14 MATERIAL ASSETS (TRANSPORTATION)

14.1 INTRODUCTION

14.1.1 Background

This chapter of the Environmental Impact Assessment Report (EIAR) provides an assessment of the existing environmental setting and the likely significant impacts on the surrounding transport network, associated with the proposed residential development at Portmarnock South Phase 1F in the townlands of Maynetown and Portmarnock, Co. Dublin and partially located in the townland of Stapolin, Baldoyle, Dublin 13. The characteristics of the potential and predicted impacts during the Construction and Operational Phase of the Proposed Development are assessed and evaluated. Where an impact is identified, appropriate mitigation measures to avoid any identified significant effects to the surrounding transport network are recommended and the residual impacts of the Proposed Development post-mitigation are assessed.

The Proposed Development (Phase 1F) which consists of 296 no. residential units, described in detail in Chapter 3: Description of Proposed Development and in Section 14.4 below, are situated on lands designated for new residential communities in accordance with the Fingal Development Plan 2023-2029 and previously in the Portmarnock South Local Area Plan 2013 (now expired).

This assessment was prepared by Kwok Chuen Lam, Chartered Engineer who is a Senior Engineer with Egis Engineering Ireland Limited. Kwok Chuen Lam has 19 years' experience specialising in the field of Traffic and Transport Engineering. He has been engaged as team member on a variety of Transportation and Traffic projects. His experience includes the design and management of road improvement projects, preparation of mobility management plans and traffic impact assessments.

14.1.2 Consultation and Scoping Study

A series of pre-planning meetings have been held with Fingal County Council (FCC) since 2015 to discuss earlier Phases 1A, 1B and 1C. In addition, a Section 247 meeting was held with FCC on 11 March 2021 to discuss the then proposed development (Phase 1D) and finally pre-planning meetings in respect of this Phase 1E were held with FCC on 9 March 2022, 17 August 2023 and 19 March 2024. Currently LRD meetings have commenced for Phase 1F – 3 December 2024 with a request in for a Stage 2 meeting, for which this report has been prepared.

As part of the application process, it was agreed with FCC in June 2017 for an earlier phase, that the study area would also include the four junctions surrounding the development as well as the current access junctions;

- Junction 1: Station Road/Drumnigh Road R124 (to the northwest),
- Junction 2: Strand Road/Coast Road/Station Road (to the northeast),
- Junction 3: Moyne Road/Coast Road (to the southeast), and
- Junction 4: Hole in the Wall Road/Mayne Road Junction (to the southwest).

These junctions were selected as they are considered the junctions most likely to be affected by traffic associated with the proposed development.

14.2 ASSESSMENT METHODOLOGY

14.2.1 Objectives

This chapter provides an assessment of the potential traffic impacts associated with both Phase 1F of the development and the Entire Development (constructed Phases 1A, 1B, 1C, Phase 1D nearing full completion, Phase 1E granted permission, this proposed Phase 1F and future Phase 1G – infill phase) as shown in **Figure 14-2**. In this regard, the assessment aims to:

- Identify the existing environment in terms of traffic and transportation,
- Quantify the likely vehicle traffic flows to and from the development and to the surrounding road network,

- Identify and quantify the likely traffic impacts on the surrounding road network resulting from the development,
- Identify any potential safety issues, in particular impacts on vulnerable road users in the study area,
- Identify parking requirements, and
- Identify suitable measures to mitigate traffic and transportation impacts, if any, associated directly with the development.

The assessment is based on the findings of site visits, traffic observations, on-site traffic counts, architectural plans, and discussions with the design team.

14.2.2 Methodology

The methodology adopted for this report is summarised as follows:

- Reference was made to site layout drawings issued by the project architect and the proposed plans for the site,
- An inspection of the local road network was undertaken,
- Proposed access arrangements for the development onto the surrounding road network were considered,
- The traffic survey locations and survey times were selected so as to best reflect the likely traffic generation to and from the subject development, particularly at proposed site access/egress points,
- Existing traffic volumes on the surrounding road network were analysed, and
- The junctions considered to be most likely to be impacted upon by traffic movements associated with the proposed development were assessed in terms of capacity and road safety.

In preparing this assessment, reference has been made to the following documents:

- TII Traffic and Transport Assessment Guidelines,
- TII Publications Project Appraisal Guidelines for National Roads document 'Unit 5.3 Travel Demand Projections' (issued in October 2021),
- Design Manual for Urban Roads and Streets (DMURS),
- South Fingal Transport Study (2019),
- Portmarnock South Local Area Plan (2013), and
- Fingal Development Plan 2023-2029.

14.3 RECEIVING ENVIRONMENT

14.3.1 Proposed Development

Figure 14-1: Phase 1F Development Location Plan
(Source: Microsoft Online Mapping, annotation by EGIS Engineering Ireland)

The site for the proposed residential development (Phase 1F, as defined in **Figure** 14-1 above) is on lands north of Moyne Road and south of Station Road, east of the Dublin-Belfast/ (DART) Railway Line, and to the west of the Coast Road. The northern frontage of the site, onto Station Road, currently provides access to the external road network. As part of the Phase 1D, granted permission by An Bord Pleanala in May 2022 (ABP-312112-21), and construction nearing completion, May 2025, it is

proposed to link these developments via an access road direct to Moyne Road in the south. The Portmarnock South LAP (now expired) provided for this access to the development from Station Road and Moyne Road.

Table 6.3 of the Fingal Development Plan 2023-2029, contains an objective to upgrade both Moyne Road (i.e. R123 Moyne Road realignment) and Station Road (i.e. Station Road, Portmarnock and Drumnigh Road Junction) in the future.

Coast Road runs along the eastern side of the Proposed Development in a north south direction from its junctions with Station Road to the north and Moyne Road to the south.

Portmarnock DART station is situated to the northwest of the site with direct access off Station Road and pedestrian/cycle links through the developments. The rail line runs along the western boundary of the site. Further lands zoned for development lie to the west of the Dublin-Belfast / (DART) Railway Line in the vicinity of the site.

14.3.2 Cumulative (Entire Development)

The location of the Entire Development is shown in **Figure 14-2**.

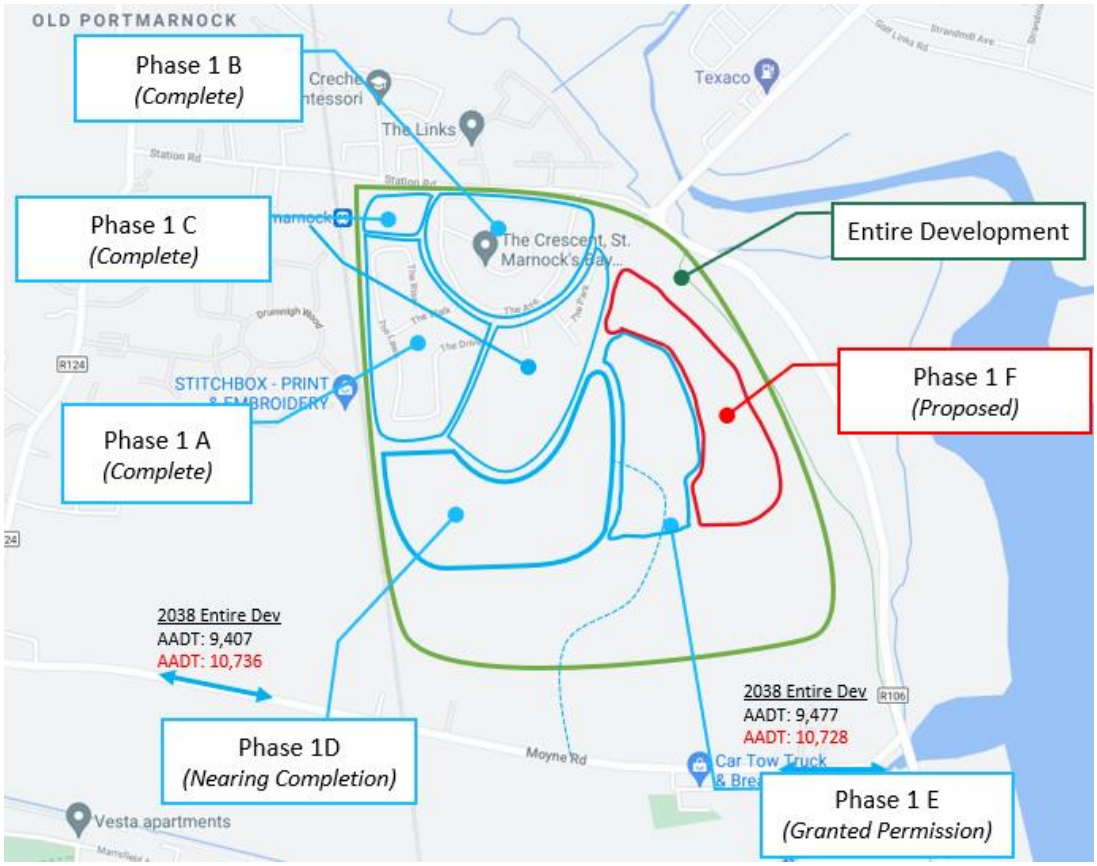

Figure 14-2: Entire Development & Phases
(Source: Google Maps, annotation by EGIS Engineering Ireland)

14.3.3 Local Road Network

The subject site for the proposed development is located south of Station Road and north of Moyne Road in Portmarnock. Station Road is a bi-directional two-lane distributor road. In the vicinity of the site, Station Road has a road pavement width of approximately 5.5 to 6.0 metres. To the west of the site along the DART station northern boundary, the road (upgraded in 2013 as part of the Station Road rail overbridge scheme) has a carriageway width of 6.4 metres and footpaths provided on both

sides of the road. Additionally, a cycle track is present on both sides of the road (recently upgraded on the northern side) between the proposed development and Portmarnock DART station. A signalised pedestrian crossing was also installed as part of the scheme at a pedestrian access to the DART station from Station Road.

The junction of Station Road/Strand Road/Coast Road has, in recent years, been upgraded from a roundabout to a signalised junction with improved facilities for pedestrians in compliance with a planning condition imposed on Phase 1C (ABP-305619-19).

Moyne Road (R123) is a bi-directional two-lane distributor road and has a road pavement width of approximately 6.0 to 6.5 metres. A pedestrian footpath is partially present along the northern side of Moyne Road, but no pedestrian footpath exists along the southern side.

The proposed development will be served by three priority-controlled junctions providing direct access from the external road network. Two of these junctions are on Station Road and one on Moyne Road. One of the access junctions on Station Road, 180m east of the Dart station has been constructed as part of Phases 1A/1B and is currently in use by the residents of Phases 1A, 1B, 1C and 1D. The other access junction on Station Road, 450m east of the DART Station was completed as part of the Phase 1B/1C developments. The current haul road access off Moyne Road is c. 650m west of the Coast Road and is being constructed as a permanent access, as part of the Phase 1D development.

See **Figure** 14-3 to **Figure** 14-6 following for photographs of Station Road and Moyne Road as it currently exists past the subject site and the new access.

Figure 14-3: Station Road looking west towards the DART Station *(Source: Google Maps)*

Figure 14-4**: Access constructed with Phases 1A/1B (180m east of the DART Station) looking from the Station Road** *(Source: Google Maps)*

Figure 14-5: Access constructed with Phases 1B/1C (450m east of the DART Station) looking from Station Road *(Source: Google Maps)*

Figure 14-6: Moyne Road R123 looking East – Access Road under Construction Phase 1D *(Source: Google Maps)*

14.3.4 Existing Cycling and Pedestrian Facilities

The site is connected to the surrounding public footpath and cycle track network via the footpaths and cycle tracks on Station Road. A section of cycle track/lane of approximately 600 metres is present at Station Road between the Proposed Development and Seabrook Manor (refer to **Figure** 14-3 and **Figure** 14-5). Beyond Seabrook Manor, the nearest cycle lane is on the junction of Drumnigh Road / Drumnigh Manor as shown in **Figure** 14-7 and cyclists are expected to share the carriageway with motorists for 800 metres along Station Road and Drumnigh Road to access this cycle lane.

Figure 14-7: Cycle Track on Drumnigh Road *(Source: Google Maps)*

In 2013, the NTA published the Greater Dublin Area (GDA) Cycle Network Plan, which examined existing cycle facilities within the GDA and identified a number of cycle networks consisting of the Urban Network, Inter-Urban Network and Green Route Network for each of the seven Local Authorities within the GDA. The nearby existing cycle facilities are shown in **Figure** 14-8. The Baldoyle to Portmarnock Greenway was completed in May 2020 and it provides approximately 1.8 km of cycle track and pedestrian footpath between Baldoyle to Portmarnock as shown in **Figure** 14-8.

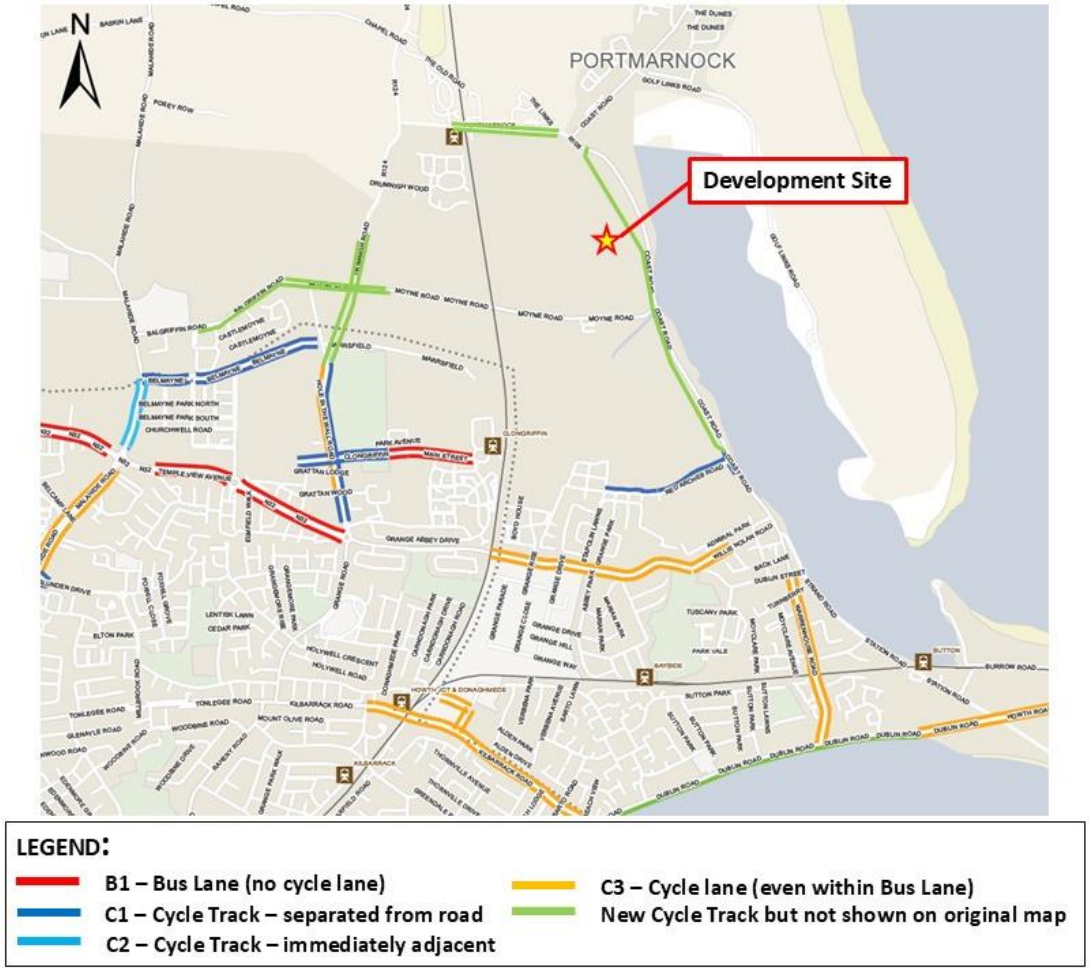

Figure 14-8: Existing Cycle Facilities *(Source: NTA Map N2, annotation by EGIS Engineering Ireland)*

14.3.5 Proposed Cycling Network

The Greater Dublin Area Cycle Network Plan examines the proposed cycle network in the Portmarnock Area. The proposed cycle networks include a new secondary cycling and greenway-leisure cycling (part delivered to a different alignment) in the vicinity of the proposed development as shown in **Figure** 14-9.

