Traffic & Transport Assessment

Proposed Residential Development at Ballycullen, Dublin 16, Co. Dublin

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This document has been prepared and checked in accordance with
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Issue	Date	Prepared by	Checked by	Approved by
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Comments

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1. Introduction

1.1 Context

This Traffic and Transport Assessment (TTA) has been prepared by Waterman Moylan on behalf of Lagan Homes Ballycullen Limited to accompany a planning application for a Large Scale Residential Development (LRD) in the townland of Woodtown, Ballycullen, Dublin 16. The lands are located to the east of Abbot's Grove Park, south-east of Abbot's Grove Avenue, south of Stocking Avenue and Stocking Wood estate, and west of White Pines Park.

The proposed development will consist of 502 no. residential units (108no. 1-bed, 170no. 2-bed, 162 no. 3-bed; 62 no. 4-bed) comprising 197no. 2 storey houses (terraced/semi-detached/detached) (19no. 2-bed, 116no. 3-bed; 62no. 4-bed) and 28no. 3 and 4 storey simplex/duplex apartment blocks providing 305no. apartments (108no. 1-bed apartments, 151no. 2-bed apartments, 46no. 3-bed apartments). The proposed development also includes a crèche (c.475sq.m), public open space, car parking (surface/undercroft), bicycle parking, bicycle storage structures and lockers, bin stores, and 8no. ESB substations. Vehicular access to be provided from the existing spur road connection to Stocking Avenue to the west of the site, and via Stocking Wood Drive to the east of the site (with relocation of existing ESB substation and associated works to the existing hammerhead). Additional pedestrian only routes will be provided into Abbot's Grove Park and Stocking Wood Copse with future connections provided for into Stocking Wood Manor, White Pines Park and the future school site to the north of the application site. The proposed development includes all associated site development works (including site reprofiling, retaining structures and downing of ESB overhead lines), landscaping, boundary treatments and services provision.

The accommodation schedule is shown in **Table 1** below:

Description	1-bed	2-bed	3-bed	4-bed	Total	GFA (Sqm)
Houses		19	116	62	197	
Apartments	108	151	46		305	
Childcare Facility						474.8
Total	**108**	**170**	**162**	**62**	**502**	**474.8**

Table 1 | *Schedule of Accommodation*

1.2 Scope

This Traffic and Transport Assessment is a comprehensive review of all the potential transport impacts of the overall development, including a detailed assessment of the transportation systems provided and the impact of the proposed development on the surrounding environment and transportation network.

1.3 Standards

This Traffic and Transport Assessment has been prepared in accordance with best practice and in accordance with the requirements of both *Section 7.9 (Policy SM6 Objective 8)* of the *South Dublin County Development Plan 2022-2028* and the *Traffic and Transport Assessment Guidelines* published by *Transport for Ireland (TII) / National Roads Authority (NRA)* in May 2014.

1.4 Threshold for Transport Assessment

Section 2.1 of the *Traffic and Transport Assessment Guidelines (May 2014)* requires submission of a Transport Assessment where a proposed development meets one or more of the following criteria:

1- Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.

2- Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive.

3- Residential development in excess of 200 dwellings.

4- Retail and leisure development in excess of 1,000sqm.

5- Office, education, and hospital development in excess of 2,500sqm.

6- Industrial development in excess of 5,000sqm.

7- Distribution and warehousing in excess of 10,000sqm.

The Subject Development consists of 502 No. residential units; therefore threshold no. 3 is met.

1.5 Site Location

The subject site is situated in Woodtown, in the South Dublin County Council Area, to the south-west of junction number 12 of the M50 motorway.

The site is currently a greenfield site, bounded to the east, north and west by existing residential areas and to the south by greenfield lands.

Figure 1 | *Site Location*

1.6 Programme

For the purposes of the assessment, it is assumed that the Subject Development will be built in two phases with completion in 2029. Therefore, 2030 was chosen as the opening year.

The assessment years may lag pending approval of the planning application and may differ from the programme.

1.7 Assessment Years

The years that have been assessed as part of this Traffic and Transport Assessment are the following:

Base Year	:	2025
Opening Year (With / Without Development)	:	2030
Opening Year + 5 Years Forecast (With / Without Development)	:	2035
Opening Year + 15 Years Forecast (With / Without Development):		2045

These assessment years are in line with the 'Transport Assessment Guidelines (May 2014)'. Details of each assessment year are presented later in this report.

To improve the robustness of the results obtained in this TTA, we consider opening year of the development to be fully occupied.

1.8 Documents Consulted

The following documents were consulted during the preparation of this Traffic and Transport Assessment:

- Greater Dublin Area Transport Strategy 2022 – 2042
  https://www.nationaltransport.ie/wp-content/uploads/2023/01/Greater-Dublin-Area-Transport-Strategy-2022-42-1.pdf
- Greater Dublin Area Cycle Network Plan, NTA, 2022
  https://www.nationaltransport.ie/wp-content/uploads/2023/01/2022-GDA-Cycle-Network.pdf
- Implementation Roadmap for the National Planning Framework
  https://npf-cdn-prod.s3.eu-west-1.amazonaws.com/wp-content/uploads/20240502101327/NPF-Implementation-Roadmap.pdf
- National Planning Framework – Project Ireland 2040
  www.gov.ie/pdf/?file=https://assets.gov.ie/246231/39baaa8c-48dc-4f24-83bd-84bbcf8ff328.pdf#page=null
- New Dublin Area Bus Network – Bus Connects
  https://busconnects.ie/wp-content/uploads/2021/01/busconnects-final-summary-report-fa.pdf
- Project Appraisal Guidelines for National Roads Unit 5.3 - Travel Demand Projections. PE-PAG-02017
  https://www.tiipublications.ie/library/PE-PAG-02017-03.pdf
- Smarter Travel: A Sustainable Transport Future
  www.gov.ie/pdf/?file=https://assets.gov.ie/19854/37d829c9748446349ff586045bfbcaba.pdf#page=null
- South Dublin County Council Development Plan 2022-2028
  https://www.sdcc.ie/en/devplan2022/adopted-plan/county-development-plan-written-statement/county-development-plan-written-statement1.pdf
- Spatial Planning and National Roads: Guidelines for Planning Authorities
  https://www.gov.ie/pdf/?file=https://assets.gov.ie/111220/ef2d43a4-d3a0-418a-b0ba-03340e6d083a.pdf#page=null
- Sustainable Residential Development and Compact Settlements: Guidelines for Planning Authorities.
  www.gov.ie/pdf/?file=https://assets.gov.ie/280882/af1b1694-6ff4-4a14-b2c6-f104347ffb53.pdf#page=null
- Sustainable Urban Housing: Design Standards for New Apartments.
  www.gov.ie/pdf/?file=https://assets.gov.ie/243715/d60aaacd-0b2b-4422-ab91-d511a4720132.pdf#page=null
- Traffic and Transport Assessment Guidelines. PE-PDV-02045
  https://www.tiipublications.ie/library/PE-PDV-02045-01.pdf
- Traffic and Transport Assessment for Residential Development at Ballycullen Avenue – SD23A/0083
  https://planning.southdublin.ie/Home/ViewDocument?fileId=6654226
- Traffic and Transport Assessment for Post Primary School – SD23A/0149
  https://planning.southdublin.ie/Home/ViewDocument?fileId=6667248

- Traffic and Transport Assessment for Residential Development at Stocking Avenue – SHD3ABP-309836-21
  https://planning.southdublin.ie/Home/ViewDocument?fileId=6502435
- Traffic and Transport Assessment for Oldcourt Main Link Street – SD17A/0041
  https://planning.southdublin.ie/Home/ViewDocument?fileId=5846297

1.9 Contents of the Transport Assessment

In accordance with Section 3.3 of the Traffic and Transport Assessment Guidelines (May 2014), the contents of this TTA include:

- **Policy Framework:** Latest Development Plans and Land Area Plans to guide the delivery and management of a package of integrated initiatives which ultimately seek to encourage sustainable travel practices of all residents and visitors travelling to/from the proposed development at Slane Road, Co. Louth.
- **Site Assessment:** A description of the proposed development, description of the existing and proposed traffic/transportation conditions including information on the current traffic, critical junctions, pedestrians, cycle, and public transport facilities.
- **Travel Characteristics:** Review of existing local travel characteristics and modal split.
- **Transport Improvements:** Description of proposed transportation improvements to local roads, junctions, public transport, cycle, and pedestrian facilities.
- **Transportation Infrastructure:** Assessment of all potential impacts on transport infrastructure (road cycling, walking public transport), based on construction proposals and demand forecasts. The development impact upon any committed transport schemes should also be appraised. Design details should be incorporated where a proposal may have a direct impact upon transport infrastructure.
- **Trip Assignments and Distribution:** The traffic and transportation implications of the development including consideration of trip generation/attraction, mode choice and trip distribution; as well as an analysis of under construction, permitted and future developments in the area.
- **Cumulative Impact:** The impact of the development on the surrounding road network including analysis of junction's capacity.
- **Parking Strategy:** Description of car and cycle parking requirements and provisions.

2. Policy Framework

2.1 National Policies and Strategies

2.1.1 National Planning Framework

The National Planning Framework (NPF) was published in December 2020 and last updated in February 2023. It is the Government's strategic plan for shaping future growth and development in the country. To deliver the NPF vision and the ten National Strategic Outcomes, it is critical to integrate land use and transport planning and promote sustainable transport.

Over a period of 20 years, the National Planning Framework provides a central planning policy strategy that guides future development and investment decisions and informs regional strategies and county development plans. The NPF adopts a strategic approach that promotes sustainable land use and transport strategies in both urban and rural areas. The aim of this approach is to reduce emissions, address the necessity of adapting to climate change, and protect the environment and its amenities.

The NPF aims to alleviate the environmental pressure caused by urban sprawl and its negative impact on key infrastructures and facilities. It encourages the development of compact, higher density infill and brownfield sites that are well-served by existing facilities, amenities, and public transport services.

Facilitating smart and sustainable growth within existing settlements can improve the liveability of urban areas. The physical format of urban development affects the public realm, traffic and parking, access to amenities, and public transport.

2.1.2 National Sustainable Mobility Policy 2022-2025

The purpose of this strategy is to set out a strategic framework to 2030 for active travel and public transport to support Ireland’s overall requirement to achieve a 51% reduction in carbon emissions by the end of this decade. It aims to deliver at least 500,000 additional daily active travel and public transport journeys and a 10% reduction in kilometres driven by fossil fuelled cars by 2030 in line with metrics for transport set out in the Climate Action Plan 2021.

The National Sustainable Mobility Policy will support safe and green mobility by:

- Continuing to protect and maintain the safety of existing walking, cycling and public transport networks and ensuring that new sustainable mobility infrastructure meets the highest safety standards.
- Continuing measures to address safety issues when travelling on public transport.
- Developing pedestrian enhancement plans and cycle network plans to guide investment in new active travel infrastructure and retrofitting of existing infrastructure.
- Expanding walking and cycling options across the country, including greenways. M Rolling out the Safe Routes to School Programme.
- Transitioning the public transport fleets to low and zero emission vehicles.
- Expanding bus capacity and services through the BusConnects Programmes in the five cities of Cork, Dublin, Galway, Limerick and Waterford; improved town bus services; and the Connecting Ireland programme in rural areas.
- Developing an enhanced bus stop programme for regional and rural services.
- Improving rail infrastructure in the five cities.
- Improving journey times and reliability on the inter-urban and regional rail network.

- Expanding electrification of the rail network in the Greater Dublin Area under the DART+ programme.
- Commencing construction of MetroLink in Dublin.
- Continuing the design and development of other light rail projects in the Greater Dublin Area and Cork and considering the feasibility of light rail in Galway.
- Rebalancing transport movement in metropolitan areas and other urban centres away from the private car and towards active travel and public transport.
- Identifying a pathway for the implementation of suitable demand management measures at national and local level to reduce reliance on the private car.
- Expanding behavioural change measures including the Smarter Travel Workplaces and Campus Programmes and Cycle Right training programme.

2.1.3 Smarter Travel: A Sustainable Transport Future, A New Transport Policy for Ireland 2009–2020

The Smarter Travel Policy, published in February 2009, outlined the Governments vision for achieving a sustainable transport system for Ireland by 2020. Smarter travel is currently outside its target period; however, it is a good reference for developments seeking to improve transport options. The document outlines a number of key policies to encourage a modal shift away from private car use and promote alternative travel modes such as public transport, walking and cycling.

Smarter Travel is a government policy which seeks to reduce the share of travel demand which is car dependant thus reducing reliance on fossils fuels and maximising the efficiency of the transport network. Its main objective is to promote a significant modal shift from private transport to public transport and sustainable transport modes. The policy sets out a target of 55% mode share for walking, cycling and public transport which it aims to achieve through several actions themed around the following:

- Encouraging Smarter Travel.
- Delivering Alternative Ways of Travelling.
- Improving the Efficiency of Motorised Transport.
- Ensuring Integrated Delivery of the Policy.

Aligning spatial planning and transport to address urban sprawl and urban-generated one-off housing in peri-urban areas is identified as a key area to encourage smarter travel. Specifically, the policy encourages good public transport connections with safe routes for walking and cycling to access and the use of local area plans and Strategic Development Zones (SDZs) within major urban areas as a way of improving the land use-transport integration.

2.1.4 Climate Action Plan 2023

The Climate Action Plan for Ireland emphasizes the urgent need to address climate change impacts, which are becoming increasingly complex and severe. It underscores the importance of collective action, fairness, and the opportunities that arise from transitioning to a sustainable, low-carbon society. It aims to halve emissions by 2030 and achieve net zero by 2050, with every sector and individual playing a crucial role.

The plan outlines a comprehensive strategy to transition Ireland to a low-carbon, climate-resilient society, focusing on systemic changes across various sectors:

- *Powering renewables* - We will facilitate a large-scale deployment of renewables that will be critical to decarbonising the power sector as well as enabling the electrification of other technologies.
- *Building better* - We will increase the energy efficiency of existing buildings, put in place policies to deliver zero-emissions new builds and continue to ramp up our retrofitting programme.
- *Transforming how we travel* - We will drive policies to reduce transport emissions by improving our town, cities and rural planning, and by adopting the Avoid-Shift-Improve approach: reducing or avoiding the need for travel, shifting to public transport, walking and cycling and improving the energy efficiency of vehicles.
- *Making family farms more sustainable* - We will support farmers to continue to produce world-class, safe and nutritious food while also seeking to diversify income through tillage, energy generation and forestry.
- *Greening business and enterprise* - We're changing how we produce, consume, and design our goods and services by breaking the link between fossil fuels and economic progress. Decarbonising industry and enterprise are key to Ireland's economy and future competitiveness.
- *Changing our land use* - The first phase of the land use review will tell us how we are using our land now. Then, we can map, with evidence, how it can be used most effectively to capture and store carbon and to produce better, greener food and energy.

2.1.5 Design Manual for Urban Roads and Streets

Launched in 2013, DMURS aims to transform urban road and street design to support sustainable communities and transportation. DMURS sets out four core design principles which designers must have regard to when designing roads and streets. These four core principles are set out below.

Design Principle 1: *Pedestrian Activity/Facilities:* "To support the creation of integrated street networks which promote higher levels of permeability and legibility for all users and in particular more sustainable forms of transport."

Design Principle 2: *Multi-Functional Streets:* "The promotion of multi-functional, place-based streets that balance the needs of all users within a self-regulating environment."

Design Principle 3: *Pedestrian Focus:* "The quality of the street is measured by the quality of the pedestrian environment."

Design Principle 4: *Multi-Disciplinary Approach:* "Greater communication and co-operation between design professionals through promotion plan led multidisciplinary approach to design."

DMURS is mandatory for all road authorities in Ireland and replaces previous national design standards. It supports broader government policies on the environment, planning, and transportation, aiming to create streets that are not just traffic corridors but vibrant public spaces.

2.2 Regional Policies and Strategies

2.2.1 Greater Dublin Area Transport Strategy 2022-2042

The National Transport Authority has prepared and published the Transport Strategy for the Greater Dublin Area, 2022-2042 in accordance with Section 12 of the Dublin Transport Authority Act, 2008.

The strategy details the transportation development across the region, including Dublin, Meath, Wicklow, and Kildare, over the strategy period. It has received approval from the Minister for Transport in accordance with relevant legislation.

The strategy addresses challenges related to population growth, urbanization, and climate change. It presents four objectives: promoting walking, cycling, and public transport as alternatives to private car use for sustainable mobility; developing seamless connections between different transport modes for integrated networks; prioritizing low-carbon and environmentally friendly solutions for climate action; and aligning transport development with land-use planning for spatial planning and accessibility.

The strategy proposes measures to ensure equitable access to transport services. These measures include enhancing public transport services (bus, tram, rail), expanding cycling infrastructure and bike-sharing programs, improving pedestrian facilities, upgrading roads, and developing park-and-ride facilities, and implementing smart mobility solutions.

The strategy acknowledges the significance of land use and transport planning in shaping people's travel choices. It advocates the use of local land use planning principles, such as promoting walking, cycling, and public transport by maximizing high-density residential development near local amenities, schools, and public transport.

In addition, the strategy sets out the requirements for new schools to prioritise walking, cycling and public transport and discourage the use of the private car. The strategy therefore recommends that walking and cycling facilities should be easily accessible and retrofitted where practical.

2.2.2 Eastern and Midland Regional Spatial and Economic Strategy (RSES) 2019-2031

The elected members of the Eastern and Midland Regional Assembly (EMRA) agreed to make the Regional Spatial and Economic Strategy (RSES) 2019-2031, on June 28th, 2019.

The RSES is a strategic plan which identifies regional assets, opportunities and pressures and provides appropriate policy responses in the form of Regional Policy Objectives. At this strategic level it provides a framework for investment to better manage spatial planning and economic development to sustainably grow the Region to 2031 and beyond. The RSES provides a:

- *Spatial Strategy*: to manage future growth and ensure the creation of healthy and attractive places to live, work, study, visit and invest in.
- *Economic Strategy*: that builds on our strengths to sustain a strong economy and support the creation of quality jobs that ensure a good living standard for all.
- *Metropolitan Plan*: to ensure a supply of strategic development areas for the sustainable growth and continued success and competitiveness of the Dublin Metropolitan Area.
- *Investment Framework*: to prioritise the delivery of key enabling infrastructure and services by government and state agencies.
- *Climate Action Strategy*: to accelerate climate action, ensure a clean and healthy environment and to promote sustainable transport and strategic green infrastructure.

The principal statutory purpose of the RSES is to support the implementation of Project Ireland 2040 – National Planning Framework and National Development Plan 2019-2027 and the economic policies of the

Government by providing a long-term strategic planning and economic framework for the development of the Regions.

The RSES will be implemented by way of a review by local authorities of all development plans and Local Economic and Community Plans (LECPs). Key state agencies and sectoral bodies will also consider their strategies and investment plans, post adoption of RSES, to support the achievement of National and Regional Strategic Outcomes set out in the NPF and RSES.

2.3 Local Plans and Strategies

2.3.1 South Dublin County Development Plan 2022-2028

South Dublin County Development Plan 2022-2028 sets out the authority's policies and objectives for the development of the County for the period of 2022 to 2029. The Plan seeks to develop and improve in a sustainable manner the social, economic, cultural and environments assets of the county. The opening sentence of Chapter 6 Sustainable Movements set outs their vision: "*Increase the number of people walking, cycling and using public transport and reduce the need for car journeys, resulting in a more active and healthy community, a more attractive public realm, safer streets, less congestion, reduced carbon emissions, better air quality, quieter neighbourhoods and a positive climate impact.*", being the main policy of the development plan.

In the context of the subject development site and the proposed residential scheme a few of the most relevant policies include:

Policy SM1: Overarching – Transport and Movement Promote ease of movement within, and access to South Dublin County, by integrating sustainable land-use planning with a high-quality sustainable transport and movement network for people and goods

> **SM1 Objective 1:** To achieve and monitor a transition to more sustainable travel modes including walking, cycling and public transport over the lifetime of the County Development Plan, in line with the County mode share targets of 15% Walk; 10% Cycle; 20% Bus; 5% Rail; and 50% Private (Car / Van / HGV / Motorcycle).
>
> **SM1 Objective 2:** To ensure consistency with the NTA's Transport Strategy for the Greater Dublin Area (2016-2035) as updated to 2042, as required by RPO 8.4 of the RSES.
>
> **SM1 Objective 4:** To ensure that future development is planned and designed in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes (walking and cycling) and public transport use and creating a safe and attractive street environment for pedestrians and cyclists, in accordance with RPO 5.3 of the RSES / MASP.
>
> **SM1 Objective 5:** To ensure that future development is planned and designed in a manner that maximises the efficiency and protects the strategic capacity of the metropolitan area transport network, both existing and planned, and to protect and maintain regional accessibility, in accordance with RPO 8.3 of the RSES.
>
> **SM1 Objective 6:** To safeguard the County's strategic road network and to improve the local road and street network in a manner that will better utilise existing road space and encourage a transition towards more sustainable modes of transport.

Policy SM2: Walking and Cycling Re-balance movement priorities towards sustainable modes of travel by prioritising the development of walking and cycling facilities and encouraging a shift to active travel for people of all ages and abilities, in line with the County targets.

SM2 Objective 1: To achieve and monitor a transition to the County's mode share targets of 15% Walk and 10% Cycle.

SM2 Objective 2: To create a comprehensive County-wide network supported by sustainable movement studies and other permeability measures, consisting of legible, sign-posted and well-maintained: (i) Safe cycling routes through the implementation of the Greater Dublin Cycle Network Plan, NTA (2011) and the Cycle South Dublin project; and (ii) Walking routes that link communities to key destinations, amenities and leisure activities.

SM2 Objective 3: To ensure that connectivity for pedestrians and cyclists is maximised and walking and cycling distances are reduced by promoting compact growth and permeability in the design and layout of new development areas.

SM2 Objective 4: To ensure that connectivity for pedestrians and cyclists is maximised and walking and cycling distances are reduced in existing built-up areas, by removing barriers to movement and providing active travel facilities in order to increase access to local shops, schools, public transport services and other amenities through filtered permeability, while also taking account of existing patterns of anti-social behaviour in the removal of such barriers with due consideration of consultation with local residents where need is evident or expressed.

SM2 Objective 5: To ensure that all streets and street networks are designed in accordance with the principles, approaches and standards contained in the Design Manual for Urban Roads and Streets (2013; updated 2019) so that the movement of pedestrians and cyclists is prioritised within a safe and comfortable environment for a wide range of ages, abilities and journey types.

SM2 Objective 6: To ensure that facilities for pedestrians and cyclists are designed in accordance with the principles, approaches and standards contained in the National Cycle Manual or any updated guidance and to promote off-road cycle infrastructure where feasible, subject to any design having regard to environmental sensitivities.

SM2 Objective 10: To further develop a footpath and cycle path repair and assessment system where members of the public can report maintenance issues and instigate repairs, and to implement a public lighting renewal, improvement and maintenance strategy in urban areas that provides adequate public lighting and puts the safety of pedestrians, cyclists, women and minority groups at the heart of this strategy, and to ensure that cycle paths are consistently and properly maintained to a high standard to ensure that cyclists use them.

