Proposed Residential Development

Glenamuck North (Southern Site), Kilternan, Dublin 18.

TRAFFIC & TRANSPORT ASSESSMENT

Issue P04 – 16 December 2025

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Prepared For:

Durkan Glenamuck Developments Ltd

MEINHARDT

PROPOSED RESIDENTIAL DEVELOPMENT

GLENAMUCK NORTH (SOUTHERN SITE), KILTERNAN, DUBLIN 18.

TRAFFIC & TRANSPORT ASSESSMENT

Quality Assurance Page

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Table of Contents

1 Introduction 1
1.1 Proposed Development 2
1.2 Scoping 3
1.3 Report Structure 4
2 Guidance and Proposals 5
2.1 National Planning Framework 5
2.2 National Development Plan 2026-2042 6
2.3 Design Manual for Urban Roads and Streets 6
2.4 Dun-Laoghaire Rathdown County Council Development Plan 2022-2028 6
2.5 Kilternan-Glenamuck Local Area Plan 2025 7
3 Existing Road Network 10
3.1 Enniskerry Road (R117) 11
3.2 Glenamuck District Distributor Road (GDDR) 12
3.3 Glenamuck Road (L3022) 13
3.4 Glenamuck Link Distributor Road (GLDR) 14
3.5 Ballycorus Road (R116) 15
3.6 Ballyogan Road (L6034) 16
4 Travel Demands 17
4.1 Introduction 17
4.2 Proposed Vehicle Trip Rates 17
4.3 Proposed Trip Generation 17
4.4 Summary 18
5 Traffic Generation Analysis 19
5.1 Introduction 19
5.2 Traffic Survey 19
5.3 Impact of the Proposed Development 19
6 DMURS Statement of Compliance 21
6.1 Introduction 21
6.2 Site Entrance 21
6.3 Pedestrian Facilities and Access 21
6.4 Cyclist Facilities 21
6.5 Corner Radii 22
6.6 Car Parking 22
6.7 Shared Surface Homezones 23
6.8 Swept Path Analysis 23
6.9 Sightlines 23
7 Summary and Conclusion 24
7.1 Summary 24
7.2 Conclusion 25

Appendix A – TRICS Outputs

1 Introduction

Meinhardt has been commissioned by Durkan Glenamuck Developments Ltd (The Applicant) to prepare a Traffic & Transport Assessment (TTA) to assist Dún-Laoghaire Rathdown County Council (DLRCC) in its assessment of a planning application for a Large Residential Development (LRD) at Glenamuck North, Kilternan, Dublin 18.

This TTA sets out the guidance context for the proposed development, the accessibility of the site, the likely vehicle travel demands of the proposed development, the transport impact of the proposed development and identifies measures necessary to mitigate any adverse effects on the local transport network. This TTA also includes a statement of compliance with DMURS for the proposed site layout.

The number of vehicular trips predicted to be generated as a result of the proposed development are described within Section 4. These additional trips are subsequently analysed in conjunction with traffic flow data collected at the subject site at peak time to calculate the impact of the proposed development on the surrounding network.

The proposed development site is located in the townland of Glenamuck North, approximately 1.1km northeast of Kilternan Village, 1.2km southwest of Carrickmines Retail Park and 1.7km southeast of Stepaside Village. The site is bounded to the north by the newly constructed Glenamuck District Distributor Road (GDDR), to the east by the Glenamuck Link Distributor Road (GLDR), which is currently under construction and by a residential dwelling known as Westgate with its associated outbuildings and wider land holding. Finally, to the west, the site is bounded by the development known as Shaldon Grange and its wider landholding.

The site is currently a greenfield site which has been zoned in the newly published Kilternan – Glenamuck Local Area Plan (KGLAP) (which is detailed in Section 2.5), ‘To provide residential development and to improve residential amenity while protecting the existing residential amenities’. There are overhead 220kV and 110kV powerlines passing through the site which have been taken into account and respected within the proposed development layout.

The proposed application boundary is presented in Figure 1-1.

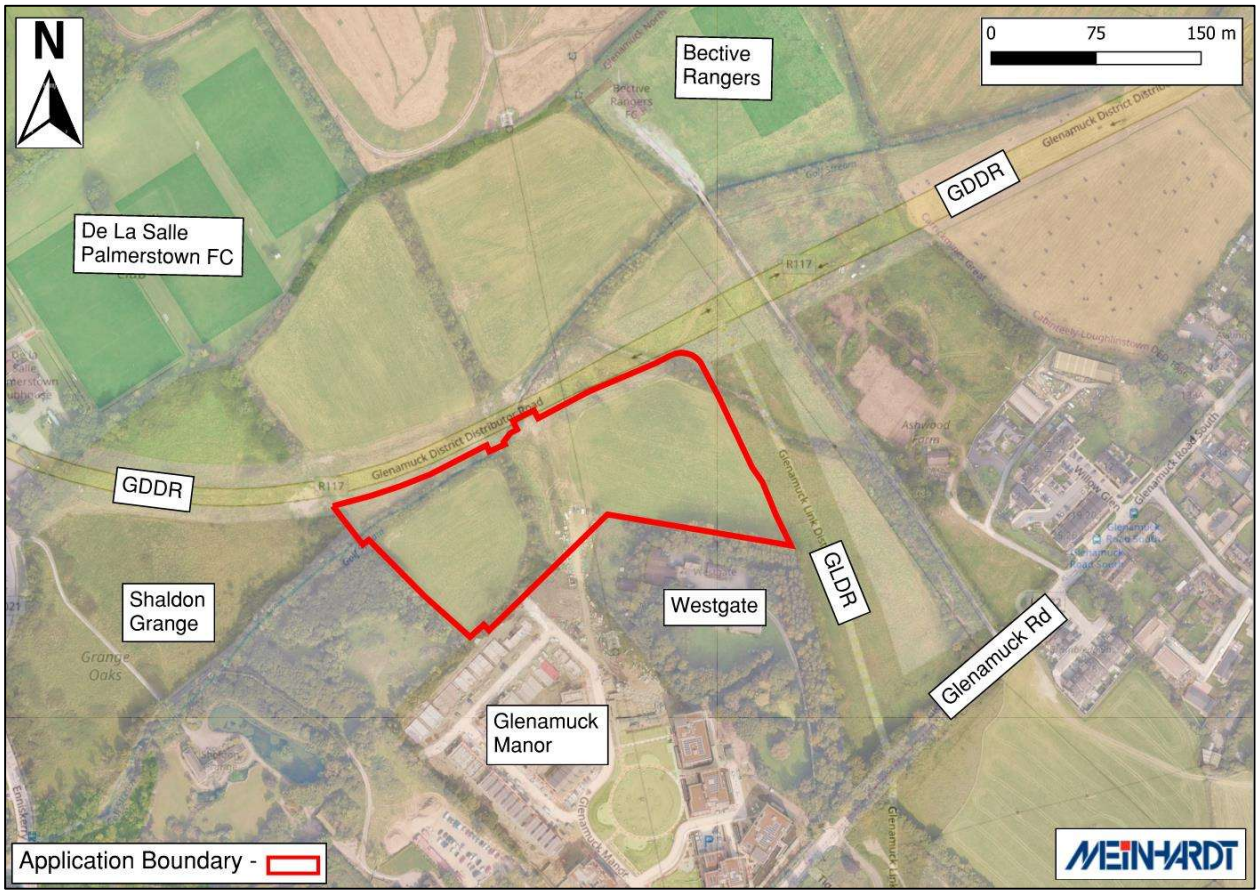

Figure 1-1: Proposed Application Boundary (Indicative only – refer to architectural drawings for full extent of red line)

1.1 Proposed Development

Durkan Glenamuck Developments Limited intend to apply for permission for a Large-Scale Residential Development on a site measuring c. 3.27 Ha in the townland of Glenamuck North in Kilternan, Dublin 18. The site is generally bounded by: the recently constructed Glenamuck District Distributor Road to the north (to be known as the Kilternan Road); the under construction Glenamuck Link Distributor Road to the east (to be known as the Kilternan–Glenamuck Link Road); Glenamuck Manor and a residential dwelling (known as 'Westgate'), its associated outbuildings and wider land holding to the south; and a residential dwelling (known as 'Shaldon Grange') and its wider landholding located to the west.

Road works are proposed to the approved Glenamuck District Roads Scheme (ABP Ref. HA06D.303945) to provide access to the development from the Kilternan Road. The Kilternan Road access point will include works, inclusive of any necessary tie-ins, to the footpath and cycle track to create a side road access junction incorporating the provision of uncontrolled pedestrian and cyclist crossing across the side road junction on a raised table. A surface water outfall pipe (225 mm) is also proposed to pass through land to the north of the site, including the future Kilternan Road. The total site area including the development site, road works and infrastructure works measures c. 3.32 Ha.

The development will principally consist of the construction of 135 No. residential units, comprising 65 No. houses (9 No. 2-bed units, 46 No. 3-bed units and 10 No. 4-bed units) and 70 No. duplex units (21 No. 1-bed units, 22 No. 2-bed units and 27 No. 3-bed units). The proposed development will principally range in height from 2 No. to 4 No. storeys.

The development also provides: car parking spaces; bicycle parking; bin storage; ancillary storage; private balconies, terraces and gardens; hard and soft landscaping; boundary treatments; lighting; substations;

and all other associated site works above and below ground. The proposed site layout plan for the residential development is shown in Figure 1-2.

Figure 1-2: Proposed Site Layout Plan (Source: MCORM Architecture & Urban Design)

1.2 Scoping

As part of the LRD process a pre-planning meeting took place between DLRCC and the applicant on the 8th of May 2025. DLRCC subsequently issued an LRD Opinion document stating whether or not the documentation submitted with the consultation request constitutes a reasonable basis on which to make a planning application for permission for the proposed LRD, as per Section 32B of the Planning and Development Act 2000 (as amended).

