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INXN DUB15/16

Traffic and Transport Assessment & Mobility Management Plan

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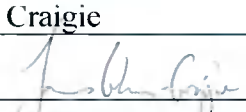
		Signature			
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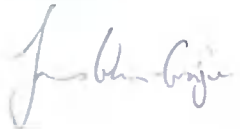
		Signature			
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1 Introduction

Arup has been appointed by Digital Netherlands VIII B.V. to prepare a Traffic and Transport Assessment and carry out a review of the transportation implications of the proposed development at Profile Park, Nangor Road, Clondalkin, Dublin 22. This document supports a full planning application to South Dublin County Council for the construction of a two data centre buildings, referred to a DUB 15 and DUB 16, on site energy generation, site support infrastructure and all other associated works.

This report presents the characteristics of the transportation networks in the surrounding area, outlines the transport-related aspects of the proposed development, estimates the projected increase in traffic associated with the proposed development, presents the projected change in traffic flows and conditions on the immediate road network and presents a set of mitigation measures needed to minimise the impact the development proposal may have on the receiving environment

This report also sets out a framework mobility management plan, aiming at promoting the use of sustainable modes of transport among staff, that can be put in place once the development is occupied and operation.

2 Receiving Environment

2.1 Site Location

The 6.181ha site of the proposed development is located in Profile Park, Nangor Road, Clondalkin, Dublin 22, within the administrative boundary of South Dublin County Council, as shown in **Figure 1**. The site is a mixture of a brown and green field site with two existing data centre buildings, as well as associated yard and car park.

The site is bounded by Grange Castle Golf Course to the east and undeveloped land to the north and west and agricultural land to the south. The site is accessed from the north from the roundabout junction of Profile Park and the R134 New Nangor Road. The surrounding area is an industrial business park, including data storage centres and warehouses.

Figure 1: Proposed Development Site Location and Surrounding Road Network [Base map source: Google Maps]

2.2 Road Network and Access

Roads in the Republic of Ireland are classified as motorways, national (primary and secondary), regional and local roads. Transport Infrastructure Ireland (TII) has overall responsibility for the planning and supervision of the construction and maintenance of motorways, national primary and national secondary roads. The local authorities have responsibility for all non-national roads. The hierarchy of road types throughout Ireland is outlined in **Table 1** below.

The principal road links in the vicinity of the proposed development are the following and are shown in **Figure 1**.

Table 1: Road hierarchy

Road Category	Description
Motorways	These are high quality multiple lane roads with limited grade separated junctions. They are high speed (120kph) roads predominantly provided to facilitate strategic traffic, with reduced journey times.
National Primary Roads	These are predominantly single carriageway, with some that are dual carriageway. Generally high speed (100kph) roads they also facilitate strategic traffic, with reduced journey times.
National Secondary Roads	These are medium distance through-routes connecting important towns, serving medium to large geographical areas and links to primary routes to form a homogeneous arterial network.
Regional Roads	Predominantly single carriageway roads of regional and local importance. These receive higher priority in maintenance criteria than Local Roads; hence tend to be structurally sound.
Local Roads (Primary, Secondary and Tertiary)	The local road system is operated in three tiers defining local importance, usage and maintenance priorities. They form a network of single carriageway roads of varying quality.

2.2.1 The N7/M7

The N7 (Naas Road) is a national primary road that becomes a motorway (M7) outside Naas, Co. Kildare. It is the main intercity route that connects Dublin with Limerick while also providing connectivity to other cities such as Cork (via the M8) and Kilkenny and Waterford (via the M9).

The national road standard section is approximately 21km long. The N7 section of the road is a dual-carriageway and has three lanes in each direction. The N7 is a key regional route in terms of providing access to the site from the south-east.

2.2.2 R134 (New Nangor Road)

The R134 (New Nangor Road) runs in the east-west direction, connecting the R120 (to the east) with the Naas Road at the Long Mile Road (to the west). The first 1.3km section of the road (near the R120) was recently upgraded and realigned, including a new junction with Baldonnel Road

The R134 section of the road is a single carriageway with one lane in each direction. The R134 section of the road includes cycle lanes in most parts along it. There are also pedestrian facilities along both sides.

2.2.3 R120 (Peamount/Adamstown Road)

The R120 (Peamount/Adamstown Road) is a regional north-south route connecting the N7 with the N4 via Newcastle that has a junction with the R134 New Nangor Road. The section of the road near this junction is a single carriageway with one lane in each direction.

North of the junction with the R134 New Nangor Road, the R120 has recently been upgraded and re-aligned, with a cycle track and pedestrian walkway provided on both sides of the road.

2.2.4 R136 (Grange Castle Road)

The R136 (Grange Castle Road) is a regional north-south route connecting the N81 with the N4 across the N7. This road intersects with the R134 to the north east of the site of the proposed development. The section of the road near this junction is a dual carriageway with two lanes in each direction, with segregated cycle lanes in each direction.

2.2.5 Profile Park Road

Profile Park Road is a local road that provides access to Google PPK Data Centre Campus / Digital Realty Profile Park from the R134. The road is a single carriageway road with one lane in each direction, with cycle lanes in each direction in form of segregated cycle lanes.

Access to the proposed development site will be provided on this road, as shown in **Figure 2**. The road is sufficiently wide to accommodate two-way traffic, including construction vehicles

Figure 2: Site Access Road and Profile Park Road [Base map source: Google Maps]

2.3 Pedestrian Accessibility

Pedestrian facilities in the site vicinity of the site are of good quality with footpaths provided on most of the surrounding roads. The R134 New Nangor Road, the R136 Grange Castle Road, Profile Park Road, and the local road leading the development site all have pedestrian facilities provided on both sides of the road.

Formal crossing facilities are provided on all arms at the signalised junctions of the R134/R136 and at the R134/R120 Road junction. On the R134 / Profile Park Road roundabout , there is only one dedicated pedestrian crossing facility across the Profile Park Road arm.

