PUNCH
consulting engineers

Kingston Park and Millers Lane Public Park and Urban Realm Project

Traffic and Transportation Assessment

233114-PUNCH-XX-XX-RP-C-0001

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Document Control

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1 Non-Technical Summary

1. The proposed works entail the development of a multi-use sports buildings, new surfaced car parking spaces and vehicular access with associated signage, boundary treatment, and connections to public services on both sites. As well as the installation of a 4G synthetic turf multi-sport pitch on a greenfield site in Kingston Park, Knocknacarra, Co. Galway, and the development of a 4G synthetic turf multi-sport pitch and 2G sand-filled synthetic multi-sport pitch in Miller's Lane, Knocknacarra, Co. Galway.

2. The TRICS database was consulted for our assessment to provide an equivalent trip rate for the proposed development site.

3. Kingston Park site is accessed from the Western Distributor Road via the St. John the Apostle primary school's access road (L10111) and the Miller's Lane access road is the Gort na Bró road (L5000) the site also has pedestrian access from Miller's Lane.

4. Capacity analysis was carried out on the four existing junctions: Roundabout at Clybaun Road Upper/ Western Distributor Road/ Clybaun Lower, Roundabout at Bóthair Stiofáin / Western Distributor Road /Altáin, Roundabout at Gort na Bró / Western Distributor Road/ An Logán, Priority Junction, Gort na Bró / Rahoon Road. The analysis showed that there will not be any capacity issues on the junctions in the vicinity of the site due to the development.

5. Parking spaces for the proposed development have been provided to meet the requirements set out in the Galway Council Development Plan.

6. Secure cycle parking facilities have been provided within the development to meet the requirements set out in the Galway City Development Plan as well as provision of footpaths to enhance Active Travel.

2 Introduction

PUNCH Consulting Engineers were commissioned by Galway City Council to carry out a Traffic and Transportation Assessment (TTA) for two proposed developments in Knocknacarra Co. Galway.

The assessment has been carried out in accordance with TII's Traffic and Transport Assessment Guidelines PE-PDV-02045 (May 2014) and refers to the Design Manual for Urban Roads & Streets (DMURS). Sections from the Galway City Council Development Plan (2023-2029) have been used to help describe the development location and its local context.

The purpose of the TTA report is to assess the potential impact of the proposed development on the existing local transport network and to ensure that the proposed site access will have adequate capacity to carry the development traffic and the future growth in existing road traffic to the design year and beyond.

2.1 Scoping

Consultation was undertaken with Galway City Council to allow them to express their views/comments regarding the proposed development prior to the submission of the planning application. Two Public consultations were also undertaken to allow members of the public to share their opinions to aid with the design of the parks, with a third one planned for November 2025.

3 Existing Conditions

3.1 Site Location

The existing sites are in Knocknacarra, Co. Galway. The Kingston Park site is approximately 3.43 hectares in area, located at the Western Distributor Road, Knocknacarra. The site is bounded by the L10111 road to the North, residential development and land designated for future residential developments to the east, south and west. As well as St. John the Apostle, Knocknacarra National School located at the Northwest of the site. The site is accessed from the Western Distributor Road via the school's access road (L10111), which is not a through route for vehicular traffic. The existing site is a greenfield site, the proposed development will include construction of a community building with changing facilities, a 4G synthetic turf multi-sport pitch, and added amenities such as a basketball court, cricket mat and a walled sensory garden. The site topography varies from a high point of approximately 24mAOD located in the southeast of the site to a low point of approximately 19mAOD in the centre of the site.

The Miller's Lane site is approximately 2.2 hectares in area, located on the Gort na Bró road in Knocknacarra. It is bounded by Gort na Gréine residential developments to the north, Miller's Lane to the east, Gort na Bró residential development to the south and Gort na Bró road (L5000) to the west. On the opposite side of the L5000 road is primary school, Gaelscoil Mhic Amhlaigh. The existing site consists of two grass pitches with a walkway around the perimeter. The proposed development includes an upgraded 4G synthetic turf multi-sport pitch, a 2G sand-filled synthetic multi-sport pitch pitch, community building with changing facilities, paddle ball courts and a children's play area. The site topography slopes from east at a level of +37.0mOD to west at invert level of +30.0mOD.

Both proposed sites and roads linking them can be seen in Figure 3-1 below. The proposed development is within the Galway City Development Plan. The sites are zoned as Recreational and Amenity as seen in Figure 3-2.