It is noted that as part of this LRD Opinion there was a specific request made by DLRCC for the provision of a Traffic Impact Assessment which shall assess all potential impacts to the GDRS scheme and the existing local road network including the future impact from relevant committed developments.

Following this, a further pre-planning consultation took place on the 4th of September 2025 between Brendan Mitchell and Liam Gorman of Meinhardt and Tom Kilbride (Executive Engineer, Transportation Planning DLRCC). The following items were raised in relation to traffic and transport:

1. Car Parking Ratios;
2. Traffic Analysis;
3. Connections to Future Developments.
4. Main Access Junction.

1.3 Report Structure

Following on from this Introduction the structure of the TTA will be as follows:

Chapter 2: details the relevant policy and guidance documents applicable to the TTA, from national to local level, with particular focus on the recently published KGLAP.

Chapter 3: provides a written and visual summary of the existing and proposed road network surrounding the subject site, setting the context for the road infrastructure discussed within the TTA.

Chapter 4: outlines the estimated future trips generated by the proposed development during peak hours, based on TRICS 8 software outputs.

Chapter 5: presents the findings of a traffic survey undertaken at the subject site and compares projected development trips with existing traffic flows to assess the likely impact on the local road network.

Chapter 6: demonstrates that the proposed development has been designed in accordance with DMURS, detailing compliance with key layout principles and supported by extracts from the General Arrangement Drawing (4426-MHT-XX-ZZ-DR-C-0100) prepared by Meinhardt.

Chapter 7: Provides a summary of the conclusions drawn from the TTA.

2 Guidance and Proposals

2.1 National Planning Framework

The National Planning Framework (NPF) which was published in 2018 and revised in 2025 by the Department of Housing, Local Government and Heritage is defined as:

"The Government's high-level strategic plan for shaping the further growth and development of our country out to the year 2040"

The NPF prioritises ten National Strategic Outcomes which are as follows:

1. Compact Growth
2. Enhanced Regional Accessibility
3. Strengthened Rural Economies and Communities
4. Sustainable Mobility
5. A Strong Economy supported by Enterprise, Innovation and Skills
6. High-Quality International Connectivity
7. Enhanced Amenity and Heritage
8. Transition to a Low Carbon and Climate Resilient Society
9. Sustainable Management of Water, Waste and other Environmental Resources
10. Access to Quality Childcare, Education and Health Services"

Environmentally sustainable public transport is listed as one of the NPF's strategic investment priorities. The location of new developments in locations that can support sustainable development is mentioned as an important factor in achieving this goal. Dún-Laoghaire Rathdown is part of the Dublin region which has a high level of population growth. In this area, the NPF states that:

''development should be primarily based on employment growth, accessibility by sustainable transport modes and quality of life, rather than unsustainable commuting patterns''

The NPF includes a number of policies that are deemed particularly relevant to the proposed development.

- **National Policy Objective 22**: ''*In urban areas, planning and related standards, including in particular building height and car parking, will be based on performance criteria that seek to achieve well-designed, high-quality outcomes in order to achieve targeted growth.''*
- **National Policy Objective 37:** *''Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments and integrating physical activity facilities for all ages.''*
- **National Policy Objective 70:** *''Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050''*
- **National Policy Objective 93:** *''Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions.''*

2.2 National Development Plan 2026-2042

The National Development Plan 2026-2035 (NDP), published by the Department of Public Expenditure, NDP Delivery and Reform, sets out the Government's investment strategy and budget for the period 2026-2035. "*It is an ambitious plan that balances the significant demand for public investment across all sectors and regions of Ireland with a major focus on improving the delivery of infrastructure projects to ensure speed of delivery and value for money.*

The NDP puts an emphasis on sustainable mobility which it defines as:

- *"Comfortable and affordable journeys to and from work, home, school, college, shops and leisure;*
- *Travelling by cleaner and greener transport; and*
- *A shift away from the private car to greater use of active travel (walking and cycling) and public transport."*

To achieve this objective, strategic land use planning and transport-led development are essential. A house in a location with convenient access to public transport links and active travel (cycling and walking) infrastructure will reduce greenhouse gas emissions. Along with investment in upgrading and decarbonising Ireland's public transport network and upgrading sustainable mobility infrastructure will reduce greenhouse gas emissions.

It is noted that the proposed development is well positioned to take advantage of surrounding existing and proposed active travel and public transport infrastructure. For further details see the Mobility Management Plan (4426-MHT-XX-ZZ-RP-T-0002) prepared by Meinhardt, submitted with this application.

2.3 Design Manual for Urban Roads and Streets

The Design Manual for Urban Roads and Streets (DMURS), published by the Department of Transport, Tourism and Sport and the Department of Environment, Community and Local Government, updated in 2019, provides guidance relating to the design of urban roads and streets. It presents a series of approaches and standards that are necessary to achieve balanced and best design practice with regards to individual streets and overall transport networks. Section 6 sets out a review of the proposed development layout against key standards from the DMURS. For more information on the design please refer to Meinhardt General Arrangement Drawing No. 4426-MHT-XX-ZZ-DR-C-0100 and the proposed site layout drawings produced by MC Architecture & Urban Design, submitted with this application.

2.4 Dun-Laoghaire Rathdown County Council Development Plan 2022-2028

The Dún Laoghaire-Rathdown County Development Plan 2022-2028 outlines the policy for Traffic & Transport in the Dun Laoghaire-Rathdown area. The overall policy approach is:

- *"To adopt the 'Avoid-Shift-Improve Approach' to transport.*
- *To integrate land use and transport policies.*
- *To support the demand management approach which focuses on moving people from the private car to more sustainable modes.*
- *To improve permeability for the pedestrian and cyclist.*
- *To provide attractive high-quality inclusive and connected walking and cycling networks with direct routes to local destinations and public transport hubs.*
- *To adopt a balanced approach to road and street design in accordance with the four core principles of the 'Design Manual for Urban Roads and Streets' (2019) (DMURS) - connected networks, multifunctional streets, pedestrian focus and a multi-disciplinary approach resulting in a more place based/integrated street design.*

- *To reduce traffic speeds and improve safety*
- *To reduce through traffic"*

In terms of TTA's and Road Safety Audit's (RSA), Policy Objective T26: Traffic and Transport Assessments and Road Safety Audits Objective, states:

> *"It is a Policy Objective to require Traffic and Transport Assessments and/or Road Safety Audits for major developments – in accordance with the TII's 'Traffic and Transport Assessment Guidelines' (2014) - to assess the traffic impacts on the surrounding road network and provide measures to mitigate any adverse impacts - all in accordance with best practice guidelines."*

In terms of Traffic Management, Policy Objective T29: Traffic Management, states

> *"It is a Policy Objective to introduce Traffic Management Schemes on particular roads and in appropriate areas throughout the County to reduce vehicle speeds to an acceptable level and to reduce the potential for traffic congestion and associated vehicular emissions in urban areas."*

The proposed development aligns with these objectives, as detailed in this report, which outlines its impact on the surrounding road network and the traffic management measures proposed to improve safety and reduce congestion.

2.5 Kilternan-Glenamuck Local Area Plan 2025

The recently published KGLAP 2025 is the third iteration of the plan and establishes a framework for the future development of lands within the Kilternan – Glenamuck area. Over the past decade, the plan area has experienced significant change and growth, with a marked acceleration in the delivery of new residential schemes. This has resulted in the provision of the GDRS which when completed will effectively bypass Kilternan Village. The completion of this scheme will alter how residents in the surrounding community's move and will provide new links through the area with the aim of ultimately providing a more connected community.

The land governed by the KGLAP has been divided into character areas, which reflect the analysis carried out during the plan making process and have regard to:

- The historic evolution of settlement within the LAP area,
- The two previous Local Area Plans (2007 and 2013),
- Development over the last 20 years,
- Planned transport infrastructure which will redefine the area and presents the opportunity to create a compact, strong, distinctive and successful community.

The proposed development site falls within the Glenamuck North Character area which comprises the western portion of the GDDR from its junction with the GLDR to its junction with the Enniskerry Road. Possible development sites within the lands governed by the KGLAP have also been identified in the form of Site Development Framework's (SDF), the proposed development is located in SDF4 as shown in Figure 2-1.

