

15.0 TRANSPORTATION

15.1 Introduction

This section of the report assesses and evaluates the likely impact of the proposed development on the existing transportation system in the vicinity of the site, as well as identifying proposed mitigation measures to minimise any identified impacts arising from the proposed residential-led mixed-use development at Sandford Road, Dublin 6.

The material assets considered in this traffic section include pedestrian, bicycle, public transport (bus, light rail) infrastructure and associated services in addition to the local road network and associated junction nodes.

15.2 Expertise and Qualifications

This chapter was prepared by DBFL Consulting Engineers - Robert Kelly BA, BAI(Hons), MA, PG DipConstLaw, CEng, MIEI with over 20 years' experience in Traffic Engineering and Transportation Planning, Helen Gendy BA, BAI, MA, CEng with over 6 years' experience as a Traffic and Transportation Engineer and Jane Murphy BA with 2 years' experience as a Traffic and Transportation Engineer.

15.3 Methodology

The purpose of this assessment is to quantify the existing transport environment and to detail the results of assessment work undertaken to identify the potential level of transport impact generated as a result of the proposed residential-led mixed-use development. The scope of the assessment covers transport and sustainability issues including vehicular access and pedestrian, cyclist and public transport connectivity. Recommendations contained within this chapter are based on existing and proposed road layout plans, site visits, traffic observations and junction vehicle turning count data. Our methodology incorporated a number of key inter-related stages, including;

- **Background Review:** This important exercise incorporated three parallel tasks which included (a) an examination of the local regulatory and development management documentation; (b) an analysis of previous 'transport' related, strategic and site specific studies of development and transport infrastructure proposals across the Milltown area, and (c) a review of planning applications to establish the legal status of various third party development schemes that were either considered within the strategic 'transport' studies or which have emerged and received full planning permission since.
- **Site Audit:** A site audit was undertaken to quantify existing road network characteristics and identify local infrastructure management arrangements, in addition to establishing the level of accessibility to the site in terms of walking, cycling and public transport. An inventory of the local road network was also developed as this stage of the assessment.
- **Traffic Counts:** Junction turning counts were undertaken and analysed with the objective of establishing local traffic characteristics in the immediate area of the proposed residential-led mixed-use development.
- **Trip Generation:** A trip generation exercise has been carried out to establish the potential level of vehicle trips generated by the proposed residential-led mixed-use development.

- **Trip Distribution:** Based upon existing traffic characteristics and anticipated travel patterns of the proposed residential-led mixed-use development, a trip distribution exercise has been undertaken to assign site generated trips across the local network.
- **Network Analysis:** Undertook detailed computer simulations to assess the operational performance of key junctions in the post development 2028 Opening Year, 2033 Interim Year and 2043 Design Year development scenarios in accordance with the NRA/TII document 'Traffic and Transport Assessment Guidelines' (2014).

Our approach to the study accords with policy and guidance both at a 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;

- Environmental Protection Agency (EPA) Guidelines on the information to be contained in the EIAR (May 2022);
- Transport Infrastructure Ireland (TII) Traffic and Transportation Assessment Guidelines PE-PDV-02045 (2014).
- 'Traffic and Transport Assessment Guidelines' (May 2014) National Road Authority (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;
- Guidance on the preparation of Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU) (European Commission, 2017) (the EU EIAR Guidance)
- 'The Dublin City Development Plan 2022 – 2028' (DCC, 2022);
- 'Transport Strategy for the Greater Dublin Area 2022 – 2042' (NTA, 2022);
- 'Design Manual for Urban Roads and Streets' (DTTAS & DHPLG, 2019); and
- 'Cycle Design Manual' (NTA, 2023).

The assessment of effects of the proposed development on material assets are assessed in terms of quality (positive, neutral or negative effects), significance (imperceptible, not significant, slight, moderate, significant, very significant or profound effects), extent, context, probability (likely, unlikely effects) and duration (temporary, short term, long term or permanent effects) in line with the criteria set out in Table 3.4 'Description of Effects' of the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, August 2022).

15.4 Receiving Environment

15.4.1 Site Location

The proposed development site is located between Sandford Road and Milltown Road, Dublin 6. The subject site is within approximately 5 km south of Dublin City Centre and approximately 6 to 13 minutes walking distance to parts of Ranelagh village and 6 to 10 minutes to parts of Donnybrook. The site is ideally located to benefit from sustainable travel options including pedestrian/cycle facilities and public transport (Bus and Luas Green Line services). The general location of the subject site in relation to the surrounding road network

15.4.2 Road Network

The subject development site is located immediately south of Sandford Road (R117). Sandford Road is a wide single carriageway road with one lane in each direction which contains on road cycle lanes on both sides of the road. Travelling Northwest bound, the Sandford Road will connect the subject site to Dublin City Centre via Ranelagh. Whereas travelling south bound it will connect the site to Clonskeagh and UCD Belfield.

The Milltown Road (R117) is immediately east of the subject site. Milltown Road is a single carriageway road with one lane in each direction. Milltown Road extends from Sandford Road on the north and leading to Churchtown and Dundrum southbound.

The R824 Eglinton Road is a single carriageway with one lane in each direction. The road provides mandatory cycle lanes along both sides of the road. Eglinton Road connects the subject site to Stillorgan Road.

The R138 Stillorgan Road is a four-lane dual carriageway road with a bus lane and bicycle lane in each direction. It is currently a major bus corridor (QBC). Stillorgan Road becomes Donnybrook Road northwest from Donnybrook Church. The R138 Donnybrook Road is a single carriageway with two general traffic and one cycle lane southeast bound and one general traffic, a bus lane and cycle lane northwest bound.

Figure 15.3 below illustrates the location of the subject site within the context of the existing road network.

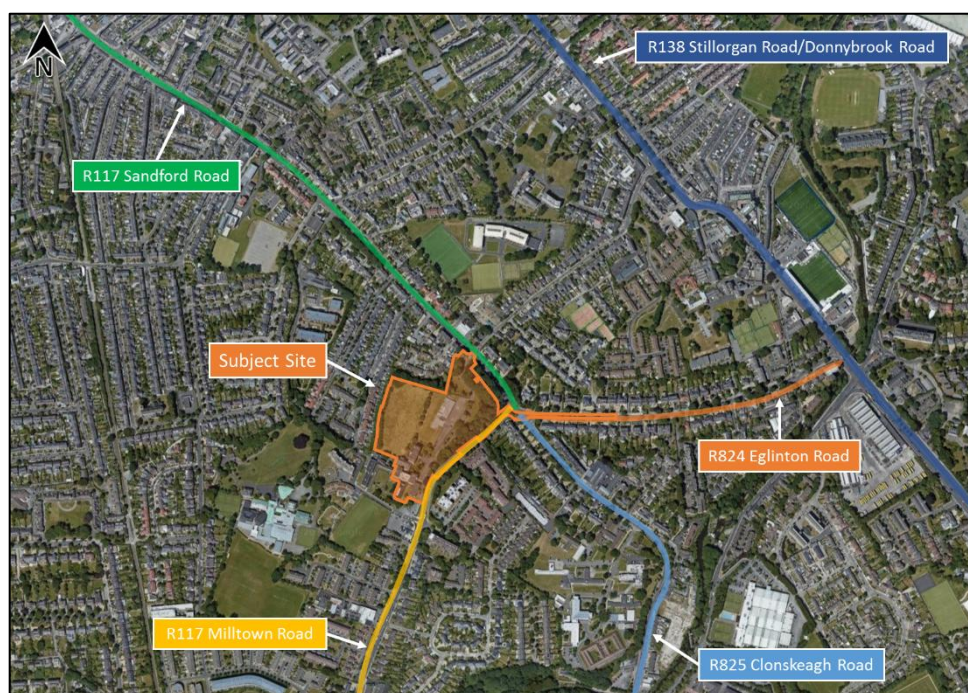


Figure 15.3: Existing Road Network (Source: Google Maps)

15.4.3 Existing Pedestrian Facilities

All the immediate routes leading to and from the subject site benefit from the provision of street lighting and pedestrian footways. Sandford Road is a regional road with the speed limit of 50kph and incorporates dedicated footpaths on both sides of the road and contains signalised pedestrian crossings.

The R117 Milltown Road is a regional road with a speed limit of 50kph and pedestrian footways provided on both sides of the roads. Public lighting is provided on one side of the road. The Milltown Road/Sandford Road/Eglinton Road signalised junction which is in the immediate vicinity of the proposed site access contains pedestrian crossings on all arms.

The subject site is highly accessible to pedestrians and cyclists from Sandford Road and Milltown Road. The scheme proposals for the subject site will ensure pedestrians are given priority within the internal site layout to ensure desire lines within the site are accommodated, providing a good level of service, ensuring the risk of pedestrian conflict with vehicles is minimised and providing attractive convenient connections to external key walking desire lines. The internal site layout will provide a safe short-cut through the site from Milltown Road to Sandford Road and vice versa.

The proposed new access arrangements to the site will include the provision of dedicated pedestrian crossing facilities along key desire lines.

Detailed transport linkages for the existing scenarios detailing distances to surrounding Public Transport is presented in a separate Drawing No. 190226-X-04-Zoo-DTM-DR-DBFL-CE-1101 submitted with the planning application package.

Figure 15.4 to Figure 15.7 below illustrates existing pedestrian facilities along the roads surrounding the subject site.