The pedestrian accessibility of the site is presented in **Figure 3**. It shows the 5, 10, 15 and 20-minute walking catchment for the proposed development site. As the catchment map show, the roundabout junction of Profile Park Road and the R134 with within the 10-minute walking catchment. The 20-minute catchment allows pedestrians to reach as far as the R136. The Bus routes mentioned in Section 2.5 all have bus stops with in the 15-minute walking catchment.

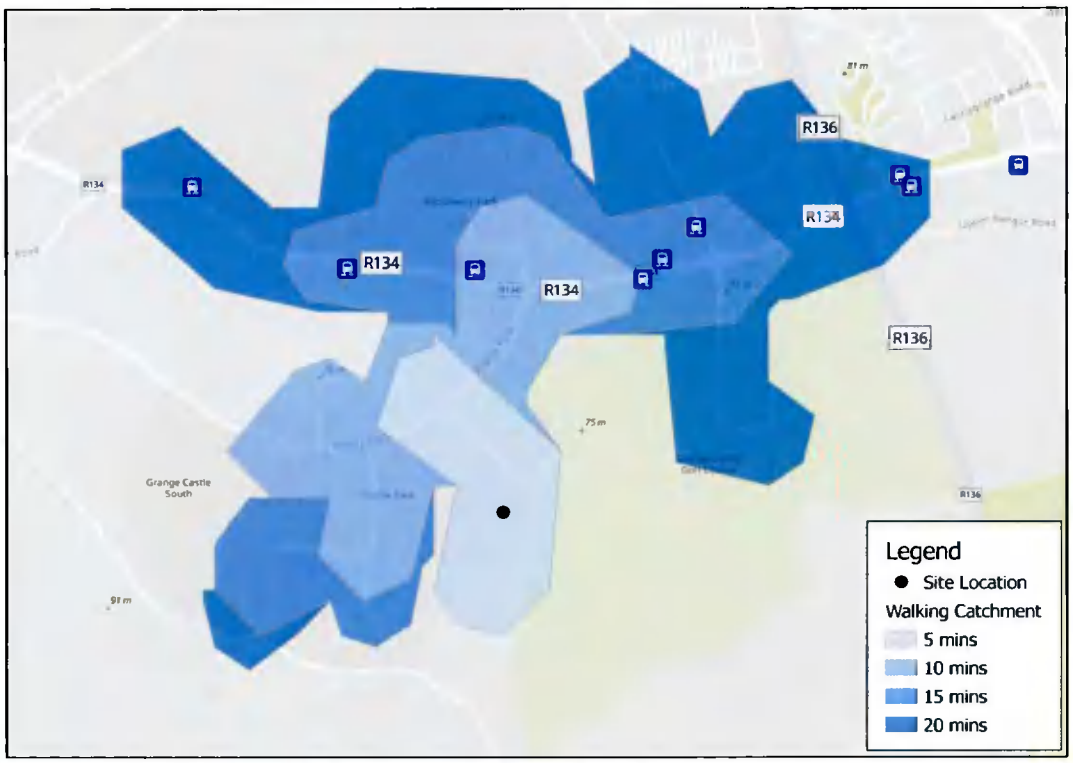

Figure 3: Walking Catchments for the Proposed Development [Base map source: GIS]

2.4 Cyclist Accessibility

Cycling facilities in the vicinity of the site is are of good quality and are continually being improved. The R134 New Nangor Road has two-way cycle lanes along the majority of its sections. The R136 Grange Castle Road to the east has segregated cycle lanes in each direction. To the west of the proposed development, the R120 Adamstown Road has recently been upgraded with segregated cycle lanes in each direction. On the local road leading the development site, Profile Park Road, segregated cycle lanes are also provided in each direction.

The cycling accessibility of the site is presented in **Figure 4.** It shows the 5, 10, 15 and 20-minute cycling catchment for the proposed development site, the 5-minute cycling catchment is approximately the same area as the 15-minute walking catchment. As the catchment map shows, the 15-minute walking catchment reaches as far as Clondalkin to the east and Junction 2 of the N7 to the south. The 20-minute catchment reaches as far as the M50 to the east and Liffey Valley to the north in **Figure 4**.