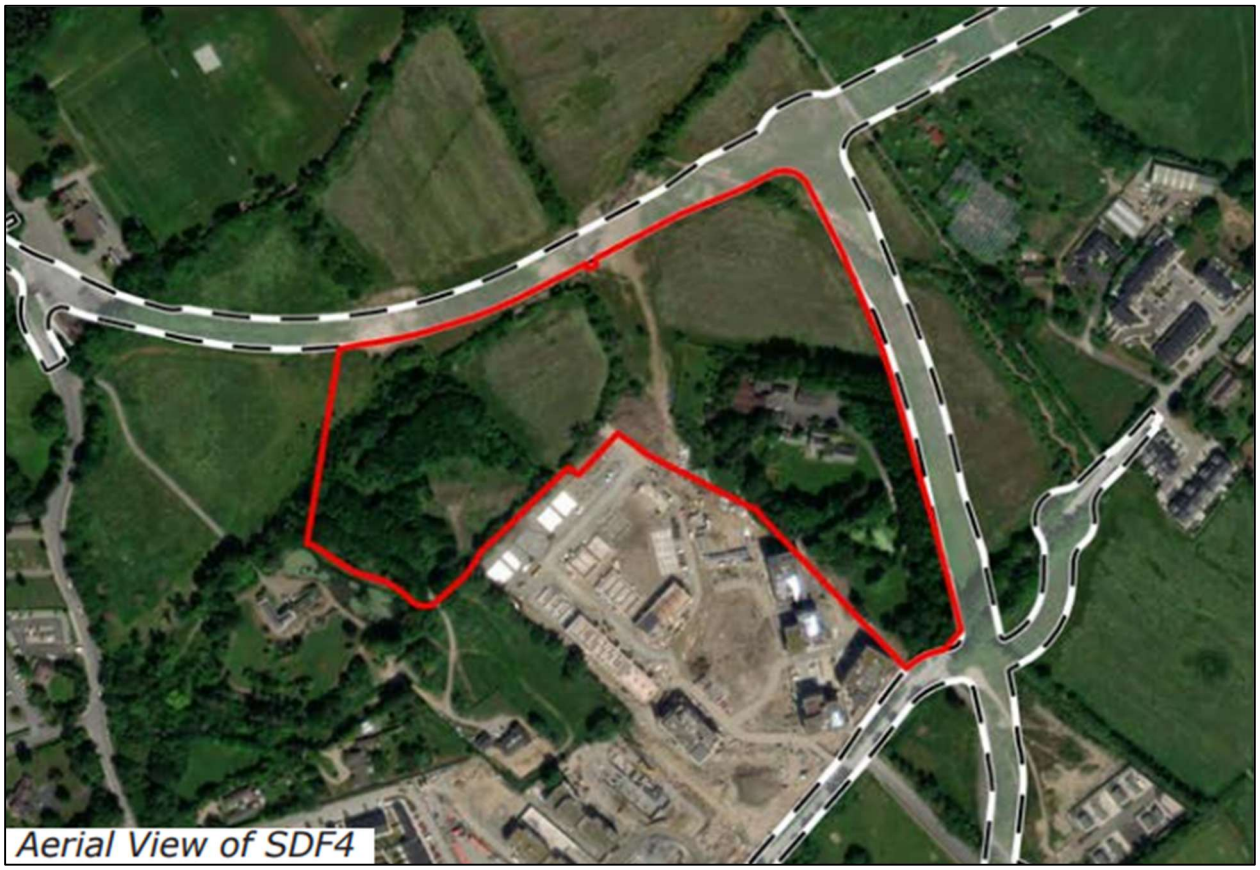

Figure 2-1: Aerial View of SDF4 (Source: KGLAP 2025)

These lands are subject to land use zoning objective 'A' – '*To provide residential development and improve residential amenity while protecting the existing residential amenities'*. There have been five movement objectives set out for SDF4 which must be successfully met to ensure that any development on these lands is in compliance with the KGLAP. These movement objectives and how they are being achieved within the proposed development layout are detailed within the Mobility Management Plan (MHT-4426-XX-ZZ-RP-T-0002) prepared by Meinhardt submitted with this application. Two of these movement objectives (No.'s 4 & 5) are specifically traffic related and the strategy to ensure these objectives are met within the development are summarised below.

4. *'Vehicular access to the site will be via the Glenamuck District Roads Scheme and from lands to the south and west with permeability links to schemes to the south, west and east.'*

A single vehicular entrance to the site is proposed from the GDDR, located centrally within the frontage and set back sufficiently from the junction with the GLDR to the east to provide safe stopping sight distances associated with a speed limit of 50km/hr on a bus route, in accordance with Section 4.4 of DMURS (see Section 6.9 for further details). Two additional through-routes are proposed: one southward to Glenamuck Manor and one westward to Shaldon Grange, enhancing permeability between adjacent developments.

5. *'Provide measures to strongly discourage traffic. Traffic surveys will be carried out within year 1 of the completion of the internal road network. If the volume of through traffic is high, additional traffic calming measures shall be retrofitted by agreements with the Planning Authority.'*

Traffic calming measures have been incorporated into the proposed site layout in the form of reduced corner radii, shorter straight road sections, narrowed carriageway widths in accordance with DMURS, and the use of homezones. Tree pits or street trees are also proposed between parking bays and along road edges where appropriate. As outlined in DMURS Section 4.2.2, '*Street Trees are an integral part of street design as they contribute to the sense of enclosure, act as a buffer to traffic noise and pollution, and enhance place. A traffic calming effect can also be achieved where trees are planted in continuous rows*

and their canopies overhang, at least in part, the vehicular carriageway.' For further details see the DMURS compliance statement outlined in Section 6.

Additionally, as requested traffic surveys will be conducted within one year of the development opening to monitor travel patterns and flows, particularly in relation to potential 'rat runs'. Concerns have been raised regarding the potential for a 'rat run' forming through the proposed through connections to other developments. However, given the relative ease and travel time advantages of using the main entrance onto the GDDR/GLDR, it is considered unlikely that the internal connections would attract significant through traffic. Should high traffic volumes be observed within the traffic surveys, the planning authority will implement retrofit measures to discourage through traffic such as retractable bollards.

For further details on the proposed connections to other developments see the Mobility Management Plan for the development (4426-MHT-XX-ZZ-RP-T-0002), prepared by Meinhardt and submitted with this application.

3 Existing Road Network

The proposed site location and the wider road network is detailed in Figure 3-1. A brief summary of each of the roads and a picture of the route in question are detailed in the section below.

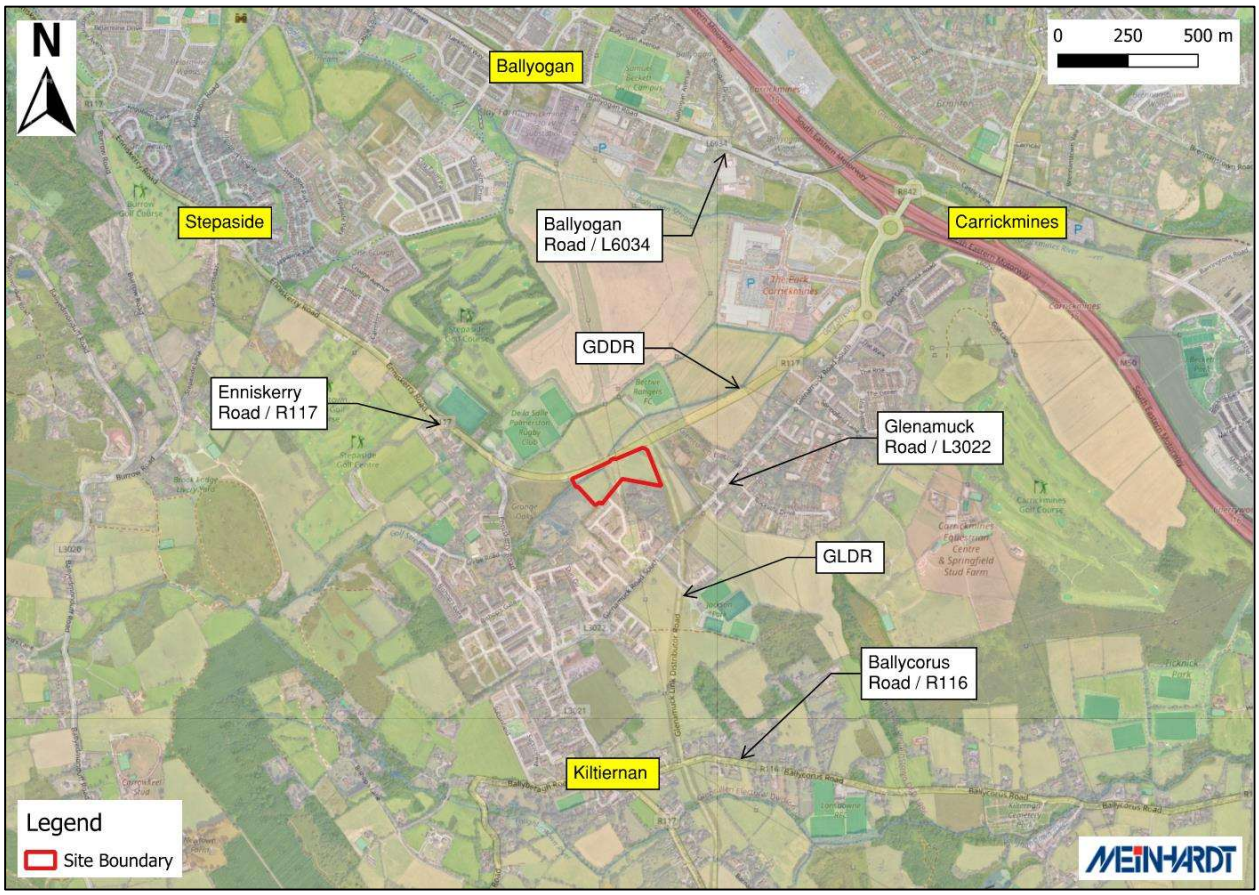

Figure 3-1: Proposed Site Boundary and the Surrounding Road Network

3.1 Enniskerry Road (R117)

The Enniskerry Road (R117) is located approximately 400m west of the site, where it connects to the GDDR at a newly constructed junction at De La Salle Palmerstown FC. The route provides access north-west towards Stepaside and Dundrum, and south-east towards Kilternan Village and Enniskerry. It is a single lane two-way carriageway with a continuous footpath on one side and a narrower, discontinuous footpath on the other, as illustrated in Figure 3-2. The section of the road adjoining the GDDR has a speed limit of 50km/hr.

Figure 3-2: Enniskerry Road (R117) (Looking South East) - Source: Google Maps

3.2 Glenamuck District Distributor Road (GDDR)

The GDDR bounds the site to the north and forms part of the newly constructed GDRS. An aerial view of the route during construction is shown in Figure 3-3. It comprises approximately 650m of two-lane carriageway extending from its junction with the Enniskerry Road (R117) at De La Salle Palmerstown FC to its junction with the GLDR, followed by approximately 900m of four-lane dual carriageway connecting to the Glenamuck Road South Roundabout at Carrickmines. Dedicated pedestrian footpaths and cycle lanes are provided on both sides along its full extent. The route is subject to a 50 km/h speed limit.