SM2 Objective 14: To ensure that all walking and cycling routes have regard to environmental conditions and sensitivities including biodiversity, protected species and designated sites and to incorporate appropriate avoidance and mitigation measures as part of any environmental assessments.

Policy SM3: Public Transport – General Promote a significant shift from car-based travel to public transport in line with County targets and facilitate the sustainable development of the County by supporting and guiding national agencies in delivering major improvements to the public transport network

SM3 Objective 1: To achieve and monitor a transition to the County mode share targets of 20% Bus and 5% Rail.

SM3 Objective 4: To optimise accessibility to public transport, increase catchment and maximise permeability through the creation of new and upgrading of existing walking and cycling routes linking to public transport stops.

SM3 Objective 6: To establish future public transport routes that will support the County's medium to long term development, including new and / or enhanced orbital routes to provide connectivity between outer suburban areas.

Policy SM3: Public Transport – Bus

SM3 Objective 11: To facilitate the delivery of the BusConnects Core Bus Corridors and seek additional bus corridor and orbital routes to serve the County by securing and maintaining any required route reservations and to ensure the BusConnects Corridors do not adversely affect the village life and livelihoods of any of our County Villages.

SM3 Objective 18: To liaise with bus service providers where new bus stop infrastructure is proposed in order to ensure facilities such as shelters and bins are included, where appropriate.

Policy SM4: Strategic Road Network Improve and, where necessary, expand the County-wide strategic road network to support economic development and provide access to new communities and new development areas.

SM4 Objective 4: To ensure that developing areas have sufficient access to the County's Road network.

SM4 Objective 5: To support the provision of junction upgrades, where necessary, at key locations on the strategic road network.

SM4 Objective 6: To support innovative demand management measures on the M50, given current and projected demand for orbital movement and planned future population and employment growth in the County.

SM4 Objective 9: To ensure that all new roads and streets are designed to enhance insofar as feasible, the County's green infrastructure network by ensuring adequate replacement and additional planting of native species and pollinators and to ensure that SuDS approaches are used to deal with surface water run-off.

SM4 Objective 10: To support sustainable measures including car-pooling and car clubs which promote access to cars rather than car ownership and which facilitate higher utilisation of vehicles rather than higher numbers of vehicles.

Policy SM5: Street and Road Design Ensure that streets and roads within the County are designed to balance the needs of all road users and promote placemaking, sustainable movement and road safety providing a street environment that prioritises active travel and public transport.

SM5 Objective 1: To ensure that all streets and street networks are designed to passively calm traffic through the creation of a self-regulating street environment that promotes active travel modes and public transport.

SM5 Objective 2: To design new streets and roads within urban areas in accordance with the principles, approaches and standards contained within the Design Manual for Urban Roads and Streets (2013; updated 2019).

SM5 Objective 4: To prioritise safety on rural roads and junctions, while considering the protection of biodiversity, green infrastructure and rural character present in roadside trees, hedgerows and banks, and so on.

SM5 Objective 5: To design new roads and streets to incorporate green infrastructure elements such as planting of native trees, hedgerows and pollinator species in medians and on roadside verges, as appropriate to the location.

Policy SM6: Traffic and Transport Management Effectively manage and minimise the impacts of traffic within the County having regard to the need to provide shared road space for different users.

SM6 Objective 1: To effectively manage the flow of through traffic along the strategic road network and maximise the efficient use of existing road resources

SM6 Objective 3: To minimise the impact of new development on the County's Road and street network through prioritising active travel and public transport and implementing appropriate traffic and transport management measures.

SM6 Objective 6: To undertake an analysis, where areas are identified and opportunities exist, for more effective traffic management and mobility improvements.

SM6 Objective 8: To require all major traffic generating development to submit a Mobility Management Plan / Workforce Plan and / or Traffic and Transport Assessment.

SM6 Objective 9: To ensure that appropriate design and mitigation measures are applied to all transport schemes to reduce the impact of noise and air pollution within residential communities in accordance with the EU directive on Assessment and Management of Environmental Noise.

SM6 Objective 10: To prioritise traffic calming measures, where appropriate, and works needed to improve safety at road crossings.

SM6 Objective 12: To require a Local Transport Plan to be prepared as part of any Local Area Plan, commensurate to the scale of the Local Area Plan. The Local Transport Plan / Local Area Plan will be subject to screening for AA and SEA.

Policy SM7: Car Parking and EV Charging Implement a balanced approach to the provision of car parking with the aim of using parking as a demand management measure to promote a transition towards more sustainable forms of transportation, while meeting the needs of businesses and communities.

SM7 Objective 1: To implement maximum car parking standards for a range of land-use types, where provision is based on the level of public transport accessibility.

SM7 Objective 5: To support the expansion of the EV charging network by increasing the provision of designated charging facilities for Electric Vehicles on public and private land in partnership with the ESB and other relevant stakeholders; and to support the Dublin Regional EV Parking Strategy.

SM7 Objective 6: To promote appropriate parking arrangements for specific user requirements including disabled drivers, motorcycles and scooters in town and district centres, public transport nodes and other destinations.

SM7 Objective 7: To design and manage parking to ensure the efficient turnover of spaces within town, district and village centres and higher density development areas by applying the following measures.

SM7 Objective 9: To ensure that car parking is designed in such a manner as to promote visual amenity, green infrastructure, carbon sequestration and sustainable drainage (SuDS) by applying the following requirements: Provision of landscaping integrated into the design of all car parking, to include planting of native trees and pollinator species; Provision of not more than two parallel or five perpendicular spaces between trees / planting bays; and, Use of permeable paving, where appropriate.

SM7 Objective 10: To ensure that parking provision, including the provision of EV charging facilities, does not detract from the comfort and safety of pedestrians and cyclists, visual amenity or the character of an area (refer also to Chapter 10: Energy).

3. Receiving Environment

3.1 Land use

The subject site is situated in Woodtown, Ballycullen, Dublin Co., to the south-west of junction number 12 of the M50 motorway.

South Dublin County Development Plan 2022-2028 indicates that the subject site falls within the objective RES-N, as can be seen in **Figure 2** below.

The objective RES-N is defined as "*To provide for new residential communities in accordance with approved area plans*", which is destined to: "*Childcare Facilities, Community Centre, Cultural Use, Doctor/Dentist, Education, Enterprise Centre, Funeral Home, Garden Centre, Guest House, Health Centre, Housing for Older People, Industry-Light, Nursing Home, Offices less than 100sqm, Open Space, Primary Health Care Centre, Public House, Public Services, Recreational Facility, Recycling Facility, Residential Institution, Residential, Restaurant/Café, Retirement Home, Shop-Local, Shop-Neighbourhood, Sports Club/Facility, Stadium, Traveller Accommodation, Veterinary Surgery*".

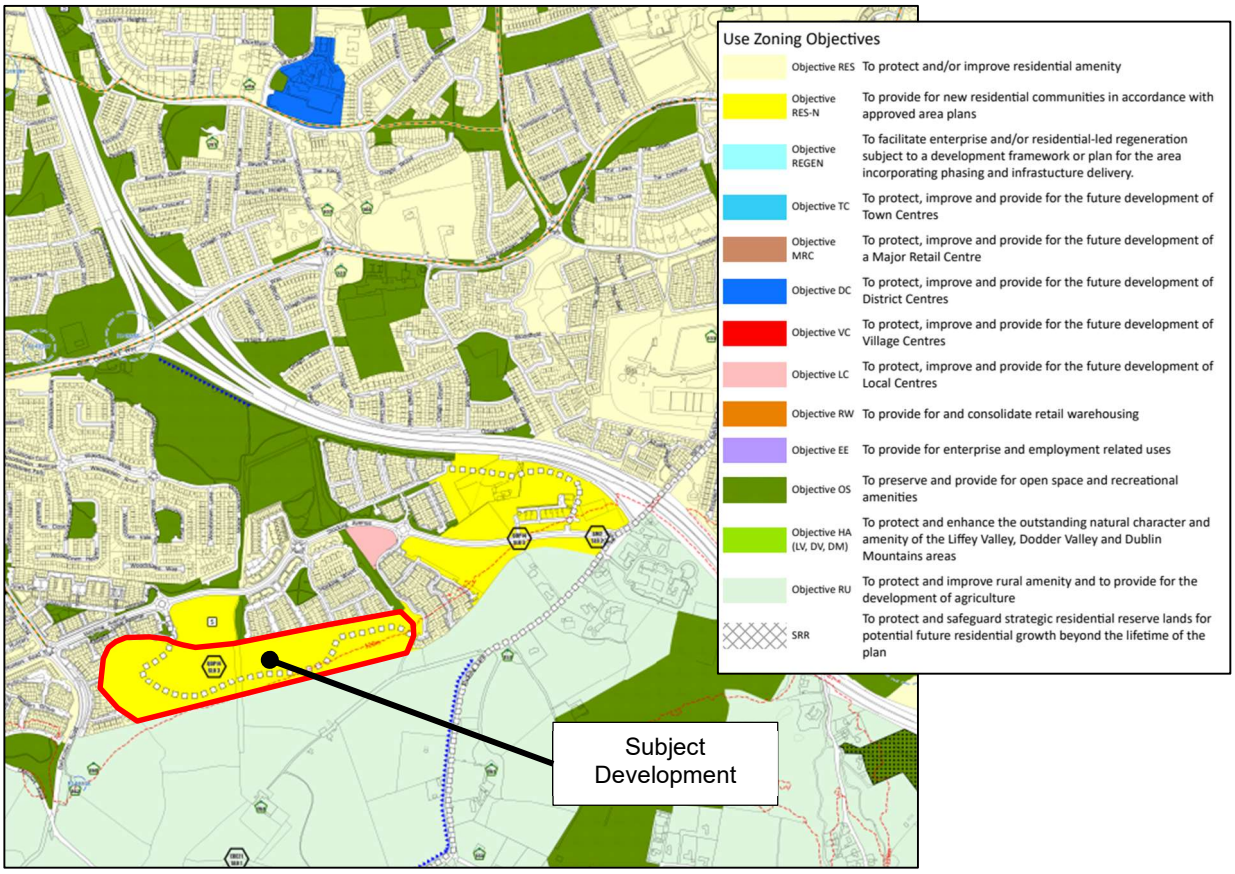

Figure 2 | *Land Use (Source: Map 10 - South Dublin County Development Plan 2022-2028)*

3.2 Site Location and Description

As previously noted, the subject site is situated in Woodtown, Ballycullen, to the south-west of junction number 12 of the M50 motorway.

The subject development site is to be accessed by way of the established existing road infrastructure, with two road accesses off Stocking Avenue: one via an existing spur road from Stocking Avenue and the other via Stocking Wood Drive. These roads have footpaths on both sides **Section 5.3** below details the location of the site.

The location of the subject development is shown in the **Figure 3** below.

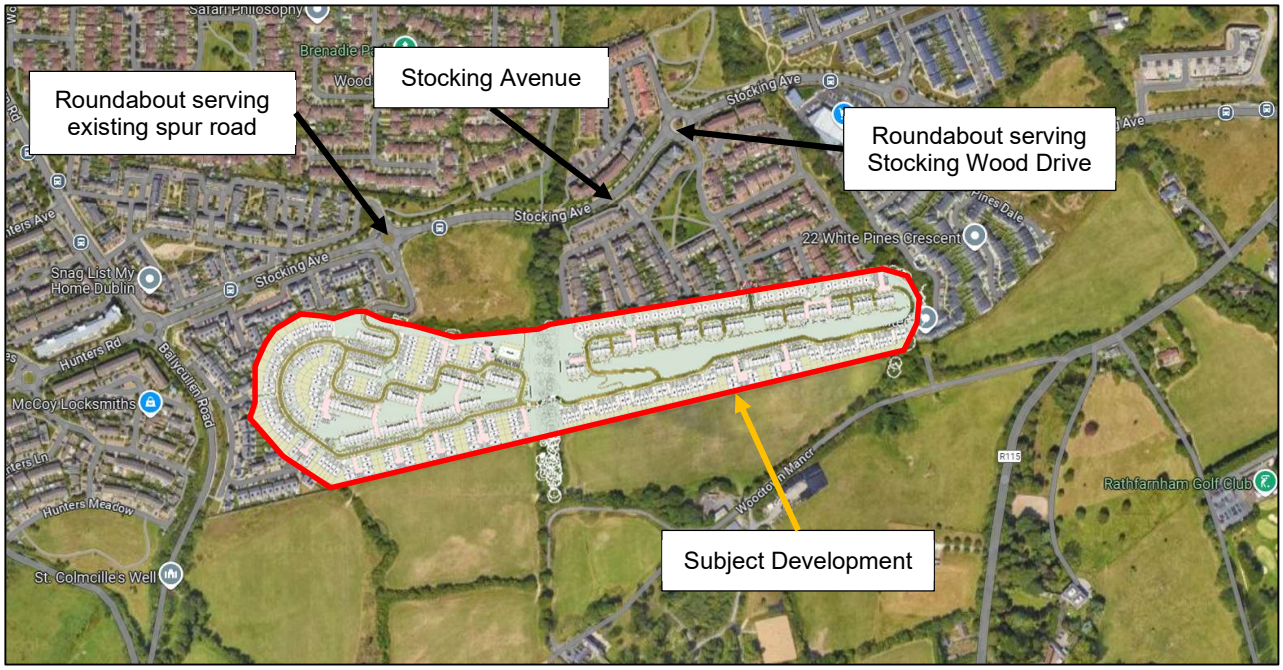

Figure 3 | *Site location*

3.3 Local Road Network

The subject site is located to the south of the Stocking Avenue and east of Ballycullen Road, as seen in **Figure 4** below. Driving via Ballycullen Road northbound provides access to Kilinniny Road, which eastbound provides access to the M50 motorway via junction 12.

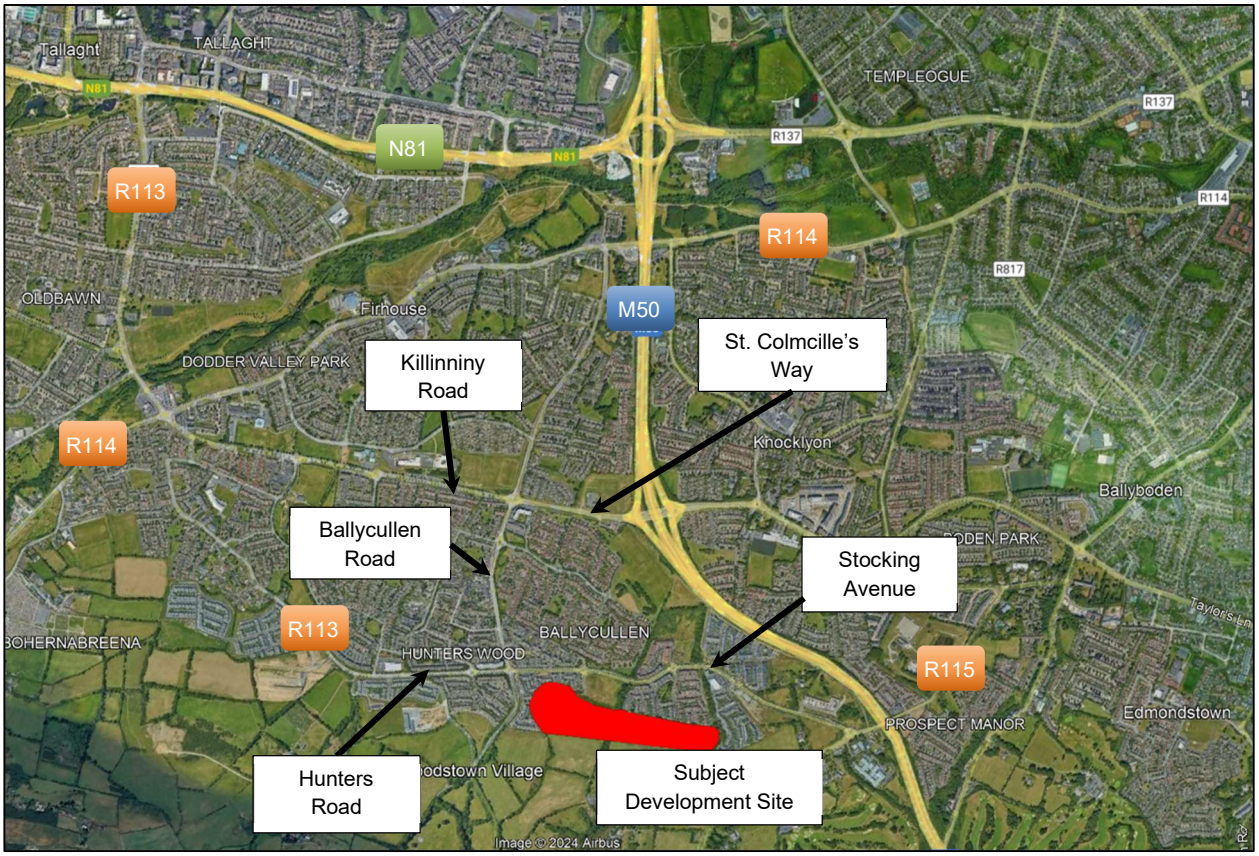

Figure 4 | *Existing Local Roads (Source: Google Earth)*

Stocking Avenue is a two-way single carriageway road which starts at a three-arm roundabout (junction 7 in **Figure 5** below), and runs in the east-west direction c. 1.5km to end at a four-arm roundabout (junction 3 in **Figure 5** below). Stocking Avenue has a speed limit of 50km/h, a width of 7.5m and includes footpaths and cycle lanes either side of the road. The avenue also has bus stops in both directions.

Hunters Road is the continuation of the Stocking Av. to the west of the junction 3. The road continues in a westerly direction for c. 300m, and it terminates at a priority T-Junction with the R113 to the west of the site. The road has a speed limit of 50km/h, a width of 7m and includes footpaths and cycle lanes on both sides of the road. There are no bus routes currently using the road.

Ballycullen Road is a two-way single carriageway road which starts at a priority T-Junction on the R113 to the south of the site and runs with north direction for c. 2.3km to end at a priority T-Junction with the R114 to the north of the site. Ballycullen Rd. has a speed limit of 50km/h, a width of 10m, and, from the junction with Stocking Av. (junction 3 in **Figure 5** in **Section 3.4**), has a footpath on both sides and a cycle lane on the northbound side. In addition, the road has a priority bus lane on northbound and bus stops in both directions.

Killinniny Road is a two-way single carriageway road. It starts at signalised crossroad with Ballycullen Road (junction 1 in **Figure 5** in **Section 3.4**) and runs westerly direction for c. 1.3km to ends at a priority T-Junction with the R113. Ballycullen Rd. has a speed limit of 50km/h, a width of 10m, and includes footpaths either side of the road. In addition, the road has bus stops in both directions.

St. Colmcille's Way is a is a two-way single carriageway road which starts at the interchange with the M50 motorway at its Junction 12, and runs with west direction for c. 1.0km to ends at a signalised crossroad with Ballycullen Road (junction 1 in **Figure 5** in **Section 3.4**). St. Colmcille's Way has a speed limit of 50km/h, a width of 10m and 15m, and includes footpaths and cycle lanes either side of the road. In addition, the road has bus stops in both directions.

The **R113** road is a regional road which forms a semi-orbital route around the south of the city. It starts at the N31 at Temple Hill in Blackrock and ends at a junction with the N4 at Palmerstown.

The **R114** road is a regional road which runs from the city centre to Brittas in southwest County Dublin via Rathmines, Rathgar, Rathfarnham, Knocklyon, Firhouse and the mountainous area of Boharnabreena. The final stretch of the road runs just north of the border between County Dublin and County Wicklow, parallel to the Brittas River and a canal to the River Camac.

The **R115** road is a regional road in counties Dublin and Wicklow. It follows the Military Road. The R115 is 40.5 km long. The road runs between its junction with R114 at Butterfield Avenue Rathfarnham in the county of Dublin and its junction with R755 at Laragh in the county of Wicklow via Grange Road, Willbrook Road, Ballyboden Road, Scholarstown Road, Stocking Lane and Military Road in the county of Dublin: Glencree, Liffey Head Bridge, Sally Gap and Drummin, County Wicklow.

The **M50 Motorway** is an important orbital motorway around Dublin which is subject to a speed limit of 100kph. It is a 40km, C-shaped ring around Dublin that connects all the National Primary Roads and carries more than 115,000 vehicles per day.

The **N81** road is a national secondary road in Ireland, from the M50 motorway to Tullow, County Carlow, north to south. The N81 continues past Tullow for another 8 km to terminate at the village of Closh, County Carlow, where it intersects the N80. The road is a dual carriageway between M50 motorway and west of Tallaght, known as the Tallaght Bypass or Blessington Road. It intersects with the M50 motorway at Junction 11.

3.4 Primary Local Junctions

The main junctions in the local surrounding area are illustrated in **Figure 5** below. Each junction is described in more detail below:

- **Junction 1:** is a signalised-controlled crossroad located at the intersection of Old Ballycullen Road, Killinniny Road and St. Colmcille's Way. Each arm has left turning slip lane.
- **Junction 2**: is a four-arm roundabout located at the intersection of Old Ballycullen Road, Daletree Drive and Woodstown Avenue.
- **Junction 3**: is a four-arm roundabout located at the intersection of Old Ballycullen Road, Hunters Road and Stocking Avenue.
- **Junction 4**: is a four-arm roundabout located at the intersection of Stocking Avenue, Dalriada Avenue and Abbot's Grove. Dalriada Avenue and Abbot's Grove are accesses to residential areas.
- **Junction 5**: is a four-arm roundabout located at the intersection of Stocking Avenue, Stocking Well and Stocking Wood Drive. Stocking Well and Stocking Wood Drive are accesses to residential areas.

- **Junction 6**: is a four-arm roundabout located at the intersection of Stocking Avenue, White Pines Way and White Pines Park. White Pines Way and White Pines Park are accesses to residential areas.
- **Junction 7**: is a three-arm roundabout located at the intersection of Stocking Avenue and R115 (Stocking Lane).