Figure 15.4: Existing Pedestrian Facilities along Sandford Road and Milltown Road

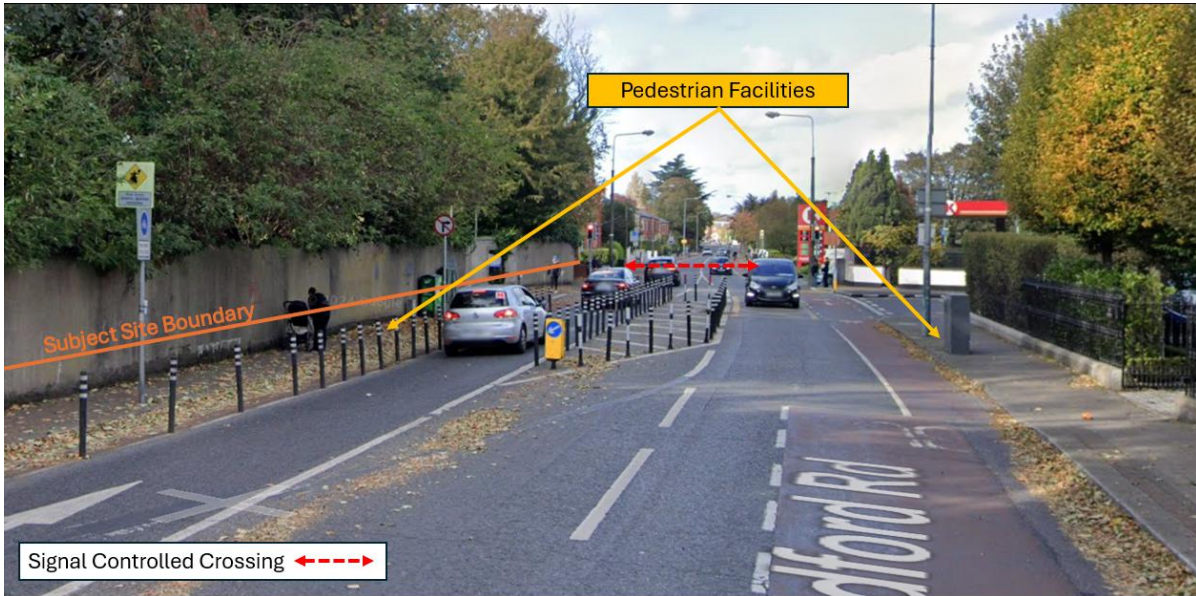


Figure 15.5: Existing Pedestrian Facilities along Sandford Road in vicinity of existing site access

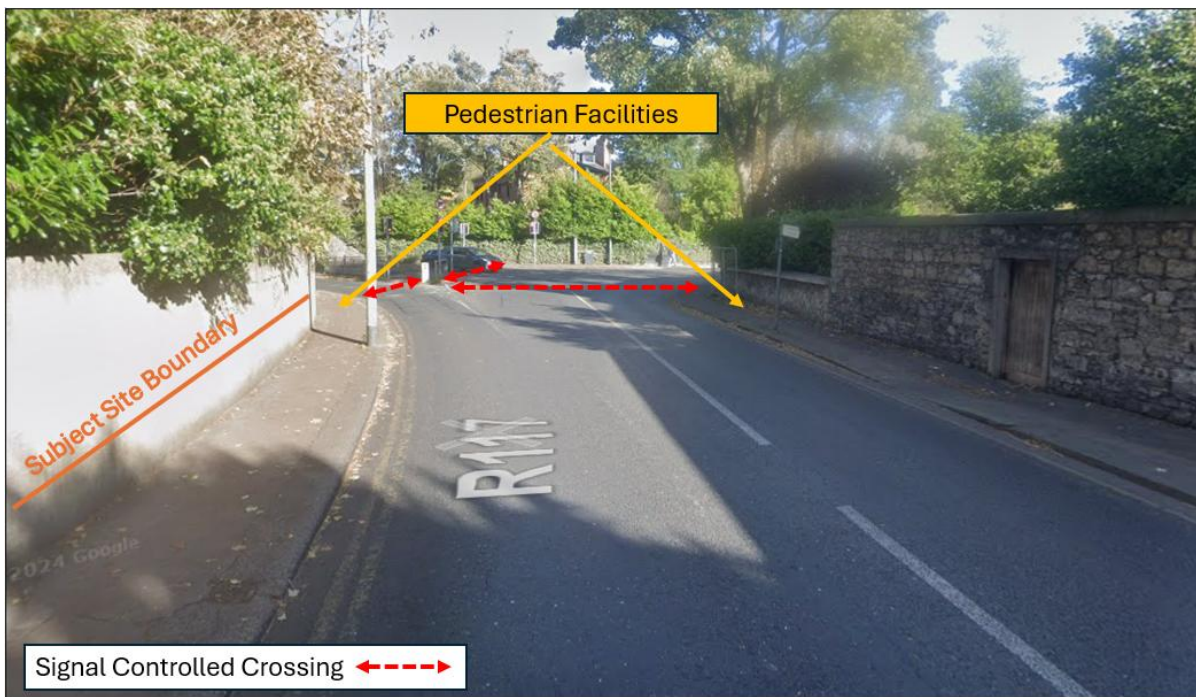


Figure 15.6: Existing Pedestrian Facilities along Milltown Road at junction with Sandford Road/Eglington Road



Figure 15.7: Existing Pedestrian Facilities along R824 Eglinton Road

15.4.4 Existing Cycling Facilities

In the immediate vicinity of the subject site, cyclists benefit from existing cycle facilities along Sandford Road and Eglinton Road which contains mandatory cycle lanes on both sides with some sections of advisory lanes.

Milltown Road currently does not provide dedicated cycle facilities. However, cyclists can share the road surface with other road users. In addition to the cycle facilities outlined above, there are also a variety of other cycling facilities available on the routes leading to the subject site and are illustrated in Figure 15.8 to Figure 15.10.

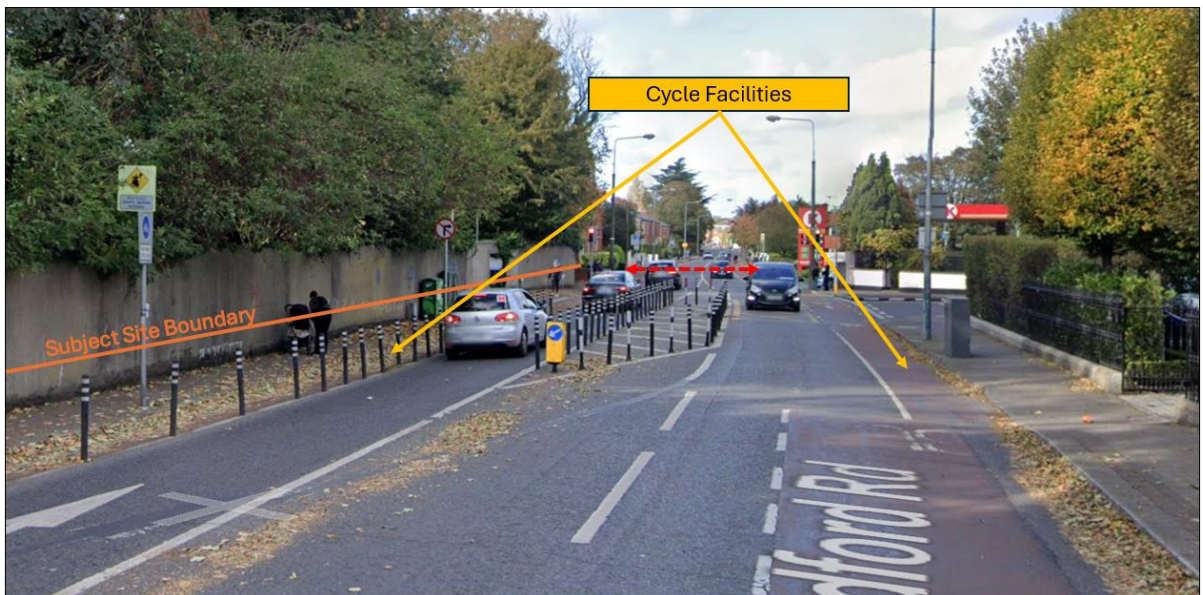


Figure 15.8: Existing Cycle Facilities along Sandford Road



Figure 15.9: Existing Cycle Facilities along Eglinton Road



Figure 15.10: Existing Cycle Network (Existing Cycle Facility Type Dublin South Central – Sheet E7 GDA)

A separate Drawing No. 190226-X-04-Zoo-DTM-DR-DBFL-CE-1101 is submitted with the Application Package which illustrates existing transportation linkages.

15.4.5 Public Transport – LUAS

The LUAS Green Line service runs from Brides Glen in Cherrywood to Broombridge in Cabra, routing through a number of locations including Leopardstown, Stillorgan, Dundrum and Dublin City Centre in addition to other destinations along its route. The proposed development site benefits from a high level of accessibility to the Luas Green Line. The

Beechwood Luas stop is within 1km walking distance of the subject site. Also, Cowper and Ranelagh stops are within similar walking distance as illustrated in Figure 15.11 overleaf.

As shown in Table 15.1 below, the Green Line LUAS at the Beechwood Luas stop operates at a high frequency, with many services provided between the first tram and the last tram of the day for either the northbound or the southbound direction. The trams operate at a 3 – 5 minute frequency during peak hours and at a frequency between 12 – 15 minutes for the off peak duration.

Table 15.1 Green Line LUAS Frequency at Beechwood (Source: LUAS)

	Southbound Towards Sandyford/Brides Glen			Northwards Towards Parnell/Broombridge		
	Mon – Fri	Sat	Sun	Mon – Fri	Sat	Sun
First Tram	05:38	06:38	07:08	05:44	06:44	07:14
Last Tram	00:49	00:49	23:49	00:32	00:32	23:32

The subject site will also benefit from the improved connectivity through the LUAS Cross City service, providing connections to Dublin City Centre North, Phibsborough and Broombridge.



Figure 15.11: Walking Routes to LUAS Green Line Stops

15.4.6 Public Transport – Bus

The Sandford Road site is ideally located to avail of a multitude of existing bus services including the 11 and 44 adjacent to the subject site along the Milltown Road and Sandford Road. All the other routes listed in Table 15.2 below run along the R138 Stillorgan Road; Bus Stop No. 775 is approximately 600m away from the subject site. Details of existing bus services with direction and frequency are provided in the Table 15.2 below.

The new BusConnects routes E1 and E2 commenced in January 2025. The E1 and E2 bus routes serve the areas of Northwood-Ballywaltrim and Harristown-Dún Laoghaire respectively as shown in Table 15.2 below.

Further connections to bus routes such as Go-Ahead route no. 18, from Palmerstown to Sandymount, with bus stops serving the route northwest to the subject site in Ranelagh town centre, can be made using the services listed in Table 15.2 below.