Figure 3-3: An Aerial View of the GDDR (Looking West) – Source: DLRCC

3.3 Glenamuck Road (L3022)

The Glenamuck Road (L3022) links Kilternan Village to the Glenamuck Road South Roundabout at Carrickmines, where it connects northwards to Ballyogan Road. The route includes a narrow footpath on one side (as shown in Figure 3-4); however, it is not considered suitable for pedestrians or cyclists due to high traffic volumes and constrained width. Although the road retains a rural character, it has been subject to significant residential development in recent years. It was anticipated that the road would be unable to accommodate future traffic demand and would constrain further development in the area, which led to the implementation of the GDRS.

Figure 3-4: Glenamuck Road (L3022) (Looking West) - Source: Google Maps

3.4 Glenamuck Link Distributor Road (GLDR)

The GLDR extends for approximately 1.8km as a two-lane carriageway from its junction with the GDDR at the northeast corner of the site to a new junction with the Enniskerry Road (R117) south of Kilternan Village. It also accommodates a four-arm junction with the Ballycorus Road (R116). Similar to the GDDR it will incorporate full active travel facilities of pedestrian footpaths and cycle paths in both directions. The route is subject to a 50 km/h speed limit. Figure 3-5 illustrates the junction of the GLDR and the GDDR.

Figure 3-5: Junction of the GLDR in the Foreground (Running South – North) and GDDR (Running West – East) – Source: DLRCC

3.5 Ballycorus Road (R116)

The Ballycorus Road extends from Kilternan Village in the west to Shankill in the east. It has a discontinuous footpath on one side (as shown in Figure 3-6) leading out from Kilternan Village, however, in the main the route is not designed for pedestrians or cyclists. The road has a rural character and is predominantly lined with detached houses constructed in the late 20th century. Ballycorus Road is subject to a 50km/hr speed limit.

Figure 3-6: Ballycorus Road (R116) (Looking East) - Source: Google Maps

3.6 Ballyogan Road (L6034)

The Ballyogan Road extends for approximately 2.4km from Junction 15 of the M50 at Carrickmines in the southeast to its junction with Kilgobbin Road and Murphystown Way in the northwest. In the main it runs parallel to the Luas Green line and has dedicated active travel facilities in the form of pedestrian footpaths and cycle lanes on both sides, as shown in Figure 3-7. Ballyogan Road is subject to a speed limit of 50km/hr.

Figure 3-7: Ballyogan Road (L6034) (Looking South East) – Source: Google Maps

4 Travel Demands

4.1 Introduction

This section assesses the likely future vehicle travel demands to and from the proposed development. To estimate vehicle travel demands, the Trip Rate Information Computer System (TRICS) 8 database was consulted for the proposed land use types in a suburban / edge of town area / neighbourhood centre. The recommended trip rates from TRICS were extracted from the database and applied to the proposed residential development based on size and spatial parameters. The full TRICS output files are included in Appendix A.

Note that the peak hours extracted from TRICS reflect the busiest AM and PM periods on the surrounding road network. For this people trip assessment, 08:00-09:00 AM and 17:00-18:00 PM have been selected, providing a robust analysis. Two separate TRICS analyses have been undertaken for the residential units: one for 'Houses Privately Owned' and one for 'Apartments Privately Owned'. This approach provides a more accurate assessment of the proposed development, which comprises a mix of private houses and duplex units. It should be noted that rounding errors may apply to all trip generation calculations. The trip rate's were then factored up by 135 to calculate the number of trips generated to account for the total number of units proposed.

4.2 Proposed Vehicle Trip Rates

Table 4-1 presents the anticipated vehicle trip rates for the proposed unit types during the weekday AM and PM peak hours. The full output files from TRICS are included in Appendix A.

Table 4-1: Weekday Vehicle Peak Trip Rates

TRICS 8 Trip Rate Generation		Weekday AM Peak (08:00-09:00)		Weekday PM Peak (17:00-18:00)	
Unit Type	**Trip Rate Parameter**	**In**	**Out**	**In**	**Out**
Houses	Per Unit	0.148	0.366	0.361	0.166
Duplexes	Per Unit	0.066	0.201	0.162	0.086
Total Trip Rate	**-**	**0.781**		**0.775**	

The peak hour periods for trip generation on weekdays occur between 08:00-09:00 in the morning (AM) and 17:00-18:00 in the evening (PM). These peaks are expected as a result of commuter traffic as well as school drop-offs and collections within these timeframes. It can therefore be assumed that the local road network will be at its busiest during these periods from Monday – Friday. Table 4-1 indicates that private house units generate more trips on average than the duplex units, which is expected as they are allocated a greater number of parking spaces. Further details on car parking provision for the proposed development are set out in the Mobility Management Plan (MHT-4426-XX-ZZ-RP-T-0002) prepared by Meinhardt and submitted with this application.

4.3 Proposed Trip Generation

Table 4-2 presents the expected trip generation by residents for the weekday AM and PM peak hours related to the proposed land use. These values are based on the people vehicle trip rates as shown in Table 4-1 for 'Houses Privately Owned' and 'Apartments Privately Owned'.

Table 4-2: Weekday Vehicle Peak Trip Generation

TRICS 8 Trip Rate Generation		Weekday AM Peak (08:00-09:00)		Weekday PM Peak (17:00-18:00)	
Unit Type	No. of Units	In	Out	In	Out
Houses	65	10	24	23	11
Duplexes	70	5	14	11	6
Total	135	15	38	34	17
Total AM / PM	**-**	**53**		**51**	

Table 4-2 indicates that the total number of weekday two-way vehicle trips is 53 in the AM peak and 51 in the PM peak. These trip generation figures are considered reasonable in terms of the development in question given that other trips are facilitated using public transport and active travel facilities, while additional trips occur in the hours either side of the peak. In addition, the prevalence of hybrid and remote working further reduces the number of trips generated.

4.4 Summary

The TRICS database was used to derive vehicle trip rates for the proposed residential development. The development is forecast to generate approximately 53 two-way trips in the AM peak (08:00–09:00) and 51 two-way trips in the PM peak (17:00–18:00). The context of these trips, together with the potential impacts of other committed developments on the surrounding road network (as detailed in Section 3) is discussed in Section 5.

5 Traffic Generation Analysis

5.1 Introduction

As detailed in Section 3, the proposed development site fronts onto the GDDR which forms part of the wider GDRS. This scheme is currently being implemented by DLRCC to improve the multi-modal transport infrastructure in the Glenamuck/Carrickmines/Kilternan area. The GDDR officially opened to traffic on the 19th of June 2025 while the GLDR is expected to be delivered by the end of Q2 2026.

The development is forecast to generate approximately 53 two-way trips in the AM peak (08:00–09:00) and 51 two-way trips in the PM peak (17:00–18:00), as detailed in Section 4. To give these trip numbers context in terms of the local road network a traffic survey was conducted outside the subject site during the AM peak hour of 08:00-09:00 as this was the timeframe which generated the joint largest number of two-way trips according to the TRICS analysis. The total number of vehicle's passing the proposed site entrance point in both directions over the course of an hour was tallied and is analysed in the Sections below.

5.2 Traffic Survey

A summary of the traffic survey data collected on the 9th of September 2025 outside the subject site is presented in Table 5-1. During the peak AM hour (08:00–09:00), a total of 348 vehicles were recorded travelling westbound towards Kilternan Village, while 680 vehicles were observed travelling eastbound towards Carrickmines and Junction 15 of the M50. This equates to 1,028 two-way vehicle movements on the GDDR at the site location during the morning peak, with approximately two-thirds of vehicles travelling towards the M50 and one-third towards Kilternan Village.

Table 5-1: Traffic Survey Data

Cowley South Traffic Survey				
8:00 - 9:00 (AM Peak)				
Mode	**Car**	**HGV/Bus**	**Van**	**Motorbike**
No of Trips (To Kiltiernan)	290	44	14	0
Total One Way Trips (To Kiltiernan)	348			
No of Trips (To Carrickmines)	620	12	44	4
Total One Way Trips (To Carrickmines)	680			
Total Two Way Trips on Network	**1028**			

5.3 Impact of the Proposed Development

This section provides context on the anticipated impact of the traffic generated by the proposed development on the surrounding road network. As detailed in Section 4.3, the proposed development is forecast to generate approximately 53 two-way trips in the AM and 51 two-way trips in the PM peak. The traffic survey conducted at the subject site during the AM peak found there to be a total of 1028 trips on the network during this period. This would result in the proposed development generating a 5.16% increase in traffic compared to the base flow recorded during the traffic survey.

Figure 5-1 below presents a series of thresholds used to determine when Transport Assessments are required for a proposed development. This table is taken from the Department of Transport's (DOT) 'Traffic

Management Guidelines' Document first published in September 2019 and subsequently reviewed in May 2022.