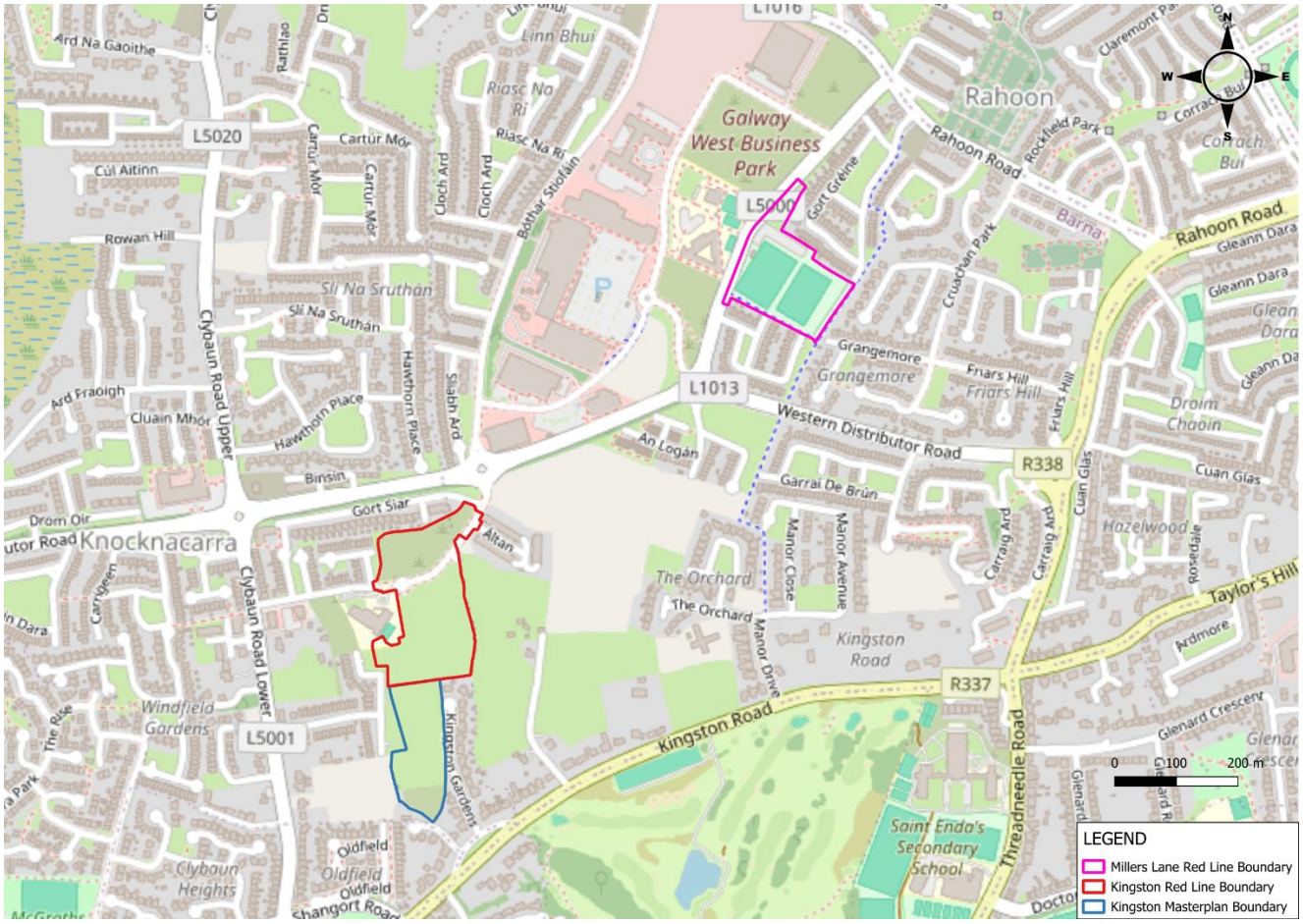


Figure 3- 1: Sites Locations (Ref:QGIS)

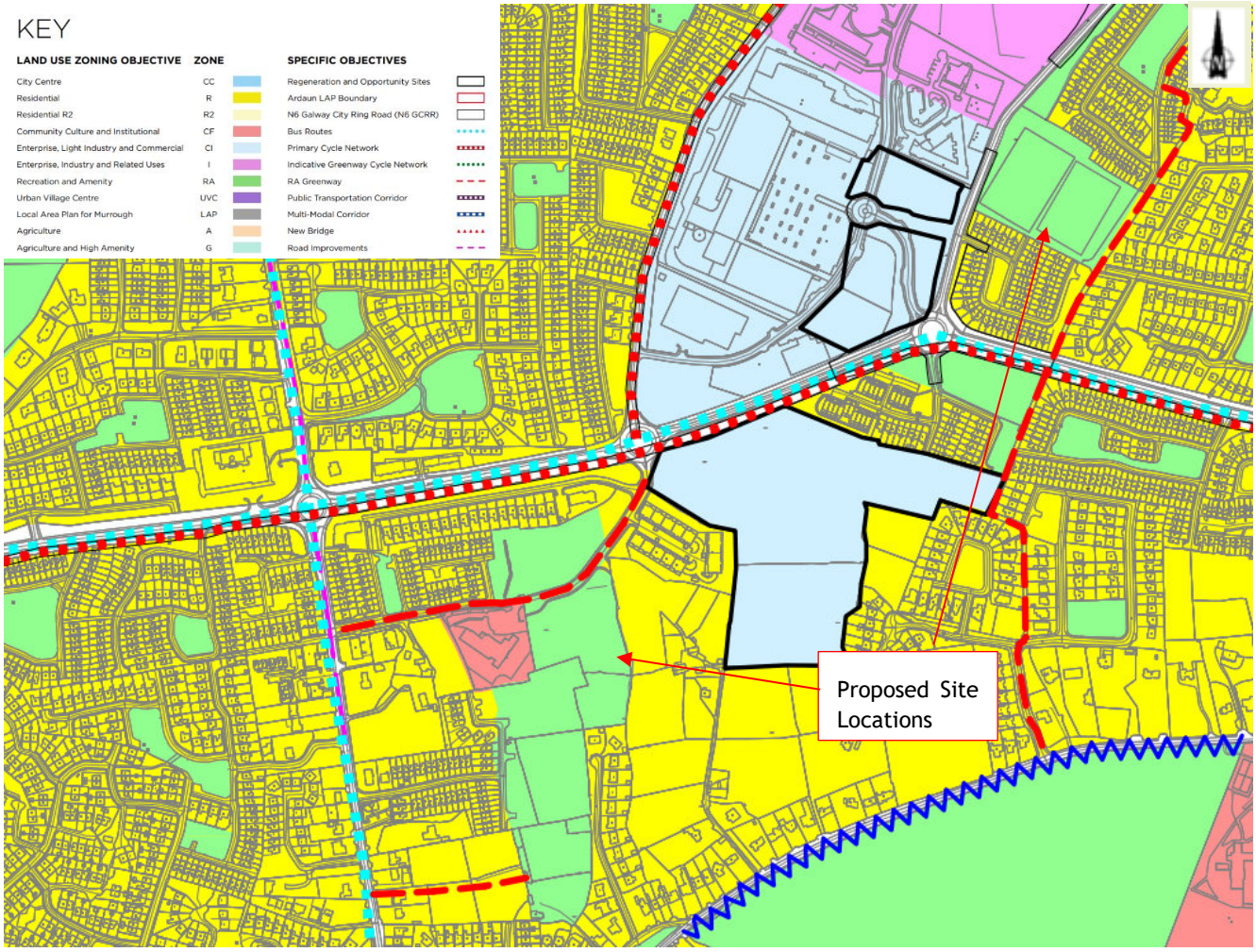


Figure 3-2- Galway City Council Land Use Zoning and Specific Objectives (2024-2030)

3.2 Existing Road Network

A brief description of the local road network and the major road junctions is provided below:

3.2.1 Western Distributor Road

The Western Distributor Road features a well-defined dual carriageway designed for two-way traffic, regulated by a speed limit of 50 km/h. Both sides of the road have well-maintained footpaths and cycle lanes that run parallel to the traffic lanes, providing a safe walking and cycling routes for pedestrians and cyclists.

Currently, Galway City Council is planning on constructing improved cycle and pedestrian facilities for the Western Distributor Road, called the WDR Cycle Lane Scheme. This scheme includes the addition of bollards to the existing cycle lane from the Clybaun Roundabout to the Deane Roundabout, as well as upgrading all of the roundabouts on the Western Distributor Road to include cycle infrastructure, which will increase the safety and accessibility of cyclists in the area. There are zebra crossings on three arms of the roundabout at the junction of the Western Distributor Road and the School Access Road where Kingston Park will be accessed, that enhances pedestrian safety and facilitate safe crossing. The proposed Kingston development site is positioned on the southern side of the Western Distributor Road.

Figure 3-3: Western Distributor Road (Looking East) (Ref: https://www.google.ie/maps

Figure 3-4: Western Distributor Road (Looking West) (Ref: https://www.google.ie/maps)

3.2.2 Gort na Bró Road/ L5000

The Gort na Bró Road is a two-lane, two-way thoroughfare. This road is designed with pedestrian footpaths on both sides, facilitating safe walking for individuals; however, it currently lacks dedicated facilities for cyclists, which may limit bicycle access along this route.

There are two zebra crossings strategically positioned at the two points where the primary school, Gaelscoil Mhic Amhlaigh, has pedestrian access to Gort na Bró road, to enhance safety for pedestrians. These crossings are clearly depicted in Figure 3-5 and Figure 3-6, illustrating their importance in promoting safe passage across the roadway. It is important to note that the Miller's Lane site referenced in this context is located to the east of Gort na Bró road, as indicated in Figure 3-1 above, highlighting its geographical relationship to the surrounding area.

