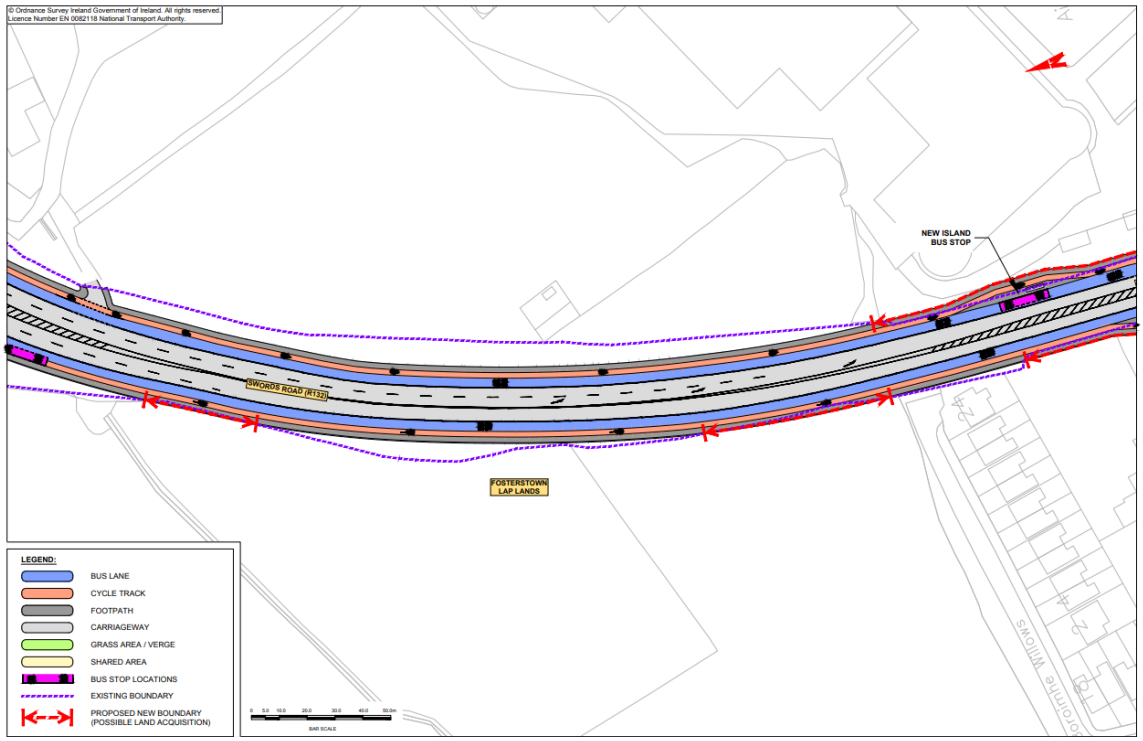


**Figure 13.5: Proposed Road Section immediately adjacent to the site**

### MetroLink

MetroLink is a proposed high-frequency, high-capacity rail line to run between Swords and Sandyford via Dublin Airport and the City Centre. The proposed Fosterstown Station as shown in Figure 13.6 below is directly opposite the subject site. It will run mostly underground and connect to the upgraded LUAS Green line in Dublin City Centre. Travel time from the city centre to Swords will be 25 minutes.

MetroLink is currently being prepared for planning and it is understood that a railway order will be submitted in Summer 2022.


**Figure 13.6: Site proximity to MetroLink**

**Bus Connects**

As shown in Figure 13.7 below, the proposed development is immediately adjacent to a proposed route of Bus Connects which would connect Swords directly to Dublin City Centre. Bus Connects is a programme of investment in the greater Dublin area bus network which aims to overhaul the current bus system to deliver a more efficient, reliable, and high-frequency bus network. It is estimated that the Bus Connects service will improve current journey times to the city centre by 40% - 50% and mitigate against any future increase in journey times. The improved journey time to the city centre will encourage a greater modal shift towards the bus and bike.

The route will run service to the City Centre running every 10-15 minutes. Once Bus Connects is operational, the total travel time from the masterplan site to the City Centre will be 40 minutes.