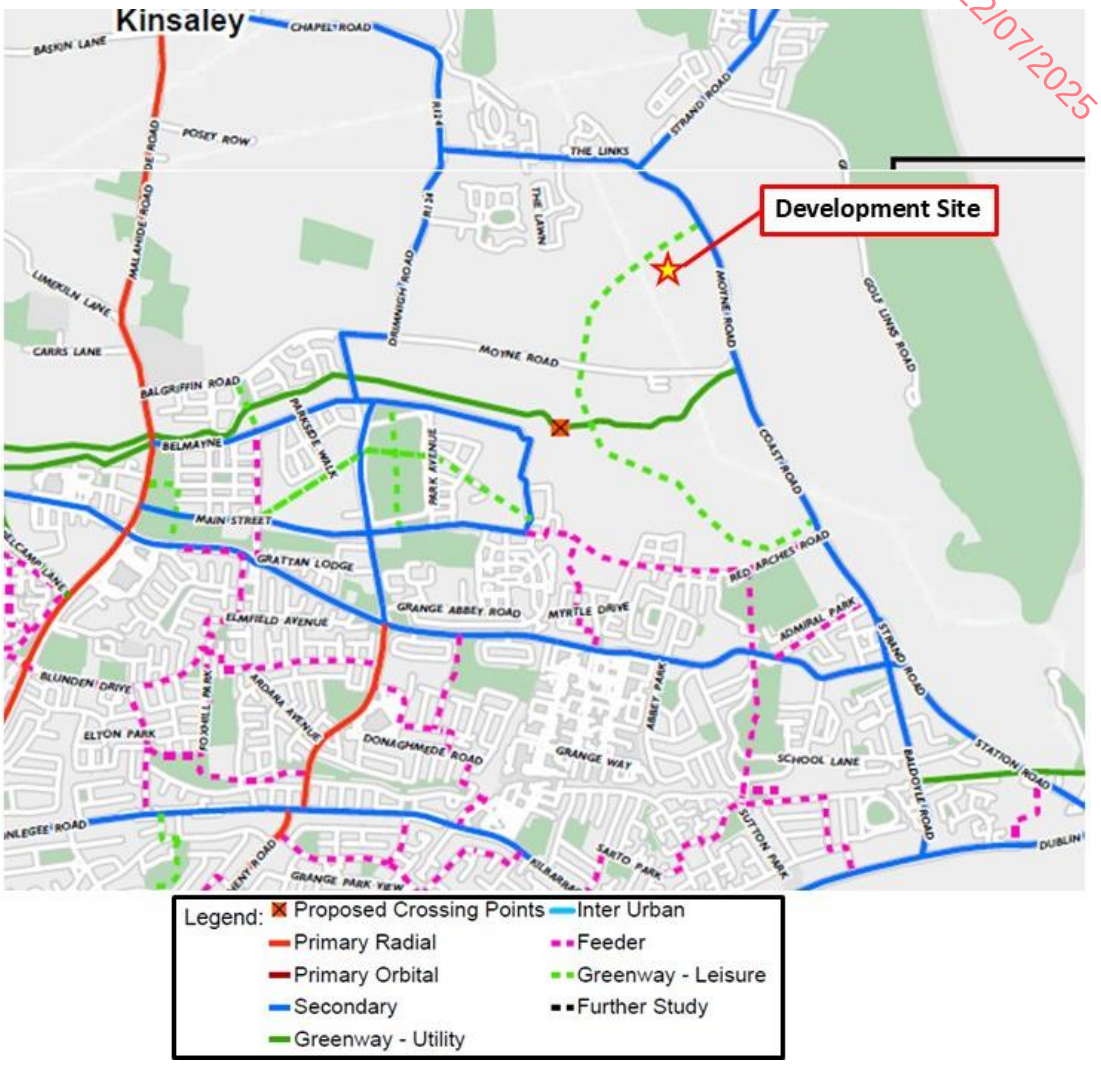

Figure 14-9: Proposed Cycle Network *(Source: 2022 GDA Cycle Network – Dublin North East, annotation by EGIS Engineering Ireland)*

14.3.6 Existing Public Transport

The subject site and surrounding lands are currently very well serviced by public transport (i.e. train and bus services).

14.3.6.1 Train Services

The DART rail line lies immediately to the west of the site and provides DART and suburban rail services to Malahide and the city centre from Portmarnock Station which is located to the north-west of the site and approximately 900 metres (approximately 11-minute walk and 5-minute cycle) from the proposed development as shown in **Figure** 14-10. Other DART stations are also located nearby at Malahide to the north and Clongriffin to the south. At the time of writing, the frequency of train services provided at Portmarnock Station are shown in **Table** 14-1**.** Exact times can be found on the Irish Rail website (https://www.irishrail.ie/en-ie/station/portmarnock).

Figure 14-10: Portmarnock Station Location (*Source: Google Maps, annotation by EGIS Engineering Ireland)*

Train Direction	Frequency of Services at Portmarnock Station		
	Mon-Fri	Sat	Sun
Dublin – Dundalk	10 services (07:54 – 23:40)	21 services (07:25 – 23:45)	15 services (09:10 – 23:40)
Dundalk – Dublin	11 services (06:25 – 22:05)	22 services (06:20 – 22:10)	15 services (07:40 – 22:00)
Gorey/Bray – Dublin – Howth/Newry	55 services (05:32 – 23:40)	55 services (06:16 – 23:45)	32 services (09:10 – 23:40)
Howth/Newry – Dublin – Bray/Gorey	57 services (06:14 – 23:40)	56 services (06:25 – 23:35)	34 services (07:45 – 23:35)

Note: 1) The rail fares and tickets details can be referenced here; https://www.irishrail.ie/en-ie/rail-fares-and-tickets/fares-info/dart-and-short-hop-zone.
2) The train timetable can be referenced here; https://www.irishrail.ie/en-ie/station/portmarnock.

Table 14-1: Train Service (www.irishrail.ie)

14.3.6.2 Bus Services

There are five bus stops located on Coast Road, Strand Road and Portmarnock Station which are within 800 metres (approximately 10-minute walk and 5-minute cycle) from the Proposed Development (refer to **Figure** 14-11). All stops are serviced by various bus companies. The bus companies servicing the Proposed Development are Dublin Bus and Go-Ahead. The bus routes servicing this area are listed in **Table** 14-2.

Figure 14-11: Bus Stop Locations (*Source: Google Maps, annotation by EGIS Engineering Ireland*)

Route No.	Route Direction	Frequency of Services			Bus Stop No.
		Mon-Fri	Sat	Sun	
32X	Malahide – UCD Belfield	1 service (07:15)	No service	No service	Stop 4465 on Strand Road and Stop 944 on Coast Road
	UCD Belfield - Malahide	1 service (16:45)	No service	No service	Stop 943 on Strand Road
42D	DCU - Portmarnock	1 service (17:10)	No service	No service	Stop 4465 on Strand Road
	Portmarnock - DCU	1 service (07:30)	No service	No service	Stop 943 on Strand Road
42N	Dublin City South, D'Olier Street – Portmarnock, Strand Road	No Service from Monday to Thursday, 5 services on Friday (00:00 – 04:00)	5 services (00:00 – 04:00)	No service	Stop 4465 on Strand Road
102	Dublin Airport – Sutton DART	37 services (05:50 – 23:40)	37 services (05:45 – 23:45)	31 services (08:40 – 23:40)	Stop 8343 on Portmarnock Station
	Sutton DART – Dublin Airport	37 services (06:00 – 23:45)	36 services (06:00 – 23:40)	31 services (08:40 – 23:40)	Stop 8343 on Portmarnock Station
102A	Sutton - Swords	1 service (15:45 from Monday to Thursday), 1 service (13:15 on Friday)	No service	No service	Stops 943 and 4503 on Strand Road

Route No.	Route Direction	Frequency of Services			Bus Stop No.
		Mon-Fri	Sat	Sun	
102C	Balgriffin - Sutton	1 service (7:32)	No service	No service	Stop 4465 on Strand Road and Stop 944 on Coast Road
	Sutton - Balgriffin	1 service (15:40 on Monday, Tuesday and Thursday), 1 service (14:50 on Wednesday and Friday)	No service	No service	Stops 943 and 4503 on Strand Road
102T	Swords - Sutton	2 services (07:22 – 07:31)	No service	No service	Stop 4465 on Strand Road and Stop 944 on Coast Road
	Sutton - Swords	1 service (15:50 on Monday, Tuesday, Thursday and Friday), 1 service (14:55 on Wednesday)	No service	No service	Stops 943 and 4503 on Strand Road
H2	Malahide – Lower Abbey Street	36 services (05:17 – 23:45)	33 services (06:02 – 23:45)	28 services (06:43 – 00:05)	Stop 4465 on Strand Road and Stop 944 on Coast Road
	Lower Abbey Street – Malahide	36 services (05:15 – 23:15)	32 services (06:30 – 00:15)	28 services (07:15 – 00:15)	Stops 943 and 4503 on Strand Road

Note: 1) The bus timetable can be referenced here; https://www.transportforireland.ie/getting-around/by-bus/route-maps/.

Table 14-2: Bus Routes Serving the Area

14.3.6.3 Car Clubs and Car Sharing

Car clubs or car sharing (i.e. “Yuko” and “GoCar”) is a model of car rental where people rent cars for short periods of time, often by the hour. It differs from traditional car rental in that as noted above rental periods are shorter, the owners of the cars are sometimes private individuals themselves, and the carsharing facilitator is generally distinct from the car owners. Carsharing is part of a larger trend of shared mobility. Benefits include cost saving, convenience (no responsibility for insurance, tax, fuel, maintenance), less traffic congestion and less parking pressure. At the time of writing, two GoCars (GoBase) are available at the Clongriffin – Park Avenue North (refer to **Figure** 14-12) which is approximately 2 kilometres walking distance (approximately 24-minute walk and 12-minute cycle) from the proposed development.

Figure 14-12: Location of GoCar
(Source: https://www.gocar.ie/locations, annotation by EGIS Engineering Ireland)

14.3.7 Proposed Public Transport

The BusConnects scheme proposes 23 No. Core Bus Corridors extending radially from Dublin City Centre to the surrounding suburbs, as well as a number of local bus routes. As part of the BusConnects scheme, it is proposed to introduce three new bus routes in close proximity to the development. **Figure** 14-13 taken from the latest BusConnects proposal, illustrates these new routes in the vicinity of the Proposed Development. It is proposed to introduce a local bus route L81, which operates between Dublin Airport and Sutton DART Station and will pass via Station Road, Coast Road and Strand Road. Additionally, it is proposed to introduce a peak time route X78, which operates between Malahide and UCD via city centre and will pass via Coast Road and Strand Road. The bus route H2 of the H-Spine (between Malahide and Lower Abbey Street) provides a bus service on Coast Road and Strand Road to the proposed development. This route became operational in June 2021 and operates at a frequency as shown in **Table** 14-2.

It is noted that the Portmarnock South LAP (now expired) indicated a desire to improve bus access to the Portmarnock DART Station (and considered support for route through the lands), however BusConnects indicates no future proposals here, other than Local Bus Route L81 – along Station Road, which will serve that purpose. Footpath and cycling linkages are provided throughout the proposed development and previous phases which will facilitate access to the Portmarnock DART Station for residents.

Figure 14-13: Proposed BusConnects Routes in the vicinity of the Proposed Development
(Source: www.busconnects.ie, annotation by EGIS Engineering Ireland)

14.3.8 Road Safety

14.3.8.1 Introduction

The proposed development has been designed with pedestrians and cyclists needs at the forefront rather than motorists. This will create a congenial and safe environment for pedestrians and cyclists. Footway and cycleway networks are designed in accordance with the Design Manual for Urban Roads and Streets and will facilitate direct and safe access between the adjacent Portmarnock DART station and surrounding areas.

The development access points are carefully positioned at locations to maximise available forward visibility along Station Road and Moyne Road. The development junctions have been designed to ensure that two-way traffic movements can be safely accommodated, and, in addition, the swept path of refuse type vehicles is catered for. The access junctions and internal site junctions have been designed in accordance with the Design Manual for Urban Roads and Streets (2019).

14.3.8.2 RSA Database

The Road Safety Authority (RSA) database of road collision information was interrogated to establish if the surrounding road network in the vicinity of the Proposed Development access holds records relating to historical collision occurrence (**Figure** 14-14 below). Collisions from 2005 to 2016 only are available (to be reviewed for planning application).

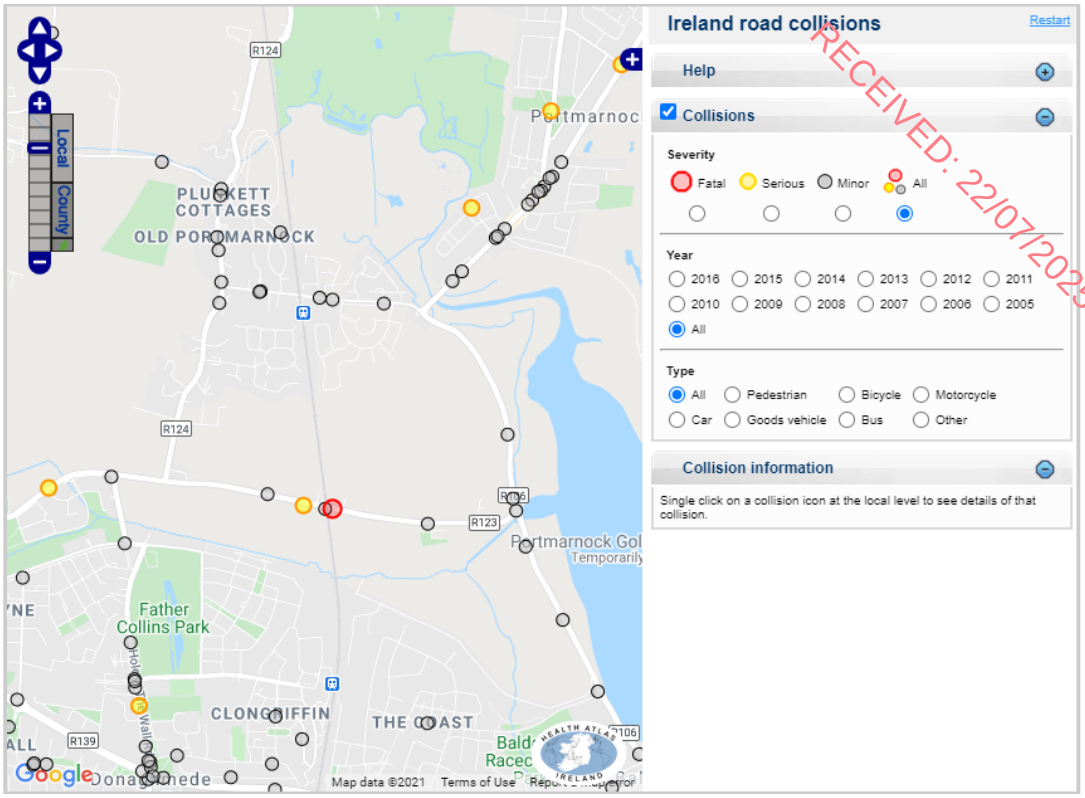

Figure 14-14: RSA Record of Collisions

This exercise revealed that there has been one fatal collision on Moyne Road, recorded in 2013. In addition, there has been one serious single vehicle collision (involving a motorcycle 2010) and a series of minor collisions on the surrounding road network near the development. Due to the isolated nature and low frequency of these collisions a pattern of collisions is not identifiable. It is anticipated that the proposed development will have no significant negative impact on the road safety of the area. Additionally, the relatively recently constructed junction upgrades to the Hole in the Wall Junction and the Station Road/Strand Road/Coast Road Junction, will have a positive impact on road safety, in particular for vulnerable road users.

14.4 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

14.4.1 Proposed Development

The Proposed Development (Phase 1F), is described in detail in Chapter 3: Description of Proposed Development, but may be summarised as follows: -

- 296no. units (254no. houses and 42no. apartments/duplexes ranging from 1.5 – 3 storeys in height).
- Provision of public open space, including southern Monument Park (which also formed part of Racecourse Park development permitted under ABP Ref.: JP06F.311315
- A total of 289no. car parking spaces and 1455no. bicycle parking spaces.
- Vehicular access to serve the development will be provided from Station Road via existing road serving St. Marnock's Bay ('Monument View') and 3no. permitted roads serving St. Marnock's Bay ('Skylark Park Court', 'Skylark Park Drive' and an extension of 'Monument View') permitted under ABP Ref. ABP-312112-21 as amended by FCC Reg. Ref. LRD0037/S3, and also a new existing permanent road to the south which connects to Moyne Road (permitted under Phase 1D ABP Ref. ABP-312112-21, as amended by FCC Reg. Ref. LRD0037/S3

- A new (temporary) rising main to serve this phase and previous development phases (1A to 1E inclusive) c. 1.7km long, running from the interim St. Marnock's Pumping Station at Station Road/The Avenue (constructed under ABP Reg. Ref. 300514-17 & upgraded under ABP Reg. Ref. 312112-21) passing through the Racecourse Park development permitted under ABP Ref.: JP06F.311315 and connecting to the North Fringe Sewer at a point which is located south of Moyne Road and the Mayne River within the townland of Stapolin, Baldoyle, Dublin 13
- Upgrade of interim St. Marnock's Pumping Station and storage at Station Road/The Avenue as required and all associated and ancillary site development and reinstatement.
- All associated and ancillary site development, infrastructural, landscaping and boundary treatment works.

14.4.1.1 Construction Stage

As noted, this development is a residential development with building heights ranging from 1.5 to 3 storeys, therefore the key construction activities involved are: -

- Excavation for drainage and service infrastructure – depths vary but less than 4m.
- Excavation for strip footing foundations to residential units.
- Excavation for roads, parking and paths – typically depth to formation less than 1m.
- General excavation to facilitate final layout and level of proposed development, and although re-use of suitable material will be facilitated, it is estimated that nominally 16,500m^3 of material (incl. material excavated for drainage, services, foundations, roads, parking and paths) will be removed from site.
- Construction of new drainage and services infrastructure to facilitate the development.
- Construction of buildings (brickwork/blockwork/timber frames, precast concrete floors and frames, in-situ concrete footings, columns and beams where required, render finishes).
- Construction of boundary walls and fencing.
- Placing of fill to achieve required levels.
- Construction of roads, parking and footpaths.
- Landscaping.
- Imported fill, stone, aggregates are required to complete the development, and this is estimated at 24,600m^3.

The existing construction compound used for the current phase of the development (Phase 1D) will be retained and used for the construction of the proposed development also.

On the assumption that planning permission is granted for the proposed development in c. Q4 2025, and allowing for a 24-month construction period, then it is estimated that the proposed development will be fully operational by 2028.

The haul road access off Moyne Road is c. 650m west of the Coast Road and is being constructed as a permanent access as part of the Phase 1D development. All construction for this proposed phase will use this access.

It should be noted that construction traffic generated during the Construction Phase tends to be outside of peak hours. All construction activities will be governed by the Construction & Environmental Management Plan (submitted as part of this planning application), the relevant details of which will be agreed with Fingal County Council's Roads Department prior to the commencement of the Construction Phase.

14.4.1.2 Operational Stage

<u>Access Arrangements</u>

The proposed development will be served by three priority-controlled junctions providing direct access from the external road network. Two of these junctions are on Station Road and one on Moyne Road. One of the access junctions on Station Road (refer to **Figure 14-4**), 180m east of the Dart station has been constructed as part of Phases 1A/1B and is currently in use by the residents of Phases 1A, 1B, 1C and 1D. The other access junction on Station Road (refer to **Figure** 14-5), 450m east of the DART Station was completed as part of Phases 1B/1C. The western junction on Station Road will provide the main access into the Entire Development and includes a right turning lane of Station Road into same.

Sustainable Transport and Connectivity

The principle of providing sustainable transport, which is embodied in both the Fingal Development Plan 2023-2029 and previously the Portmarnock South Local Area Plan (now expired), will be given physical expression in the proposed development. The form and structure of the proposed development will encourage the use of public transport, cycling and walking in preference to the private car. Measures that will be taken to secure this include the provision of:

- A network of segregated/combined cycle and footpath routes throughout the development including along the Townland boundaries and a circular route which will connect homes to the DART station, commercial area and open space, and
- A network of footpaths that will permeate the residential area and provide a high degree of accessibility to local facilities and to bus and rail transport.