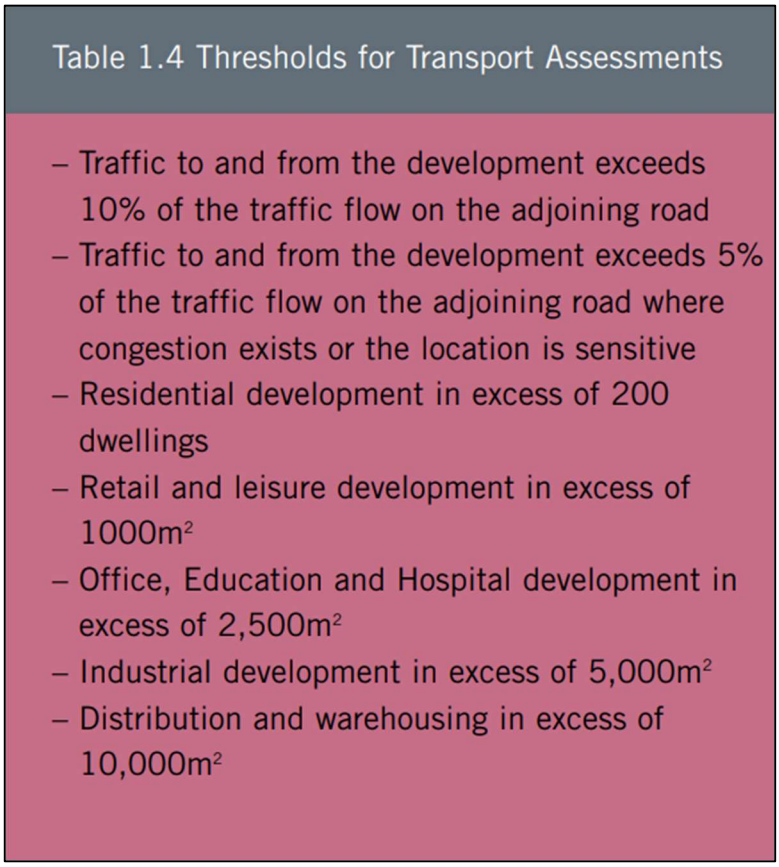

Figure 5-1: Thresholds for Transport Assessments (Source: DOT 'Traffic Management Guidelines' September 2019, May 2022.)

It is noted that only the first three thresholds have potential to be applicable to the proposed residential development. As the scheme comprises 135 residential units and, as previously referenced, the anticipated trip generation would increase traffic flows on the adjoining road by 5.16% which does not experience congestion and is not a sensitive location, the development does not meet any of the three relevant thresholds that would require a Transport Assessment.

For the reasons outlined above, it is considered that the existing road network surrounding the site has sufficient capacity to accommodate the additional trips generated by the proposed development without resulting in undue queuing or delay.

6 DMURS Statement of Compliance

6.1 Introduction

This section of the TTA contains a statement that the proposed development has been designed in accordance with the DMURS (Design Manual for Urban Roads and Streets, May 2019). Compliance of key aspects of the proposed development layout with the principles of DMURS are outlined below with extracts from Drawing No 4226-MHT-XX-ZZ-DR-C-0100 produced by Meinhardt included in this application.

6.2 Site Entrance

The proposed site access has been designed in accordance with DMURS. It incorporates a 6m wide vehicular entrance with an uncontrolled pedestrian crossing across the access in addition to a ramped cycle track crossing along the GDDR frontage. The junction between the cycle track and the access road has been designed in accordance with Junction TL402 (Standard Cycle Track Crossing Side Road with Priority – Partial Set Back) of the Cycle Design Manual (CDM).

The pedestrian crossing has been designed in accordance with DMURS Advice Note 6 (Priority Junction Tightening Measures). The design includes a dropped kerb, a stop line and associated signage and tactile paving to alert visually impaired users to the crossing point. For further details see Meinhardt General Arrangement Drawing (4426-MHT-XX-ZZ-DR-C-0100) submitted with this application.

6.3 Pedestrian Facilities and Access

A dedicated network of high-quality pedestrian facilities is provided throughout the proposed development site in the form of 2m wide DMURS-compliant footpaths. These are located primarily along the access roads, with additional feature routes provided through the public open space and the ‘Strategic Green Corridor’, which runs north–south through the site. Pedestrian movement is also accommodated within shared surface zones, where a 1.2m refuge strip is provided alongside the 4.8m carriageway.

Numerous uncontrolled pedestrian crossings are provided throughout the development at access road junctions along key desire lines. These crossings include dropped kerbs and tactile paving to assist visually impaired users. Dedicated pedestrian linkages are also provided to the pedestrian facilities along the GDDR and the GLDR to the north and east respectively, the proposed Shaldon Grange residential development to the west, and the existing Glenamuck Manor residential development to the south, all in the form of 2m wide DMURS-compliant footpaths. Collectively, these linkages enhance connectivity and permeability within developments and the local area, supporting active travel and facilitating pedestrian movement in all directions.

For further details on the pedestrian facilities, connections and access within the development see Meinhardt General Arrangement Drawing (4426-MHT-XX-ZZ-DR-C-0100) submitted with this application.

6.4 Cyclist Facilities

There are no dedicated cycle paths within the development layout, however, the low-speed environment proposed will be suitable for cyclists moving around the site. The proposed connections to the GDRS and adjacent residential developments referenced in Section 6.3 will also facilitate the movement of cyclists. The proposed connections to the GDDR and the GLDR provide direct links from the development to the Greater Dublin Area Cycle Network.

As outlined in Section 6.2, the junction of the GDDR cycle track and the site access road has been designed in accordance with Junction TL401 (Standard Cycle Track Crossing Side Road with Priority – Full Set Back) of the Cycle Design Manual (CDM). Further details on cyclist facilities and site access are provided in Meinhardt General Arrangement Drawing (4426-MHT-XX-ZZ-DR-C-0100) submitted with this application.

6.5 Corner Radii

As per Section 4.3.3 of DMURS, the corner radii at the proposed site access junction along the GDDR have been minimised in order to reduce vehicular speeds, creating a safer environment for all road users. At this site access junction, corner radii have been reduced to 3m. Internally within the development, corner radii range from 1m to 3m, reflecting the low frequency of large vehicle movements and supporting the objective of maintaining low vehicular speeds.

The site access has been analysed by way of swept path analysis to demonstrate that it is capable of accommodating the infrequent movement of large vehicles (i.e. refuse vehicles or emergency vehicles). For more information refer to Meinhardt Swept Path Analysis Drawings No. 4426-MHT-XX-ZZ-DR-T-0002 and 4426-MHT-XX-ZZ-DR-T-0003 submitted with this application.

6.6 Car Parking

The proposed development contains a mixture of on-street and in curtilage car parking. The in-curtilage parking occurs in the case of the housing units while the on-street parking is typically associated with the duplex units in addition to the visitor parking.

A total of 199 parking spaces are proposed as illustrated in 4426-MHT-XX-ZZ-DR-C-0100. The perpendicular spaces are designed with a width of 2.4m and a length of 5m, while the parallel car parking spaces measure 2.5m in width and 6m in length. This is in accordance with DMURS, minimum length of 4.8m and width of 2.4m for perpendicular spaces and 6m and 2.4m for parallel spaces. See Figure 6-1 below for a site layout showing the car parking plan.

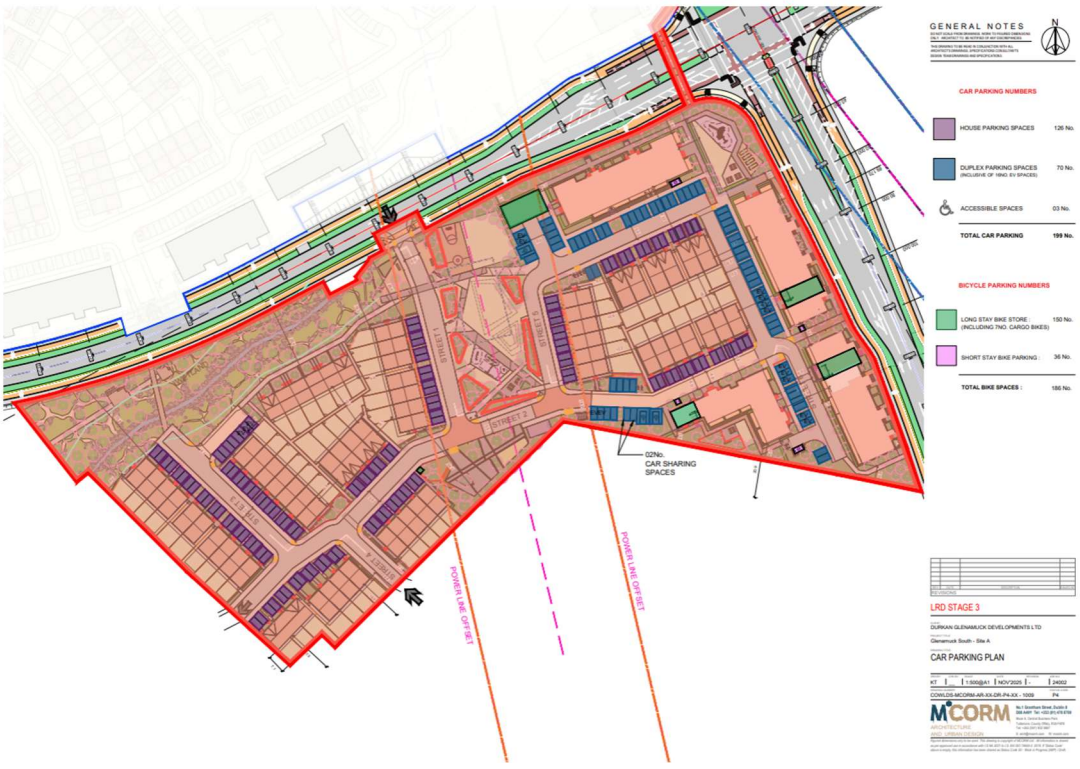

Figure 6-1 Car Parking Plan

It is proposed to include 3 no. accessible parking spaces within the development. Finally, it is proposed to provide 16 designated on-street EV parking spaces for the housing, duplex and visitor spaces in line with DLRCC guidance. For further details on the proposed car parking provision within the development refer to the Mobility Management Plan (4426-MHT-XX-ZZ-RP-T-0002) prepared by Meinhardt and submitted with this application.