Figure 3- 5: Gort na Bró Road (Looking North) (Ref: **https://www.google.ie/maps**)

Figure 3- 6: Gort na Bró Road (Looking South) (Ref: **https://www.google.ie/maps**)

3.2.3 St. John's school access road/ L10111

St. John's school access road/ L10111 is a two-way lane with footpaths and cycle lanes with bollards on both sides, offering access to nearby residential developments, Altán and Gort Siar, and the St. John the Apostle Primary School, it is not a through route for vehicular traffic. The Kingston Park site is situated to the north and south of the road as seen in figure 3-1 above.

Figure 3- 7: School Access Road (Looking North) (Ref: https://www.google.ie/maps)

Figure 3-8: School Access Road (Looking South) (Ref: https://www.google.ie/maps)

3.3 Existing Traffic Flows

Several junctions were assessed as agreed with Galway City Council to determine the impact of the new development on existing traffic in the surrounding network. See Figure 3-9 for the locations. The following junctions were surveyed:

Site 1 – Priority Roundabout- Clybaun Road Upper/ Western Distributor Road/ Clybaun Lower

Site 2- Priority Roundabout - Bóthair Stiofáin / Western Distributor Road /Altán

Site 3- Priority Roundabout - Gort na Bró / Western Distributor Road/ An Logán

Site 4- Priority T-Junction- Gort na Bró / Rahoon Road

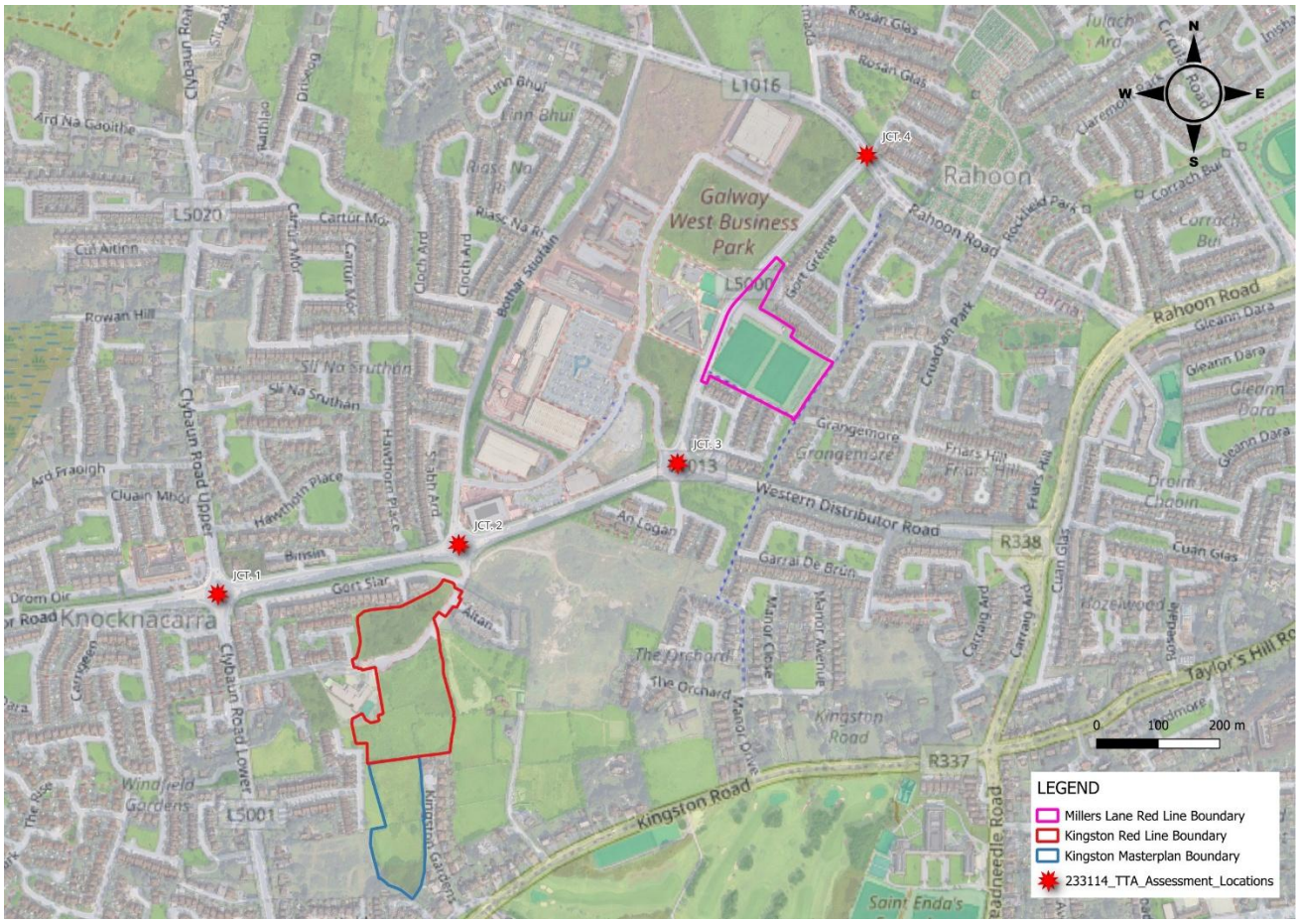
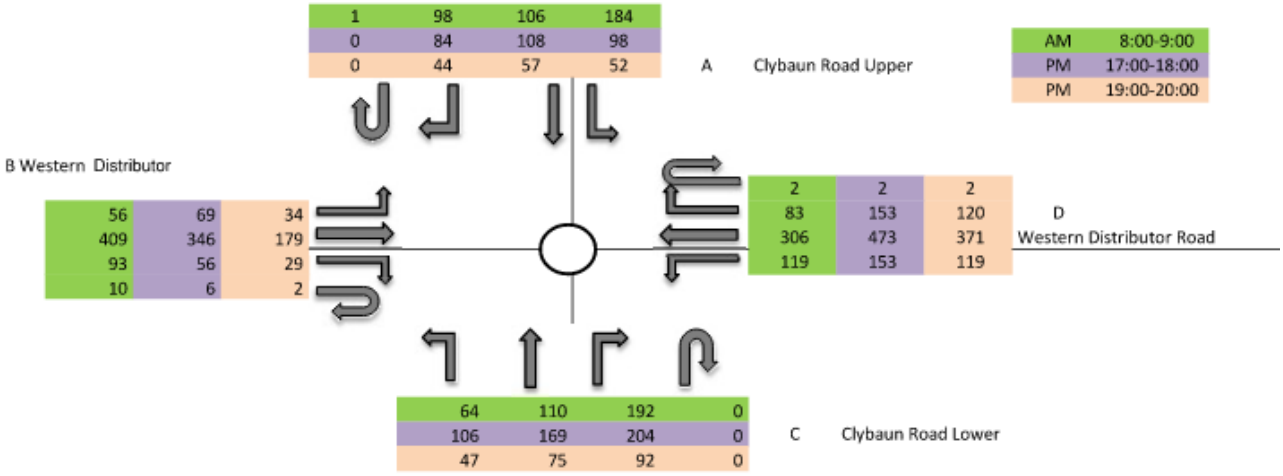