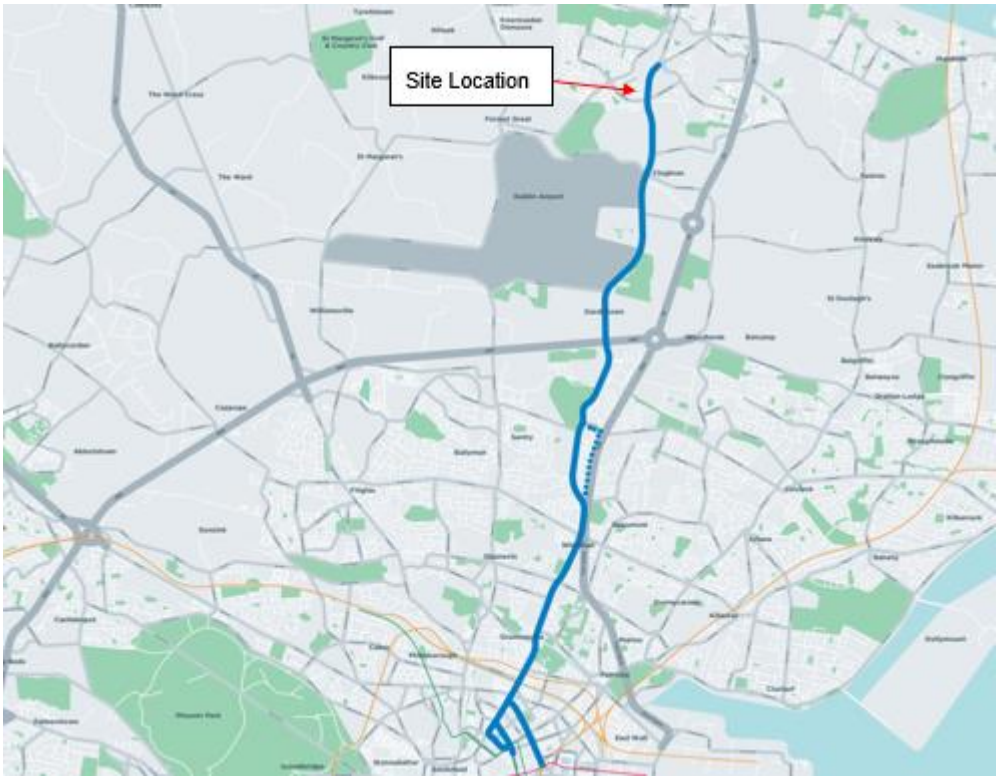


**Figure 13.7: Site proximity to Bus Connect Route**

## 13.5 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The proposed development comprises a Strategic Housing Development of 645№ residential units (comprising of 208№ 1 bedroom units, 410№ 2 bedroom units, and 27№ 3 bedroom units), in 10№ blocks, with heights ranging from 4№ storeys to 11№ storeys over an undercroft / basement level. The proposals include 1№ community facility in Block 1, 1№ childcare facility in Block 3, and 5№ commercial units (for Class 1-Shop, or Class 2- Office / Professional Services or Class 11 Gym or Restaurant / Café use, including ancillary takeaway use) in Blocks 4 and 8.

The proposal contains a total of 363№ car parking spaces, 63 at surface level and 300 at undercroft / basement level, and 1,519№ bicycle parking spaces. Bin stores, plant rooms and block cores are located at undercroft / basement level. The proposed development includes private amenity space in the form of balconies / terraces for all apartments The proposed development will also include the provision of public and communal open space, including 2№ playing pitches, children's play areas and an ancillary play area for the childcare facility.

The proposed development includes road upgrades, alterations and improvements to the Dublin Road / R132, including construction of a new vehicular access, with provision of a new left in, left out junction to the Dublin Road / R132, and construction of a new signalised pedestrian crossing point, and associated works to facilitate same. The proposal includes internal roads, cycle paths and footpaths, vehicular access to the undercroft / basement car park, with all infrastructure provided up to the application site boundary to facilitate potential future connections to adjoining lands.

The development includes all associated site and infrastructural works, including foul and surface water drainage, PV panels at roof level, 5№ ESB Substations, hard and soft landscaping, boundary treatment, and all associated and ancillary site works.