6.7 Shared Surface Homezones

The proposed development layout incorporates two shared surface areas (homezones), one of which is a partial section of through road, with the other located within a cul-de-sac. Each shared surface provides a 4.8m carriageway with an adjacent 1.2m pedestrian refuge to ensure safe pedestrian movement at all times. As illustrated in the site plan, these areas are designed with bends, horizontal deflections, and short lengths to encourage low vehicular speeds and create a safe environment for all users. In accordance with DMURS, shared surface streets are considered '*highly desirable where movement priorities are low and there is a high place value in promoting more liveable streets (i.e. homezones).'* As detailed in Section 2.5 other measures such as tree pits / street trees located between parking bays have also been incorporated into the layout to contribute to a sense of enclosure, promoting traffic calming in these areas.

For further details see Meinhardt General Arrangement Drawing (4426-MHT-XX-ZZ-DR-C-0100) submitted with this application.

6.8 Swept Path Analysis

Refuse and emergency vehicle access is facilitated within the proposed site layout. Swept path analysis drawings have been produced demonstrating a large refuse vehicle manoeuvring within and egressing the proposed development site, confirming the acceptability of the site to accommodate such vehicles.

Additionally, swept path analysis has been completed for a standard fire tender vehicle to ensure it can pass through the entire development in the case of an emergency.

For further details see Meinhardt Drawing No's 4426-MHT-XX-ZZ-DR-T-0001 to 4426-MHT-XX-ZZ-DR-T-0003 submitted with this application.

6.9 Sightlines

The standard visibility splay for a junction with a 50km/h design speed on a bus route (as is the case on the GDDR) is 49 metres in both directions from a setback of 2.4 metres.

In relation to setback distance, DMURS states the following;

"priority junctions in urban areas should be designed as Stop junctions, and a maximum X distance of 2.4 metres should be used. In difficult circumstances this may be reduced to 2.0 metres where vehicle speeds are slow and flows on the minor arm are low. However, the use of a 2.0 metre X distance may result in some vehicles slightly protruding beyond the major carriageway edge, and may result in drivers tending to nose out cautiously into traffic. Care should be taken to ensure that cyclists and drivers can observe this overhang from a reasonable distance and manoeuvre to avoid it without undue difficulty."

The standard visibility splay for a junction with a 50km/h design speed on the major arm (the GDDR /R117) is 49 metres in both directions from a setback of 2.4 metres. Visibility splays have been prepared for the proposed entrance for further details see Meinhardt Drawing No. 4426-MHT-XX-ZZ-DR-T-0011 submitted with this application.

Sightlines for the internal junctions have also been reviewed. Speed limits within the proposed development will be 30km/h. In accordance with DMURS, for 30km/h visibility should be 23m in both directions. Please refer to Meinhardt Drawing No. 4426-MHT-XX-ZZ-DR-T-0010 submitted with this application for further details.

7 Summary and Conclusion

7.1 Summary

Meinhardt has been commissioned by Durkan Glenamuck Developments Ltd (The Applicant) to prepare a Traffic & Transport Assessment (TTA) to assist Dún-Laoghaire Rathdown County Council (DLRCC) in its assessment of a planning application for a Large Residential Development (LRD) at Glenamuck, Kilternan, Dublin 18.

Durkan Glenamuck Developments Limited intend to apply for permission for a Large-Scale Residential Development on a site measuring c. 3.27 Ha in the townland of Glenamuck North in Kilternan, Dublin 18. The site is generally bounded by: the recently constructed Glenamuck District Distributor Road to the north (to be known as the Kilternan Road); the under construction Glenamuck Link Distributor Road to the east (to be known as the Kilternan–Glenamuck Link Road); Glenamuck Manor and a residential dwelling (known as 'Westgate'), its associated outbuildings and wider land holding to the south; and a residential dwelling (known as 'Shaldon Grange') and its wider landholding located to the west.

Road works are proposed to the approved Glenamuck District Roads Scheme (ABP Ref. HA06D.303945) to provide access to the development from the Kilternan Road. The Kilternan Road access point will include works, inclusive of any necessary tie-ins, to the footpath and cycle track to create a side road access junction incorporating the provision of uncontrolled pedestrian and cyclist crossing across the side road junction on a raised table. A surface water outfall pipe (225 mm) is also proposed to pass through land to the north of the site, including the future Kilternan Road. The total site area including the development site, road works and infrastructure works measures c. 3.32 Ha.

The development will principally consist of the construction of 135 No. residential units, comprising 65 No. houses (9 No. 2-bed units, 46 No. 3-bed units and 10 No. 4-bed units) and 70 No. duplex units (21 No. 1-bed units, 22 No. 2-bed units and 27 No. 3-bed units). The proposed development will principally range in height from 2 No. to 4 No. storeys.

The development also provides: car parking spaces; bicycle parking; bin storage; ancillary storage; private balconies, terraces and gardens; hard and soft landscaping; boundary treatments; lighting; substations; and all other associated site works above and below ground. Section 3 provides a written and visual summary of the existing and proposed road network surrounding the subject site, setting the context for the road infrastructure discussed within the TTA. These roads include the GDDR, GLDR, Enniskerry Road (R117), Ballyogan Road (L6034), Glenamuck Road (L3022) and the Ballycorus Road (R116).

The TRICS database was used to derive vehicle trip rates for the proposed residential development. The development is forecast to generate approximately 53 two-way trips in the AM peak (08:00–09:00) and 51 two-way trips in the PM peak (17:00–18:00).

A traffic survey conducted at the site recorded 1,028 two-way vehicle movements on the GDDR during the AM peak (08:00-09:00), with two-thirds of traffic travelling eastbound towards the M50 and one-third westbound towards Kilternan Village. The development would therefore result in a 5.16% increase in peak-hour traffic compared to existing flows. As this falls below the threshold's set by the Department of Transport's for requiring a Transport Assessment for a development, it is concluded that the surrounding road network has sufficient capacity to accommodate the additional trips without causing undue queuing or delay.

Vehicular access to the site is proposed via a new entrance along the GDDR on the northern boundary. This will incorporate an uncontrolled pedestrian crossing and a ramped setback crossing of the cycle path. Sightlines at the proposed access have been assessed in accordance with DMURS requirements for a 50 km/h speed environment on a bus route, while swept path analysis confirms that the development can accommodate and be traversed by both refuse and fire tender vehicles. The proposed layout has also been

reviewed to ensure that key elements including corner radii, cycle paths, shared surfaces, and pedestrian facilities are designed in full compliance with DMURS standards.

7.2 Conclusion

The proposed development has been designed in full compliance with DMURS, with particular consideration given to creating a safe, attractive, and comfortable living environment for all future residents and those associated with the creche.

As the proposed development is expected to increase traffic flows on the local road network by only 5.16%, it is considered that the network has sufficient capacity to accommodate the additional trips without disrupting current traffic flows.

Appendix A – TRICS Outputs

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use: 03 - RESIDENTIAL

Category: C - FLATS PRIVATELY OWNED

Total Vehicles

Selected regions and areas:

02	**SOUTH EAST**		
	BH	BRIGHTON & HOVE	1 day
	CT	CENTRAL BEDFORDSHIRE	1 day
	HF	HERTFORDSHIRE	4 days
	PO	PORTSMOUTH	1 day
03	**SOUTH WEST**		
	DV	DEVON	1 day
04	**EAST ANGLIA**		
	CA	CAMBRIDGESHIRE	1 day
	NF	NORFOLK	1 day
	SF	SUFFOLK	2 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 day
	WM	WEST MIDLANDS	1 day
09	**NORTH**		
	TW	TYNE & WEAR	1 day
10	**WALES**		
	CO	CONWY	1 day
14	**LEINSTER**		
	WX	WEXFORD	1 day
15	**GREATER DUBLIN**		
	DL	DUBLIN	1 day

This section displays the number of survey days per TRICS® sub-region in the selected set.

Primary Filtering Selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	DWELLS
Actual Range:	0.19 to 2.04 (units:DWELLS)
Range Selected by User:	20 to 100 (units:DWELLS)
Parking Spaces Range:	20 - 150

Public Transport Provision:

Selection by:	All Surveys Included
Date Range:	01/01/16 to 04/09/24

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Friday	2 days
Monday	5 days
Thursday	3 days
Tuesday	5 days
Wednesday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	18
Direction ATC Count	0

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines

Selected Locations:

Edge of Town	3 days
Edge of Town Centre	8 days
Neighbourhood Centre (PPS6 Local Centre)	1 days
Suburban Area (PPS6 Out of Centre)	6 days

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Built-Up Zone	3 days
Development Zone	1 days
No Sub Category	1 days
Residential Zone	13 days

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicle Counts:

Servicing vehicles Excluded	7 days
Servicing vehicles Included	11 days

Secondary Filtering Selection:

Use Class:

C3	18 surveys

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

846 - 7570

Population within 1 mile:

10,001 to 15,000	1 surveys
20,001 to 25,000	5 surveys
25,001 to 50,000	10 surveys
5,001 to 10,000	1 surveys
50,001 to 100,000	1 surveys

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

125,001 to 250,000	9 surveys
25,001 to 50,000	1 surveys
250,001 to 500,000	4 surveys
50,001 to 75,000	2 surveys
500,001 or More	1 surveys
75,001 to 100,000	1 surveys

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	12 surveys
1.1 to 1.5	5 surveys
1.6 to 2.0	1 surveys

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	14 surveys
Yes	4 surveys

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	18 surveys

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

COVID-19 Restrictions:

Yes - At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

1 **BH-03-C-01** **BLOCK OF FLATS** **BRIGHTON & HOVE**
OLD SHOREHAM RD
BRIGHTON
HOVE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 0.31 hect
Survey date: Tuesday 26/09/2017 Survey Type: Manual

2 **CA-03-C-03** **BLOCKS OF FLATS** **CAMBRIDGESHIRE**
CROMWELL ROAD
CAMBRIDGE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Site area: 1.2 hect
Survey date: Monday 18/09/2017 Survey Type: Manual