Figure 3- 9: Traffic Survey Site Locations

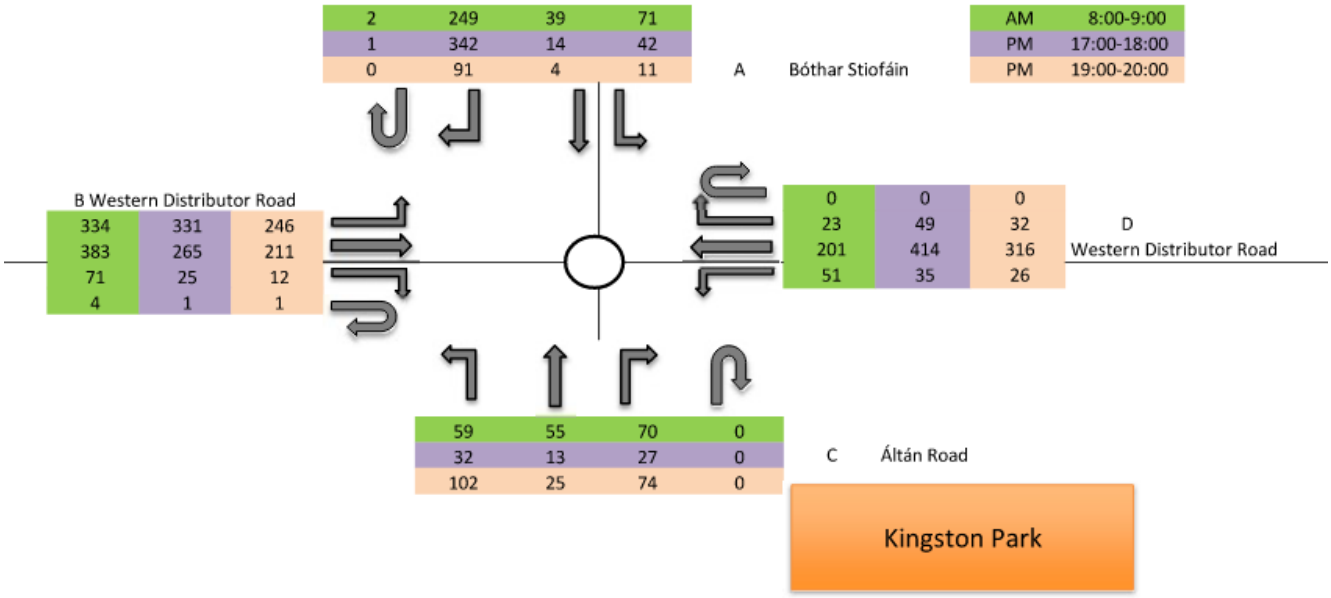
A classified turning count traffic survey of junctions 1, 2, and 3 was completed by IDASO on Tuesday, 7th November 2023 from 7am to 7pm. A classified turning count traffic survey of junction 4 was completed by Traffinomics on Thursday, 15th June 2023, from 7am to 7pm. Traffic surveys revealed that the mean peak hour traffic flow at the existing junctions surrounding the development typically occurred between 8:00 AM and 9:00 AM in the morning, and between 5:00 PM and 6:00 PM in the evening. However, it's important to note a slight discrepancy between the local road peak hours and those of the development during the afternoon peak, primarily due to differing school dismissal times. This difference is expected to lessen the impact of the development on local road traffic. The proposed development is envisaged to cater for senior citizens' tea dances, Foroige discos, community arts events, and school musicals, etc., which will occur on an infrequent basis. Utilising the allowable density of the hall could cater for up-to 1,200 individuals. To more effectively

evaluate the performance of the junctions and the potential impact of the development on traffic flows, the survey peak hours for the night session were also taken into account for junctions 1 and 2. This consideration aims to address the anticipated influx during the occasional events associated with the proposed development.

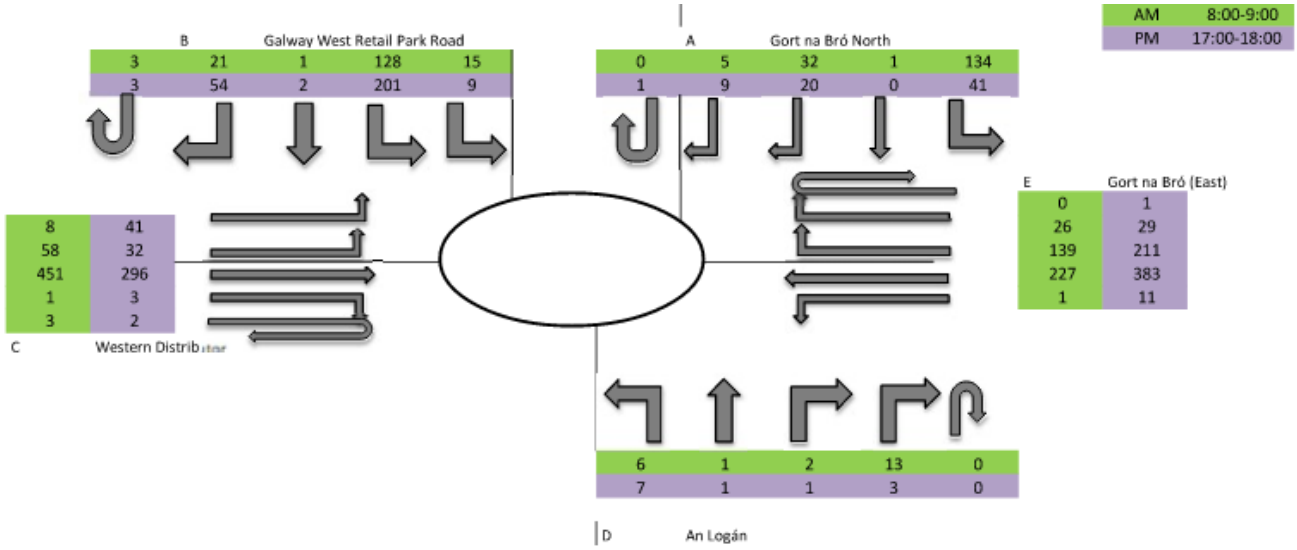
The surveyed peak hour turning PCUs in the year 2023 are presented in Figure 3.10 for the four junctions:



Junction 1- Western Distributor / Clybaun Road



Junction 2- Western Distributor/ Altan/ Bothar Stiofain Road



Junction 3 – Western Distributor/ Gort na Bro/ An Logain/ Galway West Retail Park Road

Junction 4 – Gort na Bro/ Rahoon Road

Figure 3-10 – Year 2023 surveyed peak turning movements for the juncitons

3.4 Future Transport Proposals

The site is currently within the area under the Galway City Council City Development Plan (2023-2029). The current transport specific objectives in the vicinity of the site as per the Development Plan are for the enhancement of Active Travel through cycle lane and footpath upgrades.

General proposals and objectives as noted in the Development Plan are to reduce car dependency and increase the use of sustainable means of transport such as walking, cycling, and the use of public transport.