**Physical Infrastructure**

The subject site will be accessed via a new left in / left out junction to the R132. The left in/left out junction will be delivered as a temporary arrangement pending the development of the lands to the immediate north which will provide road access to the existing public roads infrastructure in line with the Fosterstown Masterplan. Once the roads to the north of the site have been constructed and linked into the subject development the proposed temporary left in/left out junction will be decommissioned and removed. . Connectivity to the lands to the north in terms of road, footpaths and cyclepaths are provided so as to directly abut the adjacent development lands in order to ensure that the development of these lands can facilitate direct connections to the infrastructure that will be constructed as part of this application. The site access from R132 will be a 30 kmph zone. A 2.4m x 24m sightline, which follows the requirements of the Department of Transport 'Design Manual for Urban Roads and Streets' (DMURS) recommendation for a road of design speed of 60 km/h, will be provided at the access road junction onto R132. There are also two potential future access points to the west of the site to provide pedestrian and cyclist connectivity to the west. In this regard, the proposed development provides the opportunity for future pedestrian and cycle connectivity to the existing Boroimhe residential estate to the west. However, there is an area of land not in the applicant's ownership between the subject site and the Boroimhe estate, which militates against providing the connections into this adjoining development. The applicant understands that this area of land is in the ownership of a third party and it is not within their gift to make the connections to Boroimhe. However, the proposed development includes for cycle and footpath infrastructure up to the application site boundary to facilitate potential future connections to the adjoining lands, that will need to be delivered by the Planning Authority through their statutory powers.

The proposed new access will be utilised by all modes of transport travelling to/from the proposed development. A signal-controlled pedestrian crossing will be installed immediately north of the left in left out junction to facilitate pedestrians in crossing the road. This will be particularly beneficial when the proposed Metro North Fosterstown Station is constructed across the road as it will provide a direct and safe crossing point to the proposed development. Footpaths will be provided in accordance with Section 4.3.1 of DMURS which suggests that a minimum 1.8m footpath should be provided on all footways. The proposed development has been designed as a DMURS compliant scheme. A separate Statement of Consistency with DMURS is included under a separate cover. Cycle paths have been designed in accordance with the National Cycle Manual.

The majority of the carparking onsite will be in the basement carpark, accessed from R132 to the east of the site. There is a total of 363 car parking spaces (300 basement spaces and 63 surface spaces) and 1,519 bicycle parking spaces provided.

Pedestrian access will be provided at a number of different locations as can be seen in Figure 13.8. Pedestrian/cycle access will also be provided to basement level via a pedestrian/cycle access ramp next to the vehicular access.

The design and layout of the proposed development have been prepared to fully comply with the rigorous design standards and specifications applicable to this form of development. The applicant has drawn upon considerable experience in the design and implementation of such proposals.