Route No.	Direction	Mon-Fri	Sat	Sun
		Frequency (No. of Services)		
Bus Éireann				
2	Wexford to Dublin Airport	14	15	12
	Dublin Airport to Wexford	14	15	12
133	Wicklow to Busáras	23	19	19
	Busáras to Wicklow	23	19	19
X2	Wexford to Dublin Airport	1	-	-
	Dublin Airport to Wexford	1	-	-
Dublin Bus				
7B	Shankill to Mountjoy Square	5	-	-
	Mountjoy Square to Shankill	4	-	-
7D	Mountjoy Square to Dalkey	1	-	-
	Dalkey to Mountjoy Square	1	-	-
11	Sandyford Business District to Pheonix Park	43	35	30
	Pheonix Park to Sandyford Business District	41	31	27
32X	UCD Belfield to Malahide	2	-	-
	Malahide to UCD Belfield	2	-	-
39A	UCD Belfield to Ongar	109	91	77
	Ongar to UCD Belfield	114	93	77
41X	UCD Belfield to Knocksedan	3	-	-
	Knocksedan to UCD Belfield	3	-	-
44	Enniskerry to DCU	17	16	14
	DCU to Eniskerry	19	16	14
46E	Blackrock to Mountjoy Square	2	-	-
61	Whitechurch to Eden Quay	18	16	14
	Eden Quay to Whitechurch	17	15	13
84X	Newcastle to Eden Quay	11	-	-
	Hawkins Street to Newcastle	8	-	-

116	Whitechurch to Parnell Square	1	-	-
	Parnell Square to Whitechurch	1	-	-
118	Kilternan to Eden Quay	2	-	-
X25	UCD Belfield to Maynooth	3	-	-
	Maynooth to UCD Belfield	3	-	-
X27	UCD Belfield to Celbridge	2	-	-
	Celbridge to UCD Belfield	3	-	-
E1	Northwood – DCU – City Centre – Bray – Ballywaltrim	138	97	67
	Ballywaltrim – Bray – City Centre – Northwood	135	97	67
E2	Harristown – DCU – City Centre – Dún Laoghaire	125	97	67
	Dún Laoghaire – City Centre – DCU – Harristown	126	97	67
X28	UCD Belfield to Celbridge	2	-	-
	Celbridge to UCD Belfield	2	-	-
X30	UCD Belfield to Adamstown	2	-	-
	Adamstown to UCD Belfield	4	-	-
St. Kevin's Bus Service				
181	Glendalough to St. Stephen's Green	3	2	2
	St. Stephen's Green to Glendalough	3	2	2
Aircoach				
700	Leopardstown to Dublin Airport	47	56	56
	Dublin Airport to Leopardstown	50	60	60
Matthews Coach Hire				
904	Dundalk to UCD Belfield	2	-	-
	UCD Belfield to Dundalk	2	-	-
910	Grangerath to UCD Belfield	1	-	-
	UCD Belfield to Grangerath	1	-	-

Table 15.2 Bus Service Frequency (No. of Services) (Source: Dublin Bus and Go-Ahead Ireland)

In addition to the bus services listed above, Aircoach stops 773 and 779 are both easily accessible on the R138 Stillogran Road, providing residents with a direct connection to Dublin Airport.

In conclusion, the site is already strategically located to avail of excellent sustainable travel options in the form of public transport as well as walking and cycling links. A number of schemes being developed by the National Transport Authority, such as the proposed BusConnects, the GDA Cycle Network Plan and proposed extensions to the LUAS network, will see further improvements to infrastructure and services thereby increasing the attractiveness of the use of sustainable modes as means for accessing the development.

15.4.7 Local Amenities

The subject development site is very well placed in terms of the availability of local amenities. There are a number of schools within walking distance of the subject site including Saint Mary's National School, Sandford Park School, The Teresian School and Sandford Parish National School. A number of colleges such as Alexandra College Dublin and Gonzaga College SJ.

Furthermore, the subject site benefits from good access to leisure facilities such as Milltown Golf Club and Elm Park Golf and Sports Club. The subject site is close to retail facilities such as Tesco Express and SuperValu. The site also benefits from being within the vicinity of the Donnybrook, Ranelagh, Milltown, Clonskeagh and Rathmines neighbourhood centres, which provide many local amenities.

There are also a number of healthcare facilities surrounding the subject site which include the Glenmalure Day Hospital, Clonskeagh Hospital and the Donnybrook Primary Care Centre.

15.4.8 Road Safety Review

With the objective of ascertaining the road safety record of the immediate routes leading to/from the subject site, the collision statistics as detailed on the Road Safety Authority's (RSA) website (www.rsa.ie) have been examined. The RSA website includes basic information relating to reported collisions over the most recent twelve-year period, from 2005 to 2016 inclusive.

Collision data from 2016 onwards is not available as the RSA website currently states "The RSA is in the process of reviewing its road traffic collision (RTC) data sharing policies and procedures. Record-level RTC data cannot be shared until this review is complete, but we expect this to be finalised in the coming months. At that point, we will have new policies and procedures in place for access to RTC information and data."

The RSA database records details where collision events have been officially recorded such as when the Garda have been present to formally record details of the incident.

In reference to Figure 15.12 and Table 15.3, of 23 no. recorded incidents, only 4 were serious, the most recent of which occurred in 2016.

A cluster of 13 incidents have occurred at the R117 Milltown Road / R117 Sandford Road / R824 Eglinton Road signalised junction. Of these incidents, the only 2 serious incidents at the junction, in addition to another 4 minor incidents all occurred over 10 years ago between 2005 - 2008. The remaining 7 incidents at the junction between 2011 and 2016 have all been minor collisions. The junction has since been upgraded to enhance the safety of all road users.

Table 15.3 Collision Records (Source: RSA)

Ref	Severity	Year	Vehicle	Circumstances	Day	Time	Casualty
1	Minor	2011	Car	Rear end, straight	Tuesday	1900-2300	1
2	Minor	2015	Bicycle	Other	Friday	1000-1600	1
3	Minor	2006	Motorcycle	Head-on right turn	Friday	1000-1600	1
4	Minor	2007	Car	Other	Sunday	0700-1000	1
5	Minor	2010	Bicycle	Other	Sunday	2300-0300	1
6	Minor	2015	Bicycle	Other	Wednesday	1900-2300	1
7	Serious	2016	Motorcycle	Angle, both straight	Tuesday	1900-2300	1
8	Serious	2013	Bicycle	Other	Tuesday	0700-1000	1
9	Minor	2011	Car	Other	Wednesday	0700-1000	1
10	Minor	2008	Bus	Rear end, straight	Saturday	2300-0300	1
11	Minor	2005	Motorcycle	Angle, right turn	Thursday	1600-1900	1
12	Minor	2006	undefined	Angle, right turn	Thursday	1900-2300	1
13	Minor	2006	Car	Rear end, left turn	Thursday	1000-1600	1
14	Minor	2006	Car	Other	Saturday	1000-1600	1
15	Serious	2006	Bicycle	Other	Monday	0700-1000	1
16	Serious	2008	undefined	Angle, both straight	Tuesday	1000-1600	1
17	Minor	2011	Car	Other	Tuesday	2300-0300	1
18	Minor	2012	Car	Pedestrian	Wednesday	1000-1600	1
19	Minor	2012	Bus	Other	Saturday	2300-0300	1
20	Minor	2012	Car	Other	Saturday	1000-1600	1
21	Minor	2013	Motorcycle	Head-on conflict	Sunday	1600-1900	1
22	Minor	2015	Goods Vehicle	Angle, both straight	Saturday	1000-1600	3
23	Minor	2016	Bicycle	Other	Sunday	1600-1900	1

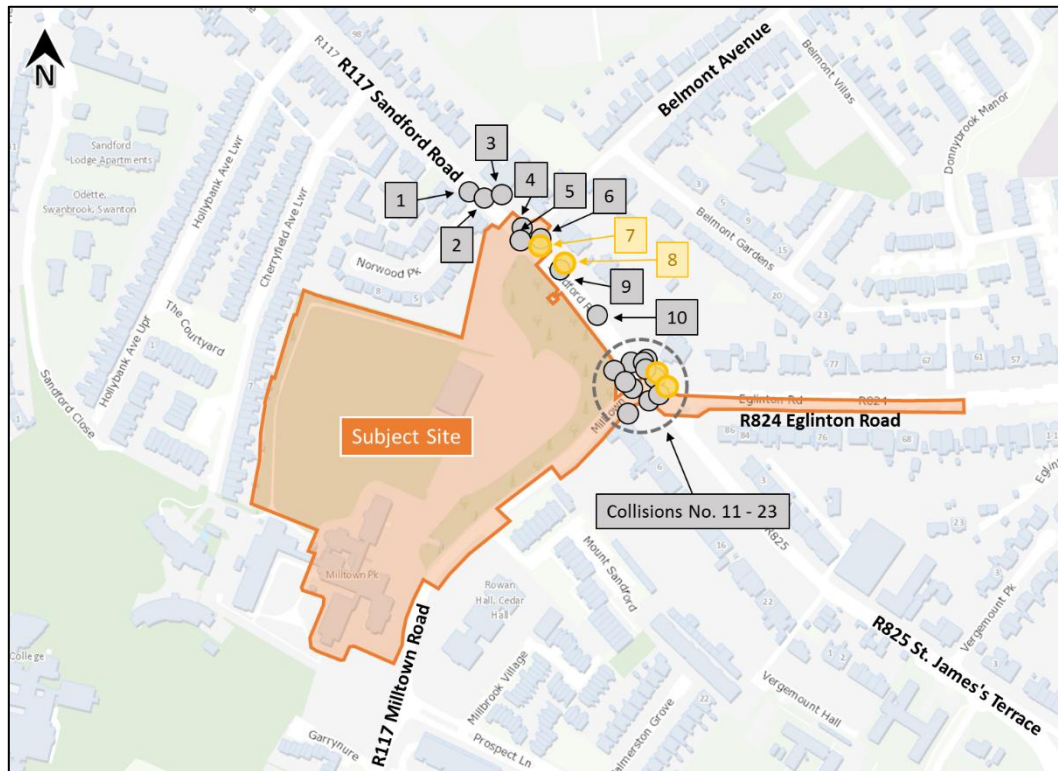


Figure 15.12: Collision Records (Source: RSA)

The review of the RSA data available reveals that there are no apparent trends in collisions which have occurred in the vicinity of the subject site during the most recent 12-year period (2005-2016).

15.4.9 Proposed Cycle Network

The subject site is located within the "Dublin South CENTRAL" as outlined within the Greater Dublin Area Cycle Network Plan (published by the NTA in 2013). The South CENTRAL Sector "extends outward from the city centre through Ranelagh and fans out to include the areas of Clonskeagh, Milltown, Goatstown, Dundrum, Ballinteer, Sandyford and Stepside". In the vicinity of the subject site the Plan proposals include the following key routes as indicated in Figure 15.13 below: -

- **Primary Route 11:** This will directly serve the subject site which will run along Sandford Road. Travelling Northwest bound, route 11 will connect the subject site to Dublin City Centre via Ranelagh. Whereas travelling south bound it will connect the site to Clonskeagh. This scheme will include segregated cycle facilities along the Sandford Road as well as enhanced pedestrian crossing facilities at junctions along the route such as the Eglinton Road/Sandford Road/Clonskeagh Road/Milltown Road junction as well as an upgrade to the existing site access junction on Sandford Road incorporating Belmont Avenue. It is anticipated that this scheme will begin construction in 2026.
- **Orbital Route SO₃:** From Rathgar and Dartry to Milltown, Clonskeagh and Ballsbridge, mostly along the proposed Dodder Valley Greenway. This route links to UCD at Clonskeagh. There is a connection from Tallaght via Route 9A at Oldbridge

Road in Templeogue. The greenway is currently under construction in a number of phases by South Dublin and Dublin City Council. The section of the greenway located to the south-east of the proposed development is anticipated to begin construction in 2026.