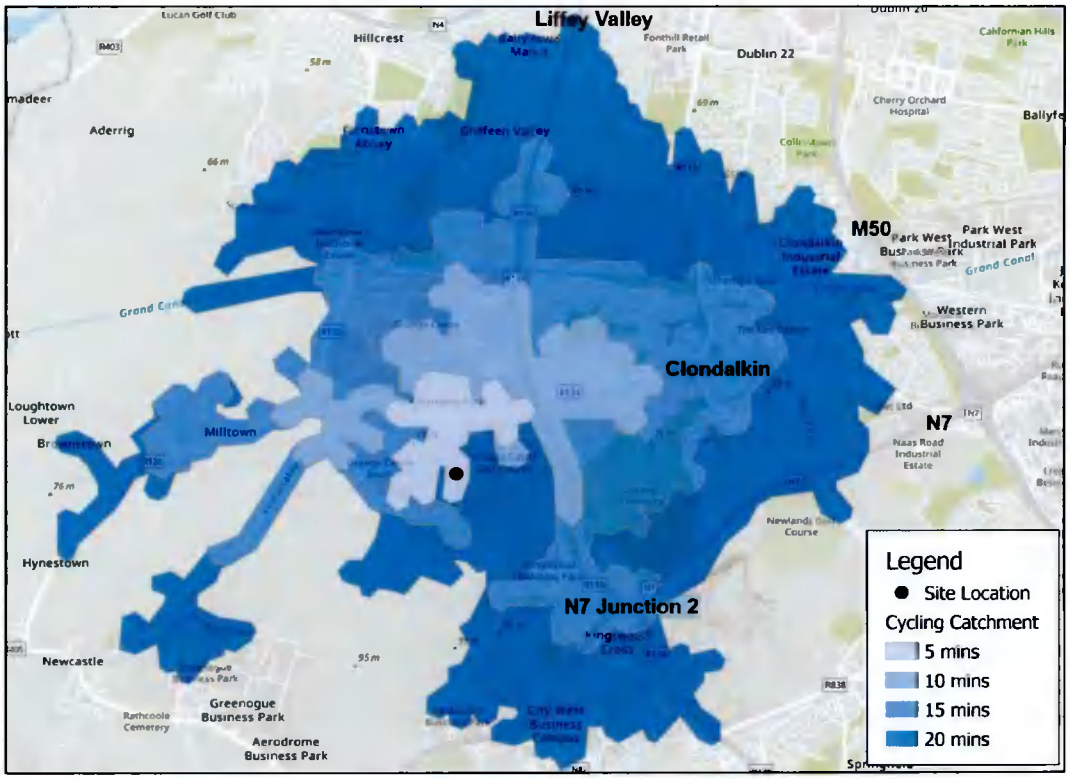

Figure 4: Cycling Catchments for the Proposed Development [Base map source: GIS

2.4.1 Greater Dublin Area Cycle Network Plan

The Greater Dublin Area Cycle Network Plan, published by the National Transport Authority in 2013, outlines the existing and proposed primary, secondary, inter-urban and greenway routes in the wider Dublin area, including where the proposed development is located.

With focus on this area, the Plan sets out a series of enhancements to existing cycle routes, in addition to new cycle routes in vicinity of the site. Secondary routes are identified in the plan along the R134 (route 8C2), R120 (route SO7) and R136 (route SO6) as presented in **Figure 5**.

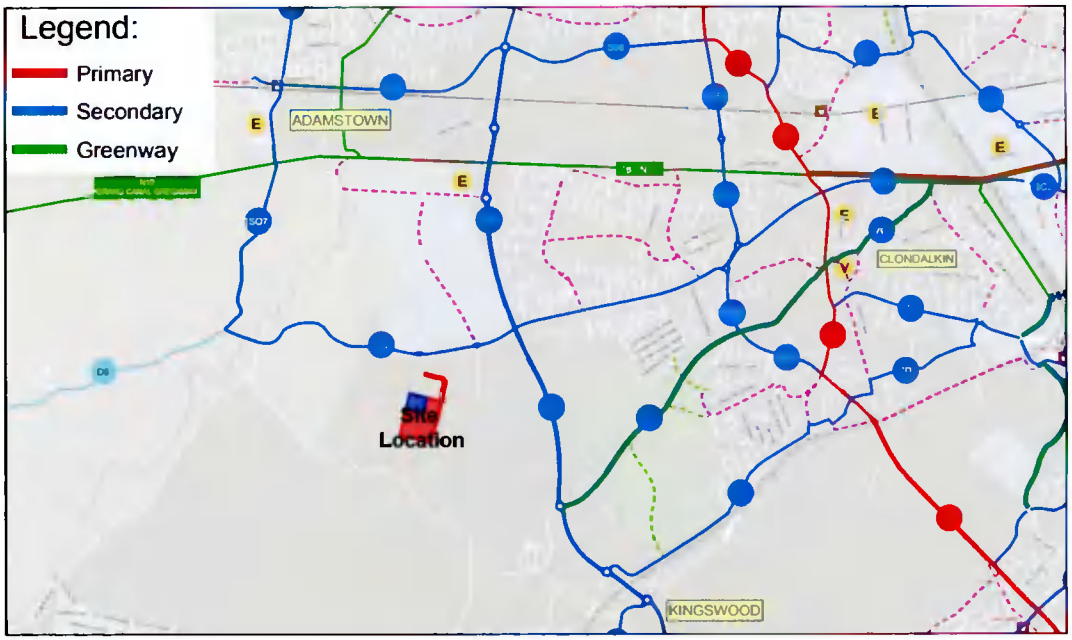

Figure 5: Greater Dublin Area Cycle Network Plan [Source: NTA]

2.5 Public Transport Accessibility

2.5.1 Bus

Access to the site by public transport is relatively limited, there are four bus routes, with stops located within reasonable walking distance from the site. The nearest bus stop is located on R134 New Nangor Road less than a 10-minute walk from the site. Additional bus routes operate from the Grange Castle Business Park Access Road, less than a 15-minute walk from the site. The bus services are listed in **Table 2** below, and **Figure 6** illustrates the bus routes with respect to the site.

Table 2: Local Bus Services

Operator	Route Number	Route	Peak Hour Frequency
Dublin Bus	68	Hawkins Street to/from Greenoge	Every 30 minutes
	68X	Poolbeg Street - Greenoge	One service a day
	13	Harristown Bus Garage - Business Park Bus Terminus	Every 10-15 minutes
	151	Docklands - Foxborough	Every 15-20 minutes