Within the general context of promoting a sustainable transport system, the road network is designed in accordance with DMURs to cater for the development and is described as follows.

- **Primary Link Road**: This will be the main traffic artery for the development. It will run from the main Station Road western access in the north to the Moyne Road access in the south and will have a design speed of 30kph. It will be extended into the Proposed Phase 1F development. The road will be 5.5m to 6.5m wide. A 3-4m wide shared surface will be provided along most of the road and will link with the proposed walking/cycling route to the south of the development.
- **Secondary Road and Access Roads**: These roads will assist with the dispersal of traffic from the Primary Link Road to the main part of the residential area. They will range from 4.8 meters to 5.5 metres in width and will have a design speed of 30kph by means of speed restraint measures such as short road lengths, horizontal deflections, priority road crossings, gateway platforms, etc. Footpaths of 2 metres in width will be provided on each side of the carriageway.

The Proposed Development will be designed with pedestrians and cyclists needs at the forefront rather than motorists. Vehicle speeds will be restricted to 30kph throughout the development. This will create a congenial and safe environment for pedestrians and cyclists. In addition, a perimeter route will be provided combining a cycleway and footpath around the entire development. The main function of this perimeter route is to provide an attractive leisure route for residents which will give access to the recreation facilities in the open space/parkland, to the Baldoyle to Portmarnock Greenway route (including proposed extension to Racecourse Park) and from there to the surrounding footpath and cycleway network. The combined footpath and cycle routes, where provided, will be 4 metres in width and paved with a durable surface such as tarmacadam. The separation between pedestrians and cyclists will be defined by a tactile white line.

Proposed Vehicle Parking Provision

As the Site is located within 800 metres of BusConnects spine route (i.e. The bus route H2 of the H-Spine on Coast Road and Strand Road is 500m to 700m away) and within 1,600 metres of an existing DART Rail station (900m to 1,300m away), it will be classified as Zone 1 in accordance with Table 14.18 of the Fingal Development Plan 2023-2029. Therefore, and with reference to Table 14.19 of the Fingal Development Plan 2023-2029, a summary of the car parking required is presented in **Table** 14-3.

Proposed Development	Fingal Development Plan 2023-2029		Factor	Max. Car Parking Required
	Land Use Category	Max. Car Parking Required		

Car Parking Spaces				
2-bedroom Apartment Unit	Residential (1-2 bedrooms)	0.5 space per unit	21 units	11
3-bedroom Duplex Unit	Residential (3 or above bedrooms)	1 space per unit	21 units	21
2 bedroom House	Residential (1-2 bedrooms)	0.5 space per unit	38 units	19
3 and 4 bedroom House	Residential (3 or above bedrooms)	1 space per unit	216 units	216
Total Max. Car Parking Spaces Required (Residential Development for Phase 1F):				**267***
Motorcycle Parking Spaces**				
2-bedroom Apartment Unit and 3-bedroom Duplex Unit	-	1 space per 10 car parking spaces (for apartment development)	32	3
Total Max. Motorcycle Parking Spaces Required (Residential Development for Phase 1F):				**3**

*Note: * Of which 5% (14 no. spaces) will be Accessible Car Parking Spaces*
*** No motorcycle parking space is required for houses as stated in the Fingal Development Plan 2023-2029.*

Table 14-3: Car Parking Compliance

With reference to the Compact Settlement Guidelines as published by the Department of Housing, Local Government and Heritage, the proposed development would be classified as *City-Urban Neighbourhoods* (refer Table 3.1) primarily based on proximity to high-capacity public transport nodes as further defined in Table 3.8 i.e. within 1,000m of a DART station and/or within 500m of a BusConnects spine route.

On this basis, Specific Planning Policy Requirement (SPPR) 3 then recommends car parking should be minimised and goes on to note that the maximum rate of car parking provision for residential developments should be 1 no. space per dwelling (296 no.- excludes accessible spaces).

As can be seen the proposed parking provision is less than the maximum recommended by the Compact Settlement Guidelines and seeks to strike the right balance between same and the context of the site in it's overall location.

For clarity, the design of the Proposed Development layout is compliant with Design Manual for Urban Roads and Streets (DMURS) which is jointly published by the Department of Transport, and the Department of Housing, Local Government and Heritage in May 2019. It is therefore proposed to provide 267 car parking spaces, inclusive of 14 no. accessible parking spaces, for the Proposed Development. This equals the maximum car parking spaces as required in the Fingal Development Plan 2023-2029 and as shown in **Table** 14-3.

The Proposed Development will also provide 3 motorcycle parking spaces for apartment and duplex units. This equals the motorcycle parking spaces as required in the Fingal Development Plan 2023-2029 and as shown in **Table** 14-3.

Electric Vehicle (EV) Charging

Provision of appropriate infrastructure (i.e. ducting) will be made for the fitting of car charging points to all proposed car parking spaces for the proposed development (i.e. houses, apartment and duplex units) to facilitate non-disruptive retro fitting of EV charging points for all car parking spaces. Additionally, according to Section 14.17.10 of Fingal Development Plan 2023-2029, a minimum of 20% of the residential parking space for multi-unit residential development (i.e. apartment and duplex units) should have EV charging points from completion of the proposed development. The developer will provide 6 parking spaces with functioning EV charging points from completion of the proposed

development for apartment and duplex units, which can meet the recommended EV charging points as required in the Fingal Development Plan 2023-2029.

Proposed Bicycle Parking Provision

According to Table 14.17 in the Fingal Development Plan 2023-2029, a summary of the bicycle parking required is presented in **Table** 14-4.

Proposed Development	Fingal Development Plan 2023-2029			Factor		Min. Parking Requirement	
	Land Use Category	Min. Bicycle Parking Required					
		Long-Stay	Short-Stay	Bedroom	Dwell	Long-Stay	Short-Stay
Apartment and Duplex Unit							
2-bedroom Apartment Unit	Residential (1-2 bedrooms)	1, plus 1 per bedroom	0.5 per unit	42 bedrooms	21 units	63	10
3-bedroom Duplex Unit	Residential (3 or above bedrooms)	2, plus 1 per bedroom	0.5 per unit	63 bedrooms	21 units	105	-
Sub-Total (Residential Development for Phase 1F – Apartment & Duplex Unit):						**168**	**10**
House							
2 bedroom Mid-Terrace House	Residential (1-2 bedrooms)	1, plus 1 per bedroom	-	32 bedrooms	16 units	48	-
2 bedroom Non Mid-Terrace House*	Residential (1-2 bedrooms)	1, plus 1 per bedroom	-	44 bedrooms	22 units	66	-
3 and 4 bedroom Mid-Terrace House	Residential (3 or above bedrooms)	2, plus 1 per bedroom	-	301 bedrooms	94 units	489	-
3 and 4 bedroom Non Mid-Terrace House*	Residential (3 or above bedrooms)	2, plus 1 per bedroom	-	421 bedrooms	122 units	665	-
Sub-Total (Residential Development for Phase 1F – House):						1,268	-
Total Bicycle Parking Spaces (Residential Development for Phase 1F):						1,446*	

*Note: *It is noted that non mid-terrace houses (i.e. end of terrace, semi-detached or detached houses) have direct access to rear gardens for secure bicycle parking.*

Table 14-4: Bicycle Parking Compliance

It is proposed to provide 178 bicycle parking spaces, inclusive of 10 cargo spaces, for apartment and duplex units within the site. This equals the minimum bicycle parking requirement of 178 bicycle parking spaces, inclusive of 10 visitor bicycle parking spaces, for apartment and duplex units as required by the Fingal Development Plan 2023-2029 and as shown in **Table** 14-4.

For non-mid terrace houses (i.e. end of terrace, semi-detached or detached houses), they contain paths connecting between the public footpath / carriageway in front of the house and rear gardens. Thus, bicycle parking (731 no.) for non-mid terrace houses will be accommodated in each rear garden space.

For mid-terrace houses, it is proposed to provide 537 bicycle parking spaces. This equals the minimum bicycle parking requirement of 537 bicycle parking spaces as required by the Fingal Development Plan 2023-2029 and as shown in **Table** 14-4. These spaces will be provided on the basis of three number per residential unit in-curtilage with the balance being provided in shared communal storage located at the end of each street/terrace and consisting of two-tier racks and accessible spaces.

14.4.2 Cumulative (Entire Development)

14.4.2.1 Construction Stage

In the context of this assessment the key characteristics of this development are set out in the paragraphs below and further detailed in the Traffic and Transport Assessment Report (25201-EEI-ZZ-ZZ-RP-C-00202_Traffic and Transport Assessment) which accompanies this LRD Planning Application.

As noted earlier the cumulative development (for assessment purposes) consists of this Proposed Phase 1F, granted permission (Phase 1E), the current phase under construction (Phase 1D nearly full completion) and future Phase 1G – infill phase to build out approximately 18 to 33 no. residential units including public open space, integration of recorded monument and provision of road and drainage infrastructure.

The proposed development and future development phases, subject to relevant planning permissions being granted, will be constructed along the following timeline: -

- Phase 1D – 172 no. units – Under construction Q1 2024 and nearly full completion in 2025 (58 units have been occupied at the time of traffic count surveys on 14th May 2025).
- Phase 1E – 195 no. units – Commence construction Q4 2024.
- Phase 1F – 296 no. units – Commence construction Q1 2026.
- Phase 1G (infill phase) – 18 to 33 no. units.

14.4.2.2 Operational Stage

The envisaged future development (including all phases) on the remainder of the Portmarnock South Local Area Plan (now expired) lands comprises:-

- 404 no. built residential units from Phases 1A, 1B and 1C.
- 172 no. residential units under construction from Phase 1D (of which 58 units have been occupied).
- 195 no. residential units received planning permission from Phase 1E.
- c. 329 no. new residential units (comprising of three/ four-bedroom houses, two / three-bedroom duplex / apartments and one / two / three-bedroom apartments) to build out remaining phases.
- A 'Local Centre' from Phase 1C situated adjacent to Portmarnock DART station containing apartments and café / restaurant / retail units and a medical / community unit.
- A comprehensive network of internal roads and associated underground utilities and services.
- High level provision of facilities for pedestrians and cyclists within the development.
- Direct high-quality pedestrian/cycle access to and from Portmarnock DART station.
- Two access junctions on Station Road (as part of Phase 1A and 1B) and one new junction on Moyne Road (as part of Phase 1D) serving the Proposed Development.

All car parking and bicycle parking in the Entire Development will comply with the standards set out in the Development Plan.

14.5 POTENTIAL IMPACT

14.5.1 Construction Stage for Proposed Development

The duration of the construction phase and the resource level and trips associated with the construction stage will be decided by the Contractor in accordance with contractual restrictions and may fluctuate depending on the sequence and type of work being carried out at any one time,

however initial phasing proposals (9 no.) are included with the Construction and Environmental Management Plan submitted as part of this Planning Application.

The construction phase of the development is expected to generate much lower vehicle movements than the operational phase. However, a greater number of Heavy Goods Vehicles (HGVs) are expected to/from the site during the construction phase. Traffic will be generated by the disposal of surplus subsoil from the site, deliveries of engineering fill and construction materials and equipment and of course private vehicles owned and driven by construction workers and staff.

It should be noted that generally, construction traffic generated during the Construction Phase tends to be outside of peak hours. The traffic generated by the construction phase will not be higher than the peak hour predicted volumes for the Operational Phase. Any specific recommendations/requirements with regard to construction traffic management made by FCC will be adhered to during this phase.

Construction Trip Generation	Estimated Average Daily Flow			Estimated Peak Hour Flow		
	HGV	LGV	Car	HGV	LGV	Car
Typical Working Day*	28	20	56	6	8	42

*Note: *Peak Hour for Construction Traffic is typically 7am to 8am and 6pm to 7pm.*

Table 14-5: Trip Generation during Construction Stage (Typical Working Day)

Type of Construction Traffic	Estimated Average Daily Flow			Estimated Peak Hour Flow		
	HGV	LGV	Car	HGV	LGV	Car
Typical Working Day*	28	20	56	6	8	42
Haulage HGV for imported fill**	40	0	0	8	0	0
Total	68	20	56	14	8	42

*Note: * Peak Hour for Construction Traffic is typically 7am to 8am and 6pm to 7pm.*
*** Haulage HGV trips will primarily operate during off-peak periods (i.e. 10am to 4pm).*

Table 14-6: Trip Generation during Construction Stage (Typical Working Day + Haulage HGV Trips)

Table 14-5 and **Table** 14-6 show an estimate of construction trips generated during the development, but noted these trips tend to lie outside the peak hour for the trips generated during the operational phase and any impacts associated with construction traffic will be temporary in nature and of relatively short duration.

14.5.2 Operational Stage for Proposed Development

14.5.2.1 Traffic Survey

In order to determine current traffic behaviour in the vicinity of the subject site, a vehicle turning movement survey was undertaken on Wednesday, 14th May 2025 at the six junctions near the subject site (see **Figure** 14-15). As discussed in Section 14.1.2, Junction 1 to Junction 4 were selected for assessment as they are considered the junctions most likely to be affected by traffic associated with the proposed development. The vehicle turning movement survey at Junction 5 and Junction 6, which provide direct access to the occupied Phases 1A, 1B & 1C developments and 58 occupied units of

Phase 1D development, has been used to determine the distribution of trip generation for this proposed development onto the surrounding road network.

- Junction 1: Station Road/Drumnigh Road R124 (to the northwest),
- Junction 2: Strand Road/Coast Road/Station Road (to the northeast),
- Junction 3: Moyne Road/Coast Road (to the southeast),
- Junction 4: Hole in the Wall Road/Mayne Road Junction (to the southwest),
- Junction 5: Station Road/The Avenue (western access at Station Road), and
- Junction 6: Station Road/The Avenue (eastern access at Station Road).

Figure 14-15: Traffic Count Locations
(Source: Google Maps, annotation by EGIS Engineering Ireland)

The counts captured all turning movements at these junctions. The vehicle turning movement surveys were undertaken on Wednesday, 14th May 2025. The counts were carried out over the 24-hour period including both the morning and evening peak periods. Data was collected in 15-minute intervals.

The morning peak hour was identified as 08:00-09:00 for Junction 1 to Junction 4 inclusive. The evening peak hour was identified as 17:00-18:00 at Junction 1, Junction 2 and Junction 4, and 18:00-19:00 at Junction 3. From the vehicle turning movement survey at Junction 5 and Junction 6, the total trips (inbound and outbound for both the morning and evening), peak hours were identified as 08:00-09:00 and 17:00-18:00 respectively. A full transcription of the turning movement survey is included in **Appendix 14.1** herein.

The morning peak hour was observed to be marginally more intense than the evening peak hour. However, in order to carry out a robust traffic analysis of the surrounding road network, the traffic modelling exercise following herein will be based on traffic flows recorded for both the weekday morning and evening peak hours for each junction. A summary of the 2025 vehicle turning movement surveys for the morning and evening peak hour periods is shown in **Figure** 14-16 and **Figure** 14-17 below.