- Secondary Route 11B:** This will directly serve the subject site. It will run from Sandford Road along Milltown Road and Lower Churchtown Road and will connect the subject site to Churchtown and Dundrum.



Figure 15.13: Proposed Cycle Routes (Source: Proposed Cycle Network Dublin South West Sheet N7 GDA Cycle Network Plan)

15.4.10 Sandyford Clonskeagh to Charlemont Street Permanent Scheme

The second stage of the Sandyford Clonskeagh to Charlemont Street (SC2C) Active Travel Scheme will provide 3km of permanent high-quality walking, wheeling and cycling facilities. This scheme is currently in the Detailed Design and Procurement phase. The proximity to the proposed site and the active travel facilities to be delivered as part of the scheme are shown in Figure 15.14 below.

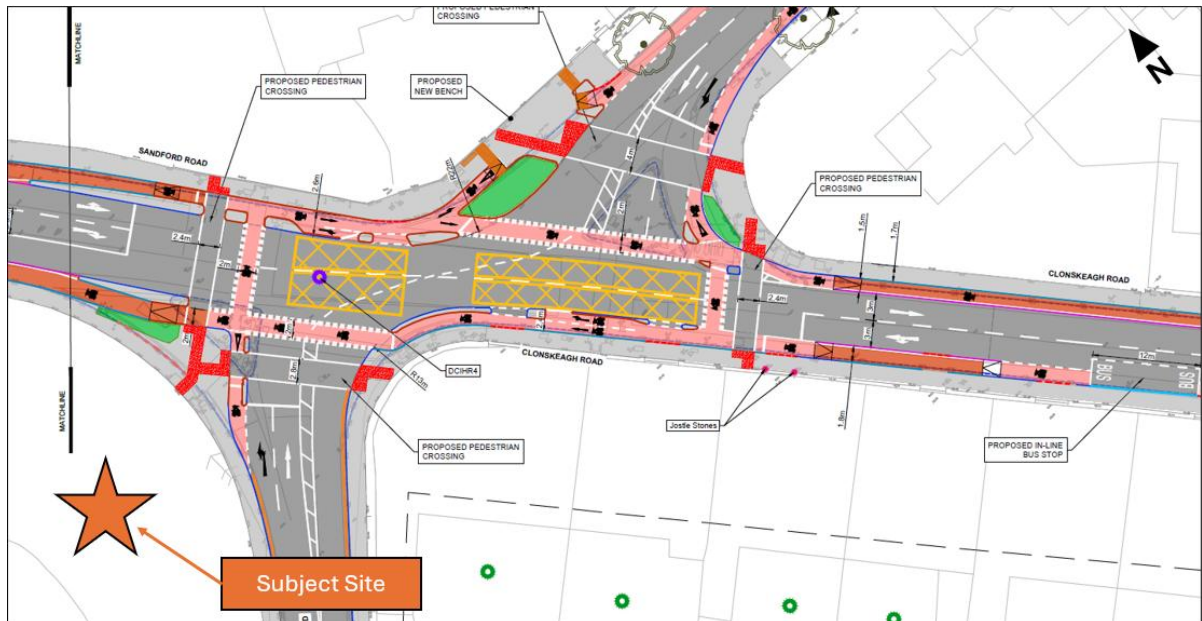


Figure 15.14: Sandyford Clonskeagh to Charlemont Street Permanent Scheme

15.4.11 Proposed BusConnects

In July 2018 the National Transport Authority (NTA) published a consultation report entitled 'Dublin Area Bus Network Redesign Public Consultation Report'. The report introduces a number of significant changes to the bus services within Dublin including: -

- "Services to be arranged along seven cross-city super-frequent spines
- Dramatic increase in the numbers of orbital services
- Increase in the number of all-day high-frequency services
- Move to a simplified two-fare system
- A new route numbering system".

"Under the proposals, the level of bus service will increase by 27%. This includes services on 11 brand-new orbital routes that will operate on a 15-minute frequency or better, in the north, south and west of the network area."

Since the initial BusConnects proposals, the final network redesign (September 2020) has been published following three rounds of public consultations. The proposed development site is ideally located to benefit from the enhanced accessibility levels that will be delivered by the BusConnects. The subject site currently benefits from the E-Spine which commenced service in January 2025. The E-Spine serves the site with frequency of every 4-5 minutes in peak period and runs along Stillorgan Road approximately 600m away from the subject site and connects the site to Ballymun, City Centre and Foxrock Church. The subject site will be directly serviced by the following BusConnects proposed routes.

- **Route 86:** will directly serve and connect the site to Ticknock, Goatstown and Mountjoy Square with a frequency of every 30 minutes.

- **Route 87:** will directly serve and connect the site to Belarmine, Dundrum and Mountjoy Square with a frequency of every 60 minutes.
- **Route 88:** will directly serve and connect the site to Enniskerry-Belarmine, Dundrum and Mountjoy Square with a frequency of every 60 minutes.

Figure 15.15 below illustrates the BusConnects proposed routes that will serve the subject site.

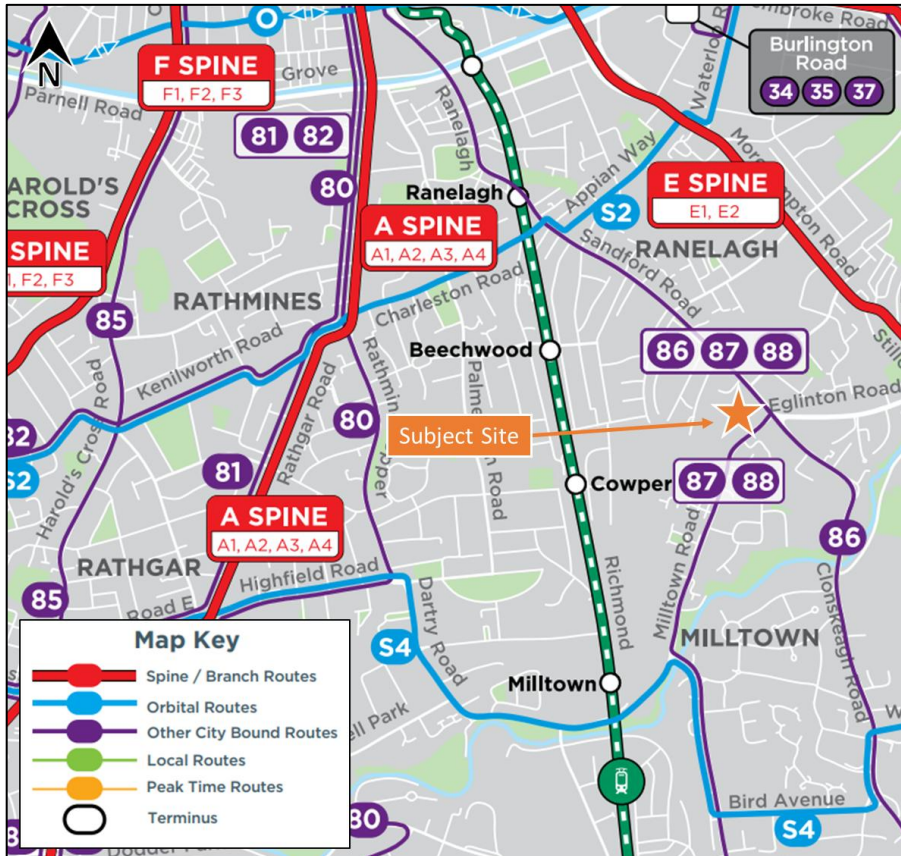


Figure 15.15: Proposed Bus Services (Source: BusConnects)

A separate Drawing No. 190226-X-04-Zoo-DTM-DR-DBFL-CE-1102 is submitted with the Application Package which illustrates proposed transportation linkages.

15.4.12 Proposed LUAS and Metro

The proposed MetroLink will operate from Charlemont, immediately south of the Grand Canal, and will provide links to City Centre locations and Dublin Airport, terminating in Swords.

Residents of the proposed development will be able to avail of the proposed Metro Line through the Luas Green Line Stops, Cowper, Beechwood (1km from the subject site), Ranelagh or Milltown and interchange at the Charlemont Luas Stop to access the underground metro.

Other proposed extensions to the Luas network include a Lucan Line operating from the City Centre to Lucan and the extension of the Green Line south from Brides Glen to Bray. Figure 15.16 shows the existing Luas network with the proposed service extensions and Metro Line.

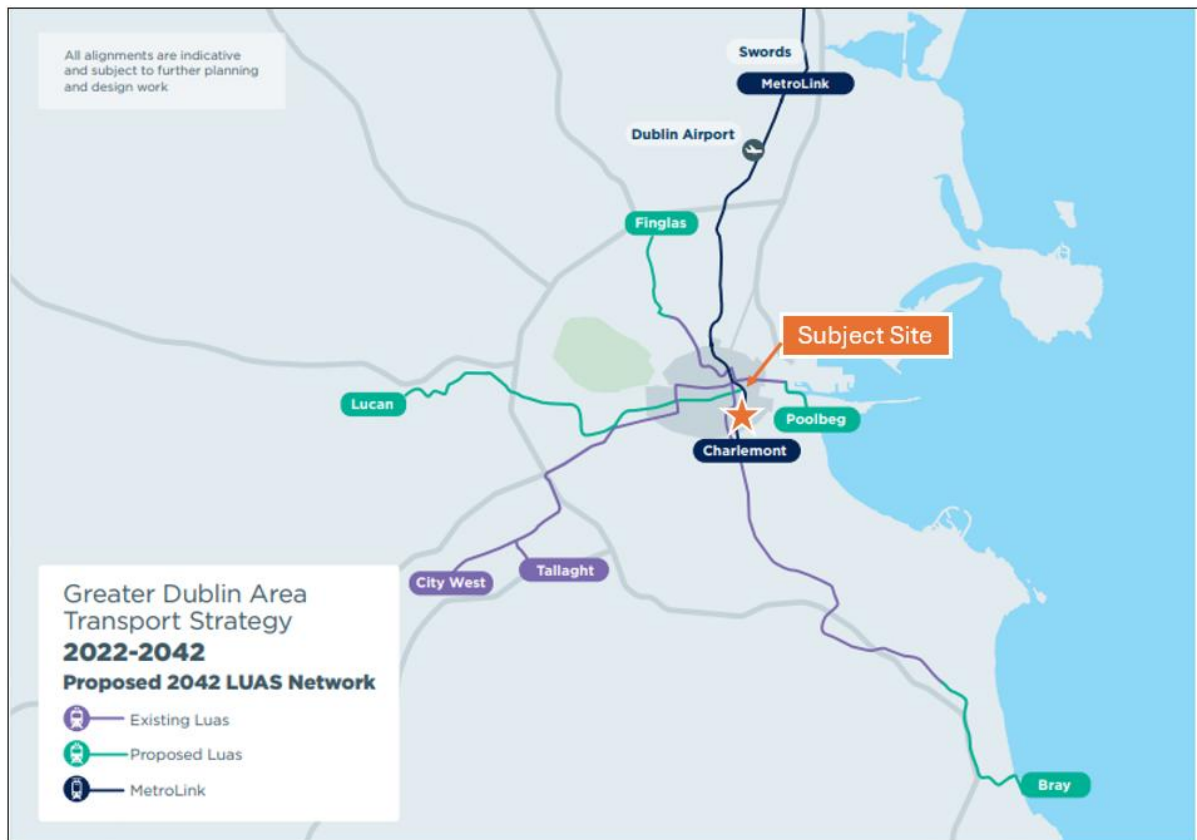


Figure 15.16: Proposed LUAS and Metro Extension (Source: NTA)

15.5 Potential Impact of the Proposed Project

15.5.1 Construction Stage Impacts

15.5.1.1 Management of Construction Activities

All construction activities on-site will be governed by a Construction Traffic Management Plan (CTMP), the details of which will be agreed in full with Dublin City Council prior to the commencement of construction activities on site.