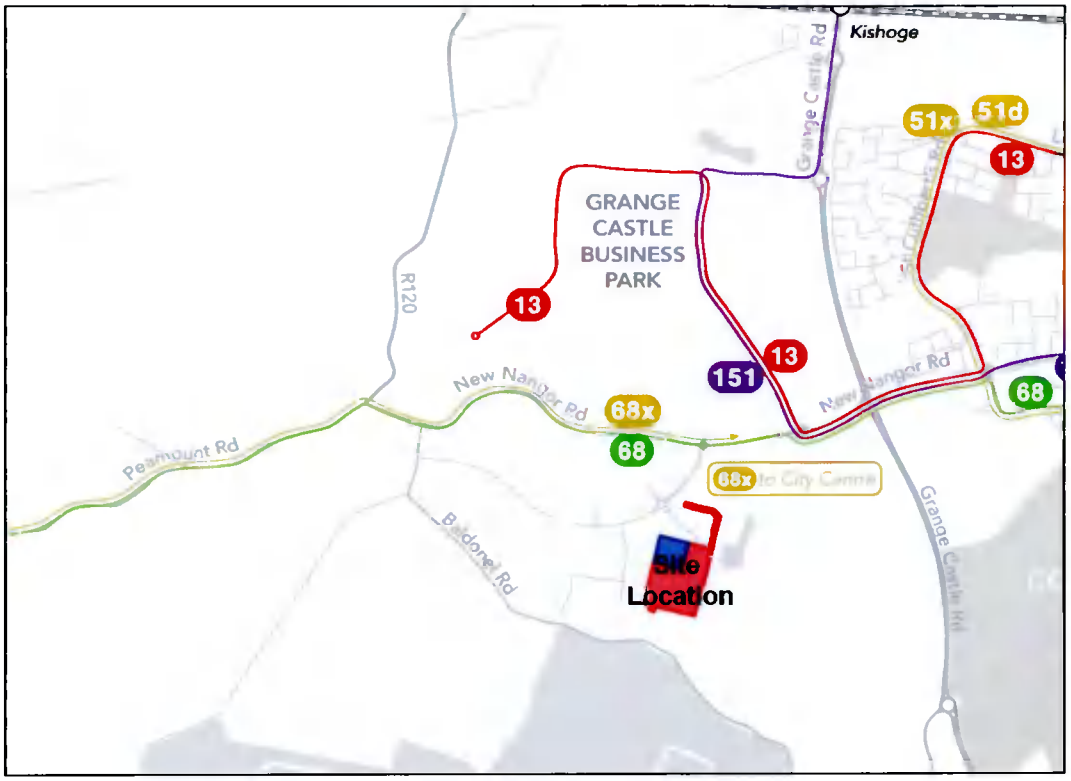

Figure 6: Existing bus network [Source: BusConnects]

The public transport accessibility map of the site for 15, 30, 45 and 60-minute catchments during the AM peak (arriving at the site at 09:00) is presented in **Figure 7**.

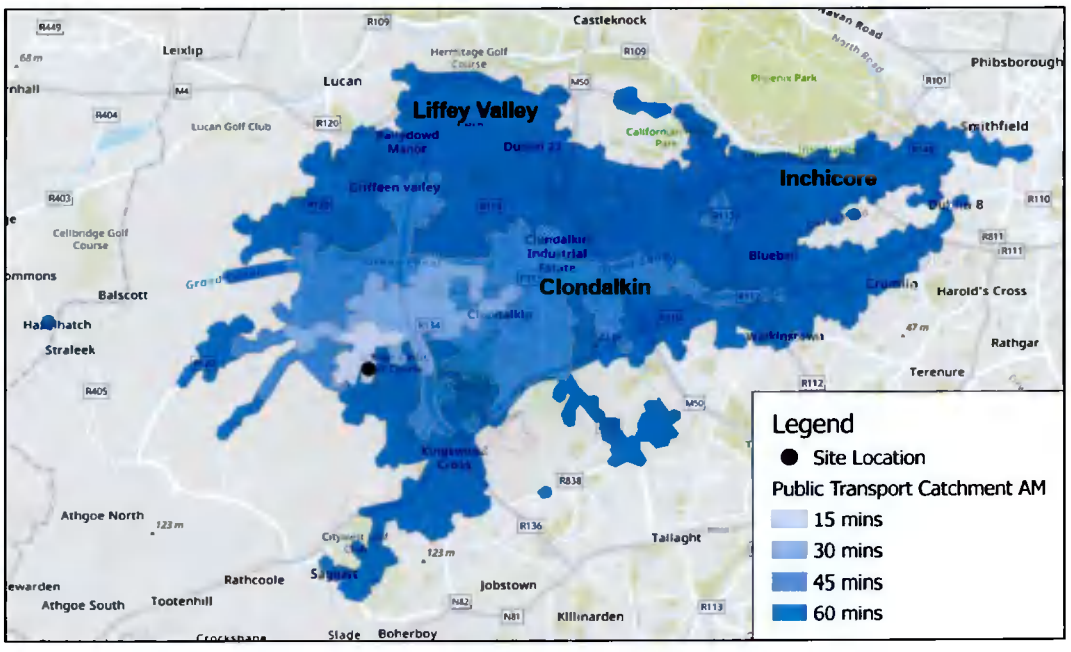

Figure 7: Public Transport Catchment arriving at the site at 09:00 [Base map source: GIS]

Figure 7 catchment maps demonstrate how accessible the proposed development site is in terms of public transport. The maps plot 15-minute journey time contours to and from the site including time taken walking to a public transport stop, wait time, and the subsequent journey. During the AM peak, Dublin City Centre, Inchicore and Liffey Valley are accessible on Public Transport within 60 minutes, however this includes a 15-minute walk to the site location from the nearest public transport stops.

2.5.1.1 BusConnects

The BusConnects scheme is a proposed overhaul of the bus network in the GDA. It proposes several high frequency bus spine routes, as well as localised branch routes.

Under the current proposal, two routes are proposed along the R134 New Nangor Road (Route L56 and X56). The X56 would be peak time route while the L56 would be a local route. Orbital route W4 and branch route D1 are also planned on the Grange Castle Business Park Road. Both services will be located within 15-minute walk time, which is a reasonable walking catchment.