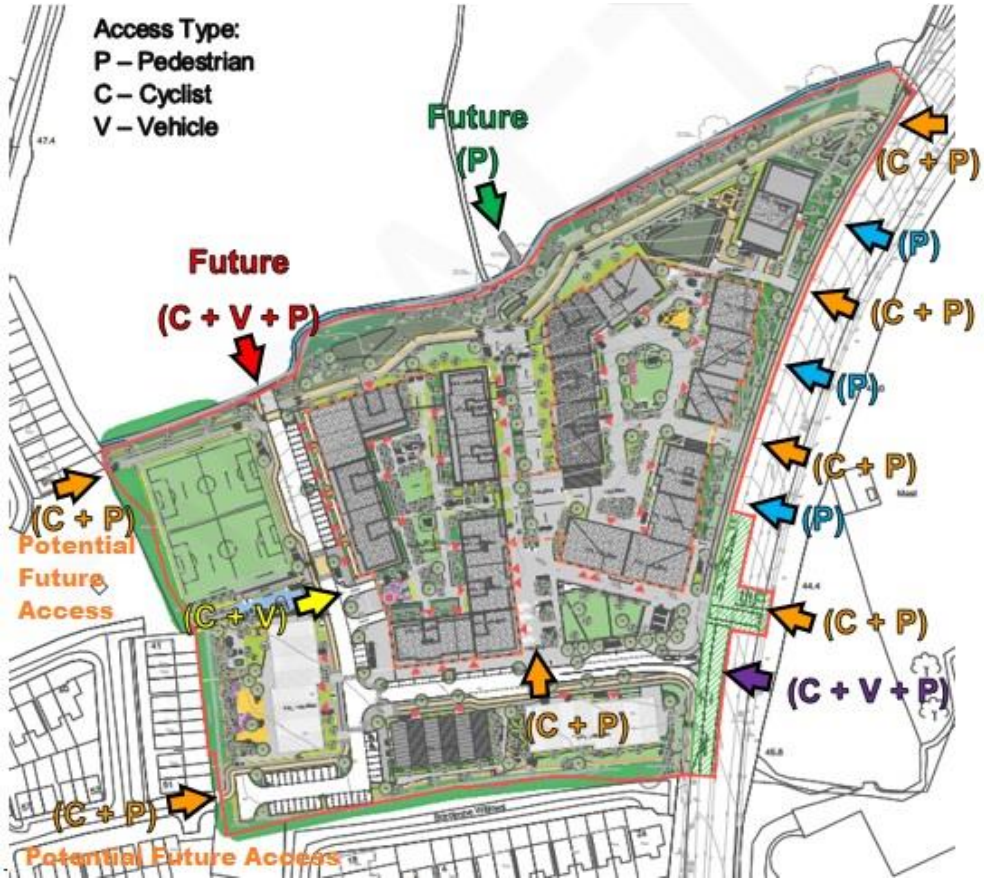


**Figure 13.8: Site Access Points**

## 13.6 POTENTIAL IMPACT OF THE PROPOSED DEVELOPMENT

### Construction Stage

A detailed traffic and transportation assessment (TTA) has been undertaken as part of this application by OCSC Consulting Engineers and is included under separate cover.

Construction vehicles will fall into 2 categories, heavy and light vehicles. Heavy vehicles will include vehicles for removing excavated material from the site as well as deliveries of concrete and other larger construction elements such as prefabricated structure. Light vehicles will include cars and small delivery vehicles such as vans.

Based on discussions with a tier 1 contractor, the following estimates for weekday traffic have been made with respect to construction traffic based on experience at similar projects in similar locations.

- 60 no. private vehicles per day from staff and site visitors i.e. 120 no. vehicle movements;
- 40 no. light goods vehicles per day from subcontractor staff i.e. 80 no. vehicle movements;
- 100 no. heavy goods vehicles per day during peak excavation process i.e. 200 no. vehicle movements;
- 40 no. heavy goods vehicles per day outside of the peak excavation periods i.e. 80 no. vehicle movements.

To estimate the peak hour input as result of construction activity, a number of factors have been considered as follows:

- Based on the traffic surveys carried out as part of the Traffic Impact Assessment for this project, the peak traffic hours are defined as 08:15 – 09:15 and 16:45 – 17:45;
- The peak excavation period is assumed to be during the basement excavation;

• Site workers travelling by private vehicle will access the site just before the permitted working hours start and leave just after they end i.e. before 08:00 and after 19:00. This means they will be entering and leaving the site outside of peak traffic hours;
• Heavy goods vehicles will be spread across the course of the day and, where possible, scheduled to avoid concurrence with the peak traffic hours, however for the purposes of this assessment this element of construction has been spread evenly across the course of the day including the peak hours;
• The number of excavation heavy goods vehicles is based on a predicted maximum 10 vehicles per hour based on a realistic availability and assignment of resources. This equates to an average of just 1 additional vehicle every 6 minutes;
• Sub-contractor vehicles will be spread throughout the course of the da but for the purposes of this assessment will arrive within the peak hours.