The principal objective of the CTMP is to ensure that the impacts of all building activities generated during the construction of the proposed development upon both the public (off-site) and internal (on-site) workers environments, are fully considered and proactively managed / programmed respecting key stakeholders thereby ensuring that both the public's and construction workers safety is maintained at all times, disruptions minimised and undertaken within a controlled hazard free / minimised environment. The impact of the construction period will be temporary in nature.

15.5.1.2 Construction Traffic

Construction traffic will generally be confined to weekdays (0700-1900, subject to conditions of a planning permission) and will consist of the following two principal categories:

- Private vehicles owned and driven by site construction staff and by full time supervisory staff.
- Excavation plant, dumper trucks and delivery vehicles involved in site development works and material delivery vehicles for the following: granular fill materials, concrete pipes, manholes, reinforcement steel, ready-mix concrete and mortar, concrete blocks, miscellaneous building materials, etc.

On-site employees will generally arrive before 08:00, thus avoiding the traditional morning peak hour traffic. The traffic surveys conducted by IDASO in September 2025 established the morning peak hour as occurring between 08:15 – 09:15. These employees will generally depart after 16:00. While it is anticipated that most employees will arrive by public transport, appropriate on-site parking and compounding will be provided to prevent overflow onto the local network. Deliveries will be actively controlled and subsequently arrive at a dispersed rate during the course of the working day.

Based upon the experience of similar developments, a development of this type and scale would at a maximum necessitate approximately 40 staff on site at any one time, subsequently generating no more than 30 two-way vehicle trips during the peak AM and PM periods over the period of the phased construction works. Although the number of staff and light goods vehicles, transporting staff, will fluctuate over the period of construction works, the consideration of the worst-case scenario (40 staff members, 30 LGVs) provides a conservative assessment of the resultant traffic and transportation impacts of the subject development during the construction phase.

It is anticipated that the proposed development would be constructed over a period of approximately 34 months in accordance with the preliminary construction programme. Following the completion of the initial site clearance works, the generation of HGV movements during the build period will be evenly spread throughout the day and as such will not impact significantly during the peak traffic periods. For this scale of development, we do not expect HGV two-way vehicle movements to exceed 16 vehicles per hour during the busiest period of construction 'build' works (Table 15.4).

Table 15.4 Projected Construction Traffic Flows

	HGV	LGV	Total (vehs)	Total (pcus)
Daily	64	60	124	207
AM Peak Hour	16	3	19	40
Afternoon Peak	16	0	16	37
PM Peak Hour	16	3	19	40

Based on a preliminary review of the existing survey data and proposed site levels we estimate that approximately 80,000 m³ of material will require excavation. Whilst an element of the material will be reused on-site (c. 10,000 m³) it is still predicted that approx. 70,000 m³ of material will require removal during the construction phase earthworks. This equates to 4,375 truckloads based on a tipper truck capacity of 16m³. At 8 loads removed per hour, 16 two-way HGV movements per hour and 64 loads removed per day this equates to 68 days of earthmoving works as part of the adopted worst-case assessment to clear the entire site in one single construction activity.

Table 15.5 Construction Phase Earthworks

Material to be excavated and removed off site	70,000 m ³
Total no. truckloads to be removed	4,375
Loads removed per day	64
Loads removed per hour	8
Two-way HGV movements per hour	16
Days of earthmoving works	68
Weeks of earthmoving activity	14

**Assumptions: 1 HGV vehicle = 2.3 PCUs, Tipper truck capacity = 16m³, 2 tipper trucks excavating at any one time, trucks departing every 20 minutes.*

For the proposed Sandford Road development 3 foundation options have been considered. This transportation assessment has assumed the worst-case option for the above listed volume of material requiring removal and therefore HGV truckloads generating a traffic impact. Furthermore, the level of development assumed in the opening year would result in a greater traffic impact than that generated as a result of the most onerous of the 3 foundation options thereby providing a conservative and comprehensive assessment of the traffic impacts resulting from the subject site.

Table 15.6 below compares the quantum of soil requiring removal per foundation option considered and the resulting number of HGV loads and inbound and outbound trips required to remove this quantum of soil. As shown below, option 3 results in the highest number of inbound and outbound trips and this has been the construction traffic scenario adopted within this assessment.

Table 15.6 Foundation Options Traffic Generation Comparison

Foundation Option No.	Foundation Option Description	Quantum of Soil Removal (Inc. road and civil works)	Quantum of Trip Generation to Remove Soil
1	Standard Pad & Strip Foundations to All Blocks incl. Basement	70,000m ³	4,375 loads 8,750 trips inbound & outbound
2	Pads & Strips to All Blocks except Bored Piles to	64,000m ³	4,000 loads 8,000 trips inbound & outbound

	Block D & F		
3	Pads & Strips to All Blocks except Ground Improvement to Block E	70,000m ³	4,375 loads 8,800 trips inbound & outbound

An appropriate control and routing strategy for HGVs can also be implemented for the duration of site works as part of the CTMP. It is not proposed to utilise any roads with weight/height restrictions as part of the routing of HGVs during the construction phase.

A significant benefit of the subject development site's characteristics is that all construction traffic vehicle parking demands can be accommodated on-site thereby minimising the impact upon the operational performance and safety levels of the adjacent public road network.

Considering the site's proximity to the strategic road network, it is concluded that construction traffic will not give rise to any significant traffic concerns or impede the operational performance of the local road network and its surrounding junctions. The level of significance of the above findings are categorised in Section 15.7.1.

As the development most likely will be delivered in several phases, a scenario exists where both construction traffic and development traffic will contribute to the total development traffic flows, after the initial occupation of the completed phases of the development. This potential traffic scenario would not result in as great a level of traffic as the traffic forecast for the entire built and occupied development conservatively assumed for the 2028 Opening Year within this assessment.

During the construction stage it is anticipated that the proposed development would result in a temporary negative impact on the traffic environment in the immediate vicinity of the subject site. The vehicle trips would be generated from LGVs used by construction staff to travel to the site and by HGVs transporting materials to and from the site. Section 15.6.1 provides the potential mitigation measures to be taken at construction stage to lower the number of vehicle trips to and from the site during construction stage and the measures to minimise the impact of the generated traffic on the surrounding road environment.

15.5.2 Operation Stage Impacts

15.5.2.1 Committed Developments Overview

Following a review of DCC online planning portal, DBFL have established the extent of existing third party developments, as located within the area of influence of the subject Sandford Road site, which currently benefit from a planning permission but have yet to be constructed/occupied.

Fully permitted developments within a 1km radius of the subject site which include a car parking provision, and thereby generating vehicle trips which can contribute to the traffic flows along the road corridors modelled as part of this assessment have been considered. This 1km catchment is considered appropriate in determining vehicle trips from committed vehicles which could potentially route through the local roads modelled as part of this traffic

assessment (R117 Sandford Road, R117 Milltown Road, R825 St. James's Terrace and R824 Eglinton Road).

A number of committed developments within the 1km radius propose no car parking or no change in the net car parking available as part of the development. These developments are not deemed to generate any vehicle trips and as such have not been included in the subject site's traffic model.

DBFL have subsequently included the following third-party development proposals as a 'committed development' within the network assessment.

Committed Development – ABP Ref. ABP-313048-22

South of the subject development, planning permission was granted for 97 No. residential apartment units (ACP Ref. ABP-313048-22) at Milltown Road, Dublin 6.

Its location relative to the subject site is shown on Figure below. This committed development is bounded by Milltown Road to the east; the development's site access will be via Milltown Road.

DBFL consider that the permitted development may generate an impact on the local road network and as such it is included as a committed development.

In order to determine the level of traffic generated by this third-party residential development, DBFL utilised the vehicle trips included within the committed development's Traffic Assessment and Parking Strategy Report. Table below shows the vehicle trips generated by the Milltown Road development which depart/arrive via the Milltown Road and are therefore distributed on the subject site assessed traffic network.

Land Use	Units/GFA	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Total	Arr	Dep	Total
BTS Apartments	97	5	23	28	18	7	25

Table 15-7: Committed Development (ABP Ref. ABP-313048-22) Traffic Generation

Committed Development – ABP Ref. PL29S.322089

West of the subject development at Sandford Close, planning permission was granted (ABP Ref. - PL29S.322089) for the construction of 63 No. BTR residential apartment units. The location of the committed development relative to the subject site is shown in Figure 15.17 below.

The Sandford Lodge development has been granted by DCC and An Bord Pleanála (Ref. PL29S.322089) and therefore has been included in the traffic assessment of the proposed development in order to provide a robust assessment.

In order to determine the level of traffic generated by this third-party residential development, DBFL utilised the same trip rates as those utilised for the proposed subject development for the Build-to-Sell (BTR) apartment land uses as shown in **Table 15-11**. Table

below summarises the predicted peak hour AM and PM traffic generated by the committed residential development.

Land Use	Units/GFA	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Total	Arr	Dep	Total
BTS Apartments	63	4	9	12	6	4	10

Table 15-8: Committed Development (ABP Ref. PL29S.322089) Traffic Generation

Committed Development – ACP Ref. LH29S.323142

Located on the R825 Clonskeagh Road, southeast of the subject development, planning permission was granted for the development of the Paper Mills site, bounded by the River Dodder to the East. The development proposes the construction 439 No. PBSA bedspaces and 16 No. residential apartments, the extension and renovation of the 14 No. residential dwellings with the associated car parking provided at basement and surface level. The location of the committed development relative to the subject site is shown in Figure 15-17 below.