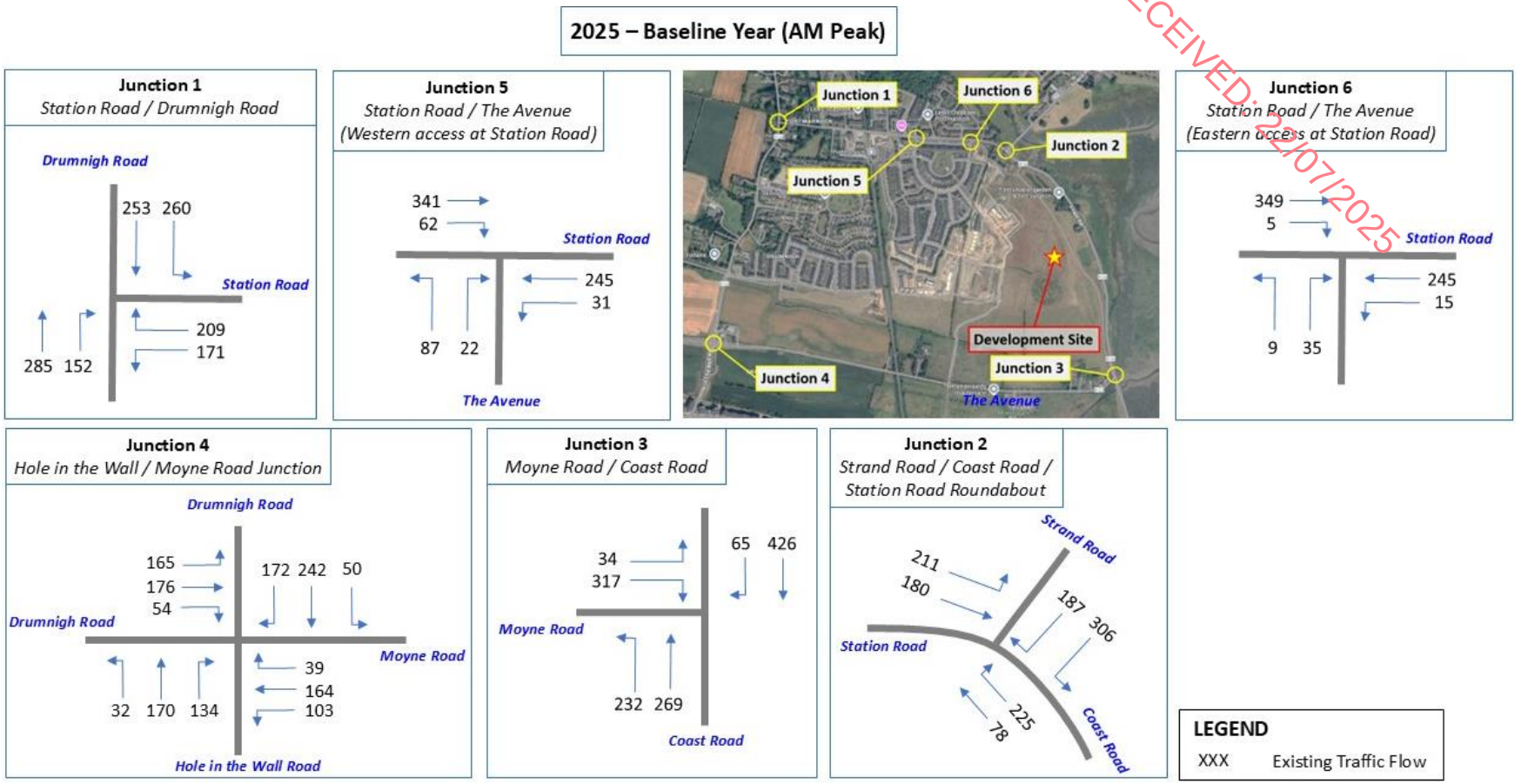

Figure 14-16: 2025 Baseline Year Traffic Flows in the Morning Peak Hour

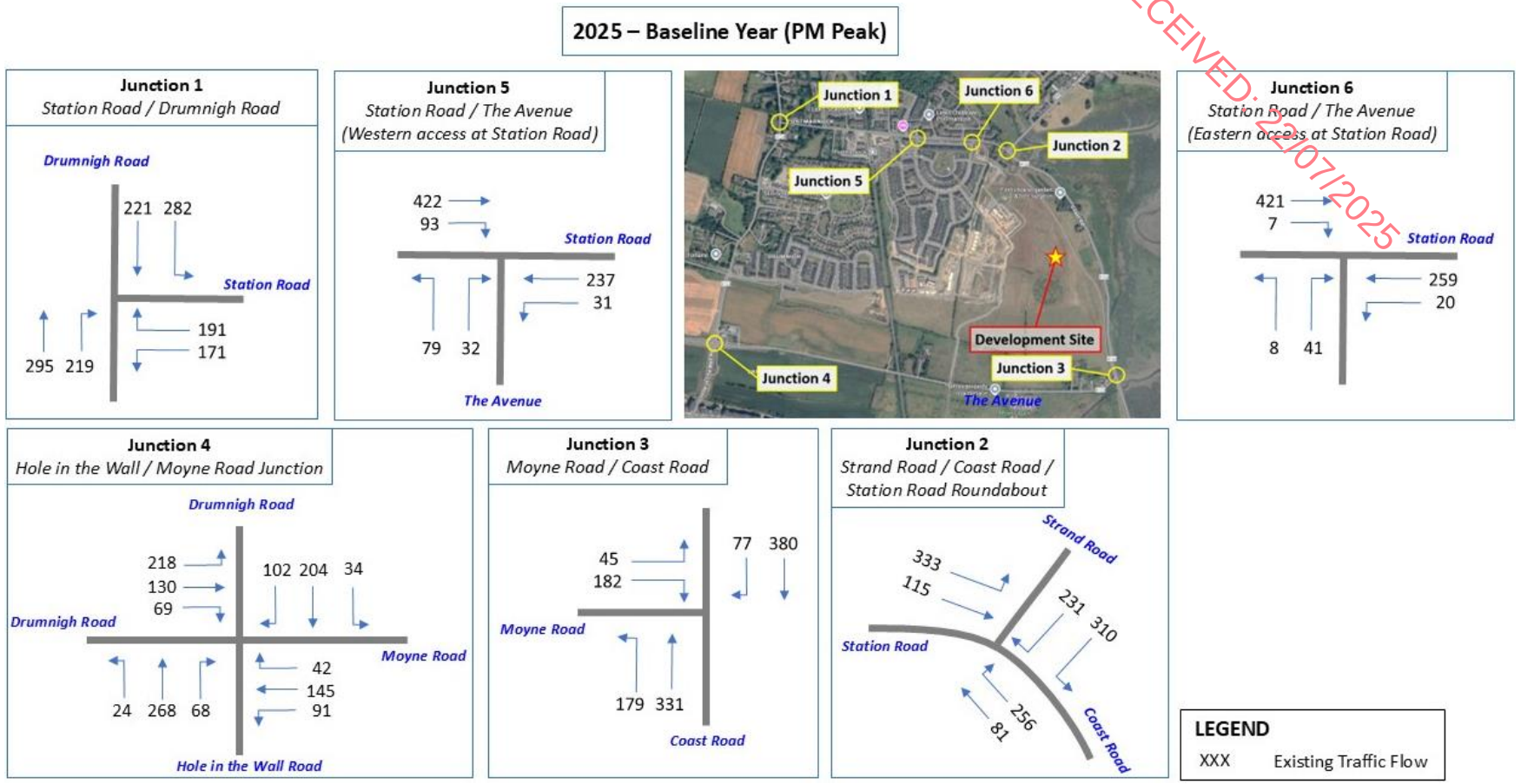

Figure 14-17: 2025 Baseline Year Traffic Flows in the Evening Peak Hour

14.5.2.2 Junction Capacity Assessment for 2025 Baseline Year

A traffic capacity assessment of the four junctions (Junction 1 to Junction 4) in the vicinity of the subject site was undertaken utilising the surveyed results shown in **Figure** 14-16 and **Figure** 14-17 above and TRL's analysis software: Priority Intersection Capacity and Delay (PICADY) for Junction 1 and Traffic Network Study Tool (TRANSYT) for Junctions 2, 3 and 4.

The criteria utilised for the assessment of priority junction capacity is Ratio of Flow to Capacity (RFC) while the criteria utilised for the assessment of signalised junction capacity is Degree of Saturation (DOS). The RFC and DOS provide a basis for judging the acceptability of junction designs. Typically, a RFC of less than 0.85 normal design threshold for priority junction, and a DOS of less than 0.9 normal design threshold for signalised junction are considered to indicate satisfactory performance.

A summary of the results of the analysis for the 2025 Baseline Year in the morning and evening peak hours is shown in **Table** 14-7 to **Table** 14-10 inclusive.

Junction 1 – Station Road / Drumnigh Road R124

Approach Arm	Max. RFC		Max. Queue (PCU[1])		Average Delay (Seconds)	
	AM	PM	AM	PM	AM	PM
Drumnigh Road R124 North*	-	-	-	-	-	-
Station Road	**1.02**	**1.00**	17	15	149	137
Drumnigh Road R124 South	0.42	0.60	1	2	10	14

*Note: * Priority is always given to the traffic at Drumnigh Road R124 North arm, therefore this arm is under a free flow condition without any queue or delay.*

Table 14-7: 2025 Baseline Year Junction Capacity Analysis for Junction 1

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. **Table** 14-7 demonstrates that the Station Road arm on Junction 1 in the morning and evening peak hours in 2025 baseline scenario is operating over the normal design threshold, resulting in substantial queues and delays for motorists. Once a junction is nearing or at capacity, any slight increase, whether it is background traffic growth or a new development, will have a noticeable increase in queues/delays.

Junction 2 – Strand Road / Coast Road / Station Road

Approach Arm	Max. DOS		Max. Queue (PCU)	
	AM	PM	AM	PM
Station Road	0.70	0.85	12	16
Strand Road	0.77	0.85	16	19
Coast Road	0.62	0.78	10	12

Note: 1) The cycle time adopted for AM and PM peak hours was 120 seconds.

Table 14-8: 2025 Baseline Year Junction Capacity Analysis for Junction 2

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-8 demonstrates that Junction 2 in the morning and evening peak hours in 2025 baseline

[1] *PCU means Passenger Car Unit. A passenger car equivalent is essentially the impact that a mode of transport has on traffic variables (such as headway, speed, density) compared to a single car. For example, 1 private car is equal to 1 pcu and 1 HGV is equal to 2.3 pcu.*

scenario is currently operating within the normal design threshold. This junction in the evening peak hour is beginning to approach the design threshold with minor queues and delays for motorists.

Junction 3 – Moyne Road / Coast Road

Approach Arm	Max. DOS		Max. Queue (PCU)	
	AM	PM	AM	PM
Coast Road South	**0.91**	0.81	20	17
Moyne Road	0.85	0.75	13	8
Coast Road North	0.88	0.72	19	14

Note: 1) The cycle time adopted for AM and PM peak hours was 120 seconds.

Table 14-9: 2025 Baseline Year Junction Capacity Analysis for Junction 3

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-9 demonstrates that Junction 3 in the evening peak hour in the 2025 baseline scenario is currently operating within the normal design threshold and this junction in the morning peak hour in 2025 baseline scenario is operating slightly over the normal design threshold (but still less than its theoretical capacity of 1.0), resulting in queues and delays for motorists.

Junction 4 – Hole in the Wall Road / Moyne Road Junction

Approach Arm	Max. DOS		Max. Queue (PCU)	
	AM	PM	AM	PM
Drumnigh Road	0.75	0.57	11	7
Moyne Road East	0.42	0.39	6	5
Hole in the Wall Road	0.54	0.64	7	8
Moyne Road West	0.54	0.58	8	9

Note: 1) The cycle time adopted for AM and PM peak hours was 90 seconds.

Table 14-10: 2025 Baseline Year Junction Capacity Analysis for Junction 4

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-10 demonstrates that the, recently upgraded, Junction 4 in the morning and evening peak hours in 2025 baseline scenario is currently operating within the normal design threshold.

14.5.2.3 Trip Generation: Phase 1F

The Trip Rate Information Computer System (TRICS) database was interrogated to derive the potential development trip generation rates. Utilising data supplied by the TRICS database (7.11.4), **Table** 14-11 details the estimated trip generation for the proposed Phase 1F residential development during the morning and evening peak hours being considered for this study. The TRICS morning and evening peak hours were 08:00 to 09:00 and 17:00 to 18:00 respectively. The trips generated during these times were added to the morning and evening peak hours for the road network to develop the "with" development scenario. The full TRICS output files are contained in **Appendix 14.2**.

It is noted that all units of Phases 1A, 1B & 1C developments and 58 units of Phase 1D development were completed and occupied prior to the latest traffic counts being undertaken and are therefore included for in the base year capacity analysis. For the outstanding units of Phase 1D (i.e. 114 units) development, which is not included for in the base year analysis, it will be considered in both the "without" and "with" development scenarios for this study. Finally, Phase 1E received planning

permission in December 2024, therefore the trips generated from Phase 1E will also be included in both the "without" and "with" development scenarios. This is because whether or not the Phase 1F development is built, the trips generated by the outstanding units of Phase 1D (i.e. 114 units) and all units of Phase 1E will still apply. **Table** 14-12 details the estimated trip generation for the outstanding units of Phase 1D development and all unit of Phase 1E development taken from the previous planning application for that phase (Planning Reference: SHD/006/21 for Phase 1D development and Planning Reference: LRD0002/S3 for Phase 1E development).

As the previous Phases 1D & 1E and the proposed Phase 1F developments are made up of substantially 3/4-bedroom houses, their trip rates were calculated "per unit". The full TRICS output files are contained in **Appendix 14.2**.

14.5.2.4 Modal Split: Phase 1F

When estimating trip generation for a residential development using TRICS the trip rate for car drivers accounts for a 65-70% modal split. This is in line with the national average modal split as well as the modal split at a location with a Public Transport Accessibility Level (PTAL) [2] of 1 (see South Fingal Transport Study 2012: Section 5). As the Portmarnock South development has a PTAL of 4 (see South Fingal Transport Study 2012: Section 5), a PTAL 4 modal split of 41% for car drivers would be an accurate reflection. The South Fingal Transport Study 2019 does not reference "Public Transport Accessibility Level"; therefore the 2012 study is referenced.

This trip attenuation will more accurately reflect the trip generation of the development due to its proximity to the Dart station and improved cycle facilities in the area. It is also in line with the Portmarnock South LAPs (now expired) strategy to promote and encourage sustainable transport. However, in order to produce a robust, conservative scenario, a tolerance of 5% (to account for daily fluctuations) will be added to the modal split, resulting in 46% for car drivers.

Utilising data supplied by the TRICS database including trip attenuation principles and referencing previous planning applications, **Table** 14-11 and **Table** 14-12 below detail the estimated trip generation for the development phases during the morning and evening peak hours being considered for this study. The full TRICS output files are contained in **Appendix 14.2**.

Development	Peak Hour	Factor	TRICS Arrival Rate*	TRICS Departure Rate*	Hourly Trips (PTAL area of 1, 65% modal split)		Attenuated PTAL area of 4, 46% modal split)	
					Trips In	Trips Out	Trips In	Trips Out
Phase 1F Housing Development 296 Units	AM	296 Units	0.146 (per unit)	0.367 (per unit)	43	109	**30**	**77**
	PM		0.333 (per unit)	0.161 (per unit)	99	48	**70**	**34**

*Note: * The arrival and departure rates for Phase 1F development were estimated by the TRICS database.*

Table 14-11: TRICS Trip Generation for Phase 1F Development

Development	Peak Hour	Factor	TRICS Arrival Rate*	TRICS Departure Rate*	Hourly Trips (PTAL area of 1, 65% modal split)		Attenuated PTAL area of 4, 46% modal split)	
					Trips In	Trips Out	Trips In	Trips Out
Outstanding units of	AM	114 Units	0.138 (per unit)	0.361 (per unit)	16	41	**11**	**29**

[2] *A Public Transport Accessibility Level (PTAL) is defined as a numerical value which determines the quality of access to public transport from a particular location. The value is based on the proximity to a service, the frequency of the service, and the nature of the service. Portmarnock South has a PTAL of 4 due to the proximity of the DART and Bus.*

Phase 1D Housing Development 114 Units**	PM		0.340 (per unit)	0.165 (per unit)	39	19	**28**	**13**
Phase 1E Housing Development 195 Units	AM	195 Units	0.149 (per unit)	0.374 (per unit)	29	73	**21**	**52**
	PM		0.344 (per unit)	0.168 (per unit)	67	33	**47**	**23**

*Note: * The arrival and departure rates for outstanding units of Phase 1D development and Phase 1E development were extracted from the planning references SHD/006/21 and LRD0002/S3 respectively.*

*** At the time of traffic count surveys on 15th May 2025, 58 units of Phase 1D were occupied and 114 units of Phase 1D development were still not completed.*

Table 14-12: TRICS Trip Generation for Outstanding Units of Phase 1D Development and Phase 1E Development

14.5.2.5 Trip Distribution: Phase 1F

As part of the Phase 1D development (considered here since not currently in base flow counts), which has received planning permission, the new primary access road onto Moyne Road is being constructed. Therefore, during the "without" and "with" development scenarios, the two access points to the north (Station Road) and to the south (Moyne Road) can be utilised.

Consequently, it is estimated that 40% of trips generated from the outstanding units of Phase 1D (i.e. 114 units) will come and go from the northern accesses at Station Road (via Junctions 1 and 2), while 60% of trips generated from the outstanding units of Phase 1D will come and go from the southern accesses at Moyne (via Junctions 3 and 4). However, for the Phase 1E development, since it is situated closer to the southern end of the site next to the southern access road, this will likely cater for the majority of Phase 1E trips. Thus, it is estimated 20% of trips generated from Phase 1E will come and go via the northern accesses at Station Road, while 80% of trips generated will come and go via the southern access at Moyne Road.

Finally for the proposed Phase 1F development, this split is estimated as 30% of trips generated from Phase 1F will come and go via the northern accesses at Station Road, while 70% of trips generated will come and go via the southern access at Moyne Road.

The 40% / 60% split for the outstanding units of Phase 1D, 20% / 80% split for Phase 1E and the 30%/70% split for Phase 1F is an estimate derived from the existing traffic flows traveling north and south at each junction and the location of each phase within the overall development itself.

In reality, due to the existing congested nature of Junction 1 on Station Road, the traffic generated from the Proposed Development will likely pre-sort within the development itself to avoid locations of congestion or travel before/after the peak times thus further reducing the volume of traffic on Station Road.

It was assumed for the purposes of this study, that the future development traffic will mirror existing travel flows when exiting and entering the development. The existing traffic from the Phases 1A, 1B & 1C developments and 58 occupied units of Phase 1D was analysed for the morning and evening peak hours at Junction 5 and Junction 6, which connect between Station Road and the occupied units of development (i.e. Phases 1A, 1B & 1C developments and 58 units of Phase 1D development) at the time of traffic count surveys on 14th May 2025.

According to the traffic survey data at Junctions 5 and 6, 63% and 37% of the combined junctions vehicles, currently turn westward (i.e. towards Junction 1) and eastward (i.e. towards Junction 2) respectively from the Proposed Development to Station Road, while 59% and 41% of the combined junctions vehicles currently turn right (i.e. arriving from Junction 1) and left (i.e. arriving from Junction 2) respectively from Station Road into the proposed development in the morning peak hour.

In the evening peak hour, 54% and 46% of the combined junctions vehicles currently turn westward (i.e. towards Junction 1) and eastward (i.e. towards Junction 2) respectively from the Proposed Development to Station Road, while 66% and 34% of the combined junctions vehicles currently turn

right (i.e. arriving from Junction 1) and left (i.e. arriving from Junction 2) respectively from Station Road into the proposed development.

After completion of the secondary access onto Moyne Road under the Phase 1D development, it has been assumed that traffic from the outstanding units of Phase 1D (i.e. 114 units), Phase 1E granted permission and this proposed Phase 1F leaving the developments via this secondary access onto Moyne Road, during the morning and evening peak hours, will have same traffic split for the vehicles leaving the Phase 1A, 1B & 1C developments and 58 occupied units of Phase 1D development via the primary access junctions on Station Road as mentioned above. For example, 63% and 37% of vehicles departing via the Moyne Road access will turn westward (i.e. towards Junction 4) and eastward (i.e. towards Junction 3) respectively in the morning peak hour.

The future development traffic distribution at the surrounding junctions will also mirror existing traffic patterns i.e. development generated flows will be split through the junction proportionally to the existing flows.

14.5.2.6 Assessment Years: Phase 1F

On the assumption that planning permission is granted for the Proposed Development in c. Q4 2025, and allowing for a 24-month construction period, then it is estimated that the proposed development will be fully operational by 2028.

For the purpose of this study, we will take 2028 as the Opening Year. Consequently, traffic analysis associated with this study will focus on the following future development operational scenarios:

- Phase 1F Residential Development Opening Year – 2028, and
- 15 Year Design Horizon[3] (Opening Year + 15 years) – 2043.

The projected 2028 and 2043 background traffic flows have been calculated by factoring up the 2025 recorded traffic flows in accordance with the TII Publications Project Appraisal Guidelines for National Roads document '*Unit 5.3 Travel Demand Projections, Table 6.1: Link-Based Growth Rates: Metropolitan Area Annual Growth Rates'*. The medium growth rate factors have been utilised.

The 2028 Opening Year and 2043 Design Year traffic flows are equal to the sum of their respective year background traffic flows (as derived above) and the trips generated from both the outstanding units of Phase 1D development (i.e. 114 units) and Phase 1E development to create the "without" development scenario. Additional traffic flows due to the proposed Phase 1F development is then applied to these respective year flows to create the "with" development scenario.