As mentioned above, the Galway City Councils proposed WDR cycle lane scheme will provide fully segregated footpaths and cycle tracks on both sides of the road from Cappagh roundabout to Clybaun roundabout and the addition of bollards to create protected cycle lanes from Clybaun Roundabout to Deane Roundabout (see Figure 3-11 below). Four new pedestrian and cycle crossings will be constructed, and two existing crossings will be

upgraded, and bus stop facilities will be enhanced. Public lighting and services will be upgraded where necessary. Landscaping will also be improved, and new road markings and signage will be installed. The works will improve safety, reduce vehicle speeds, and contribute towards an increased number of trips in the area by pedestrians and cyclists.

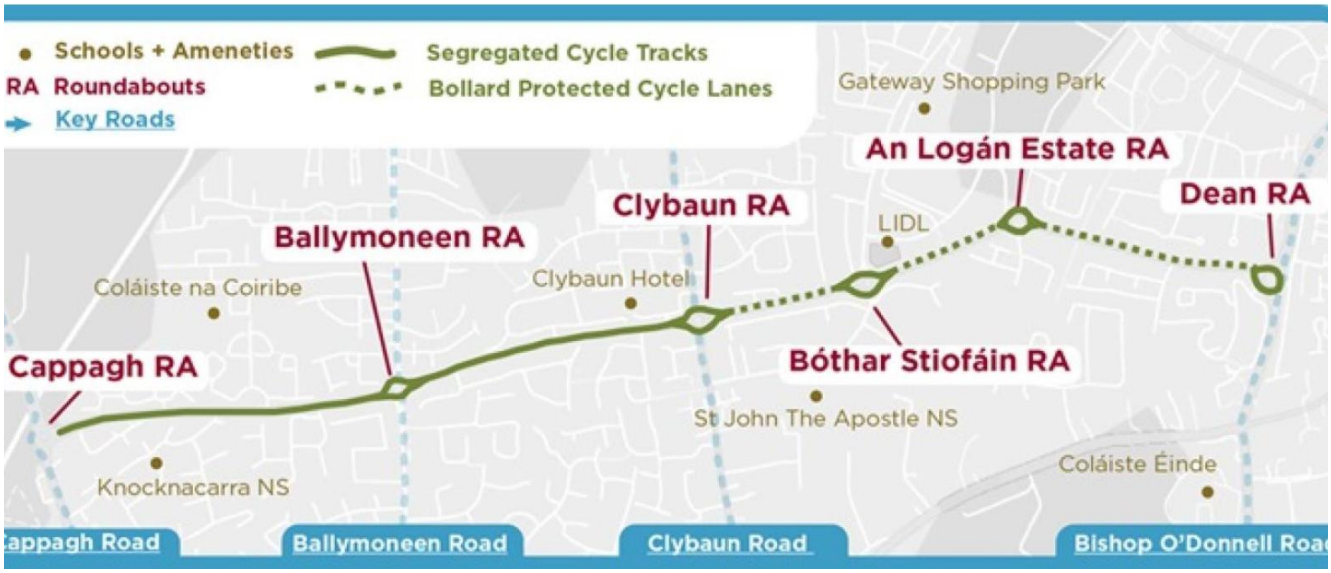


Figure 3-11 - Proposed Galway City Council WDR Cycle Lane Scheme

3.5 Coordination with Other Projects

There are five approved planning applications situated in the vicinity of the proposed site. The traffic generated by these developments has been analysed within this Traffic Transport Assessment (TTA) and the traffic from these surrounding developments has been integrated into both the 'Do Nothing' and 'Do Something' scenarios for the relevant years. This was to ensure that the traffic conditions are accurately represented and that the anticipated traffic from adjacent developments is comprehensively accounted for. The proposed developments are as follows:

- Galway Regional Aquatic Centre, designated with application number 2460370. This planning application anticipated 35 arrivals and 21 departures during the morning peak period (8.00am-9.00am) and 48 arrivals along with 57 departures during the evening peak period (4.30pm-5.30pm).
- Primary Care Centre, designated with application number 2360113. This planning application anticipated -1 arrivals and 49 departures during the morning peak period (8.00am-9.00am) and 25 arrivals along with -16 departures during the afternoon peak period (1.45pm-2.45pm).
- Westgate Campus Office Block, designated with application number 2460021. This planning application anticipated 237 arrivals and 29 departures during the morning peak period (8.00am-9.00am) and 25 arrivals along with 207 departures during the evening peak period (5.00pm-6.00pm).
- Residential Development Clybaun Road, designated with application number 2560034. This planning application anticipated 12 arrivals and 19 departures during the morning peak period (8.00am-9.00am) and 7 arrivals along with 1 departures during the evening peak period (3.45pm-4.45pm).
- Large-Scale Residential Development Kingston Stables Ltd for a 10-year planning permission with an accommodation schedule of 503 units. Using the TRICS website for trip generation this planning application is forecast to anticipate 62 arrivals and 144 departures during the morning peak period (8am-9am) and 120 arrivals along with 70 departures during the evening peak period (5pm-6pm).

The Figure 3.12 shows the locations of these developments relative to the junctions under consideration in this TTA. The Large-Scale Residential Development Kingston Stables is shown indicative, as it is at the master-planning stage.