In order to determine the level of traffic generated by this third-party residential development, DBFL utilised the vehicle trips included within the committed development's Traffic Assessment and Parking Strategy Report. Table 15-9 below summarises the predicted peak hour AM and PM traffic generated by the committed residential development.

Land Use	Units/GFA	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Total	Arr	Dep	Total
Houses	14	3	5	8	5	4	9
Apartments	16	1	3	4	3	2	5
Student Accommodation	173	4	3	7	2	2	4
Total	203	8	11	19	10	8	18

Table 15-9: Committed Development (ACP Ref. LH29S.323142) Traffic Generation

Committed Development – DCC Ref. WEB2190/24

To the west of the subject site, planning permission was granted by DCC (Reg. Refs. WEB2190/24) for a 1,431m² extension for a new science facility. The location of the committed development relative to the subject site is shown in Figure below.

In order to determine the level of traffic generated by this third-party development, DBFL used TRICS to generate trip rates for houses as shown in Table below. Table below also summarises the minimal predicted peak hour AM and PM traffic generated by the committed residential development.

Land Use	Units/GFA	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Total	Arr	Dep	Total
Education	1,431m ²	16	4	20	4	5	9

Table 15-10: Committed Development (DCC Ref. WEB2190/24) Traffic Generation



Figure 15-17: Location of Committed Developments

15.5.2.2 Proposed Development Trip Generation

A review of trip generation factors contained within the TRICS database was carried out. TRICS data is primarily UK based, although a number of Irish sites have recently been included and the number of Irish sites continues to expand. Nevertheless, we consider that TRICS will provide a reasonable indication of traffic generation from the proposed development.

Notwithstanding the above, internal research undertaken by TRICS has shown that there is no direct evidence of trip rate variation by country or region. The use of English, Scottish or Welsh data can be equally applicable to Ireland if users take into account important site selection filtering factors such as levels of population, location type, local public transport provision, and development size and car ownership level, amongst others.

Data supplied for inclusion in TRICS undergoes a procedure of validation testing, and there is no evidence from this procedure suggesting that data from Ireland bears any significant fundamental differences to that from the other countries included. Consequently, we consider that TRICS will provide a reasonable indication of traffic generation from the proposed development.

Table 15.11 below includes the predicted trip generations and our estimate of the likely traffic flows in and out of the proposed development during the morning and evening peak hour periods using data from TRICS.

Table 15.11 Proposed Development Trip Rates (TRICS)

Land Use	Unit/GFA	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Total	Arr	Dep	Total
Apartments	Per Unit	0.047	0.240	0.287	0.189	0.069	0.257
Houses	Per Unit	0.120	0.311	0.431	0.253	0.153	0.406
Creche	Per 100m ²	2.786	2.264	5.050	0.680	1.222	1.902
Community	Per 100m ²	0.938	0.481	1.419	0.798	0.528	1.326
Café/Restaurant	Per 100m ²	3.905	2.672	6.577	2.364	2.364	4.728

Based on the above trip rates, potential peak hour traffic generation is calculated based on 556 no. apartments, 6 no. courtyard houses, a 375m² creche, 1,698m² community area and a 179m² café/restaurant. Table 15.12 summarises the predicted peak hour AM and PM traffic generated by the proposed development. The creche use within the development is not anticipated to generate notable external vehicle trips as it will be predominately catering towards the residents of the Sandford site and the local catchment within the community. As such the trip rates for the creche land use have been discounted by a factor of 0.6.

Table 15.12 Proposed Development Vehicle Trips

Land Use	Unit/GFA	AM Peak Hour			PM Peak Hour		
		Arr	Dep	Total	Arr	Dep	Total
Apartments	556	26	133	159	105	38	143
Houses	6	1	2	3	2	1	2
Creche	375m ²	4	3	7	1	2	3
Community	1,698m ²	4	2	6	3	2	5
Café/Restaurant	179m ²	1	1	2	1	1	1
Total	562	36	141	176	111	43	155

15.5.2.3 Trip Distribution

The associated development vehicle trips have been assigned to the surrounding road network based on the surveyed traffic movements (Appendix 15-1) passing the site based on the following assumptions.

In the Opening Year 2028, we have assumed that the full development of 562 residential units will be complete and occupied in order to provide a conservative assessment of the development's traffic impacts. In this 2025 scenario we have assumed the following distribution (as per the existing traffic surveys) for the subject residential-led mixed-use development:

- 39% of all AM vehicle trips will travel northwest on the R117 Sandford Road;
- 33% of all AM vehicle trips will travel south on the R117 Milltown Road;
- 38% of all AM vehicle trips will travel northeast on the R117 Milltown Road;
- 25% of all PM vehicle trips will travel northwest on the R117 Sandford Road;
- 44% of all PM vehicle trips will travel south on the R117 Milltown Road; and
- 25% of all PM vehicle trips will travel northeast on the R117 Milltown Road.

15.5.2.4 Traffic Growth

An Opening Year of 2028 has been assumed for this assessment. In accordance with TII (NRA) Guidance, Future Design years (+5 and +15 years) of 2033 and 2043 have also been adopted.

The TII Project Appraisal Guidelines (PAG) have been utilised to determine the traffic growth forecast rates. The traffic growth forecast rates within the PAG ensures local and regional variations and demographic patterns are accounted for.

Table 6.1 within the PAG provides Annual National Traffic Growth Factors for the different regions within Ireland. The subject site lies within 'Dublin' with the growth factors as outlined within Table 15.13 below.

Table 15.13 National Traffic Growth Forecasts: Annual Growth Factors

(Extract from Table 6.1 PAG)

Metropolitan Area	Low Sensitivity Growth Rates				Central Growth Rates				High Sensitivity Growth Rates			
	2016-2030		2030-2040		2016-2030		2030-2040		2016-2030		2030-2040	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
Dublin	1.0146	1.0280	1.0034	1.0116	1.0162	1.0295	1.0051	1.0136	1.0191	1.0328	1.0087	1.0172

Applying the annual factors (medium growth) as outlined in Table 15.9 above for the adopted Opening Year of 2028 and Future Horizon Years of 2033 (+5 years) and 2043 (+15 years), the following growth rates have been adopted to establish corresponding 2028, 2033 and 2043 baseline network flows: -

- 2025 to 2028 – 1.0494 (or 4.94%);
- 2025 to 2033 – 1.1003 (or 10.03%); and

- 2025 to 2043 – 1.1553 (or 15.53%).

15.5.2.5 Assessment Scenarios

Two different traffic scenarios have been assessed, namely (a) the 'Base' (Do Nothing) traffic characteristics and (b) the 'Post Development' (Do Something) traffic characteristics.

The proposed development traffic flows have then been added to the network's 'Base' (Base + Committed Development) traffic flows to establish the new 'Post' Development traffic flows. Base Flows for the future design years were based on Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections published by Transport Infrastructure Ireland (TII).

In Summary the following scenarios are considered at the residential-led mixed-use site at Sandford Road:

Do Nothing

- A1 – 2028 Base Flows + Committed Developments
- A2 – 2033 Base Flows + Committed Developments
- A3 – 2043 Base Flows + Committed Developments

Do Something

- B1 – 2028 Do Nothing (A1) + Proposed Development Flows
- B2 – 2033 Do Nothing (A2) + Proposed Development Flows
- B3 – 2043 Do Nothing (A2) + Proposed Development Flows

15.5.2.6 Assessment Periods

The weekday AM and PM peak hour flows have been identified in traffic survey as occurring between 08:15 - 09:15 and 16:45 - 17:45 respectively. These peak hour periods form the basis of the network assessments.

15.5.2.7 Network Impact

The Institute of Highways and Transportation document 'Guidelines for Traffic Impact Assessments' states that the impact of a proposed development upon the local road network is considered material when the level of traffic it generates surpasses 10% and 5% on normal and congested networks respectively. When such levels of impact are generated, a more detailed assessment should be undertaken to ascertain the specific impact upon the network's operational performance. These same thresholds are reproduced in the TII document entitled Traffic and Transport Assessment Guidelines (2014).

In accordance with the IHT and NRA guidelines, assessments have been undertaken to establish the potential level of impact upon the key junctions of the local road network. To enable this calculation to be undertaken, the analysis took account of the following:

- 2028 Opening Year (Do Nothing & Do Something);
- 2033 Future Design Year Scenario (Do Nothing & Do Something); and
- 2043 Future Design Year Scenario (Do Nothing & Do Something).

Table 15.10 and Figure 15.18 detail the percentage impact of the relevant key junctions for the 2028, 2033 and 2043 design years. The following junctions have been included within the transport assessment:

- **Junction 1** – Northern Site Access / R117 Sandford Road / Belmont Avenue;
- **Junction 2** – R117 Sandford Road / R825 St. James's Terrace / R117 Milltown Road / R824 Eglinton Road; and
- **Junction 3** – Southern Site Access / R117 Milltown Road / Mount Sandford.



Figure 15.18: Increase in Vehicle Trips Generated Through Key Site Junctions 2043 Do Something – 562 Units

Table 15.14 Network Impact Assessment

Junction ID	Location	2028		2033		2043	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	Northern Site Access / R117 Sandford Road / Belmont Avenue	5.94%	2.53%	5.68%	2.41%	5.42%	2.30%
2	R117 Sandford Road / R825 St. James's Terrace / R117 Milltown Road / R824 Eglinton Road	5.65%	2.82%	5.43%	2.69%	5.18%	2.57%
3	Southern Site Access / R117 Milltown Road / Mount Sandford	14.15%	12.79%	13.49%	12.20%	12.85%	11.62%

The resulting percentage in traffic flows for the 2028, 2033 and 2043 (with full development) is established as exceeding the 10% impact threshold for Junction 3 only. As Junction 3 did exceed the 10% threshold required under the Institution of Highways and Transportation document 'Guidelines for Traffic Impact Assessments', a junction performance analysis has been conducted as required by the guidance document.

During the complete and occupied operational stage of the subject site, a slight long-term traffic impact will be made on the local road environment stemming from residential and employee trips to and from the site. As can be seen from the table above, Junction 1 (Northern Site Access / R117 Sandford Road / Belmont Avenue) and Junction 2 (R117 Sandford Road / R825 St. James's Terrace / R117 Milltown Road / R824 Eglinton Road) are minimally affected throughout the design years considered. Junction 3, Southern Site Access / R117 Milltown Road / Mount Sandford, experiences a marginally higher traffic impact, though it does not indicate any capacity concerns for the junction. Section 15.6.2 below outlines various mitigation measures to be implemented during the operational stage to discourage the use of private vehicles and encourage the uptake and use of active and sustainable modes of transportation.