Figure 14-18 and **Figure** 14-19 illustrate the 2028 Opening Year for the "without" and "with" Phase 1F development scenarios for the morning and evening peak hours. **Figure** 14-20 and **Figure** 14-21 illustrate the 2043 Design Year Horizon for the "without" and "with" Phase 1F development scenarios for the morning and evening peak hours.

In order to produce a robust assessment, Section 14.5.4 will analyse the traffic impact of the Entire Development when completed by the 15 year design horizon of 2043. Vehicle all red phases, which is an on-demand stage, were also included to cater for pedestrians crossing at the designated locations for each of the signalised junctions in order to provide a "worst-case" situation.

[3] TII (NRA) Traffic and Transport Assessment Guidelines May 2014- Required Modelling Scenario.

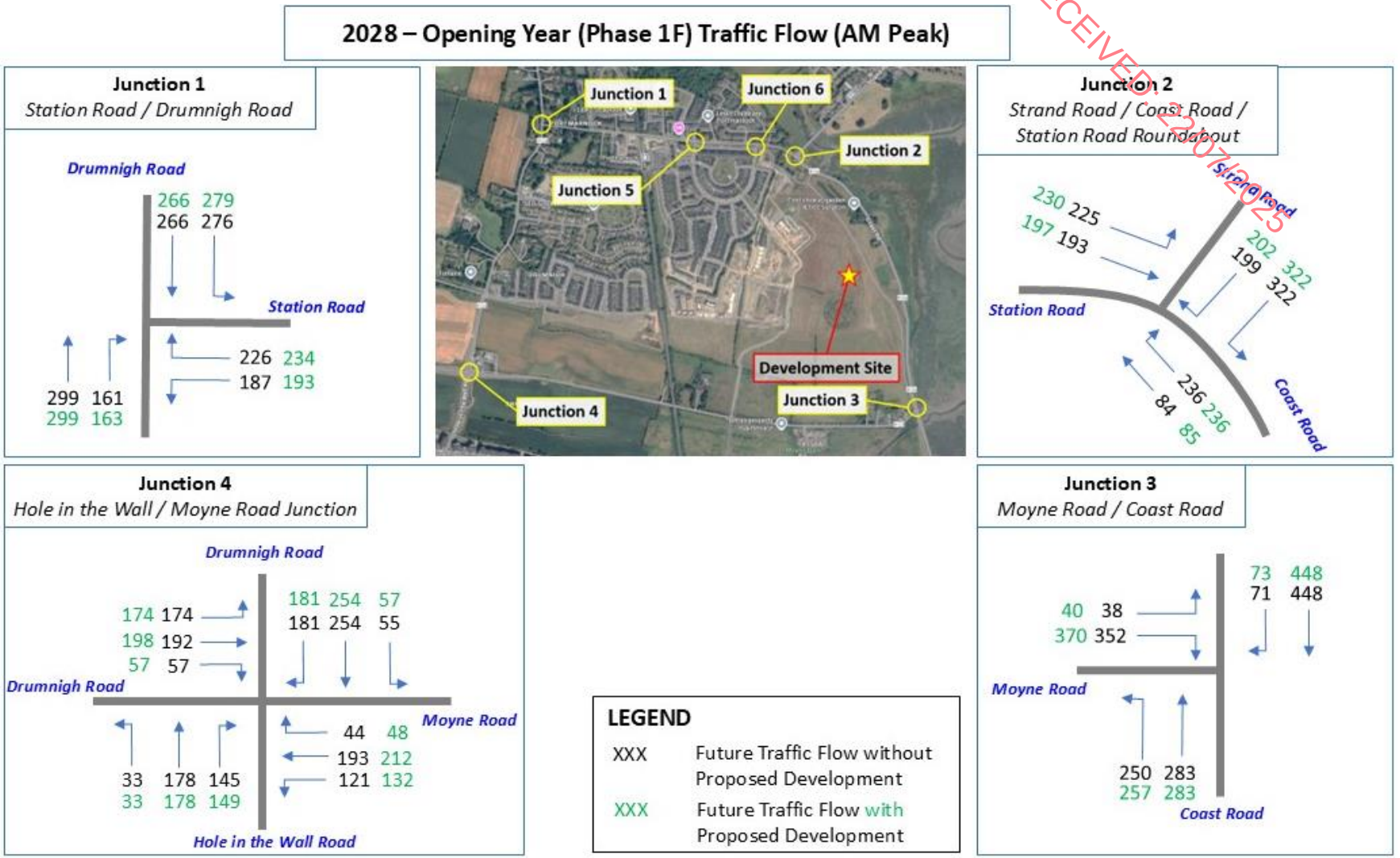

Figure 14-18: 2028 Opening Year (Phase 1F) Traffic Flows in the Morning Peak Hour

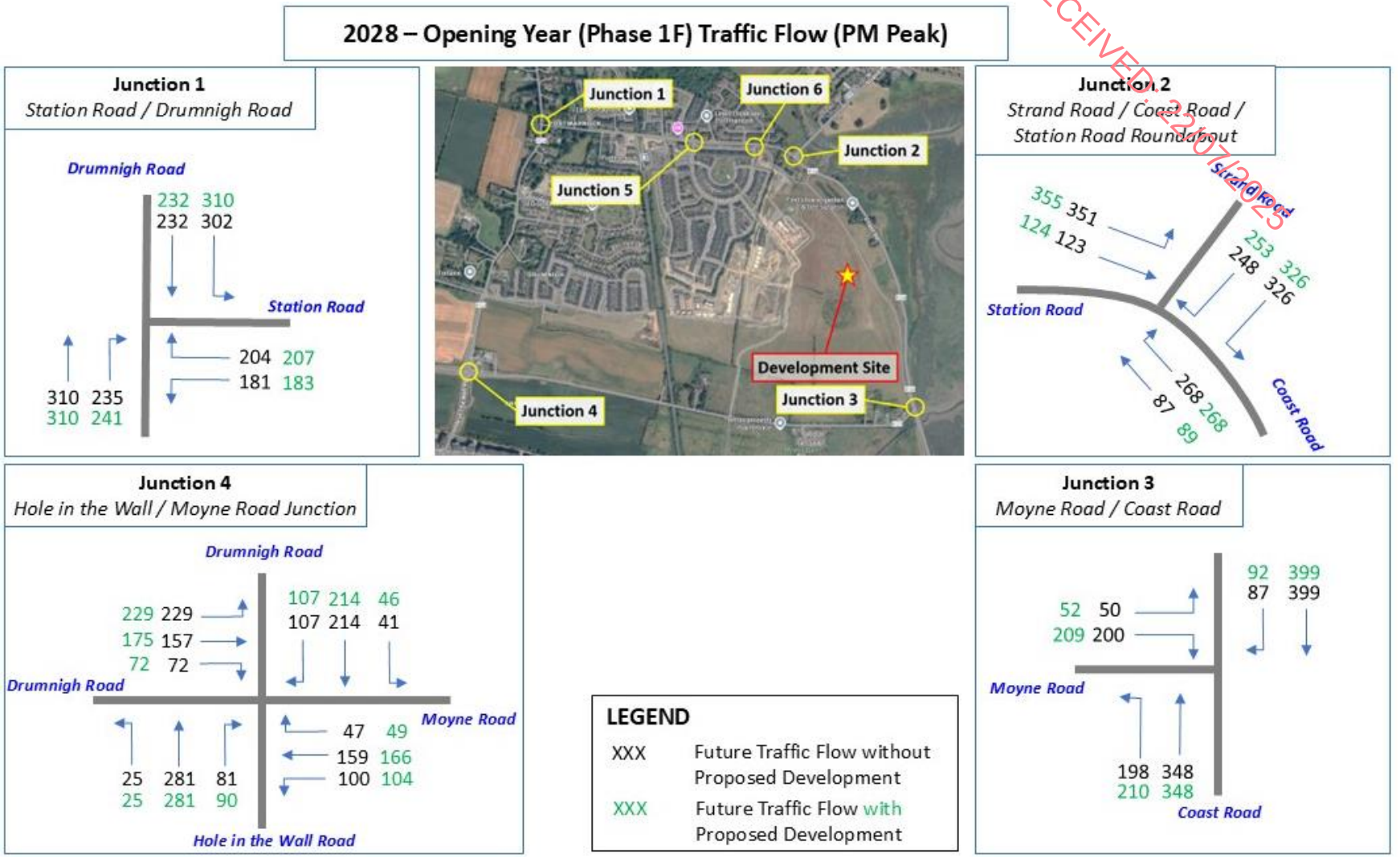

Figure 14-19: 2028 Opening Year (Phase 1F) Traffic Flows in the Evening Peak Hour

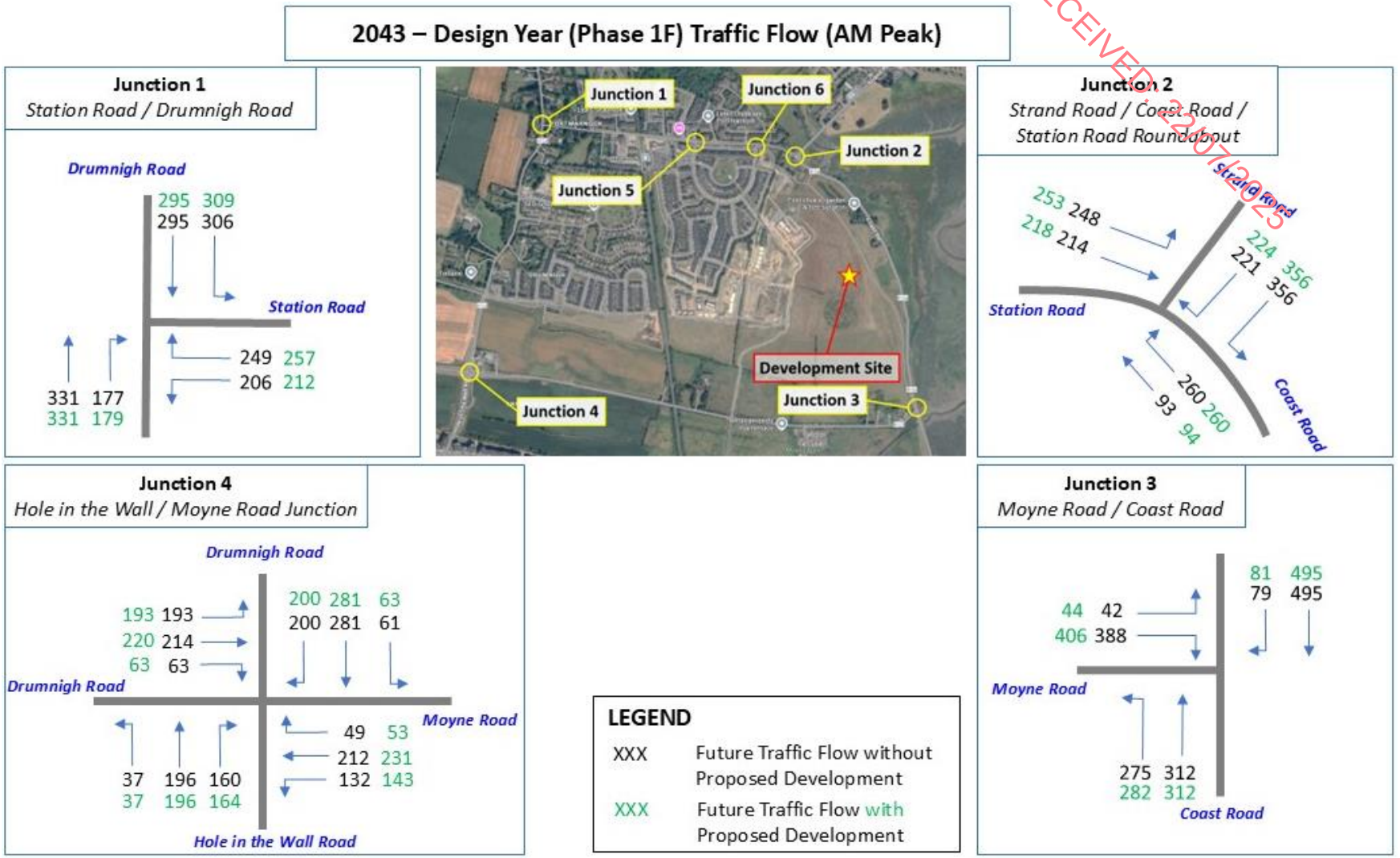

Figure 14-20: 2043 Design Year (Phase 1F) Traffic Flows in the Morning Peak Hour

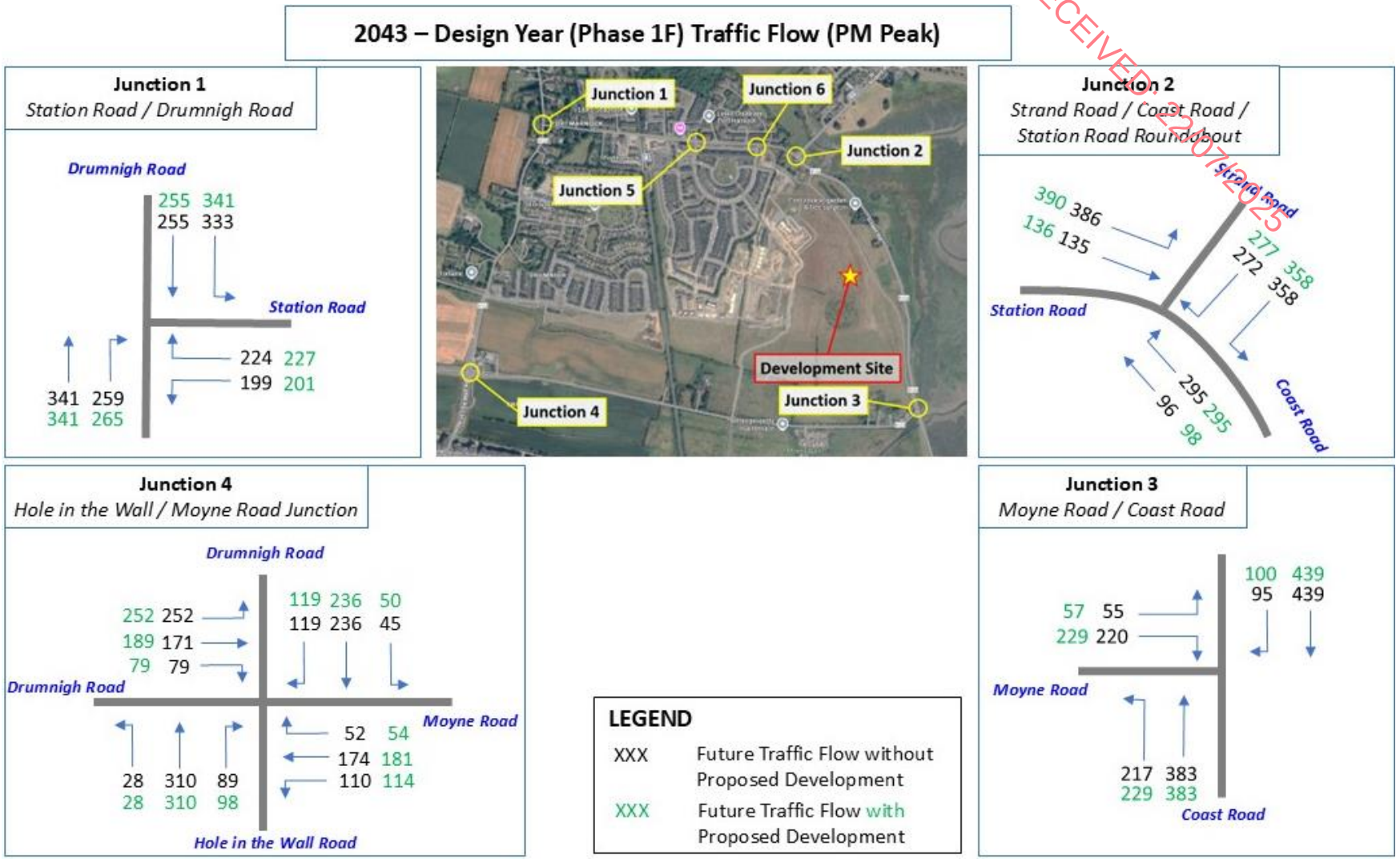

Figure 14-21: 2043 Design Year (Phase 1F) Traffic Flows in the Evening Peak Hour

14.5.2.7 Traffic Modelling: Phase 1F

In order to assess the future traffic impact of the proposed development, capacity assessments were undertaken using TRL's PICADY, and TRANSYT software on the following junctions:

- Junction 1: Station Road/Drumnigh Road R124 (to the northwest) – PICADY,
- Junction 2: Strand Road/Coast Road/Station Road (to the northeast) – TRANSYT,
- Junction 3: Moyne Road/Coast Road (to the southeast) – TRANSYT, and
- Junction 4: Hole in the Wall Road/Mayne Road Junction (to the southwest) – TRANSYT.

The junctions were modelled for the 2028 Opening Year and 2043 (Opening Year plus 15 years) Design Year for the morning and evening peak hour periods using the flow diagrams shown in **Figure** 14-18 to **Figure** 14-21 in Section 14.5.2.6 above.

To demonstrate the direct traffic impact associated with the proposed residential development on the key junctions being considered, the traffic modelling exercise was carried out for the "without" development and "with" Phase 1F development scenarios.

14.5.2.8 Operational Phase 2028 Opening Year Phase 1F – Junction Capacity

A summary of the results of the analysis for the 2028 Opening Year, "without" development and "with" Phase 1F development scenarios, in the morning and evening peak hours is shown in **Table** 14-13 to **Table** 14-16 inclusive.

Junction 1 – Station Road / Drumnigh Road R124

Approach Arm	Scenario	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
		AM	PM	AM	PM	AM	PM
Drumnigh Road R124 North*	Without Development	-	-	-	-	-	-
	With Phase 1F Development	-	-	-	-	-	-
Station Road	Without Development	**1.14**	**1.11**	36	29	272	237
	With Phase 1F Development	**1.18**	**1.13**	44	33	325	265
Drumnigh Road R124 South	Without Development	0.45	0.67	1	3	10	16
	With Phase 1F Development	0.46	0.69	1	3	10	18

*Note: * Priority is always given to the traffic at Drumnigh Road R124 North arm, therefore this arm is under a free flow condition without any queue or delay.*

Table 14-13: 2028 Opening Year (Phase 1F) Junction Capacity Analysis for Junction 1

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. **Table** 14-13 demonstrates that the Station Road arm on Junction 1 will exceed the normal design threshold in both the morning and evening peak hours in 2028 for both the "without" development and "with" Phase 1F development scenarios, resulting in substantial queues and delays for motorists. The analysis concurs with the observations made in the South Fingal Transport Study (2012) referenced in the Portmarnock South LAP (now expired). The study concludes that this junction will undergo capacity issues in the future and recommended that an upgrade of the junction is explored. Once a junction is nearing or at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the impact on this junction will be mainly due to regular background traffic growth but not the proposed development per se, so traffic from the proposed Phase 1F development will only have a minimal impact on this junction. Under the Phase 1F, 2028

opening year scenario, the primary access road onto Moyne Road will have been constructed. Due to the existing congested nature of Junction 1, the traffic generated from the proposed development will likely pre-sort within the development and take an alternative route to their destinations via Moyne Road or travel before/after the peak times thus reducing the impact on the junction.