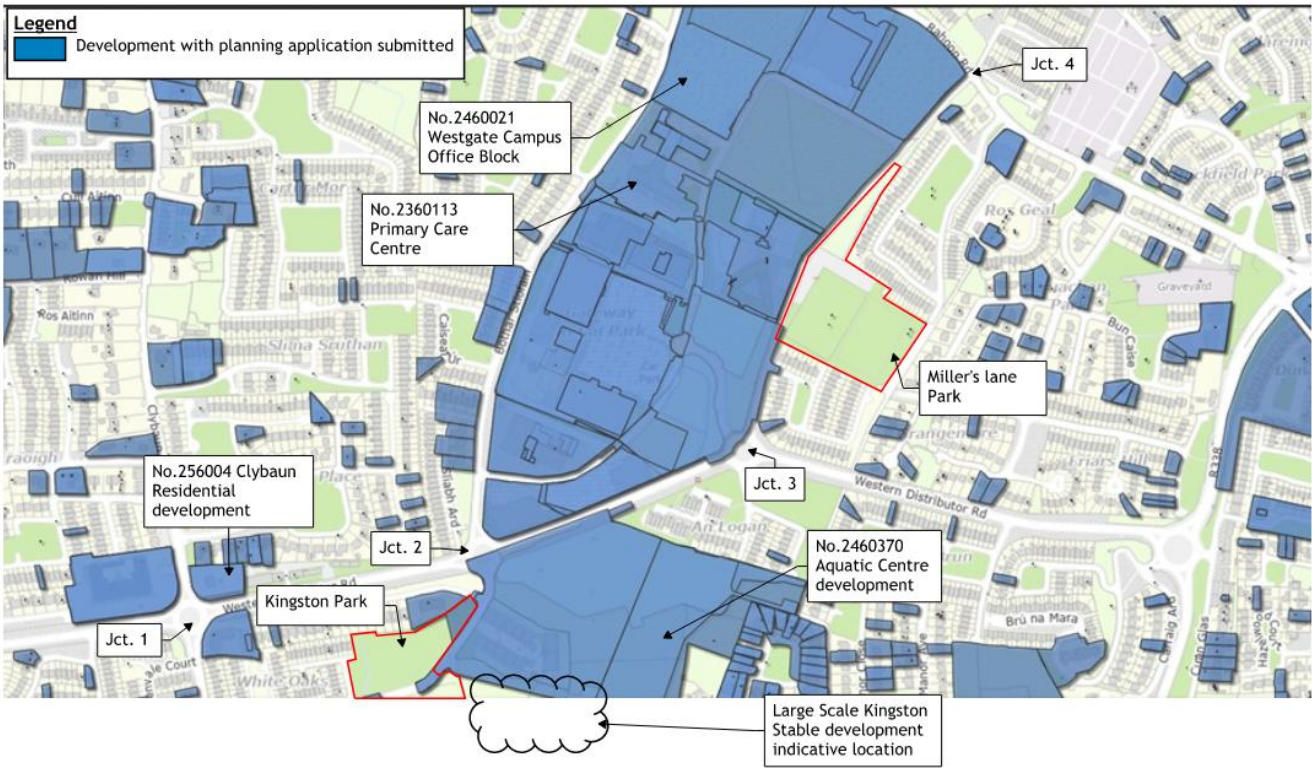


Figure 3-12 - Proposed Developments near the Kingston Park and Miller's lane Park development

The Kingston Park and Miller's lane development anticipates peak trips during the following times: Clybaun/ Western Distributor road roundabout morning peak period (8.30am-9.30am) and evening peak period (4.30pm-5.30pm); Atlan/ Western Distributor roundabout morning peak period (8.15am-9.15am) and evening period (4.30pm-5.30pm); Gort-na-Bro/ Western Distributor road morning peak period (8.15am-9.15am) and evening peak period (3.45pm-4.30pm).

Noting the slight variances observed in the peak trips between the various projects, the National Transport Authority (NTA) website was consulted to obtain traffic count data for the year 2024, as shown in Table 3.1. The traffic pattern profile for the peak times observed from the NTA's 2024 traffic data count is similar to the traffic peak pattern for the Kingston Park and Millers Lane Park proposed development. Therefore, we proceeded with our peak times obtained from the 2023 survey data.

Table 3.1 – Traffic Count Peak times for the year 2024

Junction	Peak times	
	AM	**PM**
Clybaun/ Western Distributor Road Roundabout	8.30am-9.30am	4.30pm-5.30pm
Atlan/ Western Distributor/ Bothar Stiofan Roundabout	8.15am-9.15am	4.00pm-5.00pm
Gort na Bro/ Western Distributor/ An Logan Roundabout	8.00am-9.00am	3.45pm-4.15pm

Source: NTA, 2024 traffic count

4 Proposed Development

4.1 Kingston Park

The development of the northern half of the proposed Kingston Park (site area 3.43Ha), including:

- The development of 1 no. 4G synthetic turf multi-sport pitch (designed to 4G synthetic turf multi sport pitch dimensions) with associated fencing and 6 no. floodlights.
- New two-storey, multi-functional building which includes public and sports team changing rooms, toilets, and showers (standard and accessible); double-height general purpose community hall including retractable bleacher seating; multi-purpose activity rooms (including 3 no. rooms offering direct views onto the playing pitch); commentary booth; café and servery; sensory room; first-aid room; store room; plant room; reception area; and roof-mounted solar panels.
- New public spaces and amenities including all-ages play area, outdoor classroom / amphitheatre; internal paths; multi-functional gaming area; informal games lawn; boules pitch; calisthenics area; performance space; pedestrian gateway plaza; parks department staff kiosk; refuse store; sports equipment sheds; public lighting; and public seating.
- Extensive landscape planting (including native genus and species) and nature-based drainage measures including pollinator-friendly raingarden/ bioretention areas; reinforced grass paving; native hedgerows; short- and long-flowering meadows; wildflower gardens; native and naturalised wooded areas; and pollinator-friendly perennials and shrubs.
- Replacement of the existing vehicular site access / junction on the Altan Road, and modification of the new access road approved under permitted Aquatic Centre Development (Pln. Ref. 24/60370) to account for the layout of this proposed development.
- Improvement of existing active travel entrance from Doire Gheal, improved links to the St. John the Apostle, Knocknacarra National School (via a Safe Routes to School), new active travel accesses from the Altan Road, and provision for 2 no. potential future accesses to lands to the east (northeast of Kingston Gardens).
- 50 no. car parking spaces (including 4 no. standard EV charging spaces, 3 no. accessible spaces, 1 no. combined EV and accessible space, and 1 no. age-friendly space), 1 no. coach parking space, 1 no. set-down area, 82 no. bicycle spaces (60 no. standard short-term spaces, and a secure bike shed with 20 no. standard and 2 no. cargo-bike spaces) and 2 no. motorcycle spaces.
- All other associated and ancillary works.

The proposed layout for the development is detailed in the series of drawings by DRLA Landscape Architects accompanying this report and an extract is included in Figure 4-1.

4.2 Miller's Lane

The proposed development consists of:

The refurbishment and expansion of the existing park (site area 2.44Ha) located on Millers Lane, including:

- Relocation and replacement of the 2 no. existing football pitches with: 1 no. new 4G synthetic turf multi-sport pitch (designed to 4G synthetic turf multi sport pitch dimensions) with associated fencing and 6 no. floodlights; and 1 no. new 2G sand-filled synthetic multi-sport pitch (designed to hockey pitch dimensions) with associated fencing and 6 no. floodlights.
- New two-storey, multi-functional building which includes public and sports team changing rooms, showers and toilets; multi-purpose sports hall; multi-purpose activity rooms; kitchenette; 2 no. viewing terraces; first-aid room; store rooms; plant rooms; reception area; and roof-mounted solar panels.
- New public spaces and amenities including fenced children's play areas; internal paths; multi-use games area; climbing wall; calisthenics area; public plaza; pitch spectator areas; equipment storage shed; green space for passive recreation; public lighting; and public seating.

- Extensive landscape planting (including native genus and species) and nature-based drainage measures including pollinator-friendly raingarden/ bioretention areas and reinforced grass paving, as well as planting areas with typologies including native and naturalised wooded areas, avenue tree planting, clipped hedges, short-flowering meadow, and pollinator-friendly perennials.
- Relocated vehicular access on the L-5000 Road; 2 no. new active travel accesses from the L-5000 Road; and enhanced pedestrian / cyclist access from Millers Lane.
- 27 no. car parking spaces (2 no. standard EV charging spaces, 1 no. accessible space, 1 no. combined EV and accessible space, 1 no. family space, and 1 no. age-friendly space), 2 no. coach drop-off spaces with automated access control, 3 no. motorcycle spaces, and 64 no. cycle spaces (40 no. standard short-term spaces, 2 no. short term cargo-bike spaces, and a secure bike shed with 20 no. standard and 2 no. cargo-bike spaces).

The proposed layout for the development is detailed in a series of drawings by DRLA Landscape Architects accompanying this report, and an extract is included in Figure 4-2.