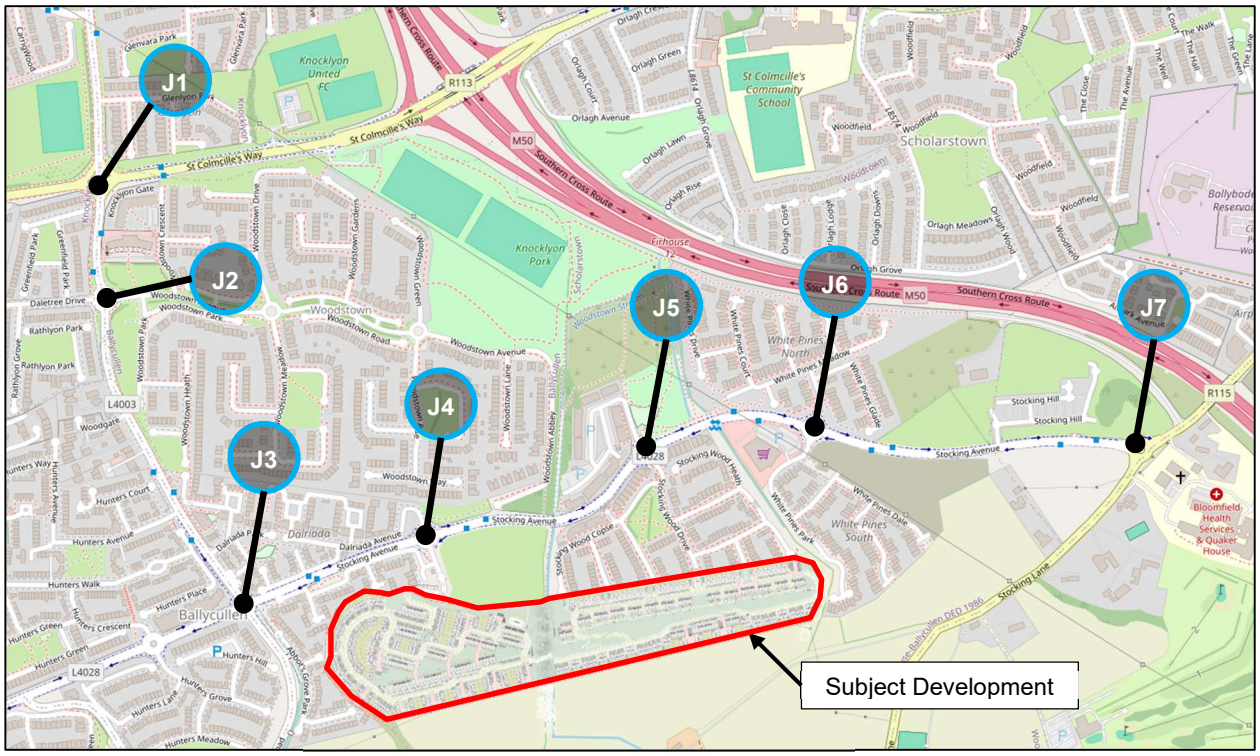

Figure 5 | *Primary Local Junctions (Source: Open Street Map)*

3.5 Surveyed Traffic Flow

To quantify the volumes of traffic movements at the key junctions shown in **Figure 5** above, a traffic survey was commissioned by the applicant and carried out by IDASO on Thursday 16th January 2025 for a period of 24 hours. The results of the survey are presented in **Appendix F** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

The surveys were carried out on the above date to ensure that the flows were representative of a normal term and therefore not affected by school holidays or other public holidays or events. As such, they provide a reasonable representation of a neutral month during a period of normal school and work activity. The surveys are designed to provide representative values covering morning and evening periods during normal traffic conditions.

Based on the traffic survey, the peak traffic hours at various intersections are as follows:

- **Junction 1:** Morning peak hour is from 08:15 to 09:15 and evening peak hour is from 17:30 to 18:30.
- **Junction 2:** Morning peak hour is from 08:00 to 09:00 and evening peak hour is from 17:30 to 18:30.
- **Junction 3:** Morning peak hour is from 07:45 to 08:45, and evening peak hour is from 17:15 to 18:15.
- **Junction 4:** Morning peak hour is from 07:30 to 08:30, and evening peak hour is from 17:45 to 18:45.
- **Junctions 5, 6, and 7**: Morning peak hour is from 07:30 to 08:30, and evening peak hour is from 17:00 to 18:00.

As can be seen above, each junction exhibits different AM and PM peak hours. To ensure a comprehensive assessment, it is assumed that the peak hours for all junctions coincide during the same AM and PM periods. Therefore, the existing AM and PM peak hour traffic flows are presented in **Figure 6** below and in **Appendix D – Figure A** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

The number of vehicles indicated in the figure below and the Figures in **Appendix D** (Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*) are expressed in PCU. PCU represents the acronym for "Passenger Car Unit.". 1 PCU is equivalent to 1 passenger car or light goods vehicle (LGV), 1.5 PCUs to 1 medium heavy goods vehicle (Medium HGV), 2 PCUs to 1 bus, and 2 PCUs to 1 large heavy goods vehicle (Large HGV). 1 PCU is equivalent to 5.75 meters.

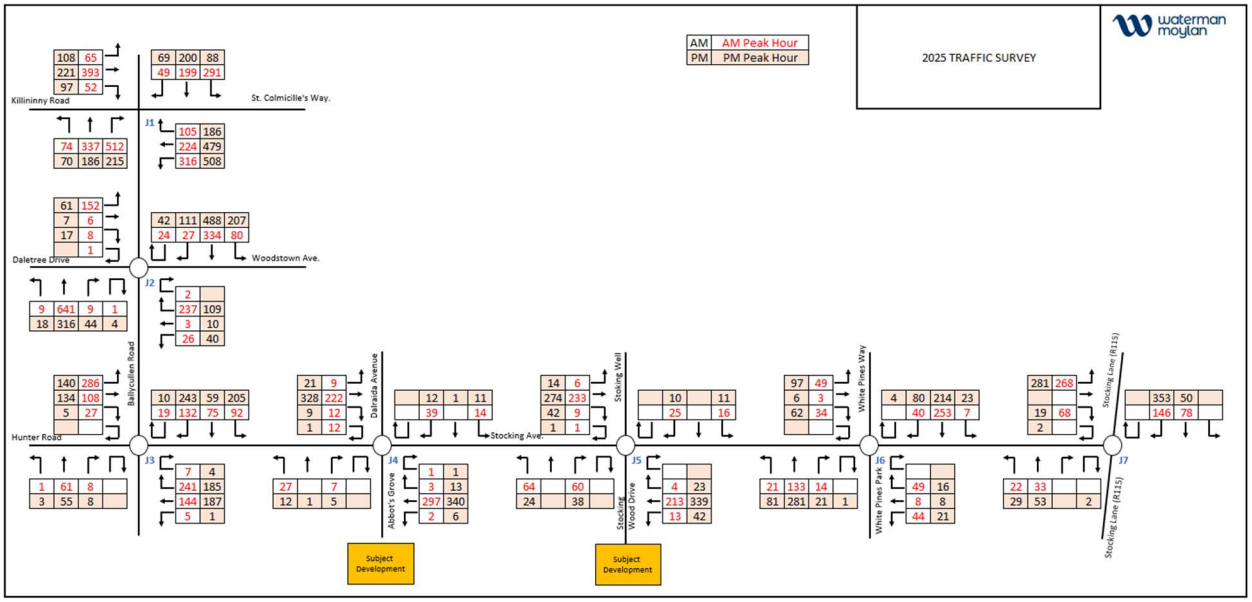

Figure 6 | *2025 Surveyed Flows (AM and PM Peak Hours)*

3.6 Multimodal access to the site

3.6.1 Bus Network

The proposed development is well served in terms of public transport provision as can be seen in **Figure 7** below, which shows the bus stops in the surrounding area of the subject development.

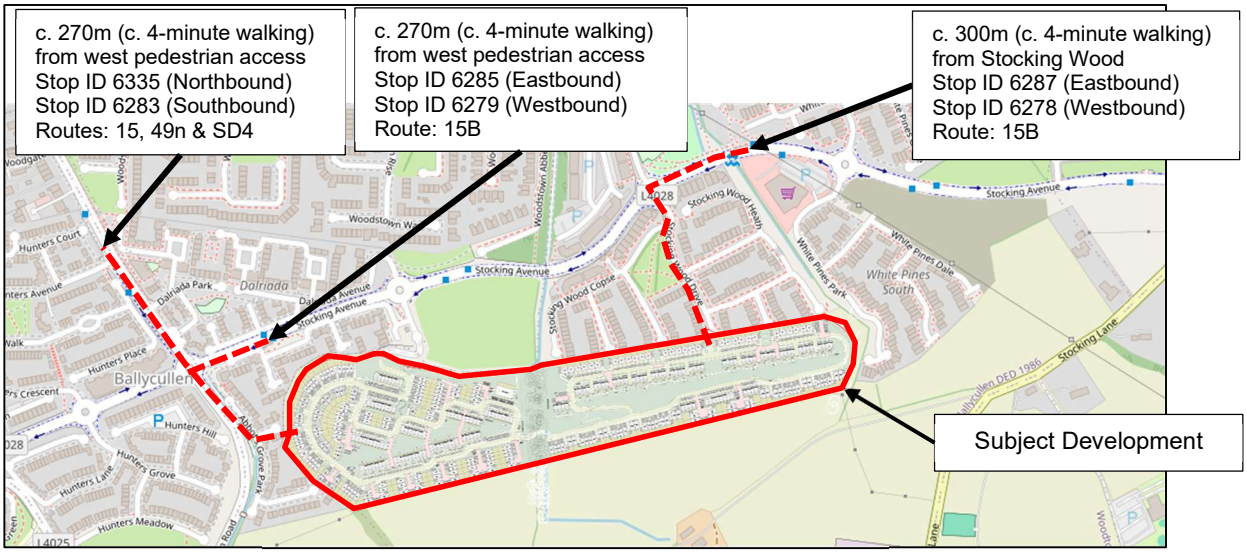

Figure 7 | *Location of the Closest Bus Stops (Source: Open Street Map)*

Route 15 and Route 49 are operated by Dublin Bus while Route SD4 is operated by Local Link Kildare South Dublin. It is important to note that routes 15 start and end at bus stops 6335 and 6283 respectively.

The details of the bus serving each bus stop are shown in **Table 2** below. Full timetables for each route in the surrounding area are included in **Appendix A**.

Route	Stop ID Route Name	Frequency
15	Ballycullen Rd. - Clongriffin	**Weekday:** Every 10 minutes between 6:00 and 7:00, and between 17:10 and 19:00 Every 5-12 minutes between 7:00 and 17:10 Every 15 minutes between 19:00 and 0:00 Every 30 minutes between 0:00 and 6:00 **Saturday:** Every 15 minutes between 6:00 and 0:00 Every 30 minutes between 0:00 and 6:00 **Sunday:** Every 20 minutes between 8:00 and 12:00 Every 15 minutes between 12:00 and 0:00 Every 30 minutes between 0:00 and 8:00
15B	Stocking Avenue to Merrion Square	**Weekday:** Every 15 minutes between 6:00 and 7:00, and between 8:00 and 19:00 Every 10 minutes between 7:00 and 8:00 Every 20 minutes between 19:00 and 23:20 **Saturday:** Every 15 minutes between 6:30 and 19:00 Every 20 minutes between 19:00 and 23:30 **Sunday:** Every 30 minutes between 8:15 and 23:15
SD4	Tibradden Wood to Tallaght (Northbound) - **Weekday**: No Service	

	- **Saturday**: 4 services: 8:38, 10:58, 14:18 & 16:53 - **Sunday**: No Service Tallaght to Tibradden Wood (Southbound) - **Weekday**: No Service - **Saturday**: 4 services: 8:11, 10:31, 13:51 & 16:26 - **Sunday**: No Service
49n	D'Olier Street - Kilnamanagah - **Weekday**: No Service - **Friday - Saturday**: 3 services: 0:29, 2:29. & 4:29 - **Sunday**: No Service

Table 2 | *Existing bus services (Source: Transport for Ireland)*

3.6.2 Existing Pedestrian Facilities and Walking accessibility

As described in **Section 3.3** above, the surrounding area has a well-connected pedestrian facility, which comprises of an inter-connected network of footpaths linking the various neighbourhoods to each other, to the existing schools, public spaces, and with the surrounding services/amenities.

The network of footpath in the immediate vicinity of the site is currently identified as safe and comfortable for all users, with dedicated pedestrian crossings, dropped kerbs and tactile pavement provided.

The *Guidelines for Providing for Journeys on Foot* published by The Institution of Highways & Transportation in 2000 indicates that the acceptability of walking distances will vary between individuals and circumstances. These include an individual's fitness, physical ability and personal motivation; the size of the city itself and the quality of the surrounding footpath network. Furthermore, the document proposes walking distances and times based on an average walking speed of 1.4 metres per second (approximately 400 metres in five minutes). **Table 3** below provides a summary of the distances and times.

	Town Centres	Commuting / School / Sight-seeing	Elsewhere
Desirable	200m (2.5 minutes)	500m (6 minutes)	400m (5 minutes)
Acceptable	400m (5 minutes)	1,000m (12 minutes)	800m (10 minutes)
Preferred Maximum	800m (10 minutes)	2,000m (24 minutes)	1,200m (15 minutes)

Table 3 | *Suggested Walking Distances (Source: Guidelines for Providing for Journeys on Foot)*

Figure 8 below details the 10-minute, 15-minute and 25-minute walking catchments areas to summarise the accessibility of the subject site on foot (Preferred Maximum) to "Town Centres, Commuting / School / Sight-seeing, and Elsewhere" respectively, as per **Table 3** above. It illustrates the presence of grocery stores within the 10-minute walking isochrone, while the Bloomfield Hospital and other medical centres are within a 15-minute walk distance. Additionally, several primary schools are located within the 25-minute walk catchment area.

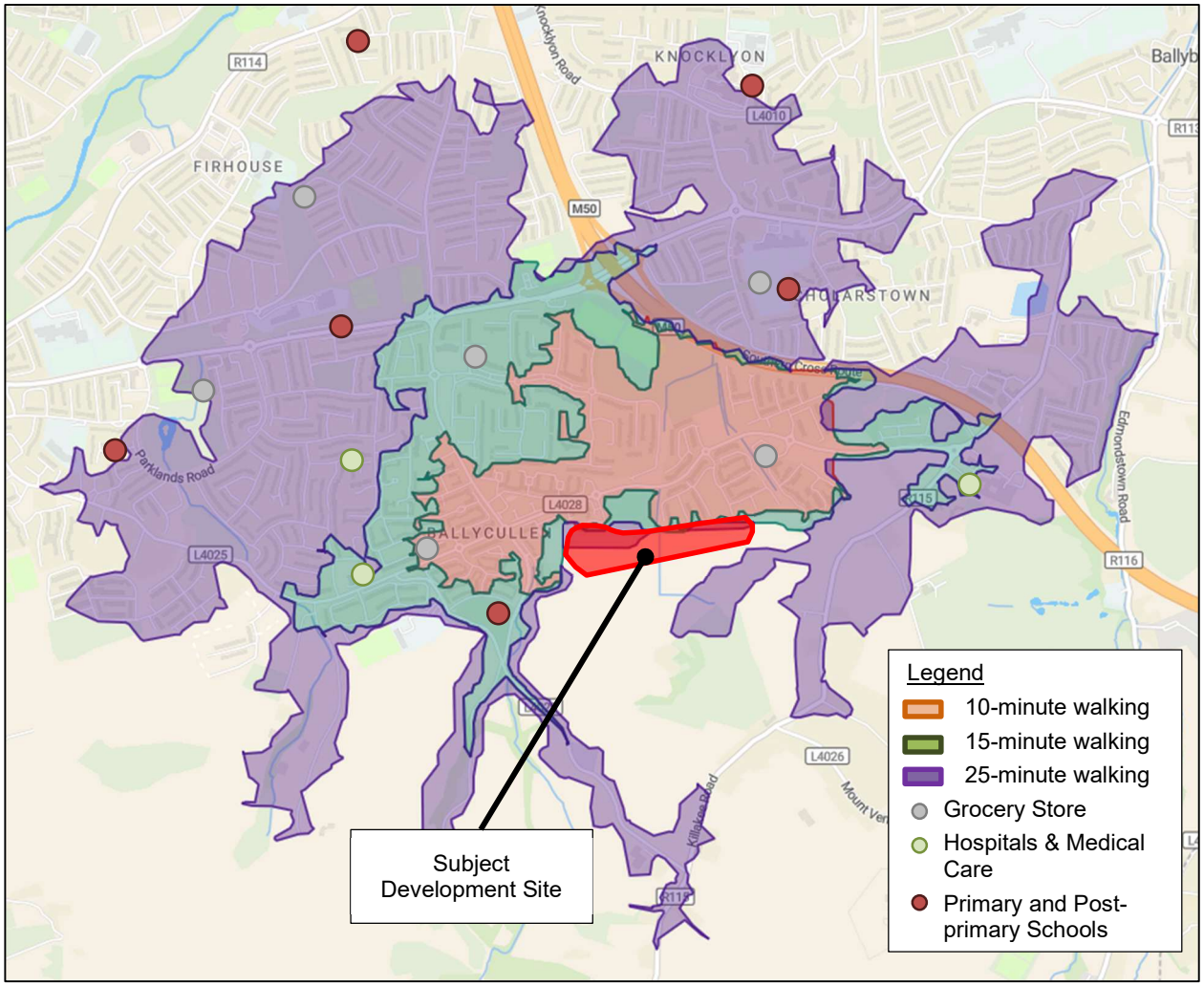

Figure 8 | *Walking Catchment areas (Source: Smappen)*

3.6.3 Cycling Infrastructure and Cycling Accessibility

Figure 9 below indicates that the area surrounding the Subject Development is characterised by the presence of a well-interconnected cycling infrastructure.

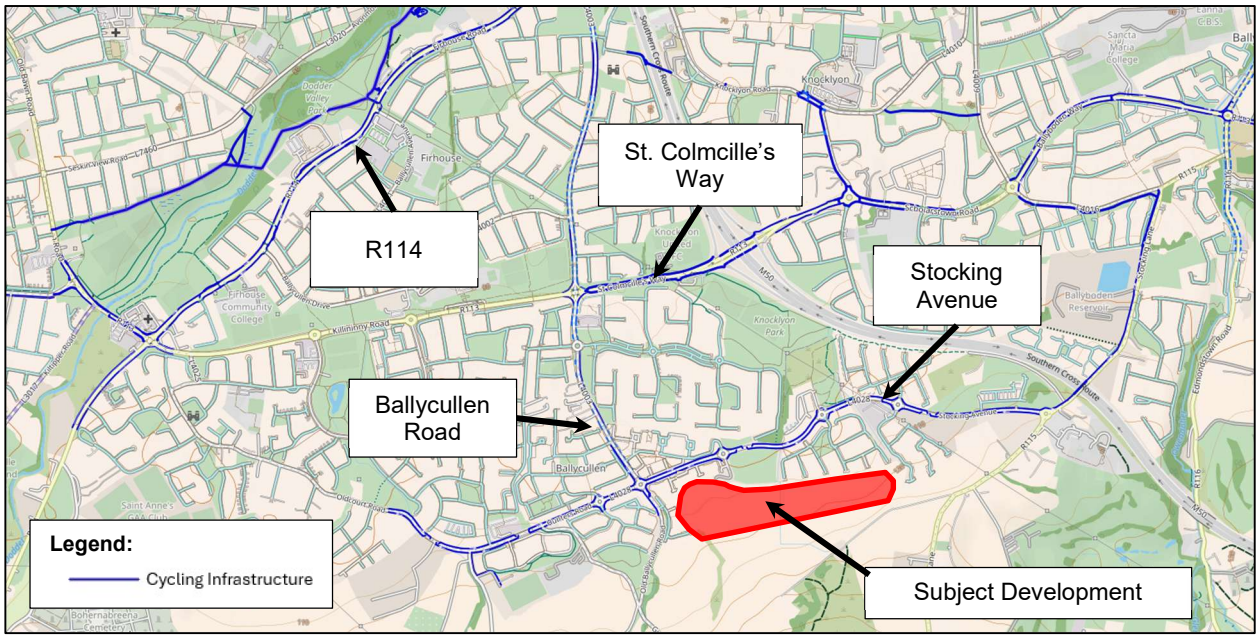

Figure 9 | *Existing Cycling infrastructure (Source: Open Street Map)*

The figure above shows the presence of cycling infrastructure on both sides of Stocking Avenue to the north of the subject site, which runs east-west. In addition, there is cycling infrastructure on Ballycullen Road to the west of the site, which runs northwards. Further north, cycling infrastructure exists on St. Colmcille's Way and on the R114.

As presented for walking, a similar catchment exercise has also been undertaken for the cycling mode of transport. **Figure 10** summarises the site's bicycle accessibility by showing the 10-, 15-, and 25-minute cycling catchments areas based on an average cycling speed of 3.3m/sec (15 km/h). A 15-minute cycling time equates to approximately 3.0km.

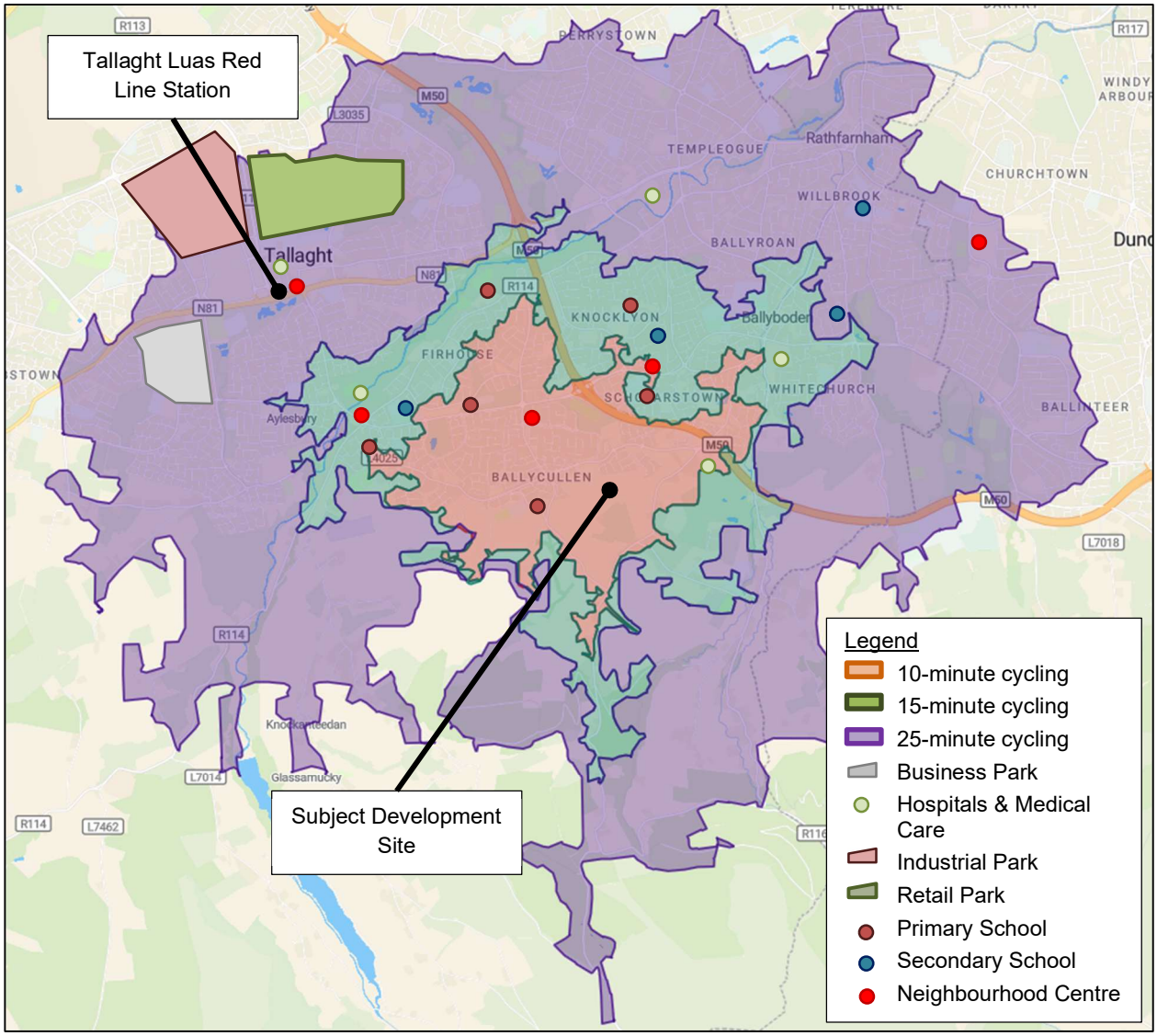

Figure 10 | *Cycling Catchment areas (Source: Smappen)*

Figure 10 illustrates that the subject site is situated in close proximity to significant business, industrial and retail parks that fall within the 25-minute cycling catchment area.