Junction 2 – Strand Road / Coast Road / Station Road

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Station Road	Without Development	0.75	0.90	14	19
	With Phase 1F Development	0.77	**0.91**	14	19
Strand Road	Without Development	0.82	0.90	18	22
	With Phase 1F Development	0.82	**0.91**	18	22
Coast Road	Without Development	0.70	0.86	11	14
	With Phase 1F Development	0.71	0.88	11	14

Note: 1) The cycle time adopted for AM and PM peak hours was 120 seconds for both scenarios.

Table 14-14: 2028 Opening Year (Phase 1F) Junction Capacity Analysis for Junction 2

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-14 demonstrates that Junction 2 will operate within the normal design threshold in the morning peak hour in 2028 for both the "without" development and "with" Phase 1F development scenarios. However, this junction will reach / slightly exceed the normal design threshold (but still less than its theoretical capacity of 1.0) in the evening peak hour in 2028 for both the "without" development and "with" Phase 1F development scenarios. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the impact on this junction will be mainly due to regular background traffic growth but not the proposed development per se, so traffic from the proposed Phase 1F development will only have a minimal impact on this junction.

Junction 3 – Moyne Road / Coast Road

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Coast Road South	Without Development	**0.97**	0.87	25	20
	With Phase 1F Development	**0.98**	0.89	27	21
Moyne Road	Without Development	**0.95**	0.82	18	10
	With Phase 1F Development	**1.00**	0.86	23	11
Coast Road North	Without Development	**0.96**	0.80	24	16
	With Phase 1F Development	**0.96**	0.82	24	17

Note: 1) The cycle time adopted for AM and PM peak hours was 120 seconds for both scenarios.

Table 14-15: 2028 Opening Year (Phase 1F) Junction Capacity Analysis for Junction 3

The normal design threshold for degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-15 demonstrates that Junction 3 will operate marginally within the normal design threshold in the evening peak hour in 2028 for both the "without" development and "with" Phase 1F development scenarios. However, this junction will slightly exceed the normal design threshold (but still not greater than its theoretical capacity of 1.0) in the morning peak hour in 2028 for both the "without" development and "with" Phase 1F development scenarios, resulting in substantial queues

and delays for motorists. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear that the impact on this junction will be mainly due to regular background traffic growth but not the proposed development per se, so traffic from the proposed Phase 1F development will not cause a significant impact on this junction.

Junction 4 – Hole in the Wall Road / Moyne Road Junction

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Drumnigh Road	Without Development	0.78	0.62	12	8
	With Phase 1F Development	0.79	0.63	12	8
Moyne Road East	Without Development	0.49	0.42	7	6
	With Phase 1F Development	0.54	0.43	8	6
Hole in the Wall Road	Without Development	0.60	0.70	8	9
	With Phase 1F Development	0.62	0.71	8	10
Moyne Road West	Without Development	0.59	0.63	9	10
	With Phase 1F Development	0.60	0.65	9	10

Note: 1) The cycle time adopted for AM and PM peak hours were 90 seconds for both scenarios.

Table 14-16: 2028 Opening Year (Phase 1F) Junction Capacity Analysis for Junction 4

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-16 demonstrates that Junction 4 will operate within the normal design threshold in both the morning and evening peak hours in 2028 for both the "without" development and "with" Phase 1F development scenarios.

14.5.2.9 Operational Phase 2043 Design Year Horizon Phase 1F – Junction Capacity

A summary of the results of the analysis for the 2043 Design Year, "without" development and "with" Phase 1F development scenarios, in the morning and evening peak hours is shown in **Table** 14-17 to **Table** 14-20 inclusive.

Junction 1 – Station Road / Drumnigh Road R124

Approach Arm	Scenario	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
		AM	PM	AM	PM	AM	PM
Drumnigh Road R124 North*	Without Development	-	-	-	-	-	-
	With Phase 1F Development	-	-	-	-	-	-
Station Road	Without Development	**1.33**	**1.30**	72	62	605	529
	With Phase 1F Development	**1.37**	**1.33**	83	67	701	583
Drumnigh Road R124 South	Without Development	0.53	0.78	2	5	12	24
	With Phase 1F Development	0.54	0.80	2	6	12	27

*Note: * Priority is always given to the traffic at Drumnigh Road R124 North arm so this arm is under a free flow condition without any queue and delay.*

Table 14-17: 2043 Design Year (Phase 1F) Junction Capacity Analysis for Junction 1

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. **Table** 14-17 demonstrates that the Station Road arm on Junction 1 will exceed the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" development and "with" Phase 1F development scenarios, resulting in substantial queues and delays for motorists. The analysis concurs with the observations made in the South Fingal Transport Study (2012) referenced in the Portmarnock South LAP (now expired). The study concludes that this junction will undergo capacity issues in the future and recommended that an upgrade of the junction is explored. Once a junction is nearing or at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the impact on this junction will be mainly due to regular background traffic growth but not the proposed development per se, so traffic from the proposed Phase 1F development will only have a minimal impact on this junction. Under the Phase 1F, 2043 design year scenario, the primary access road onto Moyne Road will have been constructed. Due to the existing congested nature of Junction 1, the traffic generated from the proposed development will likely pre-sort within the development and take an alternative route to their destinations via Moyne Road or travel before/after the peak times thus reducing the impact on the junction.

Junction 2 – Strand Road / Coast Road / Station Road

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Station Road	**Without Development**	0.83	**0.99**	16	27
	With Phase 1F Development	0.84	**1.00**	17	29
Strand Road	**Without Development**	**0.91**	**0.99**	22	31
	With Phase 1F Development	**0.91**	**1.00**	22	33
Coast Road	**Without Development**	0.85	**1.00**	13	22
	With Phase 1F Development	0.86	**1.01**	14	23

Note: 1) The cycle time adopted for AM and PM peak hours was 120 seconds for both scenarios.

Table 14-18: 2043 Design Year (Phase 1F) Junction Capacity Analysis for Junction 2

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-18 demonstrates that Junction 2 will exceed the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" development and "with" Phase 1F development scenarios, resulting in substantial queues and delays for motorists. It should be also noted that this junction will still operate not greater than its theoretical capacity of 1.0 in the morning peak hour in 2043 for both the "without" development and "with" Phase 1F development scenarios, and in the evening peak hour in 2043 for the "without" development scenario. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the impact on this junction will be mainly due to regular background traffic growth but not the proposed development per se, so traffic from the proposed Phase 1F development will only have a minimal impact on this junction.

Junction 3 – Moyne Road / Coast Road

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Coast Road South	**Without Development**	**1.07**	**0.95**	43	26
	With Phase 1F Development	**1.08**	**0.97**	46	28
Moyne Road	**Without Development**	**1.05**	0.90	29	12

	With Phase 1F Development	**1.09**	**0.94**	37	14
Coast Road North	**Without Development**	**1.06**	**0.93**	40	22
	With Phase 1F Development	**1.07**	**0.94**	41	23

Note: 1) The cycle time adopted for AM and PM peak hours was 120 seconds for both scenarios.

Table 14-19: 2043 Design Year (Phase 1F) Junction Capacity Analysis for Junction 3

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-19 demonstrates that Junction 3 will exceed the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" development and "with" Phase 1F development scenarios, resulting in substantial queues and delays for motorists. It should be also noted that this junction will still operate less than its theoretical capacity of 1.0 in the evening peak hour in 2043 for both the "without" development and "with" Phase 1F development scenarios. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the impact on this junction will be mainly due to regular background traffic growth but not the proposed development per se, so traffic from the proposed Phase 1F development will not cause a significant impact on this junction.

Junction 4 – Hole in the Wall Road / Moyne Road Junction

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Drumnigh Road	**Without Development**	0.89	0.68	16	9
	With Phase 1F Development	0.89	0.68	16	9
Moyne Road East	**Without Development**	0.54	0.47	8	6
	With Phase 1F Development	0.59	0.48	9	7
Hole in the Wall Road	**Without Development**	0.81	0.76	9	11
	With Phase 1F Development	0.84	0.77	9	11
Moyne Road West	**Without Development**	0.65	0.68	10	11
	With Phase 1F Development	0.66	0.71	10	12

Note: 1) The cycle time adopted for AM and PM peak hours was 90 seconds for both scenarios.

Table 14-20: 2043 Design Year (Phase 1F) Junction Capacity Analysis for Junction 4

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-20 demonstrates that Junction 4 will operate within the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" development and "with" Phase 1F development scenarios. This junction in the morning peak hour in 2043 for both the "without" development and "with" Phase 1F development scenarios, will begin to approach the design threshold with minor queues and delays for motorists. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

14.5.3 Construction Stage for Cumulative (Entire Development)

There will be minor impacts on the safety or operation of the road network as a result of the construction phase of all phases of the Portmarnock Development. All construction related traffic will be outside the morning and evening peak hours and will not have a significant impact on the operation of the adjoining junctions.

14.5.4 Operational Stage for Cumulative (Entire Development)

14.5.4.1 Introduction

Given that on completion of Phase 1F, a total of 1,067 residential units will be occupied, the previous assessment in essence is substantially the 'Entire' Development, nevertheless for completeness sake, the following section will look at the total 1,100 residential units as per previous assessment reports for the Portmarnock South lands.

In order to produce a robust assessment, this section will analyse the traffic impact of the Entire Development (when completed) comprising of c. 1,100 housing units. The Entire Development will be served by three new priority controlled junctions providing direct access from/to the external road network. Two of these junctions are on Station Road and one on Moyne Road. It is estimated that the Entire Development will be complete by the 15 year design horizon of 2043 used in Section 14.5.2. Therefore, this will be used as the comparison year for both the "without" and "with" Entire Development scenarios.

14.5.4.2 Trip Generation: Entire Development

In consideration of the entire development (i.e. c. 1,100 residential units), c. 33 remaining units will be constructed in Phase 1G after completion of Phase 1F development (i.e. total 1,067 residential units). Therefore, the trips generated from Phase 1G will be included in the "with" Entire Development scenario.

The Trip Rate Information Computer System (TRICS) database was interrogated to derive the potential residential development trip generation rates. With reference to the previous Phases 1D & 1E and the proposed Phase 1F developments as shown in Section 14.5.2.4, the trip rates for Phase 1G were also calculated "per unit". The full TRICS output files are contained in **Appendix 14.2**.

14.5.4.3 Modal Split: Entire Development

When estimating trip generation for a residential development using TRICS the trip rate for car drivers accounts for a 65-70% modal split. This is in line with the national average modal split as well as the modal split at a location with a Public Transport Accessibility Level (PTAL) of 1 (see South Fingal Transport Study 2012: Section 5). As the Portmarnock South development has a PTAL of 4[4] (see South Fingal Transport Study 2012: Section 5), a PTAL 4 modal split of 41% for car drivers would be an accurate reflection. The South Fingal Transport Study 2019 does not reference "Public Transport Accessibility Level"; therefore the 2012 study is referenced.

This trip attenuation will more accurately reflect the trip generation of the development due to its proximity to the Dart station and improved cycle facilities in the area. It is also in line with both the Fingal Development Plan and the Portmarnock South LAPs (now expired) strategy to promote and encourage sustainable transport. However, in order to produce a robust, conservative scenario, a tolerance of 5% (to account for daily fluctuations) will be added to the modal split, resulting in 46% for car drivers.

Utilising data supplied by the TRICS database including trip attenuation principles, **Table** 14-21 following, details the estimated trip generation for Phase 1G development during the morning and evening peak hours being considered for this study. The full TRICS output files are contained in **Appendix 14.2**.

Development	Peak Hour	Factor	TRICS Arrival Rate	TRICS Departure Rate	Hourly Trips (PTAL area of 1, 65% modal split)		Attenuated PTAL area of 4, 46% modal split)	
					Trips In	Trips Out	Trips In	Trips Out

[4] *A Public Transport Accessibility Level (PTAL) is defined as a numerical value which determines the quality of access to public transport from a particular location. The value is based on the proximity to a service, the frequency of the service, and the nature of the service. Portmarnock South has a PTAL of 4 due to the proximity of the DART and Bus.*

Phase 1G Housing Development c.33 Units	AM	c. 33 Units	0.146 (per unit)	0.367 (per unit)	5	12	**4**	**8**
	PM		0.333 (per unit)	0.161 (per unit)	11	5	**8**	**4**

Table 14-21: TRICS Trip Generation for Phase 1G Development

14.5.4.4 Trip Distribution: Entire Development

With reference to the Section 14.5.2.5 above, the 40%/60% split for the outstanding units of Phase 1D, 20%/80% split for Phase 1E and the 30%/70% split for Phase 1F is an estimate derived from the existing traffic flows traveling north and south at each junction and the location of each phase within the overall development itself.

When the Phase 1G development is complete, residents will be able to use the primary access road onto Moyne Road as well as the existing access points on Station Road. The access going south onto Moyne Road is likely to attract more of the trips generated from the Phase 1G development, with at least 40% likely to travel north (Station Road) and 60% likely to travel south (Moyne Road). The 40% / 60% for the Phase 1G development is an estimate derived from the existing traffic flows traveling north and south at each junction and the location of each phase within the overall development itself.

In reality, due to the existing congested nature of Junction 1 on Station Road, the traffic generated from the proposed Entire Development will likely pre-sort within the development itself to avoid locations of congestion or travel before/after the peak times thus reducing the amount of traffic on Station Road.

It was assumed for the purposes of this study, that the future development traffic will mirror existing travel flows when exiting and entering the development. The existing traffic from the Phases 1A, 1B & 1C developments and 58 occupied units of Phase 1D development was analysed for the morning and evening peak hours at Junction 5 and Junction 6, which connect between Station Road and the occupied units of developments (i.e. Phases 1A, 1B & 1C developments and 58 units of Phase 1D development) at the time of traffic count surveys on 14th May 2025.

According to the traffic survey data at Junctions 5 and 6, 63% and 37% of the combined junctions vehicles, currently turn westward (i.e. towards Junction 1) and eastward (i.e. towards Junction 2) respectively from the proposed entire development to Station Road, while 59% and 41% of the combined junctions vehicles currently turn right (i.e. arriving from Junction 1) and left (i.e. arriving from Junction 2) respectively from Station Road into the Proposed Development in the morning peak hour.

In the evening peak hour, 54% and 46% of the combined junctions vehicles currently turn westward (i.e. towards Junction 1) and eastward (i.e. towards Junction 2) respectively from the proposed Entire Development to Station Road, while 66% and 34% of the combined junctions vehicles currently turn right (i.e. arriving from Junction 1) and left (i.e. arriving from Junction 2) respectively from Station Road into the proposed entire development.

After completion of the secondary access onto Moyne Road under the Phase 1D development, it has been assumed that traffic from the outstanding units of Phases 1D (i.e. 114 units), Phase 1E granted permission, this proposed Phase 1F and future Phase 1G – infill phase leaving the developments via this secondary access onto Moyne Road, during the morning and evening peak hours, will have same traffic split for the vehicles leaving the Phase 1A, 1B & 1C developments and 58 occupied units of Phase 1D development via the primary access junctions on Station Road as mentioned above. For example, 63% and 37% of vehicles departing via the Moyne Road access will turn westward (i.e. towards Junction 4) and eastward (i.e. towards Junction 3) respectively in the morning peak hour.

It has been assumed that the future development traffic distribution at the surrounding junctions will also mirror existing traffic patterns i.e. development generated flows will be split through the junction proportionally to existing flows.

14.5.4.5 Trip Assessment Years: Entire Development

It is likely that the proposed Entire Development will be fully operational well in advance of the 15 Year Design Horizon – 2043 used in the Phase 1F traffic analysis above. Therefore the traffic analysis associated with the Entire Development will focus on the 15 Year Design Horizon[5] – 2043. The analysis will compare the 2043 "without" Entire Development scenario and the 2043 "with" Entire Development scenario. This will serve as a stress test for the surrounding junctions when the Entire Development is complete.

The projected 2043 background traffic flows have been calculated by factoring up the 2025 recorded traffic flows in accordance with the TII Publications Project Appraisal Guidelines for National Roads document *'Unit 5.3 Travel Demand Projections, Table 6.1: Link-Based Growth Rates: Metropolitan Area Annual Growth Rates'*. The medium growth rate factors have been utilised.

The 2043 Design Year traffic flows are equal to the sum of 2043 year background traffic flows (as derived above) and the trips generated from both the outstanding units of Phase 1D development (i.e. 114 units) and Phase 1E development to create the "without" entire development scenario. Additional traffic flows due to the proposed Phase 1F development and future Phase 1G development is then applied to 2043 year flows to create the "with" entire development scenario.

Figure 14-22 and **Figure** 14-23 illustrate the 2043 Design Year stress test for the "without" and "with" Entire Development scenarios for both the morning and evening peak hours. Vehicle all red stages, which is an on-demand stage, were also included to cater for pedestrians crossing at the designated locations for each of the signalised junctions in order to provide a "worst-case" situation.