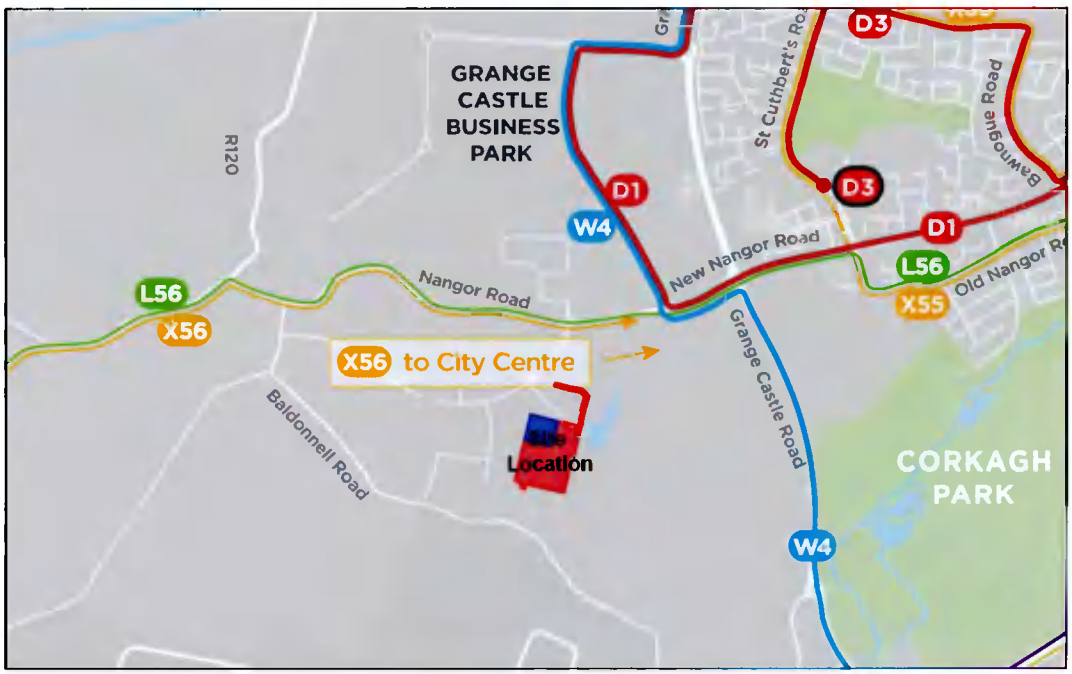

Figure 8: BusConnects Proposed Network in the Site Vicinity [Source: BusConnects]

2.5.2 Rail

The closest station to the site is Adamstown (Dublin to Cork train line) approximately 5km away. This would be outside a reasonable walking distance to the proposed development.

2.6 Existing Traffic Volumes

Data obtained from South Dublin County Council (SDCC) planning application website was used to understand general traffic volumes/trends on the road network close to the site. Traffic Data from planning application Ref: SD20A/0124 for a warehouse development in close proximity of the site, which was granted permission in 2020 was used. The traffic data was initially collected in 2015 and growth up to reflect traffic volumes in 2020.

The traffic data was obtained from a junction turning count survey undertaken at the Profile Park Road/R134 New Nangor Road Roundabout.

Table 3: Approximate Peak Traffic Volumes at Junction of Profile Park Road and R134

Road	AM Peak (08:00 - 09:00)	PM Peak (17:00 – 18:00)
Kilcarbery Park Access Road	200 vehs	200 vehs
R134 (WB)	1,150 vehs	1,000 vehs
R134 (EB)	1,250 vehs	1,100 vehs
Profile Park Road	30 vehs	20 vehs
Total	**2,630 vehs**	**2,320 vehs**

As can be seen from **Table 3**, traffic volumes on all links of the junction during both the AM peak hour and PM peak hour were similar, with the largest volume on the R134 carrying of 2,400 no. vehicles during the AM peak and 2,100 no. vehicles during the PM peak.

2.7 Existing Buildings on Proposed Development Site

The site for the proposed development is presently occupied by two data centre buildings with associated car parking. They were built as part of a 2011 planning application (Reg. Ref: D11A/0023). These buildings will be retained as part of the proposed development.

The existing campus has 45 car parking spaces and 20 cycle parking spaces for the use of its employees, however the 19 spaces to the south of the existing campus will be utilised for the use of DUB 15/16 as they are not used as park of the existing campus operation.