15.6 Mitigation Measures

15.6.1 Construction Phase

A Construction and Environmental Management Plan (CEMP) has been prepared as part of the planning application with an associated Preliminary Construction Management Plan (PCMP) which incorporates a range of integrated control measures and associated management activities with the objective of minimising the construction activities associated with the development. The following initiatives will be implemented to avoid, minimise and/or mitigate against the anticipated construction period impacts:

- During the pre-construction phase, the site will be securely fenced off/hoarded off from adjacent properties, public footpaths and roads;

- Appropriate on-site parking (temporary parking for the duration of construction works) and compound area will be provided to prevent overflow onto the local network;
- A large proportion of construction workers are anticipated to arrive in shared transport. It is likely that some numbers of the construction team will be brought to/from the site in vans/minibuses, which will serve to reduce the trip generation potential;
- Delivery vehicles to and from the site will be spread across the course of the working day, therefore, the number of HGVs travelling during the peak hours will be relatively low;
- Truck wheel washes will be installed at construction entrances;
- Any specific recommendations with regard to construction traffic management made by Dublin City Council will be adhered to;
- Potential localised traffic disruptions during the construction phase will be mitigated through the implementation of industry standard traffic management measures such as the use of traffic signage. These traffic management measures shall be designed and implemented in accordance with the Department of Transport's Traffic Signs Manual; and
- Site entrance point/s from the public road will be constructed with a bound, durable surface capable of withstanding heavy loads and with a sealed joint between the access and public highway. This durable bound surface will be constructed for a distance of 10m from the public road.
- Material storage zones will be established in the compound area and will include material recycling areas and facilities;
- 'Way finding' signage will be provided to route staff / deliveries into the site and to designated compound / construction areas;
- Dedicated construction haul routes will be identified and agreed with Dublin City Council prior to commencement of activities on-site; and
- On completion of the works, all construction materials, debris, temporary hardstands etc. from the site compound will be removed off-site and the site compound area reinstated in full on completion of the works.

15.6.2 Operational Phase

A package of integrated mitigation measures has been identified to off-set the additional local demand that the proposed residential-led mixed-use development at the subject site could potentially generate as a result of the forecast increase in vehicle movements by residents of the scheme. The identified measures and associated timescale for their implementation are summarised below.

- **Parking Management Strategy** - A management regime has been set out (and accompanies this planning application) which will be implemented by the development's management company to control access to the on-site car parking

spaces thereby actively managing the availability of on-site car parking for residents and visitors to the development. This provision equates to a car parking ratio of approximately 0.546 car parking spaces per residential unit (as shown in the Table below). The signing of a rental agreement or purchase of one of the proposed residential apartments will NOT include access to a designated on-site parking space. All potential residents (prior to signing rental agreement) will be notified that the proposed scheme is a 'low car allocation' development with no access (or guarantee thereof) to the limited on-site residents car parking provision. Nevertheless, all residents of the proposed scheme will have the opportunity to apply to the on-site management company for a resident's car parking permit (updated weekly, fortnightly, monthly, quarterly or annually) and subsequently access to a dedicated (assigned) on-site basement car parking space. A charge will be applied to obtain a permit with the objective of covering the associated management costs and discouraging long term usage of the car parking space.

Table 15.15 Car Parking Ratio

Car Parking Ratio	
Residential Car Parking Ratio including Car Share and Mobility Impaired Spaces*	0.546 Spaces/Unit
Residential Car Parking Ratio excluding Car Share and Mobility Impaired Spaces* (as per Compact Settlement Guidelines)	0.496 Spaces/Unit

- **Management** – A preliminary Mobility Management (MMP) has been compiled (Appendix 15-2) with the aim of guiding the delivery and management of co-ordinated initiatives by the scheme promotor to be implemented upon occupation of the site. The MMP will ultimately seek to encourage sustainable travel practices for all journeys to and from the proposed development.
- **Infrastructure** – Infrastructure measures identified to reduce reliance of private vehicles include the provision of ample secure cycle parking on site, exceeding minimum guidance (DHPLG), and ensuring a design which promotes permeability for pedestrians and cyclists to, through and from the development. The lower level of car parking provision for the development will also act as a powerful mobility management measure, ensuring against an overprovision of parking and a resultant over reliance on the private vehicle.
- **Infrastructure** – Junction enhancements have been identified and proposed at the R117 Sandford Road site access junction, including an upgrade to the existing controlled pedestrian crossing to a toucan crossing, with the objective of creating a highly permeable environment for pedestrians and cyclists and the tightening of corner radii on the Belmont Avenue arm, with dropped kerbs and tactile paving providing a safer informal crossing than the existing scenario. A signalised toucan crossing is also proposed at the R117 Milltown Road, adjacent to the site access location, facilitating safe connections for pedestrians and cyclists.
- **Car Sharing** – The provision of 10 No. dedicated car share (GoCar and development-owned) spaces at surface and basement level for the use of the scheme's residents

and staff. The availability of these on-site provide a viable alternative to residents needing to own a private vehicle whilst still having access to a car as and when required.

15.7 Residual Impacts

15.7.1 Construction Phase

Provided the above mitigation measures and management procedures are incorporated during the construction phase, the residual impact on the local receiving environment will be temporary in nature and neutral in terms of quality and effect.

The significance of each of the projected impacts are detailed in Table 15.16 for the following key junctions:

- **Junction 1** – Northern Site Access / R117 Sandford Road / Belmont Avenue;
- **Junction 2** – R117 Sandford Road / R825 St. James’s Terrace / R117 Milltown Road / R824 Eglinton Road; and
- **Junction 3** – Southern Site Access / R117 Milltown Road / Mount Sandford.

The significance of the impacts has been determined in accordance with the classifications stipulated within the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022).

Table 15.16 Impact Significance – Construction Phase

Ref	Environment Character	Quality / Scale of Impact	Impact Significance	Duration
1	Low Sensitivity	Neutral	Imperceptible	Temporary
2	Low Sensitivity	Negative - Low	Not Significant	Temporary
3	Low Sensitivity	Negative - Low	Not Significant	Temporary

15.7.2 Operational Phase

15.7.2.1 Network Performance

In order to analyse and assess the impact of the proposed development on the surrounding road network, a traffic model of the junctions was analysed for the schemes following opening, interim and design years:

- 2028 Opening Year (562 residential units + 375 m² creche + 179m² café/restaurant);
- 2033 Interim Year (562 residential units + 375 m² creche + 179m² café/restaurant);and
- 2043 Future Horizon Year (562 residential units + 375 m² creche + 179m² café/restaurant).

The following key junction has been analysed as it exceeded the 10% threshold required under the Institution of Highways and Transportation document ‘Guidelines for Traffic Impact Assessments’:

- **Junction 3** – Southern Site Access / R117 Milltown Road three-arm priority-controlled junction.

The operational assessment of the junction network has been undertaken using the Transport Research Laboratory (TRL) computer package PICADY for one priority junction.

When considering priority-controlled and roundabout junctions, a Ratio of Flow to Capacity (RFC) of greater than 85% (0.85) would indicate a junction to be approaching capacity, as operation above this RFC value is poor and deteriorates quickly.

For the PICADY analyses a 90-minute AM and PM period has been simulated, from 08:00 to 09:30 and 16:30 to 18:00, respectively. The traffic flows were entered using an Origin-Destination table for the peak hours.

The evaluation of the operational performance of the key off site junctions following the implementation of the proposed residential-led mixed-use scheme is summarised below for the Do Nothing (DN) and the Do Something (DS) scenario.

Existing – Do Nothing (DN): The potential level of traffic generated by committed developments and the existing baseline flows travelling across the network.

Proposed – Do Something (DS): The original development traffic in addition to the Base scenario (Existing – Do Nothing).

The evaluation of the operational performance of the key junctions across the local road network both prior to and following the implementation of the proposed residential-led mixed-use development are summarised below in Table 15.17 based upon the findings of the PICADY and TRANSYT based junction assessments.

Table 15.17 Junction Operational Performance Evaluation (RFC values)

Scenario		Junction 3		
		2028	2033	2043
Do Something	AM	7%	7%	7%
	PM	14%	15%	16%

For Junction 3, the southern site access, the results of the PICADY assessment indicate that the priority-controlled junction will operate within capacity for all “Do Something” scenarios, with a maximum RFC value of 16% for the 2043 Do Something PM peak hour.

15.7.2.2 Impact Significance

The implementation of the mitigation measures outlined above, including the MMP, will ensure that the residual effect on the local receiving environment is both managed and minimised. In reference to Table 15.14, the analysis predicts the scale of residual impact, during both the 2033 and 2043 design years, as being below 10% on the surrounding links, with the exception of following links as shown in Table 15.17.

Table 15.18 Links with Impact >10%

	Link	Peak Hour	2028 Do Something	2043 Do Something
3	Southern Site Access / R117 Milltown Road / Mount Sandford	AM	14.15%	12.85%
		PM	12.79%	11.62%

With regards to the TII thresholds, the 2028 and the 2043 analysis, the principal site access junction at Milltown Road demonstrates that the proposed development will generate an impact greater than 10%. As a result, the junction's 2043 Design Year scenario has been subject to detailed analysis as discussed above in the previous paragraphs and in line with the criteria set out within the Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022).

The significance of each of the projected impacts at each of the key nodes following the introduction of the identified mitigation works is detailed within the following table for the adopted worst case (e.g. peak hours) 2043 Future Year scenarios.

Table 15.19 Impact Significance – 2043 Design Year

Ref	Peak Hour	Environment Character	Quality / Scale of Impact	Impact Significance	Duration
3	AM	Low Sensitivity	Negative - Low	Not Significant	Short-term
	PM	Low Sensitivity	Negative - Low	Not Significant	Short-term

As shown in Table 15.19 above, the impact significance for both the AM and PM peak hours of the 2043 design year scenario is 'Not Significant' with the proposed development resulting in an environmental impact of only a 'Short-term' duration.

15.8 Monitoring

15.8.1 Construction Phase

During the construction stage, the following monitoring exercises are proposed:

- Compliance with construction vehicle routing practices;
- Compliance with construction vehicle parking practices;
- Internal and external road conditions; and
- Timing of construction activities.

15.8.2 Operational Phase

As part of the MMP process, bi-annual post occupancy surveys are to be carried out in order to determine the success of the measures and initiatives as set out in the proposed MMP document. The information obtained from the monitoring surveys will be used to identify ways in which the MMP measures and initiatives should be taken forward in order to maintain and further encourage sustainable travel characteristics.