3 **CO-03-C-01** **BLOCKS OF FLATS** **CONWY**
MOSTYN BROADWAY
LLANDUDNO
Edge of Town Centre
Built-Up Zone
Site area: 0.45 hect
Survey date: Monday 26/03/2018 Survey Type: Manual

4 **CT-03-C-02** **BLOCKS OF FLATS** **CENTRAL BEDFORDSHIRE**
STANBRIDGE ROAD
LEIGHTON BUZZARD
Edge of Town Centre
Residential Zone
Site area: 0.68 hect
Survey date: Tuesday 15/05/2018 Survey Type: Manual

5 **DL-03-C-16** **BLOCKS OF FLATS** **DUBLIN**
BOTANIC AVENUE
DUBLIN
DRUMCONDRA
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 0.19 hect
Survey date: Tuesday 22/11/2016 Survey Type: Manual

6 **DV-03-C-01** **BLOCK OF FLATS** **DEVON**
BONHAY ROAD
EXETER
Edge of Town Centre
Residential Zone
Site area: 0.26 hect
Survey date: Monday 10/07/2017 Survey Type: Manual

7 **HF-03-C-03** **BLOCK OF FLATS** **HERTFORDSHIRE**
SHENLEY ROAD
BOREHAMWOOD
Edge of Town Centre
Built-Up Zone
Site area: 0.5 hect
Survey date: Thursday 14/11/2019 Survey Type: Manual

8 **HF-03-C-06** **BLOCKS OF FLATS** **HERTFORDSHIRE**
FERNDOWN ROAD
WATFORD
SOUTH OXHEY
Edge of Town

Residential Zone
Site area: 0.26 hect
Survey date: Thursday 08/06/2023 Survey Type: Manual

9 **HF-03-C-07** **BLOCKS OF FLATS** **HERTFORDSHIRE**
OXHEY DRIVE
WATFORD
SOUTH OXHEY
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Site area: 0.65 hect
Survey date: Wednesday 07/06/2023 Survey Type: Manual

10 **HF-03-C-08** **BLOCKS OF FLATS** **HERTFORDSHIRE**
HAYLING ROAD
WATFORD
SOUTH OXHEY
Edge of Town
Residential Zone
Site area: 0.19 hect
Survey date: Tuesday 06/06/2023 Survey Type: Manual

11 **NF-03-C-02** **MIXED FLATS & HOUSES** **NORFOLK**
HALL ROAD
NORWICH
LAKENHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 2.04 hect
Survey date: Monday 18/11/2019 Survey Type: Manual

12 **PO-03-C-01** **BLOCKS OF FLATS** **PORTSMOUTH**
CROSS STREET
PORTSMOUTH
Edge of Town Centre
Built-Up Zone
Site area: 0.54 hect
Survey date: Tuesday 05/06/2018 Survey Type: Manual

13 **SF-03-C-04** **BLOCKS OF FLATS** **SUFFOLK**
SAINT MARY'S ROAD
IPSWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 0.7467 hect
Survey date: Wednesday 16/09/2020 Survey Type: Manual

14 **SF-03-C-05** **BLOCKS OF FLATS** **SUFFOLK**
FORE STREET
IPSWICH
IPSWICH WATERFRONT
Edge of Town Centre
Development Zone
Site area: 0.42 hect
Survey date: Wednesday 23/06/2021 Survey Type: Manual

15 **SH-03-C-01** **BLOCK OF FLATS** **SHROPSHIRE**
ABBEY FOREGATE
SHREWSBURY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 0.33 hect
Survey date: Monday 19/06/2023 Survey Type: Manual

16 **TW-03-C-01** **BLOCKS OF FLATS** **TYNE & WEAR**
CAULDWELL AVENUE
WHITLEY BAY
MONKESEATON
Edge of Town
Residential Zone
Site area: 0.4 hect
Survey date: Friday 15/10/2021 Survey Type: Manual

17 **WM-03-C-04** **BLOCKS OF FLATS** **WEST MIDLANDS**
GILLQUART WAY
COVENTRY
PARKSIDE
Edge of Town Centre
Residential Zone
Site area: 0.6 hect
Survey date: Friday 11/11/2016 Survey Type: Manual

18 **WX-03-C-01** **BLOCKS OF FLATS** **WEXFORD**
UPPER GEORGE'S STREET
WEXFORD
Edge of Town Centre
Residential Zone
Site area: 0.41 hect
Survey date: Thursday 20/04/2023 Survey Type: Manual

DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
BE-03-C-01	19-09-2018	London
BK-03-C-01	10-09-2020	London
BM-03-C-03	18-10-2023	London
BN-03-C-01	09-06-2022	London
HF-03-C-01	09-06-2021	Removed: Site re-surveyed by HF-03-C-08
HF-03-C-04	10-06-2021	Removed: Site re-surveyed by HF-03-C-07
HF-03-C-05	07-06-2021	Removed: Site re-surveyed by HF-03-C-06
KI-03-C-03	11-07-2016	London
NG-03-C-03	02-10-2023	Town Centre
TH-03-C-04	21-06-2019	London
WF-03-C-01	05-11-2019	London
WF-03-C-02	25-05-2021	London
WF-03-C-04	25-05-2021	London
WF-03-C-06	25-05-2021	London

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

Total Vehicles

Calculation factor: 1 DWELLS

**BOLD print indicates peak (busiest) period*

Time Range	No. Days	Ave. DWELLS	Arrivals	Departures	Totals
00:00-01:00					
01:00-02:00					
02:00-03:00					
03:00-04:00					
04:00-05:00					
05:00-06:00					
06:00-07:00					
07:00-08:00	**18**	**56**	**0.026**	**0.152**	**0.178**
08:00-09:00	**18**	**56**	**0.066**	**0.201**	**0.267**
09:00-10:00	**18**	**56**	**0.072**	**0.101**	**0.173**
10:00-11:00	**18**	**56**	**0.069**	**0.085**	**0.154**
11:00-12:00	**18**	**56**	**0.074**	**0.088**	**0.162**
12:00-13:00	**18**	**56**	**0.103**	**0.099**	**0.202**
13:00-14:00	**18**	**56**	**0.082**	**0.086**	**0.168**
14:00-15:00	**18**	**56**	**0.080**	**0.083**	**0.163**
15:00-16:00	**18**	**56**	**0.138**	**0.081**	**0.219**
16:00-17:00	**18**	**56**	**0.124**	**0.080**	**0.204**
17:00-18:00	**18**	**56**	**0.162**	**0.086**	**0.248**
18:00-19:00	**18**	**56**	**0.161**	**0.084**	**0.245**
19:00-20:00					
20:00-21:00					
21:00-22:00					
22:00-23:00					
23:00-00:00					
Total Rates:			**1.157**	**1.226**	**2.383**

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter Summary:

Trip rate parameter range selected:	20 - 100 (units: DWELLS)
Survey date date range:	11/11/2016 - 19/06/2023
Number of weekdays (Monday-Friday):	18
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	14
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use: 03 - RESIDENTIAL

Category: A - HOUSES PRIVATELY OWNED

Total Vehicles

Selected regions and areas:

02	**SOUTH EAST**		
	ES	EAST SUSSEX	3 days
	HC	HAMPSHIRE	5 days
	KC	KENT	1 day
	SC	SURREY	1 day
	WS	WEST SUSSEX	4 days
03	**SOUTH WEST**		
	DC	DORSET	1 day
	GS	GLOUCESTERSHIRE	1 day
	SM	SOMERSET	1 day
04	**EAST ANGLIA**		
	CA	CAMBRIDGESHIRE	1 day
	NF	NORFOLK	4 days
	SF	SUFFOLK	1 day
05	**EAST MIDLANDS**		
	NM	WEST NORTHAMPTONSHIRE	1 day
06	**WEST MIDLANDS**		
	WM	WEST MIDLANDS	1 day
09	**NORTH**		
	FU	WESTMORLAND & FURNESS	1 day
	IM	ISLE OF MAN	1 day

This section displays the number of survey days per TRICS® sub-region in the selected set.

Primary Filtering Selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	DWELLS
Actual Range:	1.38 to 3.7 (units:DWELLS)
Range Selected by User:	20 to 100 (units:DWELLS)
Parking Spaces Range:	100 - 200

Public Transport Provision:

Selection by:	All Surveys Included
Date Range:	01/01/16 to 17/09/24

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Friday	3 days
Monday	3 days
Thursday	5 days
Tuesday	9 days
Wednesday	7 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	27
Direction ATC Count	0

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines

Selected Locations:

Edge of Town	12 days
Edge of Town Centre	3 days
Neighbourhood Centre (PPS6 Local Centre)	8 days
Suburban Area (PPS6 Out of Centre)	4 days

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

No Sub Category	2 days
Residential Zone	17 days
Village	8 days

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicle Counts:

Servicing vehicles Excluded	19 days
Servicing vehicles Included	8 days

Secondary Filtering Selection:

Use Class:

C3	27 surveys

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

0 - 0

Population within 1 mile:

1,000 or Less	1 surveys
1,001 to 5,000	6 surveys
10,001 to 15,000	6 surveys
15,001 to 20,000	4 surveys
20,001 to 25,000	1 surveys
25,001 to 50,000	2 surveys
5,001 to 10,000	7 surveys

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

100,001 to 125,000	2 surveys
125,001 to 250,000	7 surveys
25,001 to 50,000	7 surveys
250,001 to 500,000	1 surveys
5,001 to 25,000	3 surveys
50,001 to 75,000	2 surveys
75,001 to 100,000	5 surveys

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 surveys
1.1 to 1.5	19 surveys
1.6 to 2.0	4 surveys