There are several primary schools, secondary schools and shopping centres within the 15-minute cycling isochrone. Finally, the resources accessible in the 10-minute cycling catchment area are also accessible in the 25-minute walking catchment area depicted in **Figure 8**, as they are comparable.

In addition, Tallaght Luas Red Line Station (see **Figure 10** above) is a 17-minute cycle from the subject site.

3.6.4 Car Sharing (Go Car)

The closest GoCar Base is located at the Lidl Ballycullen which is approximately 750m (or 10-minute walk) from the western pedestrian access of the subject site.

The location of the nearest GoCar Base to the subject site is shown in **Figure 11** below.

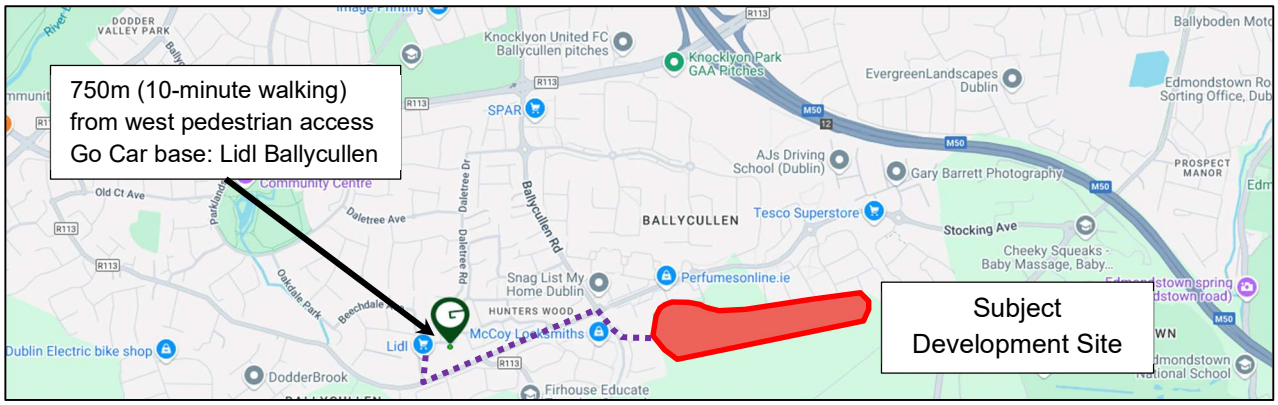

Figure 11 | *GoCar base locations (Source: GoCar website)*

4. Transportation improvements

4.1 BusConnects

South Dublin County Development Plan 2022-2028 outlines the Council's policy in relation to the provision of a quality bus network for the administrative area. In particular, the *Policy SM1: Overarching – Transport and Movement* indicates that:

> *"**M3 Objective 11:** To facilitate the delivery of the BusConnects Core Bus Corridors and seek additional bus corridor and orbital routes to serve the County by securing and maintaining any required route reservations and to ensure the BusConnects Corridors do not adversely affect the village life and livelihoods of any of our County Villages."*

The BusConnects project, currently being promoted by the National Transport Authority (NTA), aims to deliver a significantly improved bus service in the Greater Dublin Area (GDA). Some of the route improvements identified in the BusConnects plan are already in place or underway. According to BusConnects the above route types can be defined as follows:

- **Spines routes:** are very frequent routes made up of individual bus services that are timetabled to work together over their common sections.
- **Radials routes:** are other services that operate into Dublin city centre. These services are not part of any Spine and operate to their own timetable.
- **Orbitals routes:** provide connections between suburbs, without having to travel into the city centre.
- **Local routes:** provide connections to Local centres and link to onward transport connections.
- **Peak routes** operate during peak travel periods, providing additional capacity along key bus corridors. Express routes are direct services from outer suburbs to the city centre during peak hours, serving limited stops to get passengers to their destination faster.

The routes proposed to serve the area surrounding the Subject Development are shown in **Table 4** below, which also gives the route name and weekday and weekend frequency, and the map showing the location of each bus route is shown in **Figure 12** below.

Route	Route Name	Frequency
A-Spine A1	Beaumont - City Centre - Knocklyon	**Weekday**: Every 12 minutes between 7:00 and 19:00 Every 15 minutes between 6:00 and 7:00 and between 19:00 and 23:00 Every 30 minutes between 23:00 and 6:00 **Saturday**: Every 15 minutes between 9:00 and 19:00 Every 20 minutes between 6:00 and 9:00 and between 19:00 and 23:00 Every 30 minutes between 23:00 and 6:00 **Sunday**: Every 20 minutes between 10:00 and 19:00 Every 30 minutes between 19:00 and 10:00
Orbital Route S8	Blanch SC - Dublin Airport - Clongriffi	**Weekday**: Every 30 minutes between 6:00 and 23:00 Every 60 minutes between 23:00 and 6:00

		Saturday: Every 30 minutes between 9:00 and 23:00 Every 60 minutes between 23:00 and 9:00 **Sunday**: Every 30 minutes between 10:00 and 22:00 Every 60 minutes between 22:00 and 10:00
85	Tallaght – Ballyboden – Harold's Cross – Parnell Square	**Weekday**: Every 15 minutes between 6:00 and 22:00 Every 10 minutes between 7:00 and 9:00 and between 15:00 and 17:00 Every 30 minutes between 23:00 and 6:00 **Saturday**: Every 15 minutes between 9:00 and 18:00 Every 20 minutes between 6:00 and 9:00 and between 19:00 and 23:00 Every 30 minutes between 23:00 and 6:00 **Sunday**: Every 20 minutes between 10:00 and 19:00 Every 30 minutes between 19:00 and 10:00

Table 4 | *BusConnects – Frequency service (Source: Bus Connects Timetable)*

Figure 12 shows the bus routes that serves the area surrounding the subject development.

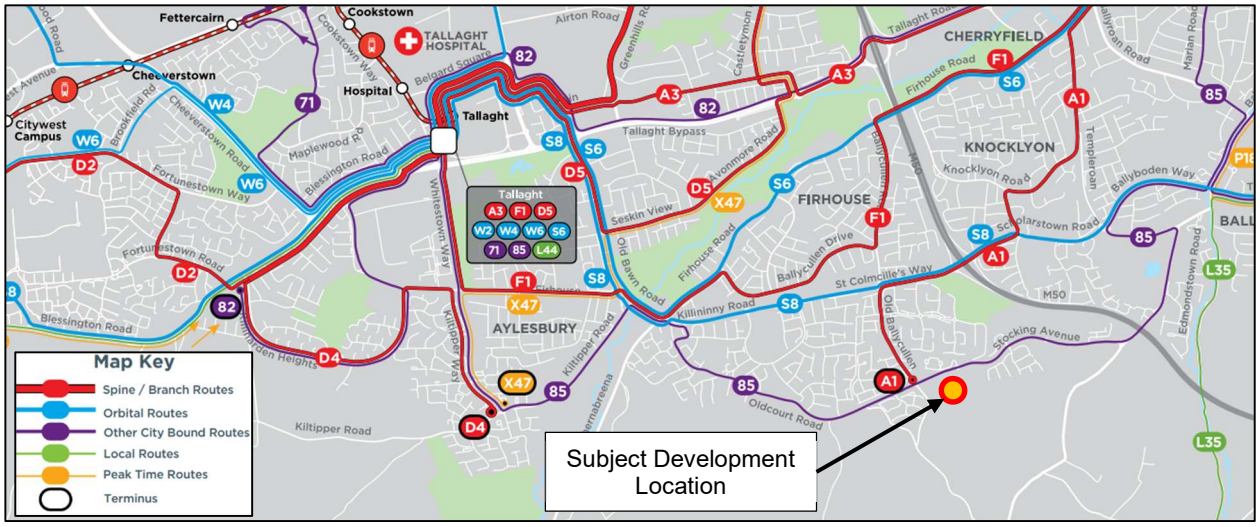

Figure 12 | *Bus Connects Routes (Source: Revised Network Big Picture Map 2020 – Tallaght Area – Ballymount Firhouse, Greenhills, Jobstown, Kiltipper, Tallaght – BusConnects website)*

4.2 Greater Dublin Area Cycle Network Plan

The Subject Development is within the *"Dublin South Central"* sector as outlined in the *Greater Dublin Area Cycle Network Plan 2022*. An extract of the updated cycle network is reproduced in **Figure 13** below.

Greater Dublin Area Cycle Network Plan 2022 sets out the future local cycle network which includes Dublin south-west area.

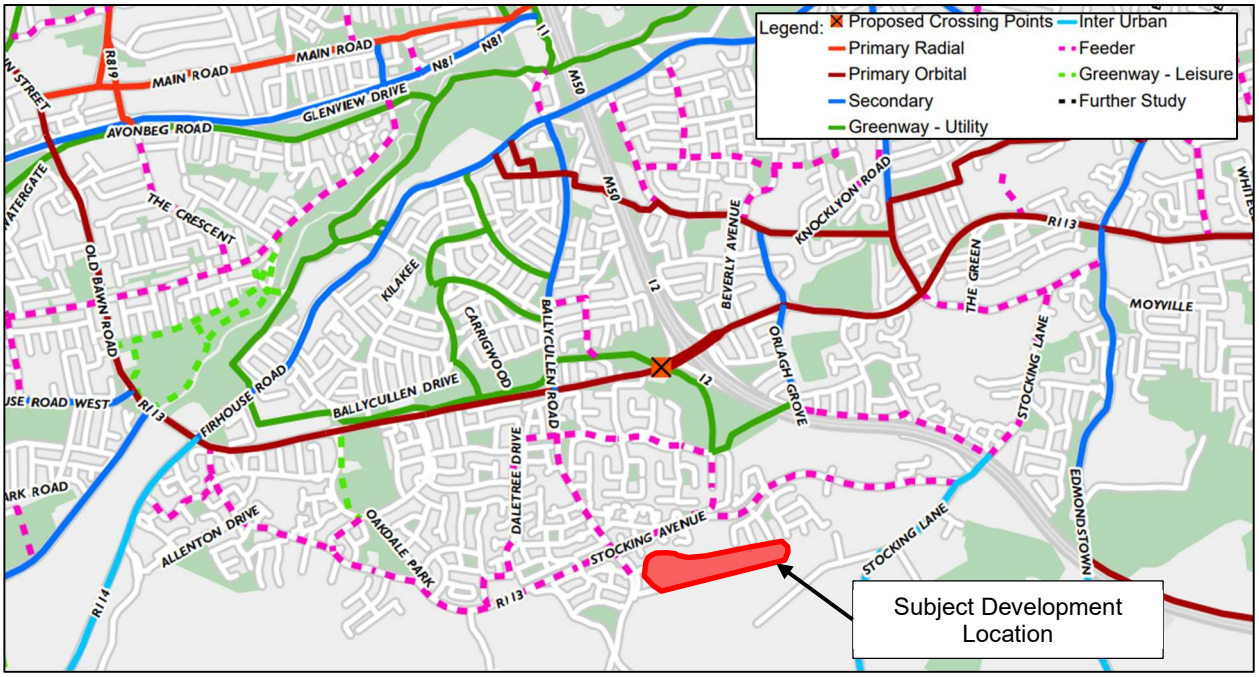

Figure 13 | *Proposed Cycle Network (Source: GDA Cycle Network Plan, 2022)*

The figure above shows a well-connected network that would serve to complement the existing cycling infrastructure (see **Figure 9** in **Section 3.6.3**).

4.3 Ballycullen – Oldcourt LAP Main Link Street

The Ballycullen - Oldcourt LAP Main Link Street is included within the Six Year Road Programme in the South Dublin County Development Plan 2022-2028. Table 7.5 of the plan indicates that Ballycullen Old Court Street Network will be a strategic street network providing access throughout the site Ballycullen - Oldcourt LAP.

The Ballycullen - Oldcourt LAP Main Link Street is proposed as part of the Planning Application Reg. Ref. SD17A/0041. The proposed road scheme comprises a 6.5m wide carriageway, approx. 1500m in length with a with footpaths and verges. A two-way cycle track is located on the northern side of the Link Street linking Oldcourt Road to Bohernabreena Road. Traffic calming will be provided through geometry design features with such as vertical deflections, particularly at junctions between the Link Street and internal estate roads where the footpath/cycle path crosses.

Currently, the eastern section of Main Link Street is under construction as part of the ongoing developments (Pl. Apl. Reg. Ref. Nos. SD17A/0468 and SD23A/0083). Additionally, the remaining portion of Main Link Street, from the tie-in provided by the ongoing development (Pl. Apl. Reg. Ref. No. SD23A/0083) to the R114, will be completed by the potential future development Pl. Apl. Reg. Ref. No. LRD24/0007.

Due to its proximity to the subject development as shown in **Figure 14** below, this link street has been included as part of the assessment carried out in this report.

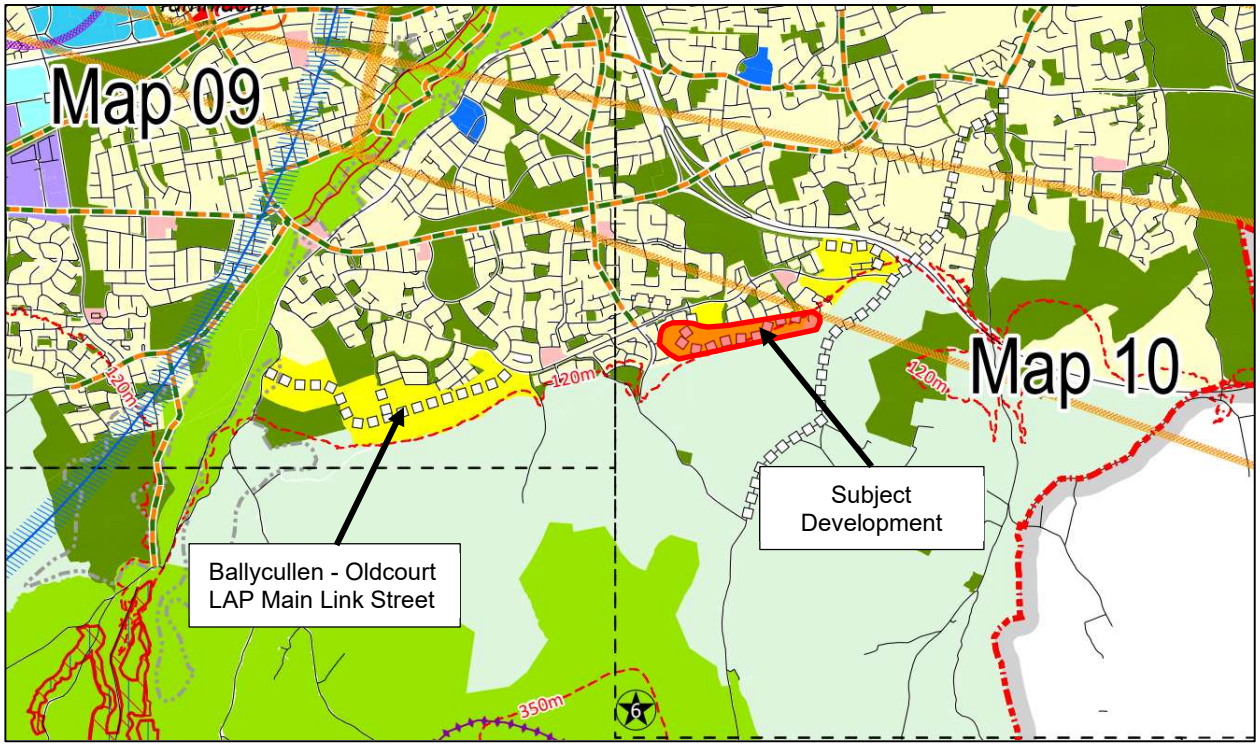

Figure 14 | *Zoning maps 9 and 10 of Plan Lands under SDCC (Source: South Dublin County Development Plan 2022-2028)*

5. Proposed Development

5.1 Description of the Proposed Development

The development with total of c.10.35 Ha will consist of the construction of 502 No. residential units with 197 No. houses (19 No. 2-bed, 116 No. 3-bed and 62 No. 4-bed units) and 305 No. apartments (108 No. 1-bed, 151 No. 2-bed and 46 No. 3-bed units) and a childcare facility with an GFC c. 474.8sqm.

The accommodation schedule is shown in **Table 5** below:

Description	1-bed	2-bed	3-bed	4-bed	Total	GFA (Sqm)
Houses		19	116	62	197	
Apartments	108	151	46		305	
Childcare Facility						474.8
Total	**108**	**170**	**162**	**62**	**502**	**474.8**

Table 5 | *Schedule of Accommodation*

5.2 Internal Layout and Vehicular Access Points

The internal road network has been designed in accordance with the standards set out in the South Dublin Development Plan, which requires that all roads comply with DMURS. The roads vary in width between 4.8 metres and 6 metres wide, while all footpaths are 2 metres wide and connect the internal spaces.

All internal roads within the proposed development are designed for a speed limit of 20km/h. All junctions within the development itself will be priority junctions with raised tables where appropriate.

The low design speeds and traffic calming measures will ensure the safe operation of these junctions and a safe/secure environment for pedestrians and cyclists.

The design and layout of the proposal has been prepared to fully comply with the current relevant design standards and specifications applicable to this form of development. In addition, parking spaces are proposed in accordance with local guidelines (refer to **Section 10** below).

The following figure shows the layout of the development with the access points and connections with adjacent development.

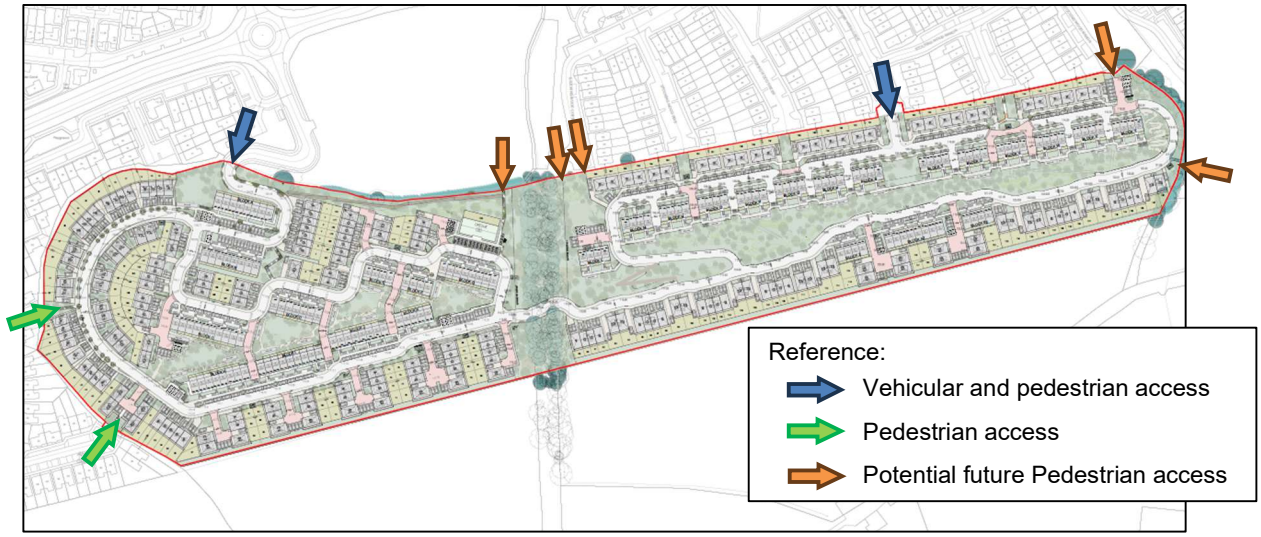

Figure 15 | *Layout*

The road layout has been designed with careful consideration of the existing ground levels to reduce soil movements beyond the site location. By incorporating curvilinear streetscapes, the design effectively reduces the gradient to a maximum of 8%, even in the most challenging sections. This approach not only ensures smoother transitions but also enhances safety and accessibility for all users. **Figure 16** below illustrates the maximum and minimum elevations along the centre line of the internal road network, providing a clear visual representation of the terrain variations.

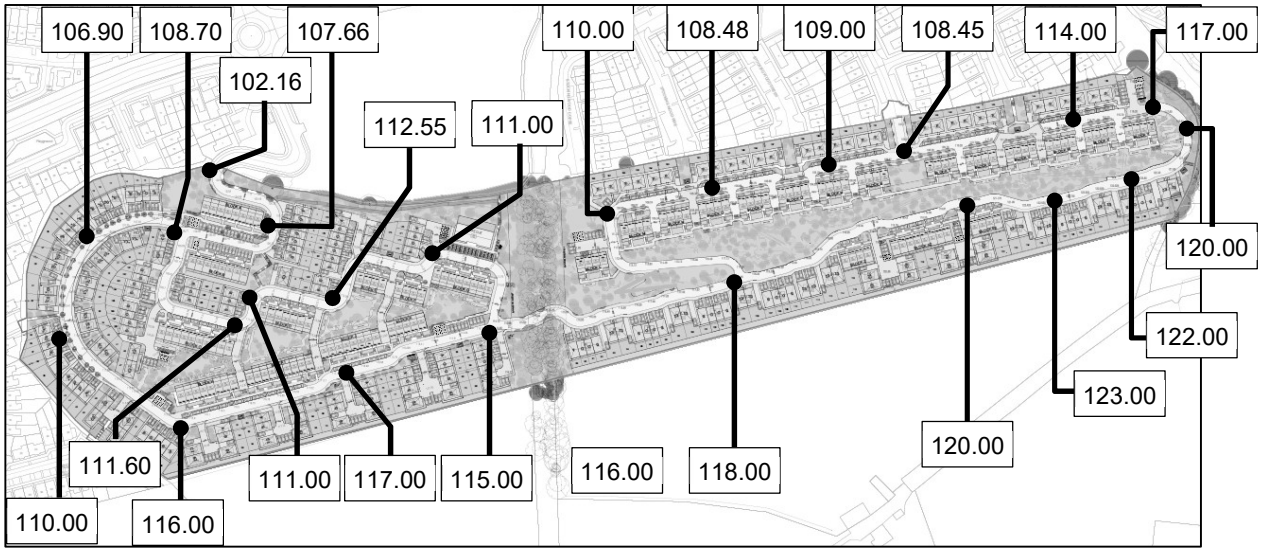

Figure 16 | *Maximum and minimum levels on the internal street layout.*

5.3 DMRUS

Waterman Moylan Consulting Engineers considers that the proposed development is consistent with the principles and guidance outlined in the Design Manual for Urban Roads and Streets (DMURS). Outlined below are some of the specific design features that have been incorporated within the proposed scheme with the objective of delivering a design that is in full compliance with DMURS.

In order of importance, DMURS prioritises pedestrians, cyclists, public transport and private cars. The proposed development has been designed with pedestrians and cyclists taking precedence over other modes of transport. In this regard, footpaths are provided throughout the development, with the required pedestrian and cyclist linkages onto the facilities in the close proximity of the site.