15.9 Reinstatement

15.9.1 Construction Phase

The construction works areas will be reinstated following completion of development with landscaped areas provided where proposed. The majority of works will be restricted to the footprint of the site for the proposed development with upgrades required to public road to construct the proposed site access junctions including toucan crossings as well as service connections. Excavated topsoil and subsoil will be reused in reinstatement and landscaping where appropriate or dealt with in the appropriate manner i.e. sent for soil recovery as appropriate.

15.9.2 Operational Phase

No reinstatement requirements have been identified in relation to the operational phase of the proposed development.

15.10 Interactions

The following summaries briefly outline the interaction between each factor discussed in this EIAR and transportation. Further reference should be made to Chapter 20 'Interactions and Cumulative Impacts' for a detailed account of potential interactions and resulting impacts.

15.10.1 Air Quality

Overall, the impact of the interaction between air quality and traffic is considered long-term, slight negative and not significant. Refer to the relevant chapters for additional information.

15.10.2 Noise and Vibration

The noise emission sources from the proposed development during the construction and operational phases will be from traffic. The noise impact assessment has been prepared in consultation with the design team and traffic engineers. Refer to the relevant chapters for additional information.

15.10.3 Population

Construction and operational stage traffic and traffic management measures have the potential to affect journey amenity or economic activity as a result of increased congestion or access restrictions.

The increased infrastructure for sustainable travel modes can contribute towards modal shift in travel patterns and increased physical activity. Employment and economic activity will be generated during the construction stage of the project. Refer to the relevant chapters for additional information.

15.10.4 Land and Soils

The volumes of surplus soils generated by the scheme and the earthworks import requirement will affect construction stage traffic generation. Measures to optimize design and minimise material generation are detailed in the relevant chapters.

15.10.5 Water and Hydrology

Construction and operational stage traffic have the potential to impact on water quality via hydrocarbon spills and leaks and via increased sediment/particle loading on trafficked surfaces. Measures to mitigate against impacts are detailed in Chapter 11.

15.10.6 Waste Management

It is important that construction and operational impacts in relation to issues that may arise along the local road network, in addition to increases in vehicle emissions and waste attributable to the proposed scheme, are addressed. Suitable mitigation measures aimed at reducing these impacts are identified below and further detailed in Chapter 14.

15.10.6.1 Construction & Demolition Waste Management

The principle of 'Duty of Care' in Waste Management Act 1996-2008 states that the waste producer is responsible for waste from the time it is generated through to its legal disposal (including its method of disposal). Waste materials generated by earthworks, demolition and construction activities will be managed according to the Department of the Environment, Heritage and Local Government's 2006 Publication – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects.

Waste minimisation and prevention shall be the main responsibility of the Contractor who will ensure the following:

- Use of precast / prefabricated materials where possible;
- "Cut" materials generated by the construction works to be re-used onsite where possible, through various works resulting in a;
 - o Reduction in the requirement for virgin aggregate materials from quarries;
 - o Reduction in energy required to extract, process and transport virgin aggregates; and
 - o Reduced HGV movements associated with the delivery of imported aggregates to the site.
- Materials will be ordered on a 'just in time' basis to prevent over supply and site congestion;
- Materials will be correctly stored and handled to minimise the generation of damaged materials;

- Materials will be ordered in appropriate sequence to minimise materials stored on site; and
- Sub-contractors will be responsible for similarly managing their wastes.

The minimisation and prevention of wastes will reduce the total number of HGVs accessing and egressing the site through the appointed haulage routes and thereby reduce the potential impact on the site's surrounding traffic network.

Construction and demolition waste will be managed in accordance with a Construction & Demolition Waste Management Plan which outlines the planning, prevention, management, duty of care and tracking of all construction and demolition waste.

Construction and demolition will be planned to identify and implement ways to prevent, reduce, reuse and recycle waste. Work will be planned with waste minimisation in mind.

15.10.6.2 Operational Waste Management

The typical non-hazardous and hazardous wastes that will be generated at the proposed development will include the following: Dry Mixed Recyclables (DMR), organic waste, glass and Mixed Non-Recyclable (MNR) / general waste. Wastes will be segregated into the above waste types to ensure compliance with waste legislation and guidance while maximising the re-use, recycling and recovery of waste with diversion from landfill wherever possible.

Waste storage and collection arrangements at the proposed development have been prepared with due consideration of the proposed site layout and location as well as best practice standards, local and national waste management requirements including those of DCC. In particular, consideration has been given to the following documents:

- BS 5906:2005 Waste Management in Buildings – Code of Practice;
- EMR Waste Management Plan 2015 – 2021;
- Dublin City Council Development Plan 2022 – 2028 (Appendix 10);
- DCC, Bye-Laws for the Storage, Presentation and Collection of Household and Commercial Waste (2013); and
- Sustainable Residential Development and Compact Settlement Guidelines for Planning Authorities (2024).

There are numerous private contractors that provide household and commercial waste collection in the Dublin City area. All waste contractors servicing the proposed development must hold a valid waste collection permit for the specific waste types collected. All waste collected must be transported to registered, permitted and / or licensed facilities only.

It is recommended that waste collection times / days are staggered for the different waste types to reduce the number of bins required to be presented for collection / emptying at the collection points within and outside the site at any one time. In accordance with the DCC Waste Bye-Laws waste collections can only take place between 6am and 9pm on a given collection day and waste cannot be presented for collection before 6pm on the day before collection.

Waste will be presented for collection in a manner that will not endanger health, create a risk to traffic, harm the environment or create a nuisance through odours or litter.

15.11 Cumulative Impacts

The analysis detailed above represents an appraisal in terms of potential cumulative impacts for a typical weekday as it is focused upon the key two busiest periods of the day (e.g. AM and PM peak hours). During the other 22 hours of the day, traffic flows are predicted to be significantly lower resulting in the network operating with additional reserve capacity to that forecast for the peak hour periods.

Furthermore, if any of the adjacent zoned lands in the area were to be developed, aside from those included as a committed development, this would have an effect on the local road network. However, the scale of any potential impact would be fully assessed during the planning procedures for any of these individual third-party developments (which currently do not benefit from planning permission).

Nevertheless, the utilisation of TII's growth rates does take some account of the potential additional traffic that such third party sites could generate. The TII Project Appraisal Guidelines (PAG) have been utilised to determine the traffic growth forecast rates for the Dublin Metropolitan Area as outlined in Section 15.5.2.7 of this chapter. The traffic growth forecast rates within the PAG ensures local and regional variations and demographic patterns are accounted for.

In reference to the findings of the network simulation and associated junction modelling analysis undertaken and detailed in the previous section, the proposed priority-controlled site access junctions will have sufficient reserve capacity to accommodate the associated future increases in additional traffic movements.

Table 15.20 Summary of Construction Phase Likely Significant Effects with and without out Mitigation / Monitoring

		Impact Without Mitigation					Mitigation Measures	Monitoring	Impact With Mitigation / Monitoring				
Likely Significant Effect	Extent	Quality	Significance	Duration	Type	Probability			Quality	Significance	Duration	Type	Probability
Congestion on the local road network as a result of HGVs during the Construction Stage.	Local	Negative	Significant	Short-Term	Direct	Likely	An appropriate control and routing strategy for HGVs and the phasing of construction vehicles throughout the day.	Compliance with construction vehicle routing practices.	Neutral	Slight	Short-Term	Direct	Un-Likely
Additional HGVs required due to improper storage, material damage or lack of reuse of construction materials.	Local	Negative	Moderate	Short-Term	Direct	Likely	Material storage zones will be in use as well as the conducting of regular inventory checks to ensure reuse of available material.	Compliance with construction waste management practices.	Neutral	Not Significant	Short-Term	Direct	Un-Likely

Table 15.21 Summary of Operational Phase Likely Significant Effects with and without out Mitigation / Monitoring

		Impact Without Mitigation					Mitigation Measures	Monitoring	Impact With Mitigation / Monitoring				
Likely Significant Effect	Extent	Quality	Significance	Duration	Type	Probability			Quality	Significance	Duration	Type	Probability

An increase in traffic flow causes capacity issues at local junctions	Local	Negative	Significant	Medium-term	Direct	Un-Likely	A detailed parking management strategy and MMP have outlined the various methods with which private car ownership will be deterred and sustainable transport options promoted.	Bi-annual occupancy surveys as part of the MMP process will be conducted to determine efficacy of measures and to further encourage a modal shift.	Neutral	Slight	Medium-term	Direct	Un-Likely
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15.12 'Do-Nothing' Impacts

In the absence of the proposed development, the overall operational performance of the existing junctions on the surrounding road network will be impacted by the forecast background network traffic growth (should that growth arise) and the following committed developments:

- 97-Unit Residential Development at Milltown Road (ABP Ref. ABP-313048-22)
- 63-Unit Residential Development at Sandford Lodge (ABP Ref. PL29S.322089)
- Purpose built student accommodation at Clonskeagh Road (ACP Ref. LH29S.323142)
- 1,431m² extension for a new science facility (DCC Ref. WEB2190/24)

15.13 Difficulties Encountered in Compiling the Chapter

There were no material difficulties encountered in compiling and assessing the data for this EIAR sufficient to prevent modelling of the likely transport effects of the proposed development.

15.14 Conclusion

The purpose of this EIAR chapter was to quantify the existing transport environment and to detail the results of assessment work undertaken to identify the potential level of transport impact generated as a result of the construction and operational phases of the proposed residential-led mixed-use development.

It is concluded that there are no traffic or transportation related reasons that should prevent the granting of planning permission for the proposed residential-led mixed-use development.

15.15 References

- Environmental Protection Agency (EPA) Guidelines on the information to be contained in the EIAR (May 2022);
- Transport Infrastructure Ireland (TII) Traffic and Transportation Assessment Guidelines PE-PDV-02045 (2014).
- 'Traffic and Transport Assessment Guidelines' (May 2014) National Road Authority (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;
- Guidance on the preparation of Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU) (European Commission, 2017) (the EU EIAR Guidance)
- 'The Dublin City Development Plan 2022 – 2028' (DCC, 2016);
- 'Transport Strategy for the Greater Dublin Area 2022 – 2042' (NTA, 2022);
- 'Design Manual for Urban Roads and Streets' (DTTAS & DHPLG, 2019); and
- 'Cycle Design Manual' (NTA, 2023).
- Bus Connects website (www.busconnects.ie);
- Traffic Signs Manual 'Chapter 8 Temporary Traffic Measures and Signs for Roadworks', Department of Transport;
- Dublin Bus website (www.dublinbus.ie);
- 'Greater Dublin Area Cycle Network Plan' (National Transport Authority, 2022);
- Ordnance Survey Ireland (www.osi.ie);
- Transport for Ireland (www.transportforireland.ie);
- Transport Infrastructure Ireland (www.tii.ie).