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	11 surveys
Yes	16 surveys

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	27 surveys

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

COVID-19 Restrictions:

Yes - At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

1	**CA-03-A-08**	**DETACHED & SEMI-DETACHED**	**CAMBRIDGESHIRE**
GIDDING ROAD SAWTRY Neighbourhood Centre (PPS6 Local Centre) Village Site area: 2.68 hect Survey date: Thursday 13/10/2022			Survey Type: Manual
2	**DC-03-A-09**	**MIXED HOUSES**	**DORSET**
A350 SHAFTESBURY Edge of Town No Sub Category Site area: 1.65 hect Survey date: Friday 19/11/2021			Survey Type: Manual
3	**ES-03-A-05**	**MIXED HOUSES & FLATS**	**EAST SUSSEX**
RATTLE ROAD NEAR EASTBOURNE STONE CROSS Edge of Town Residential Zone Site area: 2.8 hect Survey date: Wednesday 05/06/2019			Survey Type: Manual
4	**ES-03-A-13**	**DETACHED HOUSES**	**EAST SUSSEX**
A265 HEATHFIELD Edge of Town Residential Zone Site area: 1.7 hect Survey date: Monday 18/03/2024			Survey Type: Manual
5	**ES-03-A-16**	**MIXED HOUSES & FLATS**	**EAST SUSSEX**
RAILWAY ROAD NEWHAVEN Edge of Town Centre No Sub Category Site area: 1.4 hect Survey date: Tuesday 14/03/2023			Survey Type: Manual
6	**FU-03-A-02**	**DETACHED/TERRACED HOUSING**	**WESTMORLAND & FURNESS**
MACADAM WAY PENRITH Edge of Town Centre Residential Zone Site area: 1.51 hect Survey date: Tuesday 21/06/2016			Survey Type: Manual
7	**GS-03-A-02**	**DETACHED HOUSES**	**GLOUCESTERSHIRE**
OAKRIDGE NEAR GLOUCESTER HIGHNAM Neighbourhood Centre (PPS6 Local Centre) Village Site area: 1.6 hect Survey date: Friday 23/04/2021			Survey Type: Manual
8	**HC-03-A-22**	**MIXED HOUSES**	**HAMPSHIRE**
BOW LAKE GARDENS NEAR EASTLEIGH BISHOPSTOKE			

Edge of Town
Residential Zone
Site area: 1.69 hect
Survey date: Wednesday 31/10/2018 Survey Type: Manual

9	**HC-03-A-23**	**HOUSES & FLATS**	**HAMPSHIRE**

CANADA WAY
LIPHOOK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 1.4 hect
Survey date: Tuesday 19/11/2019 Survey Type: Manual

10	**HC-03-A-27**	**MIXED HOUSES**	**HAMPSHIRE**

DAIRY ROAD
ANDOVER
Edge of Town
Residential Zone
Site area: 2.5 hect
Survey date: Tuesday 16/11/2021 Survey Type: Manual

11	**HC-03-A-31**	**MIXED HOUSES & FLATS**	**HAMPSHIRE**

KILN ROAD
LIPHOOK
Edge of Town
Residential Zone
Site area: 2.17 hect
Survey date: Friday 07/10/2022 Survey Type: Manual

12	**HC-03-A-37**	**MIXED HOUSES**	**HAMPSHIRE**

REDFIELDS LANE
FLEET
CHURCH CROOKHAM
Edge of Town
Residential Zone
Site area: 3.46 hect
Survey date: Wednesday 27/03/2024 Survey Type: Manual

13	**IM-03-A-04**	**MIXED HOUSES**	**ISLE OF MAN**

NEW CASTLETOWN ROAD
DOUGLAS
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 2.3 hect
Survey date: Monday 20/05/2024 Survey Type: Manual

14	**KC-03-A-03**	**MIXED HOUSES & FLATS**	**KENT**

HYTHE ROAD
ASHFORD
WILLESBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 1.38 hect
Survey date: Thursday 14/07/2016 Survey Type: Manual

15	**NF-03-A-05**	**MIXED HOUSES**	**NORFOLK**

HEATH DRIVE
HOLT
Edge of Town
Residential Zone
Site area: 1.57 hect
Survey date: Thursday 19/09/2019 Survey Type: Manual

16	**NF-03-A-25**	**MIXED HOUSES & FLATS**	**NORFOLK**

WOODFARM LANE
GORLESTON-ON-SEA
Edge of Town
Residential Zone
Site area: 3.1 hect
Survey date: Tuesday 21/09/2021 Survey Type: Manual

17	**NF-03-A-37**	**MIXED HOUSES**	**NORFOLK**

GREENFIELDS ROAD
DEREHAM
Edge of Town
Residential Zone
Site area: 1.64 hect
Survey date: Tuesday 27/09/2022 Survey Type: Manual

18	**NF-03-A-40**	**MIXED HOUSES**	**NORFOLK**

MILL LANE
NEAR NORWICH
HORSFORD
Neighbourhood Centre (PPS6 Local Centre)
Village
Site area: 3.1 hect
Survey date: Tuesday 11/10/2016 Survey Type: Manual

19	**NM-03-A-02**	**DETACHED & SEMI-DETACHED**	**WEST NORTHAMPTONSHIRE**

HARLESTONE ROAD
NEAR NORTHAMPTON
CHAPEL BRAMPTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Site area: 2.406 hect
Survey date: Tuesday 20/10/2020 Survey Type: Manual

20	**SC-03-A-07**	**MIXED HOUSES**	**SURREY**

FOLLY HILL
FARNHAM
Edge of Town
Residential Zone
Site area: 2.8 hect
Survey date: Wednesday 11/05/2022 Survey Type: Manual

21	**SF-03-A-07**	**MIXED HOUSES**	**SUFFOLK**

FOXHALL ROAD
IPSWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Site area: 3.7 hect
Survey date: Thursday 09/05/2019 Survey Type: Manual

22	**SM-03-A-03**	**MIXED HOUSES**	**SOMERSET**

HYDE LANE
NEAR TAUNTON
CREECH ST MICHAEL
Neighbourhood Centre (PPS6 Local Centre)
Village
Site area: 2.65 hect
Survey date: Tuesday 25/09/2018 Survey Type: Manual

23	**WM-03-A-05**	**TERRACED & DETACHED**	**WEST MIDLANDS**

COUNDON ROAD
COVENTRY
Edge of Town Centre

Residential Zone
Site area: 2 hect
Survey date: Monday 21/11/2016 Survey Type: Manual

24 **WS-03-A-07** **BUNGALOWS** **WEST SUSSEX**
EMMS LANE
NEAR HORSHAM
BROOKS GREEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Site area: 3.25 hect
Survey date: Thursday 19/10/2017 Survey Type: Manual

25 **WS-03-A-10** **MIXED HOUSES** **WEST SUSSEX**
TODDINGTON LANE
LITTLEHAMPTON
WICK
Edge of Town
Residential Zone
Site area: 2.27 hect
Survey date: Wednesday 07/11/2018 Survey Type: Manual

26 **WS-03-A-16** **DETACHED & SEMI-DETACHED** **WEST SUSSEX**
BRACKLESHAM LANE
BRACKLESHAM BAY
Neighbourhood Centre (PPS6 Local Centre)
Village
Site area: 1.9 hect
Survey date: Wednesday 09/11/2022 Survey Type: Manual

27 **WS-03-A-25** **PRIVATE HOUSES & FLATS** **WEST SUSSEX**
LIDSEY ROAD
WOODGATE
Neighbourhood Centre (PPS6 Local Centre)
Village
Site area: 2.4 hect
Survey date: Wednesday 18/09/2024 Survey Type: Manual

DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
HC-03-A-18	29-11-2016	Removed: Site re-surveyed by HC-03-A-19
HC-03-A-19	27-11-2017	Removed: Site re-surveyed by HC-03-A-20
HC-03-A-20	20-11-2018	Removed: Site re-surveyed by HC-03-A-23
SU-03-A-01	13-06-2024	London
WK-03-A-04	27-09-2019	Edge of Town

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

Total Vehicles

Calculation factor: 1 DWELLS

**BOLD print indicates peak (busiest) period*

Time Range	No. Days	Ave. DWELLS	Arrivals	Departures	Totals
00:00-01:00					
01:00-02:00					
02:00-03:00					
03:00-04:00					
04:00-05:00					
05:00-06:00					
06:00-07:00					
07:00-08:00	**27**	**59**	**0.089**	**0.301**	**0.390**
08:00-09:00	**27**	**59**	**0.148**	**0.366**	**0.514**
09:00-10:00	**27**	**59**	**0.165**	**0.182**	**0.347**
10:00-11:00	**27**	**59**	**0.138**	**0.169**	**0.307**
11:00-12:00	**27**	**59**	**0.149**	**0.174**	**0.323**
12:00-13:00	**27**	**59**	**0.176**	**0.163**	**0.339**
13:00-14:00	**27**	**59**	**0.188**	**0.177**	**0.365**
14:00-15:00	**27**	**59**	**0.166**	**0.188**	**0.354**
15:00-16:00	**27**	**59**	**0.247**	**0.180**	**0.427**
16:00-17:00	**27**	**59**	**0.296**	**0.171**	**0.467**
17:00-18:00	**27**	**59**	**0.361**	**0.166**	**0.527**
18:00-19:00	**27**	**59**	**0.250**	**0.157**	**0.407**
19:00-20:00					
20:00-21:00					
21:00-22:00					
22:00-23:00					
23:00-00:00					
Total Rates:			**2.373**	**2.394**	**4.767**

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter Summary:

Trip rate parameter range selected:	20 - 100 (units: DWELLS)
Survey date date range:	21/06/2016 - 18/09/2024
Number of weekdays (Monday-Friday):	27
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	5
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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