DMURS recommends using active edges to enliven the street and create a more engaging environment. This is achieved through frequent entrances and openings that overlook the street and generate pedestrian activity. The roads in the development have regular junctions and driveways in accordance with this recommendation.

On-street parking is proposed at several locations. On-street parking separates pedestrians from the vehicle roadway and, as per DMURS Section 4.4.9, can calm traffic by increasing driver caution, contribute to pedestrian comfort by providing a buffer between the vehicular carriageway and footpath and provide good levels of passive security.

Streets have been designed in accordance with the alignment and curvature recommendations set out in DMURS Section 4.4.6. The road layout is generally orthogonal. Section 3.3.1 of DMURS notes that street networks that are generally orthogonal in nature are the most effective in terms of permeability (and legibility). Regular junctions along with raised pedestrian tables/crossings at main pedestrian desire lines will encourage reduced driving speeds.

The proposed 'home zones' are designed to prioritise the needs of pedestrians, cyclists, children and residents, and to reduce the speed and dominance of cars. The home zones consist of a shared roadway. Entrance treatment to home zones is in the form of a ramp, which helps to indicate that a driver is entering a home zone and intends to use a different road surface colour in the local zones.

Suitable sightlines will be provided throughout the development, ensuring that localised planting does not obscure visibility as cars make turning manoeuvres, improving the pedestrian safety at crossing points.

Public areas fronting and within the proposed development will be designed by a multidisciplinary design team to accommodate pedestrians and cyclists in accordance with the appropriate principles and guidelines set out in DMURS. In particular, the vehicular access and public footways within the remit of the development will incorporate the relevant DMURS requirements and guidelines as set out above.

5.4 Pedestrian infrastructure

The proposed development has been designed with a network of interconnects footpaths providing permeability throughout the site to the surrounding area. All footpaths within the proposed development have been designed as 2.0m wide. This is in accordance with Section 4.3.1 of the DMURS which suggests that a minimum 1.8m footpath should be provided.

The proposed development includes footpath to the north on both vehicles access roads, which will connect to Stocking Avenue and provide residents with convenient access to this road. In addition, provisions have been made to ensure pedestrian accessibility to both eastern and western sides.

The main pedestrian and cycle path is shown in the **Figure 17** below.

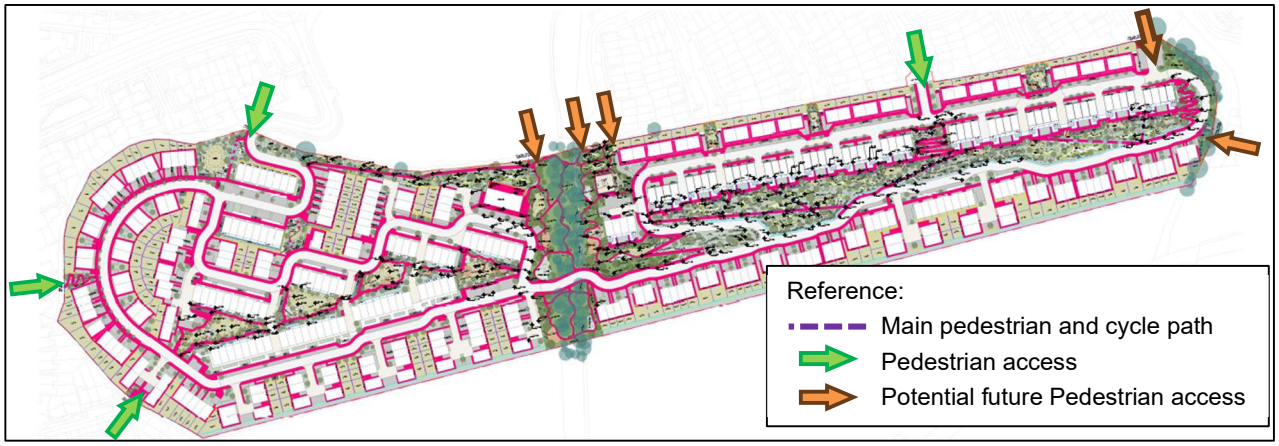

Figure 17 | *Proposed Pedestrian path*

As indicated in **Section 5.2** above, the road layout has been designed with careful consideration of the existing ground levels to minimise soil movement beyond the site. The pedestrian links have been designed to reduce the gradient to a maximum of 5%, even in the most challenging sections.

However, due to the existing topography on site, it has not been possible to design all areas as “access for all”. The level difference in some areas is over 3m’s and as such steps have been provided to ensure these spaces are useable where studies demonstrated that ramps would not comply when tested. Alternative Part M compliant routes are available throughout the site for all users.

Additionally, stairways have been provided in the public open spaces to offer an alternative route, thereby reducing walkable distances. This thoughtful design ensures accessibility and convenience for all users while maintaining the integrity of the natural landscape.

6. Existing Travel Patterns

6.1 Census 2022

To understand the vehicle ownership and mode of travel choice of the residents in the area, public information from the Census 2022 was used. The Census was conducted by the Central Statistics Office on 3rd April 2022, and the information was distributed in small areas that divide the territory.

It is important to choose a wide number of areas to obtain representative values that will allow us to approximate the future behaviour of the residents. 16 representative areas have been selected to reflect the Subject Development.

The Consulted Small Areas are illustrated in **Figure 18**. The number of houses and respective population in each consulted Small Area is provided in **Appendix B**, in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

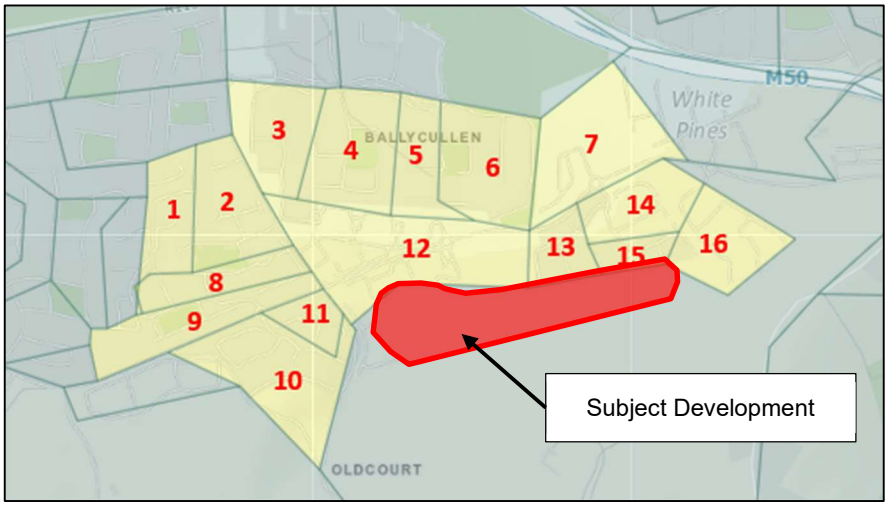

Figure 18 | *Consulted Small Areas (Source: Census 2022)*

6.2 Modal Split and Car Ownership

The modal split based on statistical data provides insight into the behaviour of residents in the surrounding area of the Subject Development. It is therefore likely that residents of the Subject Development exhibit similar behaviour to that statistically surveyed.

The results showed that 70% of the 5,462-population generated 3,936 trips for commuting. In addition, the number of cars in these areas is 2,655, which equates to 1 no. car per 2 persons or 1.55 car per residential unit.

The modal split in the selected Small Areas was 69.8% by car, 15.6% by public transport (bus and train and Luas), 9.6% walking, and 9.6% cycling.

The results of the survey on car ownership in the small areas surveyed are presented in **Appendix B** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

7. Trip Generation and Distribution

7.1 Subject Development

To assess the potential impact of traffic generated by the Subject Development, trip rates from previously approved Traffic and Transport Assessment (TTA) Ref. SHD3-ABP-310578-21 have been used, on the basis that these trip rates have been accepted by the local authority and approved through the SHD planning process. These trip rates were generated using the Trip Rate Information Computer System (TRICS) database which is a standard practice for TTAs in Ireland.

These trip rates are set out in **Table 6** below.

Land use category	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Houses (per unit)	0.133	0.381	0.352	0.180
Apartments (per unit)	0.056	0.193	0.177	0.083

Table 6 | *AM & PM Peak Hours - TRICS Trip Rates extracted from SDCC Ref. SHD3-ABP-310578-21*

In addition, the number of trips to/from the childcare facility has been taken from the TRICS database due to the planning application Reg. Ref. No. SHD3-ABP-310578-21 didn't include this information. The table below shows the results from the TRICS database and the full trip rates have been provided in **Appendix C** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

Land use category	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Creche (per 100sqm)	2.800	2.667	2.000	2.400

Table 7 | *AM & PM Peak Hours - TRICS Trip Rates extracted from SDCC Ref. SHD3-ABP-310578-21*

The AM and PM peak hour trip generation to/from the proposed development is shown in **Table 8** below.

Development	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Houses (197 units)	27	76	70	36
Apartments (305 units)	18	59	54	26
Creche (474.8 sqm)	13	13	9	11
Total	**58**	**148**	**133**	**73**

Table 8 | *AM & PM Peak Hours*

It has been estimated that the subject development will generate a total of 206 vehicular movements in the AM peak hour (58 inbound and 148 outbound) and a total of 206 vehicular movements in the PM peak hour (133 inbound and 73 outbound).

The distribution of trips for the subject sire is based on the approved Strategic Housing Development (Planning Application Reg. Ref. No. SHD3-ABP-310578-21). It has been estimated that 68% of the traffic flows will proceed westward along Stocking Avenue, while the remaining 32% will continue eastward.

This report considers both vehicular traffic access via Abbot's Grove and Stocking Wood Drive. The distribution of vehicular traffic has been calculated on the basis of the number of units on each side. Accordingly, it has been assumed that 54% of drivers will utilise Abbot's Grove Road and 46% will use Stocking Wood Drive. In addition, in order to provide a worst-case scenario, it has been assumed that 100% of drivers will drive to/from the Creche via Abbot's Grove.

Traffic distribution flows to/from the subject site for both peak hours are illustrated in **Figure 19** below and in **Appendix D – Figure B** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package. Trip assignment flows are provided in **Appendix D – Figure C**.

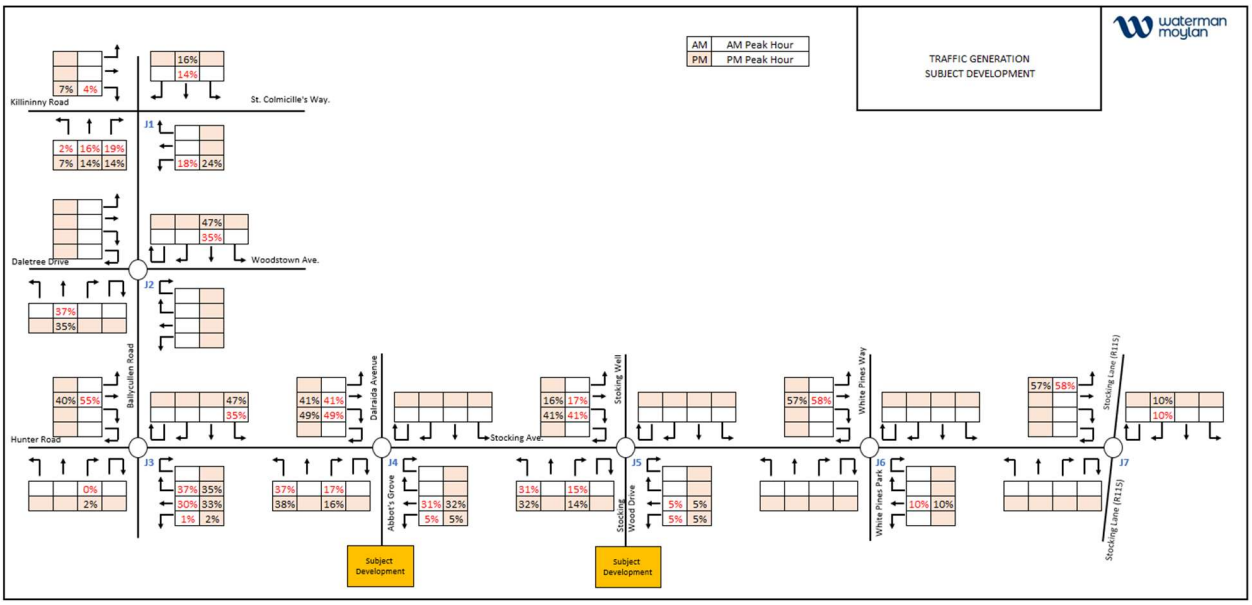

Figure 19 | *Trip Distribution – Subject Development*

7.2 Committed and Potential Future Developments

There are committed and future developments in the vicinity of the subject development which may have an impact on the capacity of the local road network influencing traffic flows and junction efficiency.

In evaluating the impact of traffic generated by the subject development, trip generation calculations from their approved planning permissions have been considered. **Figure 20** below shows the location of these committed developments.

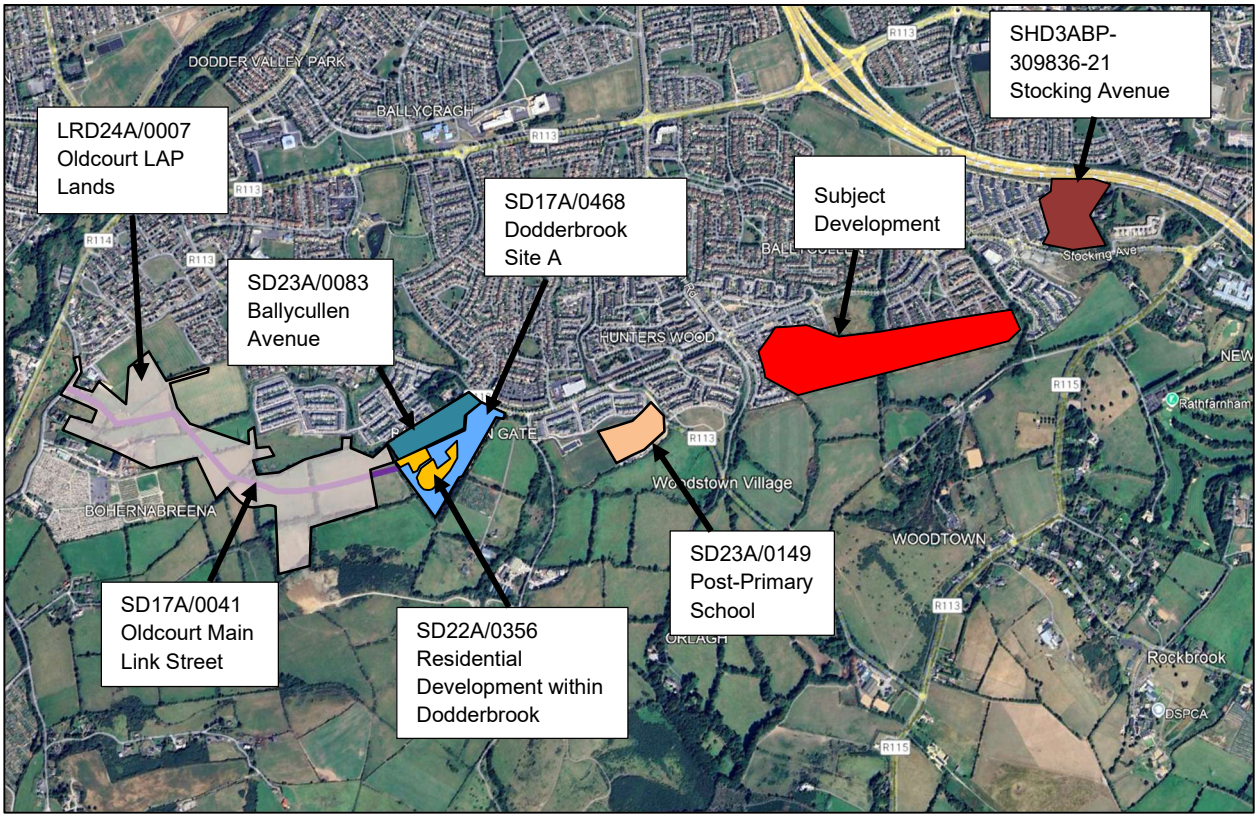

Figure 20 | *Location of committed developments*

7.2.1 Post-Primary School Development - SD23A/0149.

Trip generation for the post-primary school development has been calculated in the approved Traffic and Transport Assessment (TTA) prepared as part of the Planning Application Reg. Ref. No. SD23A/0149.

The development will consist of a new educational campus, to be delivered on a phased basis. The development comprises 1 no. part 3-storey 1,000-No. pupils of the Post Primary School (Firhouse Educate Together Secondary School: Roll No. 68307J) and includes accommodation for children with special educational needs, a multi-purpose hall and all ancillary teacher and pupil facilities with a gross floor area of c. 11,021 sqm.

The calculated trips for the development are reproduced in **Table 9** below.

Development	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Post-Primary School Development	184	154	154	184

Table 9 | *AM & PM Peak Hours Trip Generation – Post-Primary School Development*

Based on the approved TTA during the morning period, car trips generated by schools are mostly drop off trips, made by parents dropping their children. The referenced report states that there will be 30 No. trips generated by the staff. As the staff will remain at the school, these trips only apply one way during the AM

peak. The total trips generated on site in the AM will therefore be 184 trips (154 drop-off trips and 30 staff trips) travelling to the school and 154 trips from the school after drop-off.

As the report does not provide information on PM peak trips, an assumption is made that 154 trips will be made by parents picking up their children from school and an additional 30 No. trips made by staff leaving the school. Therefore, there will be 338 trips leaving the school during the evening pick up.

Trip Distribution: The TTA report in the approved Planning Application (Reg. Ref. No. SD23A/0149) outlines the trip distribution associated with the post primary school development. The school has vehicular access from the priority junction linking Hunters Road and Old Court Road. According to Figure 8 of that report, there are 83 trips assigned from this junction into the school and 69 trips assigned from the school into this junction as illustrated in **Figure 21**.

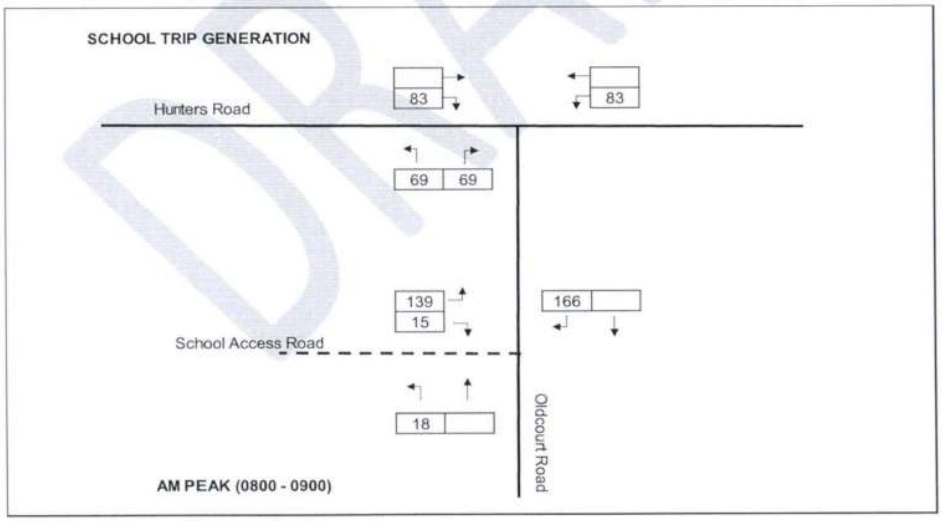

Figure 21 | *Trip Distribution extract from TTA in SDCC Ref. SD23A/0149*

In accordance with the trip distribution indicated in figure above, a proportion of the traffic flows to / from the development will impact on the intersection of Hunters Rd. and Ballycullen Rd. (Junction 3 on **Figure 23** below). For the purposes of this report, the remaining junctions have been distributed in a manner consistent with the proportions observed at each junction during the vehicle survey. In addition, given that this is a post-primary school, it is likely that any development in the surrounding area will generate a trip to this location.

Trip assignment to/from the post-primary school development is shown in **Appendix D – Figure D** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

7.2.2 Residential Development at Stocking Avenue - SHD3ABP-309836-21

Trip generation for the potential future development at Stocking Avenue has been calculated in the Traffic and Transport Assessment (TTA) prepared as part of the Planning Application Reg. Ref. No. SHD3ABP-309836-21 and subsequent Pl. Apl. Reg. Ref. No. ABP-320062.

The proposal is for a residential development of 241 no. units, 5 no. apartment blocks and 3 no. duplex blocks, located on lands to the northeast of the Stocking Avenue / White Pines Way / White Pines Crescent roundabout in Woodstown, Dublin, comprising 93 no. 1-bed units and 148 no. 2-bed units. The development

also comprises 204 no. car parking spaces and 401 no. cycle parking spaces and will be accessed via Stocking Avenue located to the south of the subject development site. The development also includes a community centre of approx. 552 sqm.

The calculated trips for the development are reproduced in **Table 10** below.

Development	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Total developments	12	45	45	20

Table 10 | *AM & PM Peak Hours Trip Generation – Residential Development at Stocking Avenue*

Trip Distribution: The TTA report outlines the trip distribution associated with the residential development at Stocking Avenue. The residential development has two access routes: the southern site access and through White Pines Way to the west of the site, via and existing residential development. The referenced TTA assumes that this residential development has an impact on three junctions: Stocking Avenue / Stocking Well / Stocking Wood Hall; Stocking Avenue / White Pines Park / White Pines Way (Junction 6 in **Figure 23** in **Section 8**); Stocking Avenue / Stocking Lane (Junction 7 in **Figure 23** in **Section 8**). In the referenced report, trip distribution is carried out on the three junctions.

For the purpose of this TTA, it is assumed that trips beyond the Stocking Avenue / Stocking Well / Stocking Wood Hall junction turn right at the Ballycullen Road / Hunters Road / Stocking Avenue junction and head North towards the R113 road. From here, they can either turn right to join the M50 or turn left to join the N4 road.

The trip assignment for the residential development at Stocking Avenue is shown in **Appendix D – Figure E** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

7.2.3 Oldcourt Main Street Link - SD17A/0041

Trip generation for the Oldcourt Main Street Link has been calculated in the approved Traffic and Transport Assessment (TTA) prepared as part of the Planning Application Reg. Ref. No. SD17A/0041.

In the referenced TTA, DBFL Consulting Engineers considered that TRICS will provide a reasonable indication of traffic generation to/from the future residential developments around Oldcourt Main Street Link. As is indicated in the mentioned TTA, information from the Ballycullen-Oldcourt LAP (2014) was used to determinate the future residential developments. As such, the peak hour traffic generations to/from the site were calculated based on 750 housing units which will directly access the subject link road.

Oldcourt Main Street Link will serve residential development on the western lands of the Ballycullen-Oldcourt LAP. It will act as the primary access into and through the lands.

Oldcourt Main Street Link will connect with Oldcourt Road (R113) to the East and Bohernabreena Road to the West.

Table 11 below summarises the predicted peak hour AM and PM traffic generated by the future residential developments around the link street scheme.

Development	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Residential Development (750 units)	109	294	270	160

Table 11 | *AM & PM Peak Hours Trip Generation – Oldcourt Main Link Street*

As previously mentioned, the 750 housing units outlined in the TTA made by DBFL include the future residential developments along the Oldcourt Main Street Link. These developments encompass the planning applications listed below, obtained from SDCC Planning Maps online. Additionally, the following planning applications reference the TTA made by DBFL in their traffic impact assessments.