Taking the above in consideration and assuming a worst case scenario of sub contract staff all arriving during the peak hours (noting that this is unlikely as the site will already be open) and as deliveries are expected to arrive to the site throughout the day assuming 10% arrive during the peak hour (again unlikely given that deliveries will be scheduled outside of the peak hours) the below worst case scenario is assumed for the construction stage.

| **Vehicle Type** | **AM Peak** | **PM Peak** | **Daily** | **Trips** |
|---|---|---|---|---|
| Private Vehicles | 0 | 0 | 60 | 120 |
| Subcontract Staff | 40 | 40 | 40 | 80 |
| Excavation Vehicles | 10 | 10 | 100 | 200 |
| Delivery | 4 | 4 | 40 | 80 |
| **Total** | **54** | **54** | **240** | **480** |

*Construction Stage Traffic Estimates*

Given the above, the construction period traffic is estimated as 54 arrivals and 14 departures during the AM Peak and 14 arrivals and 54 departures during the PM Peak. On a daily basis the construction traffic is estimated at 480 vehicle trips. This compares with 25 arrivals and 114 departures during the AM Peak and 107 arrivals and 40 departures during the PM Peak of the operational phase of the proposed development. The daily trip generation estimates for the development operation phase is estimated as 1242 trips.

As can be seen from the above and from the accompanying TTA Report the construction period traffic volumes are considerably lower than the operational phase traffic volumes. This is particularly evident in the daily traffic volumes that shows the construction traffic volumes at only 29% of the operational phase of the development.

It is therefore considered, given the above, that the construction stage traffic will have minimal impact on the surrounding road network.

It should be noted that the above estimates for construction volumes are an absolute worst case scenario for AM and PM Peaks, it is more likely that measures will be used to ensure construction traffic does not significantly negatively impact on these peaks such as scheduling deliveries outside of the peak hours.

The following points are also noted with regard to construction traffic:

- Taking into consideration the need to balance the promotion of sustainable travel against the risk of over spill parking, appropriate and limited on-site provision will be made for car parking by site construction personnel;
- Adequate on-site compounding will be provided to prevent any potential overflow onto the local transport network;
- The potential for construction staff to be brought to the site in vans/minibuses will be investigated. This would serve to reduce the overall trip generation potential of the construction period;
- Delivery vehicles travelling to and from the site will be spread across the course of the working day meaning the number of HGV's travelling during the peak hours will be relatively low.

There is a potential for construction traffic to impact from a noise and dust perspective in relation to the surrounding road network. Construction deliveries to and from the site by heavy good vehicles will impact on noise levels, whilst dust may result from vehicles travelling along site roads and from general earthwork activities. There is also potential for traffic congestion, particularly during the construction of the new signalised junction and also due to increased construction traffic on the road network which may also perform turning movements in areas that impact on traffic. There is a potential for inappropriate parking, particularly along R132 Road whilst vehicles are waiting to access the site. There is also potential for workers to park in the surroundings residential roads.

There is a potential for conflict between construction traffic and pedestrians/cyclists using the existing facilities on R132. There is potential for construction traffic to have a moderate effect on the surrounding environment. However, the duration of this impact will be relatively short-term (i.e. up to four years).

**Operational Stage**

A detailed Traffic and Transportation Assessment (TTA) has been undertaken by OCSC Consulting Engineers as part of this application and is included under separate cover which assesses the impact of the operational stage traffic arising from the proposed development. A total of 6 no. junctions were analysed as part of the TTA which were as follows:-

− Junction 1: Dublin Road/Forest Road/Main Street;
− Junction 2: R132/R125/R132/R836;
− Junction 3: R132/L2305 Nevinstown Lane/L2300;
− Junction 4: Forest Road/L2300/Rathingle Road;
− Junction 5: Forest Road/Hawthorn Road;
− Junction 6: Forest Road/River Valley Road.

The TTA prepared for this application included the recent committed development to the North of the site (ABP Ref 308366-20) together with the proposed new Fosterstown Link Road and the upgrading of the Pinnock Hill roundabout to a signal controlled junction. Junctions North of the Pinnock Hill roundabout along the R132 were not assessed as there are proposals to upgrade the junctions to signal controlled junctions as part of the R132 Connectivity Project which has recently been approved by An Bord Pleanala. In this regard the traffic and transportation assessment undertaken as part of the proposed application for the upgrade of these junctions to signal controlled junctions would have included the development of the subject site together with other development lands in the area.