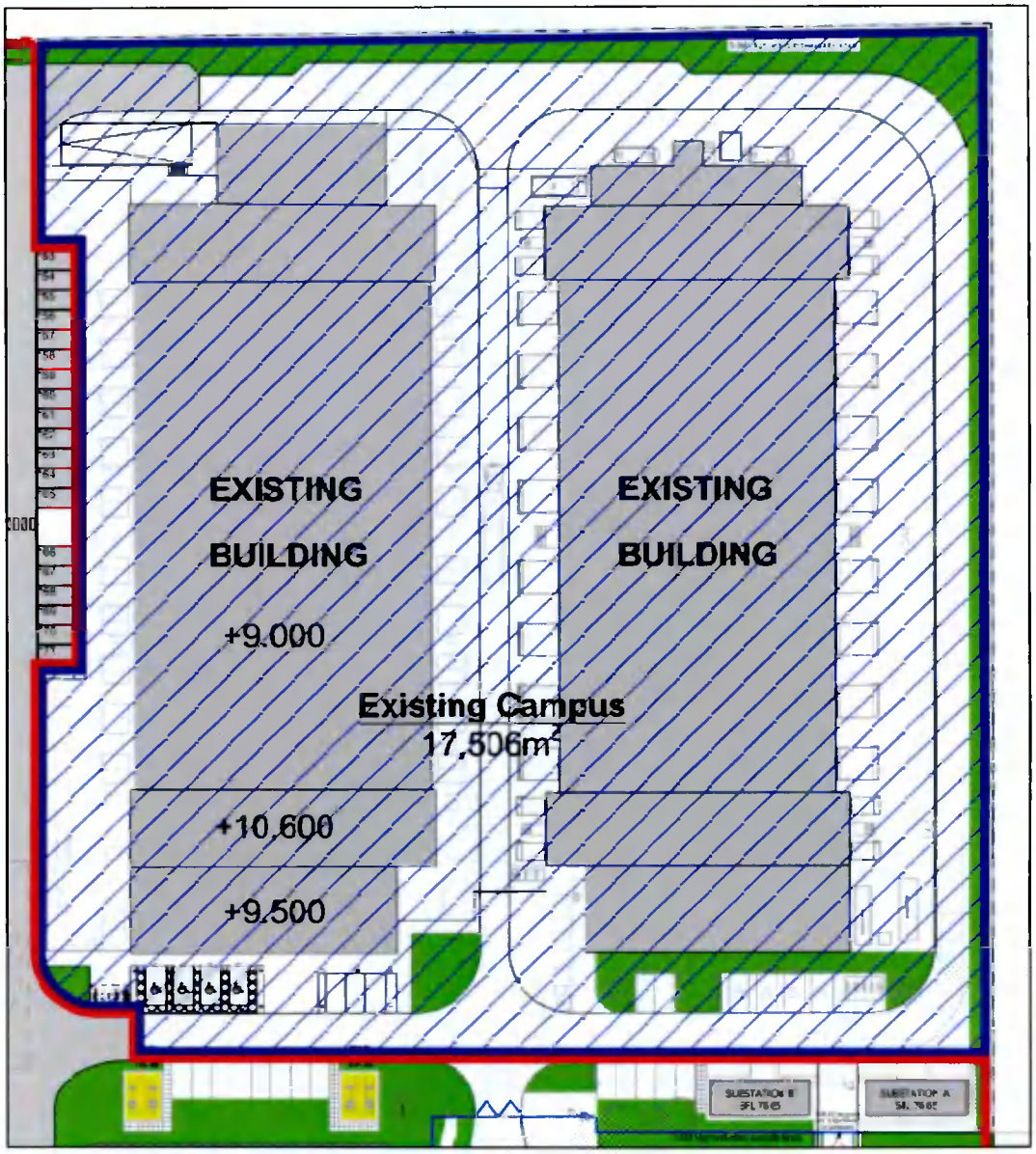

Figure 9: Existing Campus

3 Proposed Development

3.1 Description of the Proposed Development

The proposed development, shown in **Figure 10** consist of the following elements.

10-year permission for the following development: Removal of an existing unused wastewater treatment facility on site and the erection of two data centre buildings, gas powered energy generation compound, and all other associated ancillary buildings and works. The two data centre buildings, DUB 15 and DUB 16, will comprise a total floor area of c. 33,577m^2 over two storeys. The first 2 storey data centre building (DUB15), located to the south west of the site, will comprise 16,865m^2 data storage use, ancillary office use and associated electrical and mechanical plant rooms, loading bays, maintenance and storage space. A second 2 storey data centre building (DUB16), located to the south east of the site, will comprise 16,712m^2 data storage areas, ancillary office use and associated electrical and mechanical plant rooms, loading bays, maintenance and storage space. Both data centre buildings will reach a height of 20m. Emergency generators and associated emission flues and plant are proposed in compounds adjacent to each data centre building. Gas powered energy generation is proposed to the north east corner of the site to provide electricity for the proposed development. The application proposes to re-route and widen an existing watercourse constructed following an earlier planning permission. It is proposed to reroute this watercourse along the eastern and southern boundary of the site. Landscaping is proposed to the south of the site to screen the buildings. Fencing and security gates are proposed around the site. New access roads within the site are proposed along with 71 car parking spaces and 26 cycle spaces, bin stores, site lighting, and all associated works including underground foul and storm water drainage attenuation and utility cables and all other ancillary works. A Natura Impact Statement will be submitted to the planning authority with the application.

It is expected that the proposed development will employ up-to 118 full time staff between the two buildings at one time when operational, plus a small number of part-time staff.

Figure 10: Master Plan Layout of Proposed Development

3.2 Car Parking

The South Dublin County Development Plan 2016-2022 sets out the maximum number of car parking spaces for each type of development. There is no specific standard for the proposed land use (i.e., data centres), however a similar use would be 'enterprise and employment – warehouse' as it has a similar type of employment density. This would allow for a maximum of 1 car parking space per 100m² Gross Floor Area (GFA). The office space in the two buildings would be categorised as 'enterprise and employment – office', which would allow for a maximum of 1 car parking space per 50m² GFA.

On the basis of the above standards, the maximum number of car parking spaces allowed on the site is presented in **Table 4**.

Table 4: SDCC Maximum Car Parking Standards

Land Use: Enterprise and Employment		Standard	GFA	Total Spaces Required
Warehouse	DUB 15	1 per 100m²	14,747m²	147
	DUB 16		14,609m²	146
Offices	DUB 15	1 per 50m²	2,120m²	42
	DUB 16		2,101m²	42
		Total	**33,577m²**	**377**

The maximum number of car parking spaces suggested by the South County Dublin development standards is 377 spaces, however it is anticipated that only

118 staff will be employed when the development is operational, which would not require such a high quantum of parking.

In this case, it is considered more appropriate to calculate the parking requirement based on a mode split of 60% car drivers, equating to 71 car parking spaces being on the site. 19 of the 71 car parking spaces being provided will be provided for with in the boundary of the existing campus, as these spaces are currently not used as part of the operation of the existing campus.

The South Dublin County Development Plan also states that disabled parking needs to be provided as a percentage of to the total number of car parking spaces, this is percentage is not stated in the Development Plan but best practice of 5% has been applied in this situation. This would equate to 4 disabled spaces being provided, as part of the proposed development.

Electric vehicle (EV) parking also needs to be provided; the Development Plan states that this should be provided at a rate of 10% of total number of parking spaces, this would equate to 8 EV spaces being provided, as part of the proposed development.

The car parking spaces will be located to the north of DUB 15 in a perpendicular arrangement, and in a car park north of DUB 16 in a perpendicular.

3.3 Cycle Parking

The South Dublin County Development Plan 2016-2022 sets out the minimum number of cycle parking spaces that each type of development needs to have. There is no standard for the proposed land use (i.e., data centres), however a similar use would be 'enterprise and employment – warehouse'. This would require a minimum of 1 cycle parking space per 200m^2 GFA. The office space in the two buildings would be categories as 'enterprise and employment – office', which would require a minimum of 1 cycle parking space per 200m^2 GFA. The minimum number of cycle parking spaces required on the site is presented in **Table 5**.

Table 5: SDCC Minimum Cycle Parking Standards

Land Use: Enterprise and Employment		Standard	GFA	Total Spaces Required
Warehouse	DUB 15	1 per 200m^2	14,747m^2	74
	DUB 16		14,609m^2	73
Offices	DUB 15	1 per 200m^2	2,120m^2	11
	DUB 16		2,101m^2	11
		Total	**33,577m^2**	**169**

The minimum number of cycle parking spaces suggested by the Development Plan standards is 169 spaces, however it is anticipated that only 118 staff will be employed when the development is operational, this number of staff would not require such a high quantum of cycle parking.

Therefore, it is considered more appropriate to calculate the cycle parking requirement based on a mode split of 22% cyclists, equating to 26 cycle parking

spaces being on the site. These spaces will be provided in the form of 13 Sheffield stands, to the north of the DUB 16 building, beside the access road.