[5] TII (NRA) Traffic and Transport Assessment Guidelines May 2014- Required Modelling Scenario

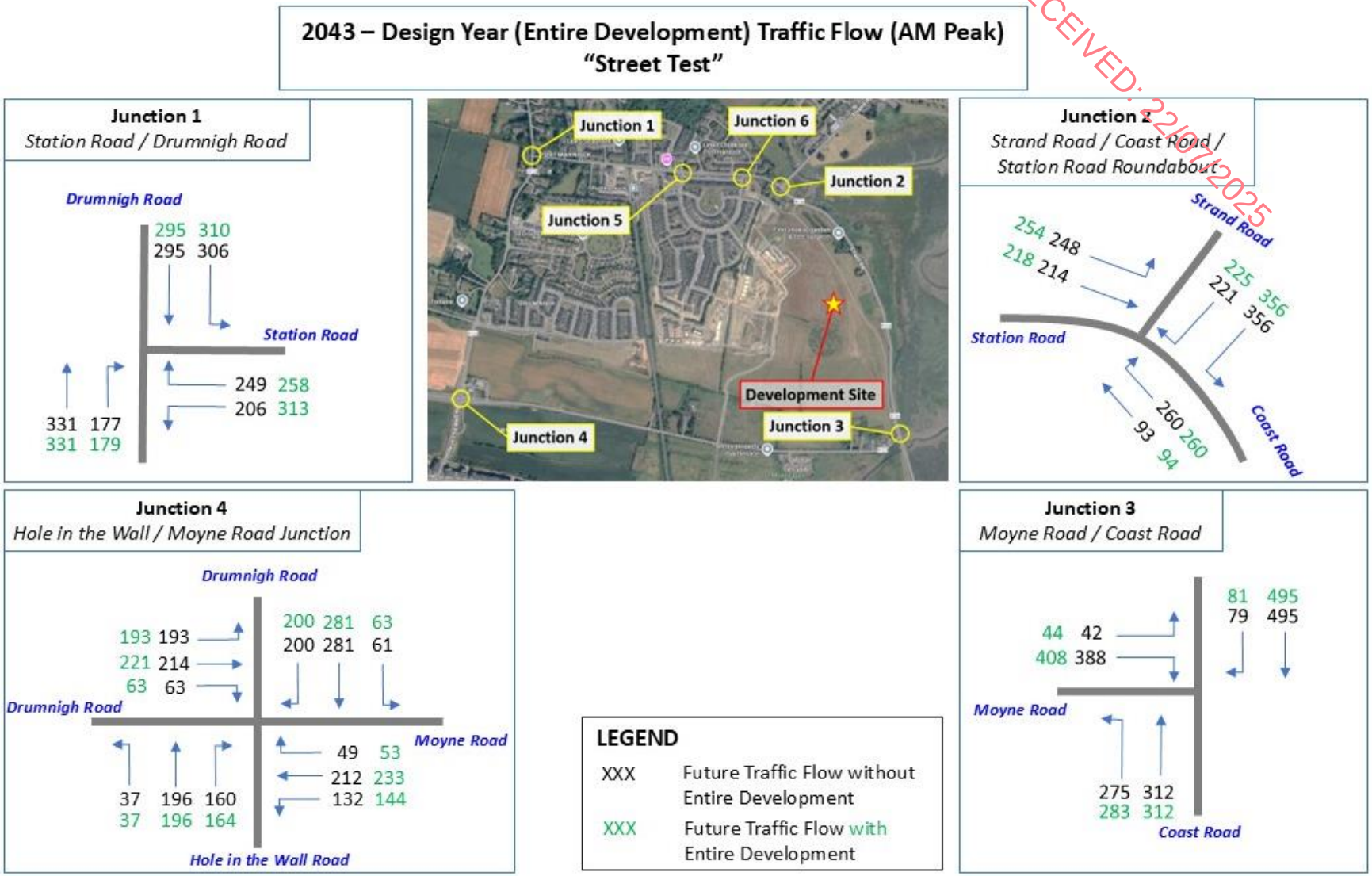

Figure 14-22: 2043 Design Year (Entire Development) Traffic Flows in the Morning Peak Hour – Stress Test

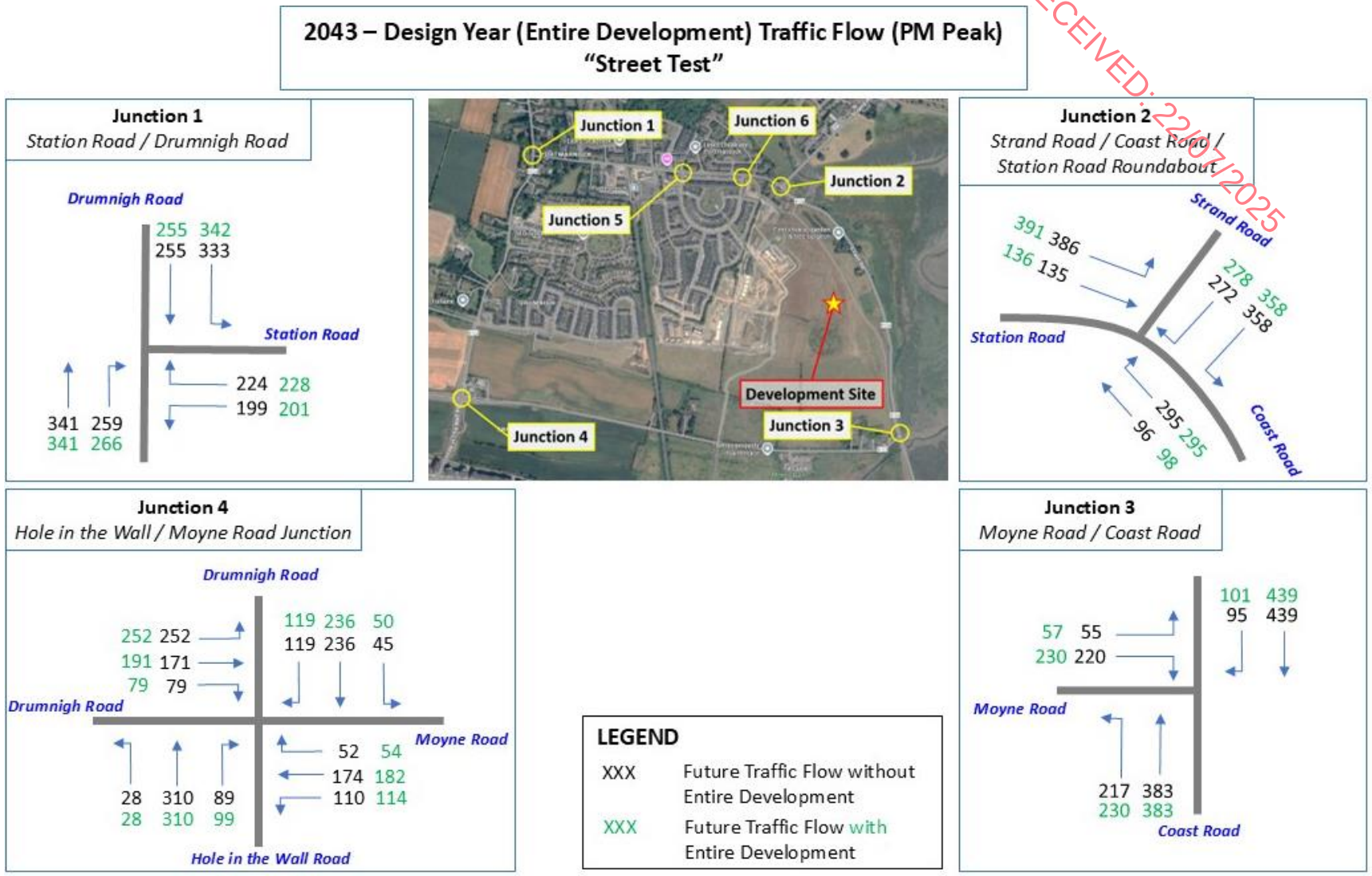

Figure 14-23: 2043 Design Year (Entire Development) Traffic Flows in the Evening Peak Hour – Stress Test

14.5.4.6 Traffic Modelling: Entire Development

In order to assess the future traffic impact of the Entire development, capacity assessments were undertaken using TRL's PICADY and TRANSYT software on the following junctions;

- Junction 1: Station Road/ Drumnigh Road R124 (to the northwest) – PICADY,
- Junction 2: Strand Road/Coast Road/Station Road (to the northeast) – TRANSYT,
- Junction 3: Moyne Road/Coast Road (to the southeast) – TRANSYT, and
- Junction 4: Hole in the Wall Road/Mayne Road Junction (to the southwest) - TRANSYT.

The junctions were modelled for the 2043 (Opening Year plus 15 years) Design Year Horizon for the morning and evening peak hour periods using the flow diagrams shown in **Figure** 14-22 and **Figure** 14-23 in Section 14.5.4.5 above.

To demonstrate the direct traffic impact associated with the proposed Entire Development on the key junctions being considered, the traffic modelling exercise was carried out for both the "without" Entire Development and "with" Entire Development scenarios.

14.5.4.7 2043 Design Year Entire Development

A summary of the results of the analysis for the 2043 Design Year, "without" Entire Development and "with" Entire Development scenarios, in both the morning and evening peak hours is shown in **Table** 14-22 to **Table** 14-25 inclusive.

Junction 1 – Station Road / Drumnigh Road R124

Approach Arm	Scenario	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
		AM	PM	AM	PM	AM	PM
Drumnigh Road R124 North*	Without Development	-	-	-	-	-	-
	With Entire Development	-	-	-	-	-	-
Station Road	Without Development	**1.33**	**1.30**	72	62	605	529
	With Entire Development	**1.38**	**1.34**	85	68	714	595
Drumnigh Road R124 South	Without Development	0.53	0.78	2	5	12	24
	With Entire Development	0.54	0.80	2	6	12	28

*Note: * Priority is always given to the traffic at Drumnigh Road R124 North arm, therefore this arm is under a free flow condition without any queue or delay.*

Table 14-22: 2043 Design Year (Entire Development) Junction Capacity Analysis for Junction 1

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. **Table** 14-22 demonstrates that Junction 1 will exceed the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" Entire Development and "with" Entire Development scenarios resulting in substantial queues and delays for motorists. The analysis concurs with the observations made in the South Fingal Transport Study (2012) referenced in the Portmarnock South LAP. The study concludes that this junction will undergo capacity issues in the future and recommended that an upgrade of the junction is explored. Once a junction is nearing or at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

The analysis indicates that traffic from the proposed Entire Development will have a minor impact on this junction. Under the Entire Development, 2043 design year scenario, the primary access road onto Moyne Road will have been constructed. Due to the existing congested nature of Junction 1, the traffic generated from the proposed Entire Development will likely pre-sort within the development and

take an alternative route to their destinations via Moyne Road or travel before/after the peak times thus reducing the impact on the junction.

Junction 2 – Strand Road / Coast Road / Station Road

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Station Road	**Without Development**	0.83	**0.99**	16	27
	With Entire Development	0.85	**1.00**	17	29
Strand Road	**Without Development**	**0.91**	**0.99**	22	31
	With Entire Development	**0.91**	**1.00**	22	33
Coast Road	**Without Development**	0.85	**1.00**	13	22
	With Entire Development	0.86	**1.01**	14	23

Note: 1) The cycle time adopted for AM and PM peak hours was 120 seconds for both scenarios.

Table 14-23: 2043 Design Year (Entire Development) Junction Capacity Analysis for Junction 2

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-23 demonstrates that Junction 2 will exceed the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" Entire Development and "with" Entire Development scenarios, resulting in substantial queues and delays for motorists. It should be also noted that this junction will still operate not greater than its theoretical capacity of 1.0 in the morning peak hour in 2043 for both the "without" Entire Development and "with" Entire Development scenarios, and in the evening peak hour in 2043 for the "without" Entire Development scenario. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the impact on this junction will be mainly due to regular background traffic growth but not the proposed Entire Development per se, so traffic from the proposed Entire Development will not cause a significant impact on this junction.

Junction 3 – Moyne Road / Coast Road

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Coast Road South	**Without Development**	**1.07**	**0.95**	43	26
	With Entire Development	**1.08**	**0.97**	46	29
Moyne Road	**Without Development**	**1.05**	0.90	29	12
	With Entire Development	**1.10**	**0.94**	38	14
Coast Road North	**Without Development**	**1.06**	**0.93**	40	22
	With Entire Development	**1.07**	**0.94**	41	23

Note: 1) The cycle time adopted for AM and PM peak hours was 120 seconds for both scenarios.

Table 14-24: 2043 Design Year (Entire Development) Junction Capacity Analysis for Junction 3

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-24 demonstrates that Junction 3 will exceed the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" Entire Development and "with" Entire Development scenarios, resulting in substantial queues and delays for motorists. It should be also noted that this junction will still operate less than its theoretical capacity of 1.0 in the evening peak

hour in 2043 for both the "without" Entire Development and "with" Entire Development scenarios. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the impact on this junction will be mainly due to the regular background traffic growth but not the proposed Entire Development per se, so traffic from the proposed Entire Development will not cause a significant impact on this junction.

Junction 4 – Hole in the Wall Road / Moyne Road Junction

Approach Arm	Scenario	Max. DOS		Max. Queue (PCU)	
		AM	PM	AM	PM
Drumnigh Road	Without Development	0.89	0.68	16	9
	With Entire Development	0.89	0.68	16	9
Moyne Road East	Without Development	0.54	0.47	8	6
	With Entire Development	0.60	0.48	9	7
Hole in the Wall Road	Without Development	0.81	0.76	9	11
	With Entire Development	0.84	0.77	9	11
Moyne Road West	Without Development	0.65	0.68	10	11
	With Entire Development	0.66	0.71	10	12

Note: 1) The cycle time adopted for AM and PM peak hours was 90 seconds for both scenarios.

Table 14-25: 2043 Design Year (Entire Development) Junction Capacity Analysis for Junction 4

The normal design threshold for the degree of saturation (DOS) is 0.9 for a signalised junction. **Table** 14-25 demonstrates that Junction 4 will operate within the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" Entire Development and "with" Entire Development scenarios. This junction in the morning peak hour in 2043 for both the "without" Entire Development and "with" Entire Development scenarios, will begin to approach the design threshold with minor queues and delays for motorists. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

14.5.4.8 Summary for Cumulative (Entire Development)

It is noted that the junction analysis for the entire development is a robust and conservative analysis. The Entire Development 2043 analysis assumes that little additional transport interventions have been applied to the road network in the Fingal area and presents a "worst-case" situation where the full impact of population growth and employment distribution is assigned to the existing road network.

It should be noted, and as stated above, that this assessment is based on the existing road network and junction layouts. However, several committed road schemes and junction upgrades in the Fingal / North Dublin City area (which will be carried out by others and not part of this application) are to be implemented in the coming years. Thus, this assessment does not quantify the exact impact due to these committed road schemes / junction upgrades on the surrounding road network, but it is clear it will be positive. These road/junction upgrades will likely take traffic away from the smaller junctions around the St. Marnock's Bay site.

Additionally, the analysis does not consider that by 2043 further sustainable transport improvements in the Fingal area such as improved DART services, Bus Connects, cycle schemes and additional government initiatives will all have a positive effect on the modal split, reducing the impact of surrounding junctions.

14.6 MITIGATION MEASURES (AMELIORATIVE, REMEDIAL OR REDUCTIVE MEASURES)

14.6.1 Proposed Development

With the objective of mitigating the potential impact of the proposed development during both its Construction and Operational stages, the following proposals (mitigation measures) have been identified and form an integral part of the subject development proposals.

14.6.1.1 Construction Stage

A Construction Environmental Management Plan is being submitted as part of this Planning Application to Fingal County Council, which includes, inter alia, indicative phasing of the works, hours of operation, a traffic management plan, noise and dust mitigation measures etc. A Construction Manager will be appointed to liaise directly with the various sections of FCC and develop the plan as required.

The construction management plan will take into account construction vehicle routing and timing to mitigate any issues with vehicles on public roads.

The following mitigation measures shall be provided to minimise the impacts to the public road network during the Construction Stage:

- Good construction management practices will be employed such as fencing the site off from the public and neighbouring sites, adequate external/internal signage, secure internal site offices, dedicated construction access points all to facilitate the safety of construction staff and the public;
- Appropriate levels of staff parking and compounding will be provided to ensure no potential overflow or haphazard parking in the area. The site will be able to accommodate employee and visitor parking throughout, though it is noted this will become challenging as the development nears completion;
- Set construction traffic routes to and from the site will be agreed with FCC prior to the commencement of construction activities on site. Where necessary the time of day permittable for such routes will also be agreed upon and outside of the morning/evening peak hours;
- Tracked excavators will be moved to and from the site on low-loaders and will not be permitted to drive on the street pavements;
- Wheel washers / judder bars will be placed at all site access points to minimise the migration of detritus onto the public roads. The roads will be inspected and cleaned on a regular basis; and
- Haul vehicles will be covered after loading to ensure there is no risk of construction material falling.

14.6.1.2 Operational Stage

A number of measures have been and will be implemented prior to the subject scheme opening which include: -

- **Parking:** All car parking and bicycle parking within the development will comply with the Development Plan and the former has been assessed against the Common Settlement Guidelines. The apartments and duplex units within all phases have been provided with cycle parking equal to and in excess of the Development Plan minimum requirement. It was agreed with Fingal County Council that a sustainable approach to parking would be incorporated into the development. This leads to a strong emphasis on bicycle parking, thus reducing the need for private single occupancy vehicles.

- **Mobility Management Plan (MMP):** A MMP will be rolled out with the aim of guiding the delivery and management of coordinated initiatives by the scheme promoter. The MMP ultimately seeks to encourage sustainable travel practices for all journeys to and from the developments. Details of the MMP are contained below.

14.6.1.3 Mobility Management Plan

Introduction

A Mobility Management Plan, also known as a Travel Plan, is a long-term management strategy which identifies a package of measures to encourage residents and visitors to use sustainable forms of transport such as walking, cycling and public transport and to reduce dependency on private car single-occupancy use. By providing for the transportation needs of people and goods in an ordered and planned manner the environmental, economic and social impacts of travel may be greatly reduced.

The objective of this Mobility Management Plan section is to improve accessibility to the development, whilst providing a more sustainable approach to the development's transportation requirements. In line with the Fingal Development Plan 2023-2029, the development seeks to put a strong emphasis on sustainable forms of transport.

Developing this plan will allow the development of managed travel options and more informed travel choices for residents and visitors whilst reducing dependency on private car use associated primarily with commuter travel.

Upon completion and occupation of the development, this Mobility Management Plan will provide the basis for an examination of the commuting patterns associated with the site to be undertaken. With the information gathered, a strategy to promote sustainable travel decisions for the site will be devised. It is envisaged that occupants of the site will derive the following benefits:

- Healthier commute to work and school/college for residents;
- Enhanced well-being;
- Reduced resident downtime spent travelling;
- More informed travel options for residents and visitors;
- A reduction in the demand for parking spaces;
- Improved environmental performance;
- On-going liaison with FCC and public transport providers to maintain, improve and support transportation services to and from the site;
- Promotion of social networks/community within the development;
- Reduced congestion around the site; and
- Cheaper commutes for residents.