- Planning Application Reg. Ref. No. SD17A/0468: Residential Development at Dodderbrook.
  The planning application seeks permission for the construction of 97 no. new residential dwellings comprising of 20 no. apartments, 27 no. duplex units, 36 no. semi-detached houses and 14 no. detached houses. The development is to be constructed on two separate sites: site A with 64 no. units and site B with 33 no. units. Each site was submitted as two separate planning applications (SD17A/0468 & SD17A/0471). This TTA assessed the cumulative impact of both sites.

- Planning Application Reg. Ref. No.SD22A/0356: Residential Development within Dodderbrook.
  The development is located on a site to the south of Oldcourt Road, which forms part of all overall permitted residential development at Dodderbrook (Planning Application Reg. Ref. No. SD17A/0468). The proposed development consists of changes of dwelling type and increase in unit number from 17 no. permitted houses to 24 no. proposed houses; The proposed dwellings are comprised of the following: 5 no. three-bed detached bungalows; 1 no. two-bed detached bungalow; 2 no. two-bed semi-detached bungalows; 1 no. two-storey 4 -bed detached house; 1 two-storey 3-bed detached house; 2 no. two-storey 2-bed semi-detached houses & 12 no. two-storey 3-bed semi-detached houses.

- Planning Application Reg. Ref. No. LRD24A/0007: Residential Development on Oldcourt LAP Lands.
  The applicant intends to apply for permission for a Large-scale Residential Development on a site measuring c.20.3Ha, located in the townlands of Bohernabreena, Oldcourt, and Killininny, Dublin 24. The proposed development consists of 523 no. residential units comprised of 253 no. 2-, 3- & 4-bed detached, semi-detached and terraced houses, 208 no. 1-, 2- & 3-bed duplex units in 20 no. 2- & 3-storey blocks, and 62 no. 1-, 2- & 3-bed apartments in 4 no. 3- & 4-storey blocks, along with a 2-storey childcare facility of c. 457sq.m.

- Planning Application Reg. Ref. No. SD23A/0083: Residential Development at Ballycullen Avenue.
  The proposed residential development consists of 71 no. dwellings comprised of 41 no. 3- and 4-bed 2- and 3-storey, detached, semi-detached and terraced houses and 30 no. 2-, 3- and 4-bed apartments & duplex units accommodated in 1 no. 2- and 3- storey block and 2 no. 3-storey blocks. The proposed development also includes for car parking, bicycle parking, bin storage, communal open spaces, public open space, pedestrian & cyclist connections, landscaping & boundary treatments, drainage connections, road infrastructure etc. and all associated site development works on a site of c. 2.56 hectares.

Trip Distribution: The TTA report in the approved Planning Application Reg. Ref. No. SD17A/0041 outlines the trip distribution associated with the Oldcourt Main Street Link.

The TTA made for this Planning Application sets up the traffic distribution for the 750 housing units plus the potential traffic redistribution for motorists bypassing the busy Killinniny Road/OLD Bawn Road/R114 Firhouse Road signalised junction shown in **Figure 22** below.

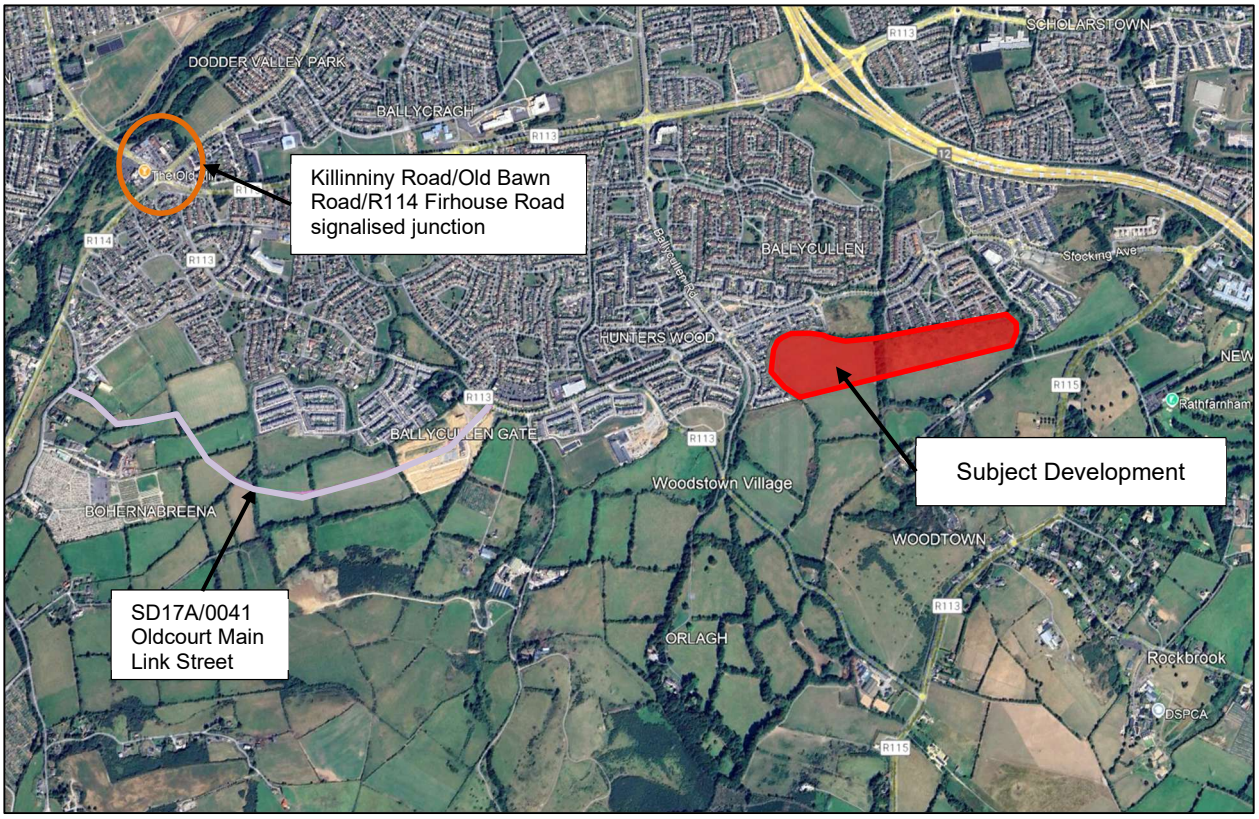

Figure 22 | *Location of Oldcourt Main Link Street*

In accordance with the trip distribution indicated in the mentioned TTA, a proportion of the traffic flows to / from the development will impact on the intersection of Hunters Rd. and Ballycullen Rd. (Junction 3 on **Figure 23** below). For the purposes of this TTA, the traffic flows arriving at Junction 3 have been distributed using the proportions observed at this junction during the vehicle survey and was assumed that from here the traffic flows will continue to the N81 and M50 respectively.

The trip assignment for the overall Oldcourt Main Street Link is shown in **Appendix D – Figure F** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

7.3 Summary of trips generated

A summary of the trips generated by all the above developments is provided below.

Development	AM Peak Hour		PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Subject Development	58	148	133	73
Post-Primary School Development	184	154	154	184
Residential Development at Stocking Avenue	12	45	45	20
Oldcourt Main Link Street	109	294	270	160
Total	**363**	**641**	**602**	**437**

Table 12 | *AM & PM Peak Hours Trip Generation – Summary*

7.4 Traffic Growth Rates

It has been assumed within this TTA that the proposed development will be constructed, and the assumed opening year is 2030.

As per methodology adopted in the 'Transport Assessment Guidelines (May 2014)', which the subject TTA is based on, the surveyed junctions were also assessed for the future design years of 2035 (Opening year + 5 years) and 2045 (opening year +15 years).

The traffic growth rate used to factor up the 2025 base year traffic movements (refer to **Section 3.5** of this report) is in accordance with *Table 6.1: Link-Based Growth Rates: Metropolitan Area Annual Growth Rates'* within the *TII Publications – Project Appraisal Guidelines for National Roads, Unit 5.3 – Travel Demand Projections (October 2021)* and with the *Appendix 4* of the *Implementation Roadmap for the National Planning Framework (July 2018)* which defines the Dublin Metropolitan Area.

Based on the Traffic Survey, the urban growth area has been identified as the central area, where Light Vehicles are the predominant vehicle type.

The factors considered in the current assessment are shown below:

- Base line: 2025
- Opening year: 2030 = 1.084 (growth factor from 2025 to 2030)
- Opening year + 5: 2035 = 1.112 (growth factor from 2025 to 2035)
- Opening year + 15: 2045 = 1.165 (growth factor from 2025 to 2045)

8. Junction Assessment

8.1 Assessed Junctions

The junctions assessed as part of this TTA are the following:

- **Junction 1 (signalised four-arm crossroads):** Killininny Road / Ballycullen Road / St. Colmcille's Way
- **Junction 2 (four-arm roundabout):** Ballycullen Road / Woodstown Avenue / Daletree Drive
- **Junction 3 (four-arm roundabout):** Ballycullen Road / Hunters Road / Stocking Avenue
- **Junction 4 (four-arm roundabout):** Stocking Avenue / Dalriada Avenue / Abbot's Grove Avenue
- **Junction 5 (four-arm roundabout):** Stocking Avenue / Stocking Well / Stocking Wood Hall
- **Junction 6 (four-arm roundabout):** Stocking Avenue / White Pines Park / White Pines Way
- **Junction 7 (three-arm roundabout):** Stocking Avenue / Stocking Lane

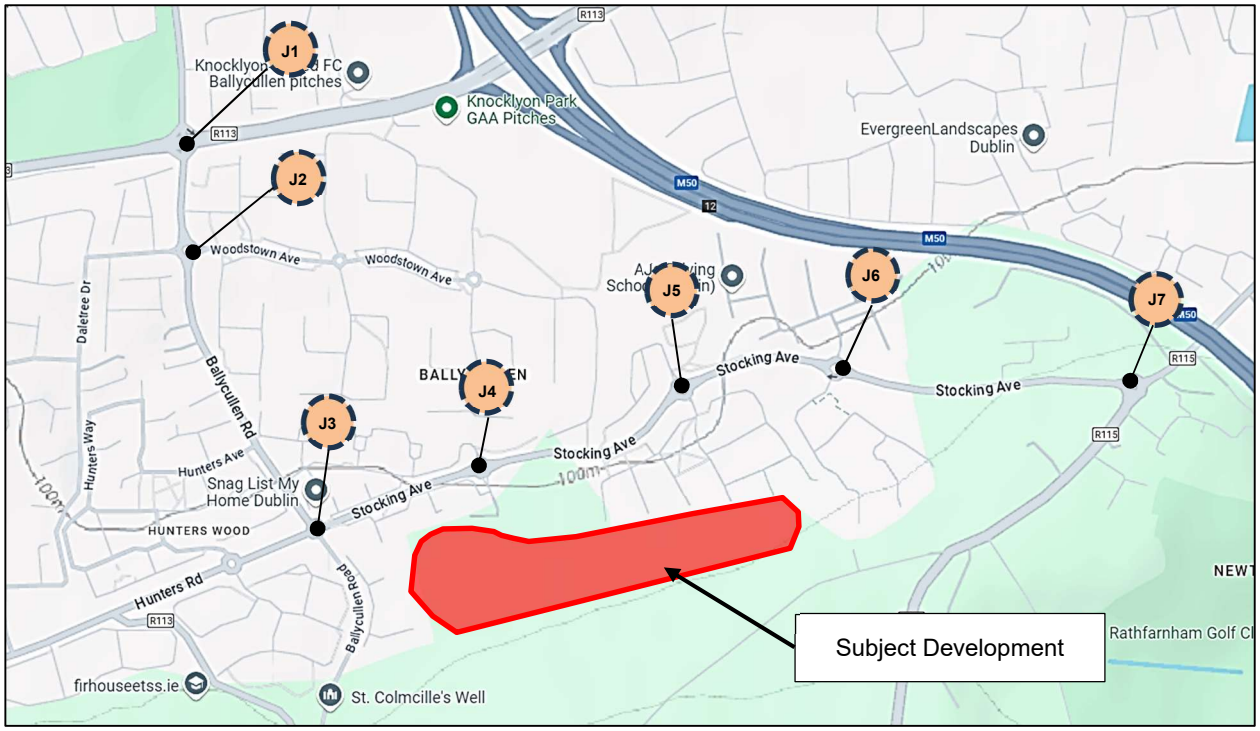

Figure 23 | *Location of Assessed Junctions*

8.2 Cumulative Impact

The TII document *Traffic and Transport Assessment Guidelines (2014)* provides thresholds in relation to the impact of a proposed development on the local road network. These thresholds were previously introduced in **Section 1.4**.

According to the TII document, the impact of new developments is considered to be significant if the level of traffic generated by them exceeds the thresholds of 10% for normal operating networks and 5% for congested networks. When such levels of impact are generated, a more detailed assessment should be carried out to determine the specific impact on the operational performance of the network.

In accordance with the TII guidelines, an assessment was conducted to determine the potential level of impact on each of the key junctions indicated in **Figure 23** above. This assessment was carried out considering the two-way traffic flows surveyed 2025 (see **Figure 6** above) and the traffic flows generated by the subject development (refer to **Section 7.1** above).

The summary of this calculation is presented in the table below.

Junction	Junction Existing Flow		Additional Traffic		% Expected Increase	
	AM Peak Hour	PM Peak Hour	Two-way Flow (AM)	Two-way Flow (PM)	(AM)	(PM)
Junction 1	2617	2427	75	87	2.9%	3.6%
Junction 2	1560	1474	75	89	4.8%	6.0%
Junction 3	1206	1239	152	170	12.6%	13.7%
Junction 4	645	761	181	190	28.1%	25.0%
Junction 5	644	818	123	114	19.1%	13.9%
Junction 6	655	915	92	55	14.0%	6.0%
Junction 7	615	789	92	55	15.0%	7.0%

Table 13 | *Surveyed Two-way Traffic and Expected Traffic Increase*

As can be seen from the table above, Junction 1 is expected to receive a two-way traffic increase less than 5%. Junction 2 is expected to receive a two-way traffic increase higher than 5% during the PM peak hour, while junctions 3, 4, 5, 6 and 7 will receive an increase greater than 10% during both peak hours.

Therefore junctions 2, 3, 4, 5, 6 and 7 were assessed and the results are shown in **Section 8.5** below.

8.3 Modelling Background

There are various modelling software packages available to assess every type of junction. Waterman Moylan uses ARCADY, TRANSYT and PICADY to analyse roundabouts, signalised and priority junctions, respectively.

ARCADY is a software for modelling roundabouts. This programme utilises roundabout's geometry and traffic flows input by the user to determine Ratio of Flow to Capacity (RFC) and queue length for each link on the roundabout.

PICADY is a software for modelling priority-controlled junctions. This programme utilises junction's geometry and traffic flows input by the user to determine Ratio of Flow to Capacity (RFC) and queue length for each link on the junction.

TRANSYT is a software program designed for modelling signalised junctions. However, it can also be employed to simulate priority-controlled junctions and roundabouts. The programme employs junction geometry, traffic flows and traffic signal parameters to ascertain the queue, delay and degree of saturation (DOS) of the junction.

The results of the model include the following:

- DOS% / RFC ratio represents the ratio of demand flow to capacity. The practical capacity threshold is typically set at 0.85. A value below 0.85 indicates that the junction is operating in an efficient and stable state. A value between 0.85 and 1 represents variable operation and can be considered as operating adequately if queuing and delay are deemed to be within an acceptable range. However, a junction is typically considered to be operating satisfactorily when the DOS%/RFC of each link does not exceed 0.9. A value exceeding 1 indicates a congested condition.
- Max Queue Length: This represents the maximum queue length of vehicles waiting to enter the junction on each arm.
- Average Delay: This shows the average amount of traffic delay at the junction per vehicle over the peak hour period.
- PCU: Passenger Car Unit. 1 car / LGV equals 1 PCU, 1 Medium HGV equals 1.5 PCU, 1 Bus equals 2.0 PCU, 1 Large HGV equals 2.3 PCU. 1 PCU equals 5.75m.

8.4 Assessment Scenarios

The performance of the junctions has been analysed for the critical AM peak hour (08h00 to 09h00) for the following scenarios:

- **BASE YEAR 2025:** With 2025 baseline traffic flow (see **Figure 6** above)
- **2030 DO NOTHING**: Baseline flows factored up (refer to Section 7.4 above) + traffic to/from the Post-Primary School Development, Residential Development at Ballycullen, Residential Development at Stocking Avenue and Oldcourt Main Link Street. **See Appendix D – Figure G** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.
- **2035 DO NOTHING**: Baseline flows factored up (refer to Section 7.4 above) + traffic to/from the Post-Primary School Development, Residential Development at Ballycullen, Residential Development at Stocking Avenue and Oldcourt Main Link Street. **See Appendix D – Figure H** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.
- **2045 DO NOTHING**: Baseline flows factored up (refer to Section 7.4 above) + traffic to/from the Post-Primary School Development, Residential Development at Ballycullen, Residential Development at Stocking Avenue and Oldcourt Main Link Street. **See Appendix D – Figure I** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.
- **2030 DO SOMETHING**: 2030 DO NOTHING + traffic to/from the Subject Development. **See Appendix D – Figure J** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.
- **2035 DO SOMETHING**: 2035 DO NOTHING + traffic to/from the Subject Development. **See Appendix D – Figure K** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.
- **2045 DO SOMETHING**: 2045 DO NOTHING + traffic to/from the Subject Development. **See Appendix D – Figure L** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

8.5 Assessment Results

The main results of the traffic assessment for each section are presented below. Further details can be found in **Appendix E** in the Waterman Moylan Report No. *24-007r.008 Traffic & Transport Assessment - Appendices*, which is included in the documentation package.

8.5.1 Junction 2

Junction 2 is an existing four-arm roundabout is located to the northwest of the Proposed Development. It has been modelled based on its existing layout and the ARCADY analysis results are summarised below.

	AM			PM		
	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)	RFC
Junction 2 - AM & PM - 2025 BASELINE YEAR						
1 - Woodstown Avenue (E)	0.3	4.21	0.25	0.2	4.43	0.18
2 - Ballycullen Road (S)	1.5	7.43	0.6	0.5	4.42	0.34
3 - Daletree Drive (W)	0.3	5.72	0.22	0.1	3.64	0.09
4 - Ballycullen Road (N)	0.5	4.08	0.35	1.9	7.91	0.66
Junction 2 - AM & PM - 2030 DO NOTHING						
1 - Woodstown Avenue (E)	0.4	4.74	0.3	0.3	5.57	0.26
2 - Ballycullen Road (S)	2.1	9.38	0.68	0.6	4.77	0.38
3 - Daletree Drive (W)	0.4	6.72	0.28	0.1	3.93	0.13
4 - Ballycullen Road (N)	0.7	4.61	0.43	4.1	14.22	0.81
Junction 2 - AM & PM - 2030 DO SOMETHING						
1 - Woodstown Avenue (E)	0.4	4.82	0.31	0.4	5.94	0.27
2 - Ballycullen Road (S)	2.6	11.1	0.73	0.7	4.95	0.4
3 - Daletree Drive (W)	0.4	7.2	0.3	0.1	4.01	0.13
4 - Ballycullen Road (N)	0.8	4.74	0.44	5.8	19.25	0.86
Junction 2 - AM & PM - 2035 DO NOTHING						
1 - Woodstown Avenue (E)	0.5	4.83	0.31	0.4	5.71	0.27
2 - Ballycullen Road (S)	2.3	10.02	0.7	0.6	4.85	0.39
3 - Daletree Drive (W)	0.4	6.99	0.29	0.2	3.98	0.13
4 - Ballycullen Road (N)	0.8	4.69	0.44	4.7	15.82	0.83
Junction 2 - AM & PM - 2035 DO SOMETHING						
1 - Woodstown Avenue (E)	0.5	4.92	0.32	0.4	6.09	0.28
2 - Ballycullen Road (S)	2.9	12.01	0.75	0.7	5.05	0.41
3 - Daletree Drive (W)	0.4	7.51	0.31	0.2	4.06	0.13
4 - Ballycullen Road (N)	0.8	4.82	0.45	6.8	22.16	0.88
Junction 2 - AM & PM - 2045 DO NOTHING						
1 - Woodstown Avenue (E)	0.5	5.01	0.33	0.4	6.01	0.29
2 - Ballycullen Road (S)	2.7	11.47	0.73	0.7	5.06	0.41
3 - Daletree Drive (W)	0.5	7.56	0.32	0.2	4.07	0.14
4 - Ballycullen Road (N)	0.8	4.84	0.45	6	19.9	0.87

Junction 2 - AM & PM - 2045 DO SOMETHING						
1 - Woodstown Avenue (E)	0.5	5.1	0.33	0.4	6.43	0.3
2 - Ballycullen Road (S)	3.5	14.14	0.78	0.8	5.27	0.43
3 - Daletree Drive (W)	0.5	8.16	0.34	0.2	4.15	0.14
4 - Ballycullen Road (N)	0.9	4.99	0.47	9.5	30.08	0.92

Table 14 | *Junction 2 – ARCADY Analysis Results.*

The analysis results as summarised above indicate that the existing Junction 2 would operate within capacity in 2030 DO SOMETHING during AM and PM peak hour and would continue to do so for in 2035 DO SOMETHING scenario.

For the year 2045, both scenarios without and with the subject site, it is likely that drivers would experience some congestion problems during the PM peak hour. The highest RFC is 0.92 with a queue of 9.5 PCU and a delay of 30.08 seconds. It is important to note that drivers will experience this situation over a short period of time.

8.5.2 Junction 3

Junction 3 is an existing four-arm roundabout is located to the northwest of the Proposed Development. It has been modelled based on its existing layout and the ARCADY analysis results are summarised below.