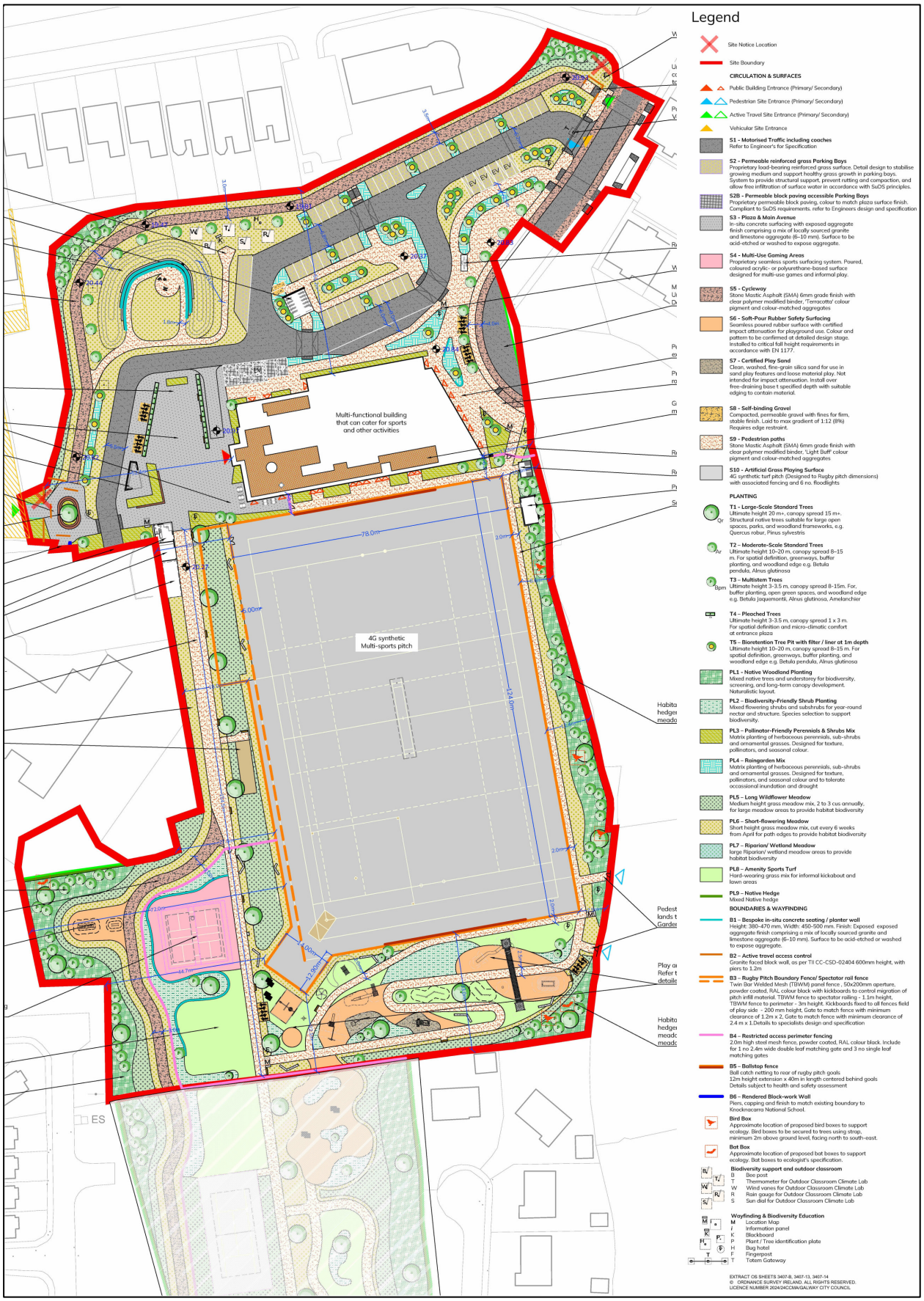


Figure 4- 1: Kingston Park Proposed Site Layout

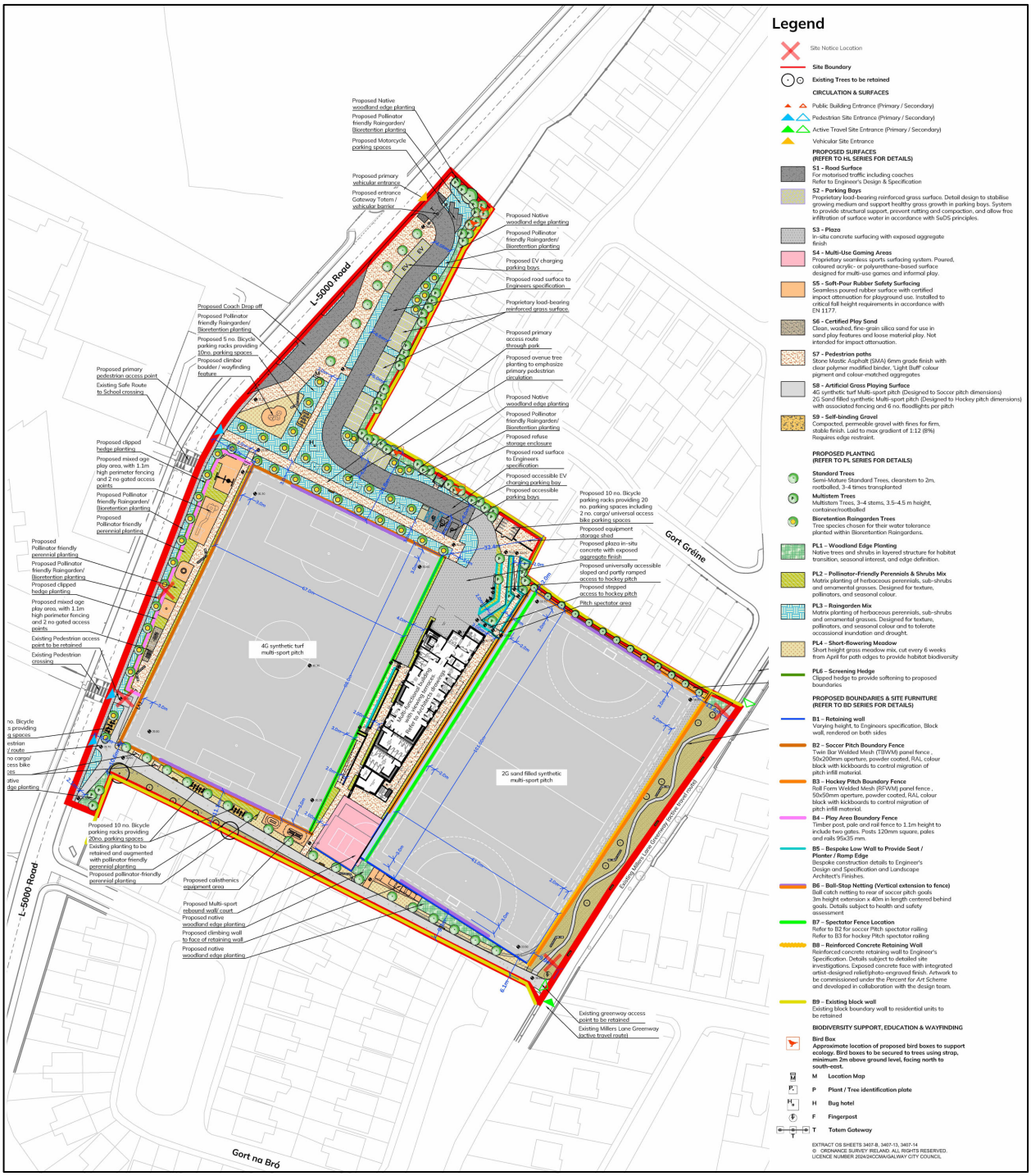


Figure 4- 2: Miller's Lane Proposed Site Layout

5 Person Trip Generation

5.1 Generated Vehicle Trips

This section aims to determine the overall number of trips generated by the proposed development. The proposed development's main land-use is recreation and is situated in the Knocknacarra suburban area. The Kingston Park development is located near St. John's National School as well as residential estates Altán and Gort Siar; the Miller's Lane development is located across from Gaelscoil Mhic Amhlaigh National School and is adjacent to residential estates Gort na Bró and Gort na Gréine.