The results of the overall assessment showed that the proposed development will have a low impact on the operation of the links and junctions in the local network with relatively minor impacts on RFC values despite the conservative assessment with respect to trip generation estimates. Junction 3 is the exception to this but has been shown to experience capacity issues irrespective of the proposed development.

As set out in the accompanying TTA, the TII traffic background traffic growth factors allowed for a 23% increase in light vehicles and 51% increase in heavy vehicles before the proposed development has been added. Background

traffic growth is typically applied to allow for increased traffic due to other developments in the surrounding area meaning there is an element of double counting when allowing for development related traffic and committed development such as the development immediately North of the subject site (ABP Ref: 308366-20). As a result, the background traffic growth in future is considered to be likely overestimated.

The proposed development entrance (temporary left in/left out) has been shown to operate well within normal capacity limits under a left in / left out junction layout and will have no negative impact on the operation of the local road network. Hence, it is considered that it is the most appropriate junction layout to be operated with the minimum impact on the R132 and future Bus Connects/Metro projects.

The introduction of new Pinnock Hill junction is shown in the Do Nothing Scenario and Do Something Scenario is shown to exceed acceptable levels of RFC. As set out in the TTA, this new Pinnock Hill junction layout allows for bus priority measures that will promote sustainable modes of transport over private vehicles as part of BusConnects Strategic Plan. Hence, it is expected that it will have the effect of increasing DOS for general traffic users but will ultimately increase modal share of public transport and potentially subsequently then help to remove private vehicles from the network. The introduction of new Pinnock Hill signal controlled junction will improve the safety and experience of pedestrians through the junction, dedicated pedestrian crossings are proposed on all arms. Similarly the development of the approved R132 Connectivity Project will also improve pedestrian and cycle safety.

During the operational stage of the development there will be increased traffic flows arising from the development however these should not have a negative impact on the surrounding road network.

## 13.7 POTENTIAL CUMULATIVE IMPACTS

The traffic modelling undertaken includes growth in background traffic flows, as described above, which accounts for other developments in the area. The traffic modelling also includes the permitted scheme to the north of the subject site (ABP Ref.: 308366-20)

The increase in traffic volumes as a result of the proposed development together with the committed development to the north and other developments which are accounted from by way of future traffic growth will increase traffic flows on the surrounding road network however the transport assessment carried out by OCSC Consulting Engineers indicates that the increase in traffic flows will not have a negative impact on the existing use of the adjacent junctions and therefore the potential cumulative impacts are considered negligible.

## 13.8 'DO NOTHING' IMPACT

Should the proposed development not take place, the access roads and infrastructure will remain in their current state and there will be no change. Background traffic would be expected to grow over time. Given the location and zoning of the subject site, it is reasonable to assume that a similar development, with a potentially more intensive requirement for vehicular trips would be established on this site at some stage in the future.

## 13.9 AVOIDANCE, REMEDIAL & MITIGATION MEASURES

In order to eliminate or reduce the potential impacts described above, remedial and mitigation measures will be implemented as set out below and in the Construction Management Plan included under a separate cover with this application.

**Construction Stage**

**MA T&T CONST 1: Construction Traffic Management**

- Adequate signposting will be located on site to ensure safety of all road users and construction workers.
- Due to the proximity if the proposed site along well serviced bus routes and being well served by cycle lanes, it is intended to limit construction staff parking and to encourage the use of public transport. A limited number of car parking spaces may be provided for senior construction managers within the development site. Suitable locations in the surrounding area may be identified where staff can park and link to public transportation.
- The main contractor as part of their site set up arrangements, shall appoint a Coordinator responsible for the implementation of a Construction Stage Mobility Management Plan and shall carry out the following tasks as part of their role:
  - Provide an extensive information service for public transport options and routes at a public location(s) within the development for construction workers;
  - Update the public transport information adjacent to the development on on-going basis; and
  - Advise company staff of tax incentives for public transport and bicycles.
- For those wishing to cycle to and from the development, dedicated cycle parking will be provided for the duration of the works within the site. Shower facilities and lockers will also be provided.
- A dedicated “construction site”’ access/egress system will be implemented during the construction phases.
- Hoarding will be set up around the perimeter to prevent pedestrian access.
- Dedicated construction haul routes will be identified and agreed with the local authority prior to the commencement of construction activities onsite.
- A material storage zone will also be provided in the Construction Compound area. This storage zone will include material recycling areas and facilities.
- A detailed Construction and Traffic Management Plan will be prepared by the contractor and agreed with the Local Authority prior to commencing works on site.