	AM			PM		
	Queue (PCU)	**Delay (s)**	**RFC**	**Queue (PCU)**	**Delay (s)**	**RFC**
Junction 3 - AM & PM - 2025 BASELINE YEAR						
1 - Stocking Avenue (E)	0.6	5.27	0.38	0.6	5.48	0.38
2 - Ballycullen Road (S)	0.1	4.2	0.08	0.1	4.49	0.08
3 - Hunters Road (W)	0.8	5.98	0.43	0.4	4.53	0.28
4 - Ballycullen Road (N)	0.4	4.29	0.28	0.9	5.91	0.48
Junction 3 - AM & PM - 2030 DO NOTHING						
1 - Stocking Avenue (E)	1	6.67	0.49	1	7.65	0.51
2 - Ballycullen Road (S)	0.1	4.77	0.1	0.1	5.64	0.12
3 - Hunters Road (W)	1.8	9.71	0.64	0.7	5.71	0.42
4 - Ballycullen Road (N)	0.6	5.15	0.37	2.2	10.21	0.69
Junction 3 - AM & PM - 2030 DO SOMETHING						
1 - Stocking Avenue (E)	1.4	8.36	0.59	1.3	8.67	0.56
2 - Ballycullen Road (S)	0.1	5.19	0.11	0.2	5.96	0.13
3 - Hunters Road (W)	2.3	11.91	0.7	0.9	6.49	0.48
4 - Ballycullen Road (N)	0.7	5.48	0.4	3.3	14.38	0.77
Junction 3 - AM & PM - 2035 DO NOTHING						
1 - Stocking Avenue (E)	1	6.9	0.5	1.1	7.94	0.52
2 - Ballycullen Road (S)	0.1	4.84	0.1	0.1	5.74	0.12
3 - Hunters Road (W)	1.9	10.23	0.66	0.8	5.83	0.43
4 - Ballycullen Road (N)	0.6	5.24	0.38	2.3	10.8	0.7
Junction 3 - AM & PM - 2035 DO SOMETHING						
1 - Stocking Avenue (E)	1.5	8.71	0.61	1.4	9.05	0.58

2 - Ballycullen Road (S)	0.1	5.27	0.11	0.2	6.07	0.14
3 - Hunters Road (W)	2.5	12.69	0.72	1	6.65	0.49
4 - Ballycullen Road (N)	0.7	5.57	0.41	3.6	15.57	0.79
Junction 3 - AM & PM - 2045 DO NOTHING						
1 - Stocking Avenue (E)	1.1	7.32	0.53	1.2	8.54	0.55
2 - Ballycullen Road (S)	0.1	4.98	0.11	0.2	5.97	0.13
3 - Hunters Road (W)	2.2	11.31	0.69	0.8	6.06	0.45
4 - Ballycullen Road (N)	0.7	5.41	0.4	2.7	12.01	0.73
Junction 3 - AM & PM - 2045 DO SOMETHING						
1 - Stocking Avenue (E)	1.7	9.4	0.63	1.5	9.82	0.61
2 - Ballycullen Road (S)	0.1	5.44	0.12	0.2	6.32	0.14
3 - Hunters Road (W)	2.9	14.39	0.75	1	6.95	0.51
4 - Ballycullen Road (N)	0.8	5.77	0.43	4.3	18.15	0.82

Table 15 | *Junction 3 – ARCADY Analysis Results.*

The analysis results as summarised above indicate that the existing Junction 3 would operate within capacity in 2030 DO SOMETHING during AM and PM peak hour and would continue to do so for in 2045 DO SOMETHING scenario.

8.5.3 Junction 4

Junction 4 is an existing four-arm roundabout located to the north of the proposed site. It is the primary access of the subject development. It has been modelled based on its existing layout and the ARCADY analysis results are summarised below.

	AM				**PM**	
	Queue (PCU)	**Delay (s)**	**RFC**	**Queue (PCU)**	**Delay (s)**	**RFC**
Junction 4 - AM & PM - 2025 BASELINE YEAR						
1 - Stocking Avenue (E)	0.3	3.78	0.26	0.4	3.96	0.3
2 - Abbot's Grove Avenue (S)	0	3.54	0.04	0	3.53	0.02
3 - Stocking Avenue (W)	0.2	3.09	0.19	0.4	3.49	0.27
4 - Dalriada Avenue (N)	0.1	3.41	0.05	0	3.52	0.02
Junction 4 - AM & PM - 2030 DO NOTHING						
1 - Stocking Avenue (E)	0.5	4.17	0.32	0.6	4.34	0.36
2 - Abbot's Grove Avenue (S)	0	3.73	0.04	0	3.7	0.02
3 - Stocking Avenue (W)	0.3	3.34	0.25	0.5	3.84	0.34
4 - Dalriada Avenue (N)	0.1	3.59	0.06	0	3.71	0.03
Junction 4 - AM & PM - 2030 DO SOMETHING						
1 - Stocking Avenue (E)	0.6	4.54	0.37	0.7	4.76	0.4
2 - Abbot's Grove Avenue (S)	0.2	4.24	0.13	0.1	3.93	0.07
3 - Stocking Avenue (W)	0.4	3.58	0.29	0.8	4.5	0.43
4 - Dalriada Avenue (N)	0.1	3.77	0.06	0	4.06	0.03
Junction 4 - AM & PM - 2035 DO NOTHING						
1 - Stocking Avenue (E)	0.5	4.21	0.33	0.6	4.39	0.37

2 - Abbot's Grove Avenue (S)	0	3.76	0.04	0	3.72	0.02
3 - Stocking Avenue (W)	0.3	3.36	0.25	0.5	3.88	0.35
4 - Dalriada Avenue (N)	0.1	3.61	0.06	0	3.73	0.03
Junction 4 - AM & PM - 2035 DO SOMETHING						
1 - Stocking Avenue (E)	0.6	4.59	0.38	0.7	4.82	0.41
2 - Abbot's Grove Avenue (S)	0.2	4.28	0.13	0.1	3.96	0.07
3 - Stocking Avenue (W)	0.4	3.61	0.29	0.8	4.56	0.44
4 - Dalriada Avenue (N)	0.1	3.8	0.06	0	4.08	0.03
Junction 4 - AM & PM - 2045 DO NOTHING						
1 - Stocking Avenue (E)	0.5	4.31	0.34	0.6	4.51	0.38
2 - Abbot's Grove Avenue (S)	0	3.81	0.04	0	3.78	0.02
3 - Stocking Avenue (W)	0.4	3.41	0.26	0.6	3.97	0.36
4 - Dalriada Avenue (N)	0.1	3.65	0.06	0	3.78	0.03
Junction 4 - AM & PM - 2045 DO SOMETHING						
1 - Stocking Avenue (E)	0.6	4.71	0.39	0.7	4.97	0.42
2 - Abbot's Grove Avenue (S)	0.2	4.34	0.14	0.1	4.02	0.07
3 - Stocking Avenue (W)	0.4	3.66	0.3	0.8	4.68	0.46
4 - Dalriada Avenue (N)	0.1	3.84	0.07	0	4.14	0.03

Table 16 | *Junction 4 – ARCADY Analysis Results.*

The analysis results as summarised above indicate that the existing Junction 4 would operate within capacity in 2030 DO SOMETHING during AM peak hour and would continue to do so for in 2045 DO SOMETHING scenario.

8.5.4 Junction 5

Junction 5 is an existing four-arm roundabout located to the north of the proposed site. It has been modelled based on its existing layout and the ARCADY analysis results are summarised below.

	AM			**PM**		
	Queue (PCU)	**Delay (s)**	**RFC**	**Queue (PCU)**	**Delay (s)**	**RFC**
Junction 5 - AM & PM - 2025 BASELINE YEAR						
1 - Stocking Avenue (E)	0.2	3.45	0.19	0.5	4.27	0.34
2 - Stocking Wood Drive (S)	0.1	3.9	0.13	0.1	3.95	0.07
3 - Stocking Avenue (W)	0.3	3.79	0.22	0.4	4.17	0.29
4 - Stocking Well (N)	0	3.45	0.04	0	3.48	0.02
Junction 5 - AM & PM - 2030 DO NOTHING						
1 - Stocking Avenue (E)	0.4	3.77	0.26	0.7	4.85	0.42
2 - Stocking Wood Drive (S)	0.2	4.16	0.14	0.1	4.21	0.08
3 - Stocking Avenue (W)	0.4	4.16	0.29	0.6	4.65	0.36
4 - Stocking Well (N)	0	3.63	0.05	0	3.67	0.03
Junction 5 - AM & PM - 2030 DO SOMETHING						
1 - Stocking Avenue (E)	0.4	3.86	0.27	0.8	5.2	0.44
2 - Stocking Wood Drive (S)	0.3	4.56	0.22	0.1	4.42	0.12

3 - Stocking Avenue (W)	0.5	4.51	0.34	0.7	5.18	0.43
4 - Stocking Well (N)	0.1	3.8	0.05	0	3.86	0.03
Junction 5 - AM & PM - 2035 DO NOTHING						
1 - Stocking Avenue (E)	0.4	3.8	0.26	0.8	4.94	0.43
2 - Stocking Wood Drive (S)	0.2	4.2	0.15	0.1	4.26	0.08
3 - Stocking Avenue (W)	0.4	4.2	0.29	0.6	4.72	0.37
4 - Stocking Well (N)	0.1	3.65	0.05	0	3.69	0.03
Junction 5 - AM & PM - 2035 DO SOMETHING						
1 - Stocking Avenue (E)	0.4	3.89	0.27	0.8	5.3	0.45
2 - Stocking Wood Drive (S)	0.3	4.61	0.22	0.1	4.47	0.12
3 - Stocking Avenue (W)	0.5	4.55	0.34	0.8	5.27	0.44
4 - Stocking Well (N)	0.1	3.83	0.05	0	3.89	0.03
Junction 5 - AM & PM - 2045 DO NOTHING						
1 - Stocking Avenue (E)	0.4	3.86	0.28	0.8	5.11	0.45
2 - Stocking Wood Drive (S)	0.2	4.28	0.16	0.1	4.34	0.09
3 - Stocking Avenue (W)	0.4	4.27	0.31	0.6	4.85	0.39
4 - Stocking Well (N)	0.1	3.7	0.05	0	3.75	0.03
Junction 5 - AM & PM - 2045 DO SOMETHING						
1 - Stocking Avenue (E)	0.4	3.95	0.28	0.9	5.5	0.47
2 - Stocking Wood Drive (S)	0.3	4.71	0.23	0.1	4.56	0.13
3 - Stocking Avenue (W)	0.6	4.65	0.35	0.8	5.43	0.45
4 - Stocking Well (N)	0.1	3.87	0.05	0	3.94	0.03

Table 17 | *Junction 5 – ARCADY Analysis Results.*

The analysis results as summarised above indicate that the existing Junction 5 would operate within capacity in 2030 DO SOMETHING during AM peak hour and would continue to do so for in 2045 DO SOMETHING scenario.

8.5.5 Junction 6

Junction 6 is an existing four-arm roundabout located to the north of the subject development. It has been modelled based on its existing layout and the ARCADY analysis results are summarised below.

	AM			**PM**		
	Queue (PCU)	**Delay (s)**	**RFC**	**Queue (PCU)**	**Delay (s)**	**RFC**
Junction 6 - AM & PM - 2025 BASELINE YEAR						
1 - Stocking Avenue (E)	0.1	3.6	0.1	0	3.45	0.04
2 - White Pines Park (S)	0.2	3.74	0.16	0.6	4.97	0.37
3 - Stocking Avenue (W)	0.1	3.45	0.08	0.2	4.08	0.17
4 - White Pines Way (N)	0.4	3.92	0.26	0.4	4.11	0.28
Junction 6 - AM & PM - 2030 DO NOTHING						
1 - Stocking Avenue (E)	0.2	3.96	0.17	0.1	3.74	0.1
2 - White Pines Park (S)	0.2	3.97	0.18	0.7	5.53	0.41
3 - Stocking Avenue (W)	0.2	3.7	0.14	0.3	4.45	0.23

4 - White Pines Way (N)	0.4	4.2	0.29	0.5	4.4	0.32
Junction 6 - AM & PM - 2030 DO SOMETHING						
1 - Stocking Avenue (E)	0.2	3.99	0.17	0.1	3.8	0.12
2 - White Pines Park (S)	0.2	3.98	0.18	0.7	5.6	0.41
3 - Stocking Avenue (W)	0.3	4.09	0.22	0.4	4.72	0.27
4 - White Pines Way (N)	0.4	4.48	0.31	0.5	4.54	0.32
Junction 6 - AM & PM - 2035 DO NOTHING						
1 - Stocking Avenue (E)	0.2	4	0.17	0.1	3.77	0.1
2 - White Pines Park (S)	0.2	3.99	0.18	0.7	5.63	0.42
3 - Stocking Avenue (W)	0.2	3.72	0.14	0.3	4.51	0.23
4 - White Pines Way (N)	0.4	4.25	0.3	0.5	4.46	0.32
Junction 6 - AM & PM - 2035 DO SOMETHING						
1 - Stocking Avenue (E)	0.2	4.03	0.18	0.1	3.83	0.12
2 - White Pines Park (S)	0.2	4.01	0.19	0.7	5.7	0.42
3 - Stocking Avenue (W)	0.3	4.12	0.22	0.4	4.78	0.28
4 - White Pines Way (N)	0.5	4.53	0.32	0.5	4.61	0.33
Junction 6 - AM & PM - 2045 DO NOTHING						
1 - Stocking Avenue (E)	0.2	4.08	0.18	0.1	3.83	0.11
2 - White Pines Park (S)	0.2	4.05	0.19	0.8	5.86	0.44
3 - Stocking Avenue (W)	0.2	3.77	0.15	0.3	4.62	0.24
4 - White Pines Way (N)	0.5	4.35	0.32	0.5	4.57	0.34
Junction 6 - AM & PM - 2045 DO SOMETHING						
1 - Stocking Avenue (E)	0.2	4.11	0.18	0.1	3.89	0.12
2 - White Pines Park (S)	0.2	4.07	0.19	0.8	5.94	0.44
3 - Stocking Avenue (W)	0.3	4.18	0.23	0.4	4.91	0.29
4 - White Pines Way (N)	0.5	4.65	0.33	0.5	4.73	0.35

Table 18 | *Junction 6 – ARCADY Analysis Results.*

The analysis results as summarised above indicate that the existing Junction 6 would operate within capacity in 2030 DO SOMETHING during AM peak hour and would continue to do so for in 2045 DO SOMETHING scenario.

8.5.6 Junction 7

Junction 7 is an existing three-arm roundabout located to the north of the subject development. It has been modelled based on its existing layout and the ARCADY analysis results are summarised below.

	AM					**PM**
	Queue (PCU)	**Delay (s)**	**RFC**	**Queue (PCU)**	**Delay (s)**	**RFC**
Junction 7 - AM_PM - 2025 BASELINE YEAR						
1 - Stocking Lane (R115) (E)	0.3	4.02	0.21	0.6	4.92	0.38
2 - Stocking Avenue (N)	0.1	4.23	0.07	0.1	5.06	0.11
3 - Stocking Lane (R115) (W)	0.5	4.46	0.31	0.4	4.32	0.28
Junction 7 - AM_PM - 2030 DO NOTHING						

1 - Stocking Lane (R115) (E)	0.5	4.66	0.32	0.9	5.83	0.47
2 - Stocking Avenue (N)	0.1	4.54	0.08	0.1	5.51	0.13
3 - Stocking Lane (R115) (W)	0.6	5.01	0.39	0.5	4.73	0.34
Junction 7 - AM_PM - 2030 DO SOMETHING						
1 - Stocking Lane (R115) (E)	0.5	4.7	0.32	0.9	5.97	0.48
2 - Stocking Avenue (N)	0.1	4.56	0.08	0.1	5.57	0.13
3 - Stocking Lane (R115) (W)	0.9	5.76	0.47	0.6	5.03	0.38
Junction 7 - AM_PM - 2035 DO NOTHING						
1 - Stocking Lane (R115) (E)	0.5	4.71	0.32	0.9	5.96	0.48
2 - Stocking Avenue (N)	0.1	4.56	0.08	0.2	5.59	0.13
3 - Stocking Lane (R115) (W)	0.7	5.08	0.4	0.5	4.79	0.35
Junction 7 - AM_PM - 2035 DO SOMETHING						
1 - Stocking Lane (R115) (E)	0.5	4.75	0.33	1	6.1	0.49
2 - Stocking Avenue (N)	0.1	4.57	0.08	0.2	5.65	0.13
3 - Stocking Lane (R115) (W)	0.9	5.86	0.48	0.6	5.1	0.39
Junction 7 - AM_PM - 2045 DO NOTHING						
1 - Stocking Lane (R115) (E)	0.5	4.8	0.34	1	6.19	0.5
2 - Stocking Avenue (N)	0.1	4.6	0.08	0.2	5.72	0.14
3 - Stocking Lane (R115) (W)	0.7	5.23	0.41	0.6	4.91	0.37
Junction 7 - AM_PM - 2045 DO SOMETHING						
1 - Stocking Lane (R115) (E)	0.5	4.84	0.34	1.1	6.34	0.51
2 - Stocking Avenue (N)	0.1	4.62	0.08	0.2	5.79	0.14
3 - Stocking Lane (R115) (W)	1	6.05	0.49	0.7	5.24	0.41

Table 19 | *Junction 7 – ARCADY Analysis Results.*

The analysis results as summarised above indicate that the existing Junction 7 would operate within capacity in 2030 DO SOMETHING during AM peak hour and would continue to do so for in 2045 DO SOMETHING scenario.

9. Parking Strategy

To determine the appropriate amount of car and cycle parking for the proposed development, reference will be made to the following guidelines/policies:

- Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)
- Sustainable Urban Housing: Design Standards for New Apartments (July 2023)
- Greater Dublin Area Transport Strategy (2022 – 2042)
- South Dublin Development Plan (2022 – 2028)

9.1 Car Parking

9.1.1 Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)

The Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities set national planning policy and guidance in relation to the planning and development of urban and rural settlements, with a focus on sustainable residential development and the creation of compact settlements.

Chapter 5.3.4 Car Parking – Quantum, Form and Location. This chapter considers three areas:

> (i) In city centres and urban neighbourhoods of the five cities, defined in Chapter 3 of that document (Table 3.1 and Table 3.2) car-parking provision should be minimised, substantially reduced, or wholly eliminated. The maximum rate of car parking provision for residential development at these locations, where such provision is justified to the satisfaction of the planning authority, shall be 1 no. space per dwelling.
>
> (ii) In accessible locations, defined in Chapter 3 of that document (Table 3.8) car- parking provision should be substantially reduced. The maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 1.5 no. spaces per dwelling.
>
> (iii) In intermediate and peripheral locations, defined in Chapter 3 of that document (Table 3.8) the maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 2 no. spaces per dwelling.

Table 3.1 of Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities defines:

> **City – Centre:** The city centres of Dublin and Cork, comprising the city core and immediately surrounding neighbourhoods, are the most central and accessible urban locations nationally with the greatest intensity of land uses, including higher order employment, recreation, cultural, education, commercial and retail uses. It is a policy and objective of these Guidelines that residential densities in the range 100 dph to 300 dph (net) shall generally be applied in the centres of Dublin and Cork.
>
> **City - Urban Neighbourhoods**: The city urban neighbourhoods category includes: (i) the compact medium density residential neighbourhoods around the city centre that have evolved overtime to include a greater range of land uses, (ii) strategic and sustainable development locations, (iii) town

centres designated in a statutory development plan, and (iv) lands around existing or planned high-capacity public transport nodes or interchanges (defined in Table 3.8) – all within the city and suburbs area. These are highly accessible urban locations with good access to employment, education and institutional uses and public transport. It is a policy and objective of these Guidelines that residential densities in the range 50 dph to 250 dph (net) shall generally be applied in urban neighbourhoods of Dublin and Cork.

City - Suburban/Urban Extension: Suburban areas are the lower density car-orientated residential suburbs constructed at the edge of cities in the latter half of the 20th and early 21st century, while urban extension refers to the greenfield lands at the edge of the existing built-up footprint that are zoned for residential or mixed-use (including residential) development. It is a policy and objective of these Guidelines that residential densities in the range 40 dph to 80 dph (net) shall generally be applied at suburban and urban extension locations in Dublin and Cork, and that densities of up to 150 dph (net) shall be open for consideration at 'accessible' suburban / urban extension locations (as defined in Table 3.8).

Table 3.8 of Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities indicate:

High-Capacity Public Transport Node or Interchange: Lands within 1,000 metres (1km) walking distance of an existing or planned high-capacity urban public transport node or interchange, namely an interchange or node that includes DART, high frequency Commuter Rail, light rail or MetroLink services; or locations within 500 metres walking distance of an existing or planned BusConnects 'Core Bus Corridor' stop.

Accessible Location: Lands within 500 metres (i.e. up to 5–6-minute walk) of existing or planned high frequency (i.e. 10-minute peak hour frequency) urban bus services.

Intermediate Location: Lands within 500-1,000 metres (i.e. 10–12-minute walk) of existing or planned high frequency (i.e. 10-minute peak hour frequency) urban bus services; and Lands within 500 metres (i.e. 6-minute walk) of a reasonably frequent (minimum 15-minute peak hour frequency) urban bus service.

Peripheral: Lands that do not meet the proximity or accessibility criteria detailed above. This includes all lands in Small and Medium Sized Towns and in Rural Towns and Villages.

The current development is an *Intermediate Location*, based on the information provided in **Chapters 3** and **4** of this TTA: There are two bus stops near the subject development. From the western pedestrian access, the nearest bus stop is 400m (5-minute walk) away. It is served by routes 15, 49n and SD4. Route 15 has a frequency of 10 minutes during the weekday PM peak hours and a frequency of 10-12 minutes during the weekday AM peak hours. Route 49n and SD4 do not have a weekday service. From the access via Stocking Wood Drive, the nearest bus stop is 300m (4-minute walk) away. It is served by route 15B which has a weekday AM and PM frequency of 15 minutes.

As a result, it is considered as an intermediate location and maximum rate of car parking provision for residential development, where such provision is justified to the satisfaction of the planning authority, shall be 2 no. spaces per dwelling.

The table below outlines the required parking for the proposed development based on the *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)*.

Land Use	No. Units	Car Parking Spaces (Maximum)	
		Resident / Visitor Ratio	Resident / Visitor permitted
Houses	197	2	394
Apartments	305	2	610
		Total car parking spaces	1004

Table 20 | *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024) – Maximum Car Parking Spaces*

9.1.2 Sustainable Urban Housing: Design Standards for New Apartments (July 2023)

The parking requirements in reference to "Sustainable Urban Housing: Design Standards for New Apartments' (DSNA) (July 2023 version) are assessed below.

Chapter 2 of the Design Standard for New Apartments sets out the following types of location which are defined by site's accessibility and proximity to public transport and town/city centres:

1) Central and/or Accessible Urban Locations

- Sites within walking distance (i.e., up to 15 minutes or 1,000-1,500m), of principal city centres, or significant employment locations, that may include hospitals and third level institutions.
- Sites within reasonable walking distance (i.e., up to 10 minutes or 800-1,000m) to/from high-capacity urban public transport stops (such as DART or Luas).
- Sites within easy walking distance (i.e., up to 5 minutes or 400-500m) to/from high frequency (i.e., min 10-minute peak hour frequency) urban bus service.

2) Intermediate Urban Locations

- Sites within or close to i.e., within reasonable walking distance (i.e., up to 10 minutes or 800-1,000m), of principal town or suburban centres or employment locations, that may include hospitals and third level institutions.
- Sites within walking distance (i.e., between 10-15 minutes or 1,000-1,500m) of high-capacity urban public transport stops (such as DART, commuter rail or Luas) or within reasonable walking distance (i.e., between 5-10 minutes or up to 1,000m) of high frequency (i.e., min 10 minutes peak hour frequency) urban bus services or where such services can be provided.
- Sites within easy walking distance (i.e., up to 5 minutes or 400-500m) of reasonably frequent (min 15-minute peak hour frequency) urban bus services.

3) Peripheral and/or Less Accessible Urban Locations

- Sites in suburban development areas that do not meet proximity or accessibility criteria.
- Sites in small towns or villages.

Chapter 4 of the Design Standard for New Apartments sets out the quantum of car parking or the requirement for any such provision for apartment developments.

1) Central and/or Accessible Urban Locations

In larger scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for car parking provision to be minimised, substantially reduced, or wholly eliminated in certain circumstances. The policies above would be particularly applicable in highly accessible areas such as in or adjoining city cores or at a confluence of public transport systems such rail and bus stations located in proximity.