Lockers and changing facilities are provided on the site, each building will have its own facilities.

3.4 Vehicular Access

The site will be accessed from the north of the development using the existing road that connects with the roundabout with Profile Park Road and on to the R134, shown in **Figure 2**. The internal road network will consist of the site entrance road as well as an access leading around the back of the of both the DUB 15 and DUB 16 building, there will also be a road between the buildings. Cars will be able to use these roads but will predominately be used by service vehicles.

Deliveries, waste collection and emergency vehicles will also access the development via the same route. The road that runs around the back of the two buildings will be used for deliveries, waste collection and emergency vehicles.

3.5 Construction Stage

The construction stage of the proposed development includes the following components, described further in Construction Management Plan.

Phase 0 – Mobilisation & Site Establishment:

Phase 1&2 – DUB 15 + Energy Centre:

- Enabling Works,
- Bulk Earthworks and Underground Services,
- DUB 15 Construction,
- DUB 15 Fit-out,
- Energy Centre Construction,
- External Areas.

Phase 3&4 – DUB 16:

- Enabling Works,
- Bulk Earthworks and Underground Services,
- DUB 16 Construction,
- DUB 16 Fit-out,
- External Areas.

It is anticipated that, following grant of planning permission, construction of the development will commence within three to four months. The construction is likely to commence by the end Q4 2021. It is anticipated that the development will take approximately 60 months to be completed and be occupied by Q3 2026.

The quantity of excavated material to be removed from the site will be a maximum of 85,000m^3, it has been robustly assumed that 80% of the total excavated material will be taken off site at the beginning of Phase 1. The maximum volume of imported material will be approximately 79,000m^3. The arrival and departure of these materials will not coincide. This is expected to be the most onerous period of construction from a traffic generation point of view.

The typical working hours on the site will be 07:00-18:00 Monday to Friday and 08:00-14:00 Saturday. It may be necessary, in exceptional circumstances, to work outside of these hours at night and at weekends during certain activities and stages of the development. These exceptions will be agreed in advance with SDCC and advertised in advance to relevant stakeholders. Construction workers will typically arrive to the site and depart from the site outside network peak hours, thus having negligible impacts of the road network during peak hours.

The access to the proposed development site during the construction phase will be the existing site entrance from Profile Park Road and the R134.

3.6 Operational Stage

During the operation stage of the proposed development, the data centre will run 24 hours-a-day, 7 days-a-week and it is anticipated that the number of staff working on the site will be up-to approximately 118 employees at one time. This is split between the two data centre buildings, each building will have approximately 9 employees working in the data centre and 50 employees working in each building's office, with a total of 59 employees per building. 71 car parking spaces will be provided to accommodate a modal split for cars of 60%.

The typical working hours of the office component of the development will be 07:00-17:30 Monday to Friday. There will also be security on the site 24 hours a day.

A limited number of other data centre associated activities will also take place on the site, such as maintenance, waste collection and deliveries. These activities are expected to generate only a small number of trips during the day.

4 Traffic Impact of the Proposed Development

4.1 Construction Traffic Impact

Construction traffic will be generated from a number of sources during the proposed development construction period, primarily associated with:

- Construction staff and site visitors;
- Materials removal and delivery; and
- Equipment delivery.

The most onerous period during construction stage is likely to be during the excavation and groundworks phase, before the construction of the DUB 15 building commences. During this period, it is anticipated that less than 10 two-way HGV movements and less than 10 LV movements will be generated during the network peak hours.

The majority of the construction workers will be arriving to and departing from the site outside of network peak hours, thus not having any notable impact on the road network during peak periods. Any impact the construction stage will have will be of a short-term nature. It is expected that the construction stage will generate less traffic during the peak hours than the operational stage.

As the construction phase will generate less traffic than the operational phase during the peak hours, the operational phase is considered to represent the worst-case scenario. This assessment has therefore concentrated on assessing the projected impact associated with the operational traffic of the development.

4.2 Operational Traffic Impact

Operational traffic will be generated mostly by employees, with a small number of other trips to the site also occurring such as deliveries, maintenance and waste collection. It is expected that 118 staff will be employed in on the site with a car (driver) mode share of 60% (71 staff).

Robustly assuming that 80% of these arrive during the AM peak and 70% depart during the PM peak, this equates to 57 vehicles arriving to the site during the AM peak and 50 vehicles departing from the site during the PM peak.

A comparison of the operational traffic generation of 57 and 50 vehicles during each of the peak hours to the peak hour traffic data for the junction of Profile Park Road with the R134 is presented in **Table 3**. During the AM peak the volume of traffic moving through the junction is 2,630 vehicles, adding an additional 57 vehicles would increase the volume on the junction by 2.2%.

During the PM peak, the volume of traffic moving through the junction is 2,320 vehicles, and therefore the addition of 50 vehicles would increase the volume on the junction by 2.2%, the increase is summarised in **Table 6**.

It is clear that the additional trips generated by the operation of the proposed development will have no notable impact on the operation of this junction.

Table 6: Profile Park Road/R134 Traffic Volume Increase

Junction: Profile Park Road/R134	2020 Base	Development Traffic	Base + Development
AM Peak (08:00-09:00)	2,630 vehs	57 vehs	2,687 (+2.2%)
PM Peak (17:00-18:00)	2,320 vehs	50 vehs	2,370 (+2.2%)

The percentage increase in traffic on this junction is during the AM and PM peaks is less than 5%, therefore the junction does not meet the requirement to be assessed further using junction capacity analysis software.

5 Mobility Management Plan (MMP) Framework

5.1 Introduction

A key objective of the development will be to promote sustainable access by all modes of transport. To achieve this goal, a Mobility Management Plan (MMP) should be created for the proposed development setting out measures to achieve.

The proposed development should have a MMP prepared as and when the occupiers are known. This MMP will be based upon the collection of travel data from employees through a Travel Survey. At this stage, and for this reason, it is not possible to prepare a full MMP, but it is important to set out the aims and potential contents of such plans.

The primary objective of the MMP should be to contribute to sustainable transport by optimising the existing transportation infrastructure, reducing car dependency, and creating awareness of alternative modes of transport.