**Operational Stage**

**MA T&T OPER 1: Mobility Management**

It is proposed to provide a mobility management plan which will be implemented during the operational phase of the development. This plan will encourage more sustainable modes of transport over the traditional journey by car and will assist in reducing car trips to/from the development. The implementation of a mobility management plan will assist in reducing the traffic and transportation impact of the proposed development on the surrounding road network.

## 13.10 PREDICTED IMPACTS OF THE PROPOSED DEVELOPMENT

**Construction Stage**

There will be additional traffic due to the construction vehicles using the local road network. The impact of this additional traffic has been assessed by OCSC Consulting Engineers in their TTA and they concluded that the impact during construction stage will be minimal.

Mitigation measures outlined above will reduce other potential impacts such as dust, noise etc.

**Operational Stage**

There will be an increase in traffic on the local road network as a result of the proposed development, however, the TTA which has been undertaken as part of this planning application indicates that the impact will be minimal. The implementation of a Mobility Management Plan will encourage residents towards more sustainable modes of transport and will assist in reducing the impact of the proposed development on the surrounding road network.

## 13.11 MONITORING

**Construction Stage**

Traffic management and deliveries will be carefully monitored during the construction stage as part of the Construction Management Plan. The appointed contractor will monitor their mobility management plan to ensure that it is operating effectively.

**Operational Stage**

During the operational stage the Mobility Management Plan will be monitored by the Co-ordinator. The travel survey will establish the initial modal split of travel by residents.

The Co-ordinator, in consultation with the Developer, the Occupiers, and the Local Authority or its agents, will agree annual targets, following completion and analysis of the travel survey, for increasing the percentage of residents traveling by non-car modes.

The Co-ordinator will:

- Meet with officers of the Local Authorities or its agents within a period of 6 months following occupation of the building(s) and thereafter every 12 months to assess and review progress of the Plan and agree objectives for the next 12 months, and
- Prepare and submit to senior management of the Developer, the Occupier(s) and the Local Authorities or its agents, an annual Monitoring Report.

## 13.12 REINSTATEMENT

Reinstatement is not applicable to this chapter.

## 13.13 INTERACTIONS

**Construction Stage**

There is a potential interaction with human health during the Construction Phase due to noise, dust, air quality and visual impacts which are discussed in the relevant chapters of this EIAR. In addition, temporary traffic management will be required to facilitate connections to existing utilities in the existing roads.

The traffic impacts, which would also be temporary in duration are not considered to be significant due to the implementation of the mitigation measures identified in Section 13.10.1.

**Operational Stage**

Noise and air impacts generated by increased traffic flows have been assessed in the Air and Noise Chapters of the EIAR.

## 13.14 DIFFICULTIES ENCOUNTERED IN COMPILING

There were no difficulties encountered.

## 13.15 REFERENCES

In preparing this report, Waterman Moylan Consulting Engineers have referred to:

- Traffic Impact Assessment by O'Connor Sutton Cronin & Associates Multidisciplinary Consulting Engineers (OSCS) submitted under a separate cover,
- The Traffic Management Guidelines,
- Guidance on Transport Assessment,
- Design Manual for Urban Roads and Streets,
- Fingal County Development Plan 2017-2023,
- Fosterstown Masterplan 2019,
- Project Appraisal Guidelines for National Roads – Unit 5.3 Travel Demand Projections Link-Based Growth Rate; Annual Growth Factors,
- Chartered Institute of Highways and Transportation "Traffic and Transportation Assessment Guidelines",
- Greater Dublin Area Cycle Network Plan – National Transport Authority (NTA),
- Sustainable Urban Housing: Design Standards for New Apartments – Guidelines for New Apartments – Department of Housing, Planning and Local Government – December 2020.