2) Intermediate Urban Locations

In suburban/urban locations served by public transport or close to town centres or employment areas and particularly for housing schemes with more than 45 dwellings per hectare net (18 per acre), planning authorities must consider a reduced overall car parking standard and apply an appropriate maximum car parking standard.

3) Peripheral and/or Less Accessible Urban Locations

As a benchmark guideline for apartments in relatively peripheral or less accessible urban locations, one car parking space per unit, together with an element of visitor parking, such as one space for every 3-4 apartments, should generally be required.

Based on the above description and considering the information in ***Chapter 3*** and ***4*** of this TTA, it is considered that the subject development is in an *Intermediate Urban Location:* There are two bus stops near the subject development. From the western pedestrian access, the nearest bus stop is 400m (5-minute walk) away. It is served by routes 15, 49n and SD4. Route 15 has a frequency of 10 minutes during the weekday PM peak hours and a frequency of 10-12 minutes during the weekday AM peak hours. Route 49n and SD4 do not have a weekday service. From the access via Stocking Wood Drive, the nearest bus stop is 300m (4-minute walk) away. It is served by route 15B which has a weekday AM and PM frequency of 15 minutes.

Considering the above, for the subject development, the default policy is for a reduced overall car parking standard and an appropriate maximum car parking standard applied.

9.1.3 Greater Dublin Area Transport Strategy (2022 – 2042) Standards

In January 2023, the National Transport Authority (NTA) issued the GDA Transport Strategy 2022 – 2042.

Figure 24 below shows the Figure 19.2 of the NTA which identifies the subject site as being located between the metropolitan boundary and the M50.

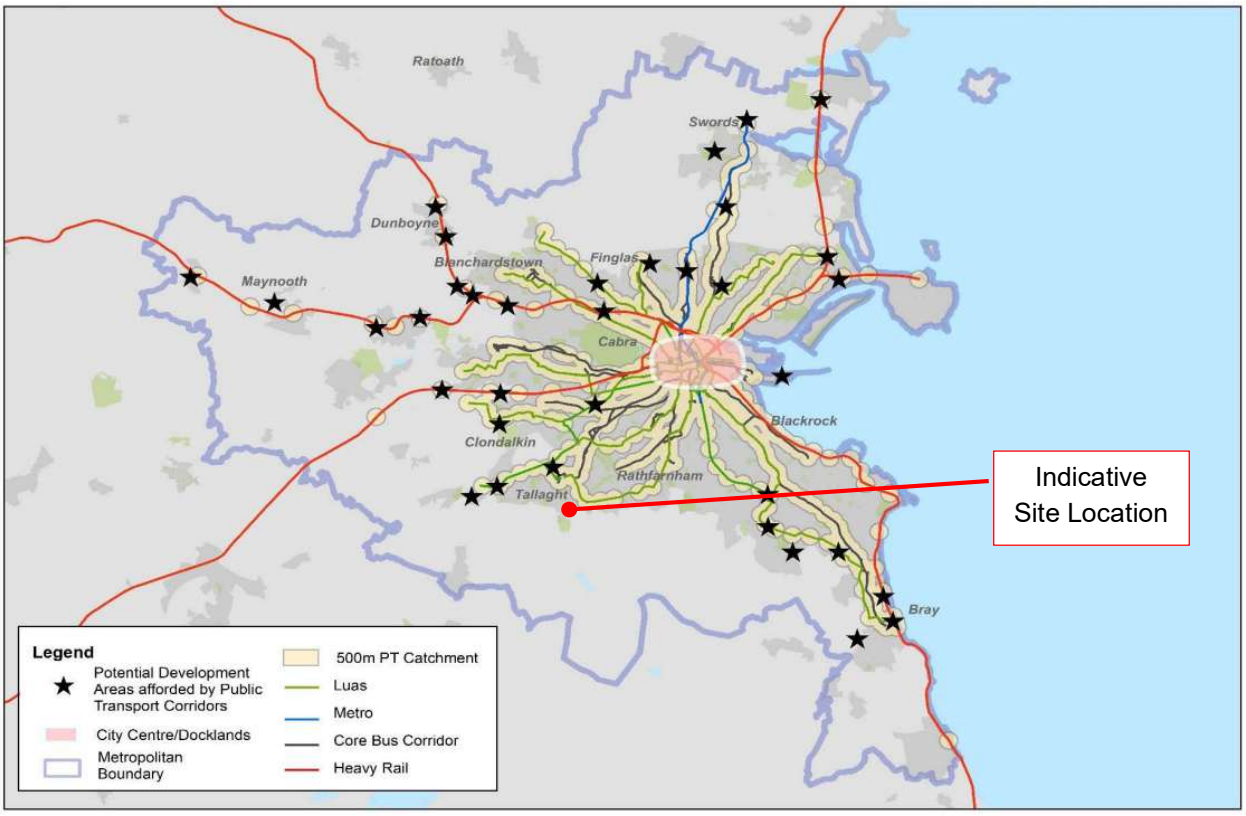

Figure 24 | *Areas Afforded by Public Transport Corridors in the Metropolitan Area (Source: GDATS)*

Table 21 below shows Figure 14.1 of the Transport Strategy which sets out the proposed maximum residential parking standards for areas within GDA including locations between the metropolitan boundary and the M50, where the subject development is situated. This is reproduced below.

Location	Maximum Parking Provision
Central Dublin (Inside Canals and including Docklands)	Zero to 0.5 spaces per unit
Locations between the M50 and Canals	Zero to 1.5 spaces per unit
Locations Between the Metropolitan Boundary and the M50	**Up to 1.5 space per unit**
Hinterland Towns	Up to 2 spaces per unit
Small Settlements / Areas with low accessibility levels	Subject to local assessment

Table 21 | *Greater Dublin Area Transport Strategy (2022 – 2042) Standards – Car Parking Spaces Standard*

Section 14.12.2 and Measure TM12 of the GDATS sets out the following with regards to the above parking standard:

*"**Section 14.12.2 Residential Car Parking Standards**: Table 14.1 sets out the proposed residential standards by location for the GDA, which the NTA recommends is incorporated into all Development Plans."*

*"**Measure TM12 – Residential Parking Standards**: It is recommended that local authorities incorporate maximum residential parking standards into their Development Plans guided by the provisions set out in Table 14.1."*

With the information from the **Table 21**, the table below outlines the required parking for the proposed development based on the *Greater Dublin Area Transport Strategy (2022 – 2042) Standards*.

Land Use	No. Units	Maximum Car Parking Spaces	
		Resident / Visitor Ratio	Resident / Visitor Car Parking Spaces
Houses	197	1.5	296
Apartments	305	1.5	458
Total car parking spaces			754

Table 22 | *Greater Dublin Area Transport Strategy (2022 – 2042) Standards – Maximum Car Parking Spaces*

9.1.4 South Dublin County Development Plan (2022-2028)

The South Dublin County Development Plan (2022-2028) sets out Maximum Parking rates for non-residential and residential development in Tables 12.25 and 12.26. Parking rates are divided into two main categories:

- Zone 1: General rate applicable throughout the County.
- Zone 2 (Non Residential): More restrictive rates for application within town and village centres, lands zoned REGEN, and brownfield / infill sites within Dublin City and Suburbs settlement boundary within 800 metres of a train or Luas station and within 400-500 metres of a high quality bus service (including proposed services that have proceeded to construction).The provision of parking spaces for car sharing / pooling will be encouraged and will not impact on the maximum rates in Table 12.25
- Zone 2 (Residential): More restrictive rates for application within town and village centres, lands zoned REGEN, and brownfield / infill sites within Dublin City and Suburbs settlement boundary within 400-500 metres of a high-quality public transport service (includes a train station, Luas station or bus stop with a high-quality service).

Table 23 below shows the maximum parking rates for residential development in SDCC as indicated in Table 12.26 of the South Dublin County Development Plan (2022-2028).

Dwelling Type	No. of Bedrooms	Zone 1	Zone 2
Apartments Duplexes	1 Bed	1 space	0.75 space
	2 Beds	1.25 spaces	1 space
	3 Beds +	1.5 spaces	1.25 spaces
Houses	1 Bed	1 space	1 space
	2 Beds	1.5 spaces	1.25 spaces
	3 Beds +	2 spaces	1.5 spaces
Education	Crèche School	1 per classroom	0.5 per classroom

Table 23 | *South Dublin County Development Plan (2022-2028) - Maximum Parking Rates*

As set out in **Section 3** of this report, the subject development is in Zone 1. The maximum car parking spaces are summarised in **Table 24**.

Type	No. of units	Car Parking Spaces Required	
		Resident / Visitor Ratio	Resident / Visitor Car Parking Spaces
1-bed apartments	108	1 space per unit	108
2-bed apartments	151	1.25 spaces per unit	189
3-bed apartments	46	1.5 spaces per unit	69
2-bed houses	19	1.5 spaces per unit	29
3-bed houses	116	2 spaces per unit	232
4-bed houses	62	2 spaces per unit	124
Crèche	6 classrooms	1 per classroom	6
Total car parking spaces			**757**

Table 24 | *South Dublin County Development Plan (2022 – 2028) – Maximum Car Parking Spaces*

In addition to the above, the current South Dublin County Development Plan also sets out the following with regards to **Electric Vehicle Parking.** EV charging shall be provided in all residential, mixed use and commercial development and shall comprise a minimum of 20% of the total parking spaces provided, with higher provision within this range required in urban areas. The remainder of the parking spaces should be constructed to be capable of accommodating future charging points.

There is no provision for accessible parking and motorcycle parking in the South Dublin County Development Plan. It states that parking arrangements for specific user requirements including disabled drivers, motorcycles and scooters will be required in town and district centres, shopping centres, public transport nodes and other destinations.

9.1.5 Car parking proposed

Based on the guidelines/policies indicated above, it is considered that the *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)* standards are the most restrictive for the subject development and is the reference for determining the proposed the car parking.

Table 25 below shows the breakdown of car parking spaces proposed.

Type	No. of units	Car Parking Spaces Proposed	
		Resident / Visitor Ratio	Resident / Visitor Car Parking Spaces
1-bed apartments	108	0.50	54
2-bed apartments	151	1.00	151
3-bed apartments	46	1.30	60
2-bed houses	19	1.00	19
3-bed houses	116	1.50	174
4-bed houses	62	1.45	90
Crèche	6 classrooms	2.5 per classroom	15
Total car parking spaces			**563**

Table 25 | *Car Parking Spaces Proposed*

The proposal for parking spaces, indicated in the table above, reflects that 563 No. spaces are proposed, including 548 No. spaces for residential units and 15 No. spaces are proposed for the creche. The overall car carping spaces include a total of 2 No. accessible car parking spaces in the creche area and 9No. accessible car parking spaces for the apartment units.

In addition, the proposed development includes EV car parking spaces in the ratio of 20% of the total on-street car parking spaces.

9.2 Cycle Parking

9.2.1 Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)

The Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities set national planning policy and guidance in relation to the planning and development of urban and rural settlements, with a focus on sustainable residential development and the creation of compact settlements.

The chapter *5.2.5 Bicycle Parking and Storage* indicate that in areas of high and medium accessibility, planning authorities must ensure that new residential developments have high quality cycle parking and cycle storage facilities for both residents and visitors. Access to secure storage of bicycles is a key concern for residents in more compact housing developments.

It is a specific planning policy requirement of these Guidelines that all new housing schemes (including mixed-use schemes that include housing) include safe and secure cycle storage facilities to meet the needs of residents and visitors. The following requirements for cycle parking and storage are recommended:

(i) **Quantity** – in the case of residential units that do not have ground level open space or have smaller terraces, a general minimum standard of 1 cycle storage space per bedroom should be applied. Visitor cycle parking should also be provided. Any deviation from these standards shall be at the discretion of the planning authority and shall be justified with respect to factors such as location, quality of facilities proposed, flexibility for future enhancement/ enlargement, etc. It will be important to make provision for a mix of bicycle parking types including larger/heavier cargo and electric bikes and for individual lockers.

(ii) **Design** – cycle storage facilities should be provided in a dedicated facility of permanent construction, within the building footprint or, where not feasible, within an adjacent or adjoining purpose-built structure of permanent construction. Cycle parking areas shall be designed so that cyclists feel safe. It is best practice that either secure cycle cage/compound or preferably locker facilities are provided.

The table below outlines the required parking for the proposed development based on the *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)*.

Type	No. of units	Ratio: No. of cycle parking / bedroom		Cycle Parking Spaces Required	
		Resident long stay	Visitor short stay	Resident long stay	Visitor short stay
1-bed apartments	108	1	0.5	108	54
2-bed apartments	151	2	0.5	302	75
3-bed apartments	46	3	0.5	138	23
2-bed houses	19	2	-	38	-
3-bed houses	30 No. terrace units (116 No. total)	3	-	90	-
4-bed houses	62	-	-	-	-
Total cycle parking spaces				**676**	**152**

Table 26 | *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024) – Cycle Parking Spaces Required*

9.2.2 Sustainable Urban Housing: Design Standards for New Apartments (July 2023)

Cycle parking requirements are assessed based on the recommended number of cycle spaces given in Sustainable Urban Housing: Design Standards for New Apartments (July 2023 version). Section 4.17 of the design standard summarises the bicycle parking guidelines for new apartments:

> "*Quantity – a general minimum standard of 1 cycle storage space per bedroom shall be applied. For studio units, at least 1 cycle storage space shall be provided. Visitor cycle parking shall also be provided at a standard of 1 space per 2 residential units. Any deviation from these standards shall be at the discretion of the planning authority and shall be justified with respect to factors such as location, quality of facilities proposed, flexibility for future enhancement/enlargement, etc.*"

The table below outlines the required parking for the proposed development based on the *Sustainable Urban Housing: Design Standards for New Apartments (July 2023)*.

Type	No. of units	Ratio: No. of cycle parking / bedroom		Cycle Parking Spaces Required	
		Resident long stay	Visitor short stay	Resident long stay	Visitor short stay
1-bed apartments	108	1	0.5	108	54
2-bed apartments	151	2	0.5	302	75
3-bed apartments	46	3	0.5	138	23
2-bed houses	19	-	-	-	-
3-bed houses	116	-	-	-	-
4-bed houses	62	-	-	-	-
Total cycle parking spaces				**548**	**152**

Table 27 | *Sustainable Urban Housing: Design Standards for New Apartments (July 2023) – Cycle Parking Spaces Required*

9.2.3 South Dublin County Development Plan (2022-2028)

The county development plan states that bicycle parking / storage associated with residential apartments shall comply with the requirements of the *Sustainable Urban Housing: Design Standards for New Apartments, Guidelines for Planning Authorities (2018)* (the 'Apartment Guidelines'), as may be amended or updated in relation to design and provision of facilities.

The design standard summarises the bicycle parking guidelines for new apartments as:

> *"Quantity: A general minimum standard of 1 cycle storage space per bedroom shall be applied. For studio units, at least 1 cycle storage space shall be provided. Visitor cycle parking shall also be provided at a standard of 1 space per 2 residential units. Any deviation from these standards shall be at the discretion of the planning authority and shall be justified with respect to factors such as location, quality of facilities proposed, flexibility for future enhancement /enlargement."*

Table 28 below outlines the required parking for the proposed development based on the *South Dublin County Development Plan (2022-2028)*.

Type	No. of units	Ratio		Cycle Parking Spaces Required	
		Resident long stay	Visitor short stay	Resident long stay	Visitor short stay
1-bed apartments	108	1	0.5	108	54
2-bed apartments	151	2	0.5	302	75
3-bed apartments	46	3	0.5	138	23
2-bed houses	19	-	-	-	-
3-bed houses	116	-	-	-	-
4-bed houses	62	-	-	-	-
Crèche	6 classrooms 107 No. pupils 20 No. Staff	1 per 5 staff	1 per 10 children	4	11
Total cycle parking spaces				**552**	**163**

Table 28 | *South Dublin County Development Plan (2022-2028) – Cycle Parking Spaces Required*

9.2.4 Cycle parking proposed

The proposed cycle parking spaces for the apartment units have been determined in accordance with the *South Dublin County Development Plan 2022-2028 Standards* and the *Sustainable Urban Housing: Design Standards for New Apartments (July 2023)*. House units without access to their rear gardens will be provided with bicycle storage in the front garden, in line with the *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)*.

The proposed Cycle Parking for housing units based on construction type is shown in the table below:

Type	No. of units	Ratio		Cycle Parking Spaces Proposed	
		Resident long stay	Visitor short stay	Resident long stay	Visitor short stay
1-bed apartments	108	1	0.5	108	54
2-bed apartments	151	2	0.5	302	76
3-bed apartments	46	3	0.5	138	23
2-bed houses	19	2	-	38	-
3-bed houses	30 No. terrace units	3	-	90	-
	86 No. with access to their rear garden	3	-	258	-
4-bed houses	62	4	-	248	-
Crèche	6 classrooms 107 No. pupils 20 No. Staff	1 per 5 staff	1 per 10 children	4	12
Total cycle parking spaces				**1186**	**165**

Table 29 | *Cycle Parking Spaces Proposed*

For the subject site, a total of 1351 No. cycle spaces are proposed. Of this total, 634 No. spaces are for house units, 701 No. spaces are for apartment units, including 153 No. spaces for visitors, and 16 No. spaces are for the Creche, including 4 No. spaces for staff and 12 No. spaces for visitors.

Cycle parking for terraced housing units is provided in the storage locker. For non-terraced housing units, the cycle parking is provided in the back gardens. The apartments cycle parking is provided in the communal storage. Visitor cycle parking is provided in the public space. Apartments have been provided with visitor bicycle parking spaces. For the housing units, it is assumed that there may be unoccupied spaces available for visitors.

10. Conclusion

10.1 Summary

This Traffic and Transport Assessment (TTA) has been prepared by Waterman Moylan to accompany a planning application to An Bord Pleanála for a proposed LRD in lands at Ballycullen, Dublin 16, Co. Dublin.

It is assumed that the Subject Development will be constructed by the end of 2026. Thus, the year 2030 has been selected as the opening year.

10.2 Conclusion

Based on a thorough investigation, the TTA indicates the following:

Road Network Assessment

It has been estimated that the subject development will generate a total of 185 vehicular movements in the AM peak hour (48 inbound and 137 outbound) and a total of 190 vehicular movements in the PM peak hour (126 inbound and 64 outbound).

The following junctions were assessed as part of this report:

- **Junction 1 (signalised four-arm crossroads):** Killininny Road / Ballycullen Road / St. Colmcille's Way
- **Junction 2 (four-arm roundabout):** Ballycullen Road / Woodstown Avenue / Daletree Drive
- **Junction 3 (four-arm roundabout):** Ballycullen Road / Hunters Road / Stocking Avenue
- **Junction 4 (four-arm roundabout):** Stocking Avenue / Dalriada Avenue / Abbot's Grove Avenue
- **Junction 5 (four-arm roundabout):** Stocking Avenue / Stocking Well / Stocking Wood Hall
- **Junction 6 (four-arm roundabout):** Stocking Avenue / White Pines Park / White Pines Way
- **Junction 7 (three-arm roundabout):** Stocking Avenue / Stocking Lane

In accordance with the TII guidelines, an assessment was conducted to determine the potential level of impact on each of the key junctions. This assessment was carried out considering the two-way traffic flows surveyed 2025 and the traffic flows generated by the subject development.

As results, Junction 1 is expected to receive a two-way traffic increase less than 5%. Junction 2 is expected to receive a two-way traffic increase higher than 5% during both peak hours, while junctions 3, 4, 5, 6 and 7 will receive an increase greater than 10% during one peak hours.

To provide a robust and cumulative assessment of local road network, the following nearby developments have also been assessed in this TTA with regards to trip generation and additional traffic:

- Post-Primary School Development - SD23A/0149.
- Residential Development at Stocking Avenue - SHD3ABP-309836-21
- Oldcourt Main Street Link - SD17A/0041

The scenarios that have been assessed as part of this report are in line with the *Transport Assessment Guidelines (May 2014)*:

- Base Year : 2025.
- Opening Year – (With / Without Proposed Development) : 2030.

- Opening Year + 5 Years Forecast (With / Without Development) : 2035.
- Opening Year + 15 Years Forecast (With / Without Development) : 2045.

Therefore, was modelled the following assessment years:

The performance of the junctions has been analysed for the critical AM peak hour (08h00 to 09h00) for the following scenarios:

- BASE YEAR 2025: With 2025 baseline traffic flow
- 2030 DO NOTHING: Baseline flows factored up + traffic to/from the Post-Primary School Development, Residential Development at Ballycullen, Residential Development at Stocking Avenue and Oldcourt Main Link Street.
- 2035 DO NOTHING: Baseline flows factored up + traffic to/from the Post-Primary School Development, Residential Development at Ballycullen, Residential Development at Stocking Avenue and Oldcourt Main Link Street.
- 2045 DO NOTHING: Baseline flows factored up + traffic to/from the Post-Primary School Development, Residential Development at Ballycullen, Residential Development at Stocking Avenue and Oldcourt Main Link Street.
- 2030 DO SOMETHING: 2030 DO NOTHING + traffic to/from the Subject Development.
- 2035 DO SOMETHING: 2035 DO NOTHING + traffic to/from the Subject Development.
- 2045 DO SOMETHING: 2045 DO NOTHING + traffic to/from the Subject Development.

The results of the analysis demonstrated that all junctions would operate within their respective capacities for all scenarios assessed.

In particular, Junction 2, for the year 2045, both scenarios without and with the subject site, it is likely that drivers would experience some congestion problems during the PM peak hour. The highest RFC is 0.92 with a queue of 9.4 PCU and a delay of 29.63 seconds. It is important to note that drivers will experience this situation over a short period of time.

Parking Assessment

To determine the appropriate amount of car and cycle parking for the proposed development, reference was be made to the following guidelines/policies:

- Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)
- Sustainable Urban Housing: Design Standards for New Apartments (July 2023)
- Greater Dublin Area Transport Strategy (2022 – 2042)
- South Dublin Development Plan (2022 – 2028)

For the car parking spaces, the subject development includes a total of 563 No. spaces are proposed, including 548 No. spaces for residential units and 15 No. spaces are proposed for the creche. The overall car carping spaces include a total of 2 No. accessible car parking spaces in the creche area and 9No. accessible car parking spaces for the apartment units.

In addition, the proposed development includes EV car parking spaces in the ratio of 20% of the total on-street car parking spaces.

Regarding the cycle parking spaces, for the apartment units have been determined in accordance with the *South Dublin County Development Plan 2022-2028 Standards* and the *Sustainable Urban Housing: Design Standards for New Apartments (July 2023)*. House units without access to their rear gardens will be provided with bicycle storage in the front garden, in line with the *Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)*. Therefore, it is proposed a total of 1351 cycle spaces are proposed. Of this total, 634 No. spaces are for house units, 701 No. spaces are for apartment units, including 153 No. spaces for visitors, and 16 No. spaces are for the nursery, including 4 No. spaces for staff and 12 No. spaces for visitors. Cycle parking for terraced housing units is provided in the storage locker. For non-terraced housing units, the cycle parking is provided in the back gardens. The apartments cycle parking is provided in the communal storage. Visitor cycle parking is provided in the public space. Apartments have been provided with visitor bicycle parking spaces. For the housing units, it is assumed that there may be unoccupied spaces available for visitors.

UK and Ireland Office Locations