Influencing Travel Patterns

In order to give the strategy a good founding it will be necessary to fully understand the nature of the trip patterns associated with the operational stage of the proposed development. In order to achieve this, trip movements to and from the site must be examined and assessed for potential future influence.

Table 14-26 below lists the likely nature and extent of anticipated traffic movements to and from the Proposed Development. It also highlights those trips where change is most possible to influence.

Nature of Traffic Movements to Residential Development	Increasing with Development	Possible to Influence?
Residents commuting to and from work	Yes	Yes
Leisure Related Journeys	Yes	Yes, but more difficult
Deliveries	Yes	Yes, but more difficult
Members of the Public/Visitors	Yes	Difficult and impractical

Table 14-26: Nature of Traffic Movements & Ability to Influence

As visitor journeys, leisure related journeys and deliveries are difficult to predict and influence, this mobility management plan will focus on commuting journeys for residents. As commuting journeys are by their very nature regular and predictable i.e., they generally happen in the same period every morning and every evening, they will form the focus of the Mobility Management Plan.

The setting of realistic and achievable modal split targets is vital if all or any of the measures are to be successful. The targets need to be attainable and most importantly correspond with the development's goals i.e. deliver the benefits listed above.

Accessibility Audit

Section 14.3 provides a summary of existing and proposed public transport services in the vicinity of the development. The section also looks at the existing road infrastructure and facilities, and contains a summary of the existing and proposed facilities for pedestrians and cyclists.

In summary, the principle of providing sustainable transport which is embodied in both the Fingal Development Plan 2023-2029 and previously the Portmarnock South Local Area Plan will be given physical expression in the proposed development. The form and structure of the proposed development will encourage the use of public transport, cycling and walking in preference to the private car.

Action Plan

Commuter journeys by their very nature usually occur between the same two points (e.g. home and work) and at regular times. The successful implementation of the Mobility Management Plan will provide the development with a number of advantages, which include:

- Improved environmental performance;
- Improved social networks between residents;
- Improved health and well-being for those staff using active transport modes;
- Reduced demand for car parking spaces; and
- Improved corporate image and social responsibility.

The following details the available initiatives to reduce the environmental impact of commuter journeys. In the future, when the proposed development is occupied, resident travel surveys can be undertaken to gauge more accurate results. When surveys are conducted, it will be clear which modes of transport are in need of attention and which initiatives get priority.

Car-Pooling Scheme

Everyday thousands of commuters drive to work on the same routes to the same destinations, at the same time as their colleagues. By car sharing just once a week, a commuter's fuel costs can be reduced by 20%, and in a similar fashion, the demand for workplace parking can be reduced by 20%.

While use of the car will be essential for a large proportion of residents, car sharing schemes have the potential to deliver a significant reduction in private vehicle trips by promoting more residents to travel in each vehicle, thereby lowering single occupancy vehicle (SOV) trips to/from the development.

A car-pooling scheme relies on a database to match residents, using information about their work addresses, their working hours, their preferences such as gender/driver or passenger and their preferred route to and from work. Depending on the desired level of on-going management company/residents association input, a number of database options exist, some examples include:

- Message boards (either paper, electronic or web-based),
- Manually administered system championed by an individual, who's function is to match individuals interested in car sharing,
- Websites that have automated functions to match people and provide contact details, and
- Websites that have automated functions to match people and provides a message service to potential matches.

The Travel Plan Coordinator should develop a protocol or guidelines for car sharers.

The most successful car sharing schemes rely on strong promotion, are internet based and use an operator to contact members on a regular basis to inform them of potential lifts.

A number of car sharing initiatives have been launched recently in Dublin, including the "*Go Car"* pay-as-you-drive scheme which allows subscribed members to share in the use of a pool of vehicles by reserving a time allocation online in advance and "*carsharing.ie*", a car pooling service that facilitates people looking to rideshare.

Benefits include cost saving, convenience (no responsibility for insurance, tax, fuel, maintenance), less traffic congestion and less parking pressure. In addition to the money people will save by sharing costs, the Travel Plan Coordinator will implement the following initiatives and incentives to encourage the car sharing scheme:

- Highlight to drivers that they do not have to share with a person that doesn't suit them – allow choice based on gender, route, smoking or non-smoking, and
- Clarify the financial implications of the scheme – those accepting a lift could contribute towards fuel costs.

Walking

It is proposed to provide a network of footpaths that will permeate the proposed development, linked into existing footpaths within this residential area as well as the Greenway to the east and thereby provide a high degree of accessibility to local facilities and to bus and rail transport. Initiatives such as the development of a support forum whereby any localised problems can be discussed, with the aim of pursuing corrective action from the local authority may encourage walking amongst residents.

On the basis that 30 mins is considered an acceptable walking distance, residents can walk to an area that includes Portmarnock Village, Baldoyle and Clongriffin.

Refer to **Figure** 14-24 following for illustration of 30 min walking cordon.

Figure 14-24: 30 min Walking Cordon

Cycling

A number of segregated combined cycle and footpath routes through the development and a circular cycle/footpath route will connect homes to the DART station, Greenway, commercial area and open space. For commuter journeys, cycling is a feasible mode of transport for those working within 30 mins of the site. Cyclists could therefore be expected to travel to an area encompassed by Clontarf, Howth, Malahide and Beaumont. Greater distances such as to the city centre, could be expected from cycle enthusiasts and regular cyclists.

Refer to **Figure** 14-25 following for illustration of 30 min cycling cordon.

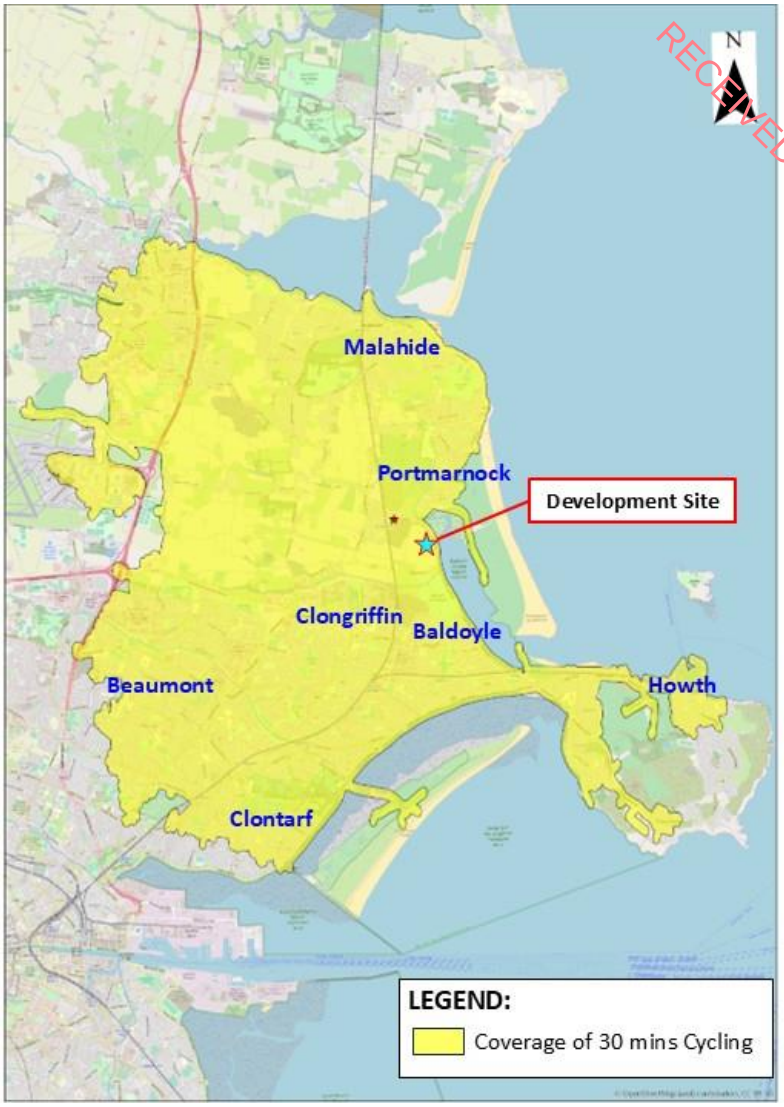

Figure 14-25: 30 min Cycling Cordon

Increases in cycling numbers could be expected to correlate with the continued sustainability drive by the Irish Government. The Government led initiative "*Bike to Work*" scheme allows employers to purchase a bicycle and safety equipment up to the value of €1,500. Employees can then use a salary sacrifice to pay for the bike, allowing them to save up to 52% on the retail price of the bike and safety equipment. Employers benefit by PRSI savings of 10.75%, as well as a reduced parking demand, a fitter and healthier workforce and improved environmental image.

Public Transport

The residential development and surrounding lands are currently well serviced by public transport between the Dart and Dublin Bus routes. To encourage patronage within the development for public transport the following measures could be set in motion:

- Generate a site-specific leaflet showing all public transport routes,
- Contact those residents identified as potential public transport users and assist them in compiling a personalised journey plan.

Incentives for the promotion of public transport include:

- Promotion of a more environmentally friendly way to travel to work, and

- Encourage Dublin Bus/Irish Rail to provide better public transport services to the site as demand grows.

Taxsaver Tickets

Taxsaver incentivises people to use public transport to and from work. The cost is deducted directly from the employees Gross salary, and substantial savings of between 28.5% and 52% can be made off the regular price, depending on ticket type and employee's tax band.

Monitoring

Details on how best to implement and monitor the MMP is outlined in Section 14.8.1.3.

14.6.2 Cumulative (Entire Development)

14.6.2.1 Construction Stage

The mitigation measures utilised for the Proposed Development (Phase 1F) will also be used in Phase 1G – infill phase. The construction management plan and traffic management plan to be submitted to FCC for approval will constantly be updated for future phase. It will set out requirements and standards which must be met during the Construction Phase and will include the relevant mitigation measures outlined in the EIAR and any subsequent conditions relevant to the proposed development. The document will include lessons learned from the previous phases.

14.6.2.2 Operational Stage

As per Section 14.6.2.1.

Additionally, the mobility management plan is not a one-off event, more so it is an on-going iterative process. The plan will constantly be updated and find new ways to reduce the developments' reliability on private cars and in particular single occupancy trips.

14.7 RESIDUAL IMPACT

14.7.1 Proposed Development

14.7.1.1 Construction Stage

There will be minor impacts on the safety or operation of the road network as a result of the construction stage of all phases (proposed and future) of the development. Having consideration for the mitigation measures outlined above, any impacts during the construction stage will be negligible. All construction related traffic will be outside the morning and evening peak hours and will not have a significant impact the operation of the adjoining junctions. Furthermore, they will be temporary in nature and of relatively short duration.

14.7.1.2 Operational Stage

2028 Opening Year (Phase 1F Development)

In the 2028 opening year (Phase 1F development), Junction 2 to Junction 4 will operate within the normal design threshold except the following scenarios:

- Junction 2 in the evening peak hour in 2028 for the "with" Phase 1F development scenario (but still not greater than its theoretical capacity of 1.0), resulting in queues and delays for motorists, and
- Junction 3 in the morning peak hour in 2028 for both the "without" development and "with" Phase 1F development scenarios (but still not greater than its theoretical capacity of 1.0), resulting in queues and delays for motorists.

For Junction 1, it will exceed the normal design threshold in both the morning and evening peak hours in 2028 for both the "without" development and "with" Phase 1F development scenarios, resulting in substantial queues and delays for motorists. The analysis concurs with the observations made in the South Fingal Transport Study (2012) referenced previously in the now expired Portmarnock South LAP. The study concludes that this junction will undergo capacity issues in the future and recommended that an upgrade of the junction is explored.

However, the analysis indicates that the impact on those concerned junctions will be mainly due to regular background traffic growth but not the proposed development per se. Therefore, traffic from the proposed Phase 1F development will not cause a significant impact on Junctions 1 to 4 inclusive for the 2028 opening year (Phase 1F development).

2043 Design Year (Phase 1F Development and Entire Development)

In 2043 design year (Phase 1F Development and Entire Development), Junction 4 will operate within the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" development and "with" Phase 1F/Entire Development scenarios.

Junction 1 to Junction 3 will exceed the normal design threshold in both the morning and evening peak hours in 2043 for both the "without" development and "with" Phase 1F/Entire Development scenarios, but the following junctions and scenarios with RFC/DOS not greater than its theoretical capacity of 1.0:

- Junction 2 in the morning peak hour in 2043 for both the "without" development and "with" Phase 1F/Entire Development scenarios,
- Junction 2 in the evening peak hour in 2043 for the "without" development scenario, and
- Junction 3 in the evening peak hour in 2043 for both the "without" development and "with" Phase 1F/Entire Development scenarios.

However, the analysis indicates that the impact on those concerned junctions will be mainly due to regular background traffic growth but not the proposed Phase 1F/Entire Development per se. Therefore, traffic from the proposed Phase 1F/Entire Development will not cause a significant impact on Junctions 1 to 4 inclusive for the 2043 design year (Phase 1F/Entire Development).

Conclusion

The analysis indicates that the impact on those concerned junctions will be mainly due to regular background traffic growth but not the proposed development per se. Therefore, traffic from the proposed Phase 1F/Entire development will not cause a significant impact on Junctions 1 to 4 inclusive for the 2028 opening year and 2043 design year (Phase 1F/Entire development).

The residual impacts from both the Proposed Development (Phase 1F/Entire) and background traffic growth will be mitigated with the improvements of the public transport network (DART and BusConnects) and cycling infrastructure throughout Dublin. The proposed development will provide adequate pedestrian and cycle linkages to both existing and future sustainable travel facilities and modes which will encourage a greater number of Portmarnock residents to choose sustainable transport modes.

14.7.1.3 Worst Case Impact

It is noted that the junction analysis for the Entire Development is a robust and conservative analysis.

The Entire Development 2043 analysis assumes that little additional transport interventions have been applied to the road network in the Fingal area and presents a "worst-case" situation where the full impact of population growth and employment distribution is assigned to the existing road network.

Nevertheless several committed road schemes and junction upgrades in the Fingal / North Dublin City area are to be implemented in the coming years. It is difficult to quantify the exact impact these upgrades will have on the surrounding road network, but it is clear it will be positive. These road/junction upgrades will likely take traffic away from the smaller junctions around the entire development.

The analysis also does not consider that by 2043 further sustainable transport improvements in the Fingal area such as improved DART services, Bus Connects, cycle schemes and additional government initiatives are likely to be in place, which in turn will all have a positive effect on the modal split, reducing the impact on surrounding junctions.

14.7.2 Cumulative (Entire Development)

14.7.2.1 Construction Stage

As per Section 14.7.1.1.

14.7.2.2 Operational Stage

As per Section 14.7.1.2.

14.7.2.3 Worst Case Impact

As per Section 14.7.1.3.

14.8 MONITORING

14.8.1 Proposed Development

14.8.1.1 Construction Stage

During the Construction Phase a number of monitoring exercises have been implemented in previous phases (Phase 1A, 1B, 1C, 1D and 1E) and will be utilised in the Proposed Development (Phase 1F) and going forward. The specific exercises implemented come from the range of measures detailed in the final construction management plan to be agreed with the planning authority: -

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

14.8.1.2 Operational Stage

During the Operational Phase, it is anticipated that the residual impacts from both the Proposed Development and background traffic growth will be mitigated with the improvements of the public transport network (DART and BusConnects) and cycling infrastructure throughout Dublin. Therefore, no significant monitoring has been proposed. However, the MMP sections of the EIAR have set out ways to monitor progress.

14.8.1.3 Mobility Management Plan

As outlined in Section 14.6.1.3, the MMP will set out a strategy which identifies a package of measures to encourage residents and visitors to use sustainable forms of transport such as walking, cycling and public transport and to reduce dependency on private car single-occupancy use. Whilst it is difficult to continuously monitor the progress, the setting of targets and promotion of the plan will be vital.

Implementing the Plan

The setting of realistic targets and a sustained approach to the promotion of the Mobility Management Plan is vital if all or any of the measures are to be successful. The objectives and benefits of the Plan to both the individual and the development should be made clear and broadcast during the full lifecycle of the Plan. Modal split targets need to be attainable and most importantly correspond with the development's goals i.e. supporting and enhancing the lives of the residents involved. As well as reviewing objectives and initiatives regularly, it is equally important to measure results. This ensures that the targets are realistic and are being met and most importantly that they correspond with the development's goals.

The target modal splits for the entire Portmarnock South Residential Development are identified in **Table** 14-27 below. They correlate closely with the goals set out in the South Fingal Transport Study.

	Initiative	Impact on Delivery	Difficulty in Delivering	Target Modal Split
Resident Commuter Journeys and Initiatives	Cycling	Medium	Medium	8%
	Walking	Medium	Medium	5%
	DART	High	Low	35%
	Bus	High	Low	8%
	Other	Low	High	4%
	SOV Cars	NA	NA	40%

Table 14-27: Portmarnock South Target Modal Splits

Conclusion

With congestion becoming an ever-increasing problem in Ireland and acknowledging that providing more road network capacity is considered an un-sustainable option, therefore, managing transportation demand at source using mobility management measures remains an attractive, low cost and viable option.

Mobility management measures are still relatively new to Ireland and are therefore not widely understood. In the absence of extensive Irish based performance data associated with such measures, expectations for their implementation and performance are often idealistic. Mobility management measures for residential developments are difficult to arrange and monitor. The proposals set out herein however give a framework for adopting mobility management principles.

A mobility management plan is not a one-off event, more so it is an on-going iterative process. This section of the EIAR provides guidance for its potential success. The collection of commuter data, and on-going monitoring and reviewing of the initiatives set out within the plan will form a far greater part of the Mobility Management Plan itself.

Preliminary targets should be reviewed and adjusted as required. Failing to meet initial targets should not be seen as failure, as the initial 12 to 18 months of the plan should be viewed as a calibration exercise for target setting.

14.8.2 Cumulative (Entire Development)

14.8.2.1 Construction Stage

As per Section 14.8.1.1.

14.8.2.2 Operational Stage

As per Section 14.8.1.2 and Section 14.8.1.3.

14.9 REINSTATEMENT

Reinstatement is not applicable to the Material Assets (Transportation) of this EIAR.

14.10 DIFFICULTIES ENCOUNTERED

No difficulties were encountered in completing this chapter of the EIAR.