The MMP should emphasise and promote sustainable travel options through the development of planning and operational stages for the benefit of all end users and thereby to achieve the modal split targets for the building and support a limited provision of car parking.

The MMP should set-out the methodology and approach that each commercial occupier will take in order to promote sustainable travel options amongst their workforces.

5.2 MMP Management

5.2.1 MMP Coordinators

It is recommended that an MMP Coordinator is nominated to oversee the development and implementation of the MMP.

A key objective of the MMP should be co-ordinating with the occupiers, including the existing campus, to ensure that they are striving towards the targets set in the MMP.

- To develop and support a culture of sustainable travel into and within the site;
- To raise awareness of sustainable transport issues among employees;
- To act as a single point of contact for all queries relating to the MMP and transport issues in the area and to centrally coordinate the MMP initiatives;
- To coordinate the development and implementation of the MMP;
- To liaise with the National Transport Authority programme and channel learning and resources from the national Smarter Travel Workplace programme to the area;

- To liaise with external bodies and local public transport operators on transport issues in the area;
- To promote smarter travel events in the area in conjunction with the Steering Group; and
- To coordinate the monitoring and reporting of the MMP progress towards achieving targets, setting clear dates for actions to ensure that the MMP makes progress.

5.2.2 Communication and Marketing

An on-going communication strategy will ensure that the initiatives being implemented are promoted to employees. Events and initiatives will be promoted through a range of marketing means:

- Posters in breakout/common areas;
- Circulation of emails to notify staff and residents of specific events;
- Induction Manual containing information on all travel options available to staff;
- Organise and participate in wellness programmes (i.e., group walks, sponsored cycles, Pilate/yoga classes, etc.) to create a culture of wellbeing within the workplace which can also be extended to commuting patterns (i.e., walk/cycle);
- Organisation intranet will contain a section on travel to work which will be maintained and updated with relevant initiatives; and
- Quarterly newsletters will notify staff of any transport related changes coming up (additional bus routes/stops, new cycle parking locations etc.) and promote upcoming events. It will also report on events held in the previous quarter.

5.3 Travel Survey

Within six months of occupation of the proposed development a travel survey should be undertaken to determine a baseline transport modal split. This will allow baseline travel patterns to be established and targets to be set and will also be a forum for staff to comment on any issues relating to their commute. Following this, a travel survey will be carried out annually.

5.4 Action Plan

The MMP Coordinator will oversee the promotion and implementation of promotional measures as outlined in the non-exhaustive list below, as well as setting a timeline and targets for the actions.

The MMP should set-out a number of mobility management measures that are relevant to the development. **Table 7** below list a selection of employment measures that are considered applicable to the development.

Table 7: Action Plan - Promotional Measures

Cycling
Conduct a site audit to gauge ease of access for cyclists coming on-site.
Survey and improve cycle parking to encourage cycling to the site and cater for increase in demand.
Survey and improve cyclist' (and walkers') changing/storage/locker/shower facilities to encourage cycling and cater for demand.
Provide a drying room for cyclists to air cycling clothes.
Introduce a Cycle to Work scheme and promote through in-house bike displays from suppliers.
Organise a Bike Maintenance class.
Provide Cyclists' equipment (pump, puncture repair kit etc.).
Display local area maps for cyclists/walkers interested in local routes.
Participate in National Bike Week events.
Provide fleet bikes for employees for business purposes.
Arrange tours of cycling facilities for interested / new employees.
Public Transport
Introduce & promote Tax Saver monthly & annual commuter tickets for public transport. Highlight potential savings to employees.
Walking
Promote walking through organised walking events / lunchtime walks.
Participate in an annual Pedometer Challenge.
Offer in-house health checks for people interested in getting more active.
Leave umbrellas at reception for employees to borrow on wet days.
Business Travel
Introduce a Travel Allowance that includes modes other than the car e.g., walking, cycling, public transport, car-sharing, drive-alone car.
Re-examine overall business travel policy to incentivise alternatives to the single occupancy vehicle.
Make Smart Cards for public transport available for people to borrow when doing business travel (if applicable).
Technology-Assisted Trip Reduction
Publicise sustainable transport options on the company website.
Other
Develop and brand a marketing & communications plan.
Introduce an incentive scheme for commuters.

Include travel information in employee induction packs and online in an easily accessible location on your organisation's intranet.
Introduce parking management measures, e.g., permit parking, paid parking, or needs-based parking policies

5.5 Monitoring and Review

An annual review will be carried out on each of the MMP targets and action plan to assess progress.

Travel pattern data will be obtained by undertaking a survey of existing travel patterns (including at participating occupiers). A fundamental part of the Plans is monitoring to determine progress, identify problem areas and initiate corrective measures to ensure targets are achieved. This monitoring programme will be carried out on an on-going basis.

The basic procedure will consist of:

- Reviewing the implementation of the different MMP measures;
- Carrying out a travel survey;
- Controlling the achievement of the different targets;
- Proposing corrective measures if needed; and
- Informing South Dublin City Council about the implementation and progress on the MMP.

6 Conclusion

The proposed development has undergone a Traffic and Transport Assessment whereby the varying elements of construction and operational activity have been identified and assessed to establish the impact that the proposed development may have on the receiving road network.

The proposed development will employ up-to 118 additional staff at one time once operational. Traffic associated with the operational phase of the proposed development will comprise mostly of staff trips.

The local road network has capacity to accommodate the traffic associated with the construction stage of the proposed development.

The increase in traffic on the network is less than 5% of the background traffic at the roundabout junction of Profile Park Road and the R134. The assessment, based upon a robust set of assumptions, indicates that the traffic associated with the proposed development during both construction and operational stages, will be reflected in a non-significant increase to the existing peak time traffic volumes in the area.

As set-out in this document, the proposed development is likely to incur slight short-term impacts on localised sections of the road network during construction and will have no permanent impacts on the road or transport networks in the vicinity of the site.

It is concluded that there are no traffic and transportation related issues associated with the proposed development, which would in any way form grounds for refusal through planning.