The proposed development comprises a facility to be municipally owned, i.e. leisure facility with both indoor and outdoor sports amenities, including a basketball court with spectator seating, changing rooms, cafe and outdoor 4G synthetic turf multi sport pitch. The Trips Rate Information Computer System (TRICS) was used to generate a baseline for trip estimation for the development, i.e. to estimate the likely traffic volumes generated by this development. The TRICS database was consulted to identify appropriate sub-land uses for trip rate estimation. The sub-land use leisure centre was selected as the primary category, reflecting the indoor sports and public access nature of the facility. While TRICS includes a Sports Ground sub-category, this was not available in the current dataset. To account for the additional trip generation associated with outdoor pitch usage, a 20% uplift has been applied to the trip rates derived using the leisure centre sub-land use. This adjustment is consistent with TRICS best practices guidance and reflects the expected increase in trips from players, coaches and spectators attending outdoor matches and training sessions. The uplift has been conservatively applied to avoid overestimation, acknowledging potential internal trip linking between indoor and outdoor facilities.

Table 5-1 and Table 5-2 provides a summary of the trips generated from TRICS for the site for the morning and evening peak times in the assessment. Full details of the TRICS analysis are reproduced in Appendix B.

Table 5- 1. Estimated morning and evening peak hour traffic (PCUs) for Kingston Park generated using TRICS

Land Use	Calculation Factor	Trip rate				Additional Number of Trips			
		AM Peak		PM Peak		AM Peak		PM Peak	
	GFA /100m2	AM Arriv	AM Depart	PM Arriv	PM Depart	AM Arriv	AM Depart	PM Arriv	PM Depart
Recreational (leisure)*	23.81	0.667	0.421	1.107	1.010	19	12	32	29

* Note: A 20% uplift was applied to the trip rates derived using the leisure centre sub-land use to account for the sports ground sub-category not available in the current TRICS dataset.

Table 5- 2. Estimated morning and evening peak hour traffic (PCUs) for Miller's Lane generated using TRICS

Land Use	Calculation Factor	Trip rate				Additional Number of Trips			
		AM Peak		PM Peak		AM Peak		PM Peak	
	GFA /100m2	AM Arriv	AM Depart	PM Arriv	PM Depart	AM Arriv	AM Depart	PM Arriv	PM Depart
Recreational (leisure)*	14.75	1.092	0.639	2.040	2.947	19	11	36	52

* Note: A 20% uplift was applied to the trip rates derived using the leisure centre sub-land use to account for the sports ground sub-category not available in the current TRICS dataset.

Tables 5-1 and 5-2 above shows the additional trips generated for the Kingston Park and Miller's Lane sites respectively for the AM and PM peak. However, it was noted that the Kingston Park facilities were to be utilised for large events such as senior citizens tea dances, Foróige discos, community arts events and school musicals, plays etc. which will occur on an infrequent basis. Utilising the allowable density the hall area could cater up to 1,200 individuals. This was considered as a third scenario. Unfortunately, the Leisure Centre category doesn't cover these sorts of events. We reviewed a few land-use categories and decided to use the Community Centre proxy as a sub-land use to estimate trips for the projected 1,200 individuals. However, the peak trips generated by TRICS did not coincide with the AM and PM peaks identified in the traffic count survey. Moreover, the PM peak trips from the TRICS database using the Community Centre categorisation occurred during a timeframe for which no traffic survey count data is available; specifically, the traffic survey only extends until 6:45 PM, while the peak trips from the Leisure Facility & Community Centre land-use estimation occurred between 7:00-8:00 PM and 9:00-10:00 PM respectively. To counteract this, we utilised the NTA traffic survey data on the Western Distributor Road and pro-rata the distribution at the junctions/roundabouts based on the distribution derived using the traffic count survey at each junction/roundabout. The NTA traffic survey data had traffic count till nighttime between junctions 1 and 2, as shown in Figure 5-1, hence only those junctions were considered for the night-time assessment. Table 5-3 below shows the estimated additional trips for the night peak hour traffic.

Table 5-3. Estimated night peak hour traffic (PCUs) generated by proposed using TRICS

Land Use	Calculation Factor		Additional Number of Night Peak 19:00-20:00		Additional Number of Night Peak 21:00-22:00	
	GFA /100m2	No. of Units	Arriv	Depart	Arriv	Depart
Recreational (Community Centre)	23.81		25	10	0	25

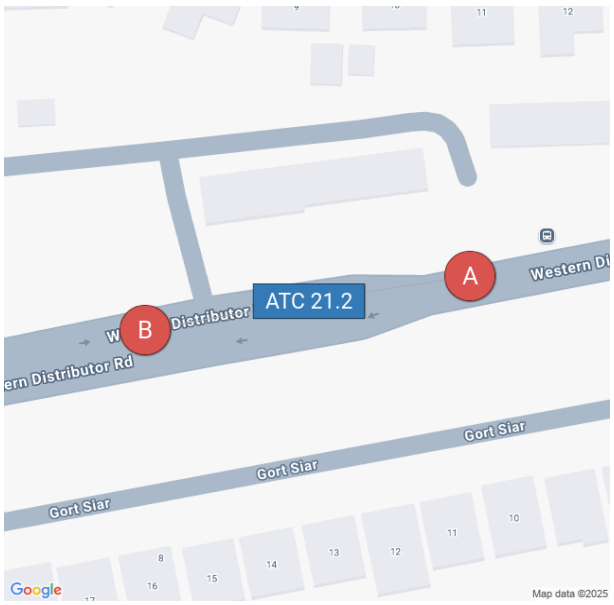


Figure 5- 1: Night traffic counter between junctions 1 and 2 (Ref: NTA website)

6 Trip Assignment and Distribution

The analysis allocated the proposed development's traffic based on the directional flow observed in the surveyed traffic, as illustrated in Figure 8-1, which is also available in Appendix C. For junctions 1, 2, and 3, the trips generated from the ground floor area of the Kingston Park development were utilized based on data from the TRICS database. Similarly, the trips from the Millers Lane ground floor area were assigned to junction 4. Additionally, traffic generated from the Millers Lane Park was considered for junction 3, given that this junction is expected to receive traffic from both parks.

As noted in section 5, junction 3 was not considered for night peak time analysis regardless that it is impacted the infrequent night events from Kingston Park because the only available night time traffic survey count data along the Western Distributor road was between junctions 1 and 2.

Refer to Appendix C for the traffic distribution for all the assessment cases.

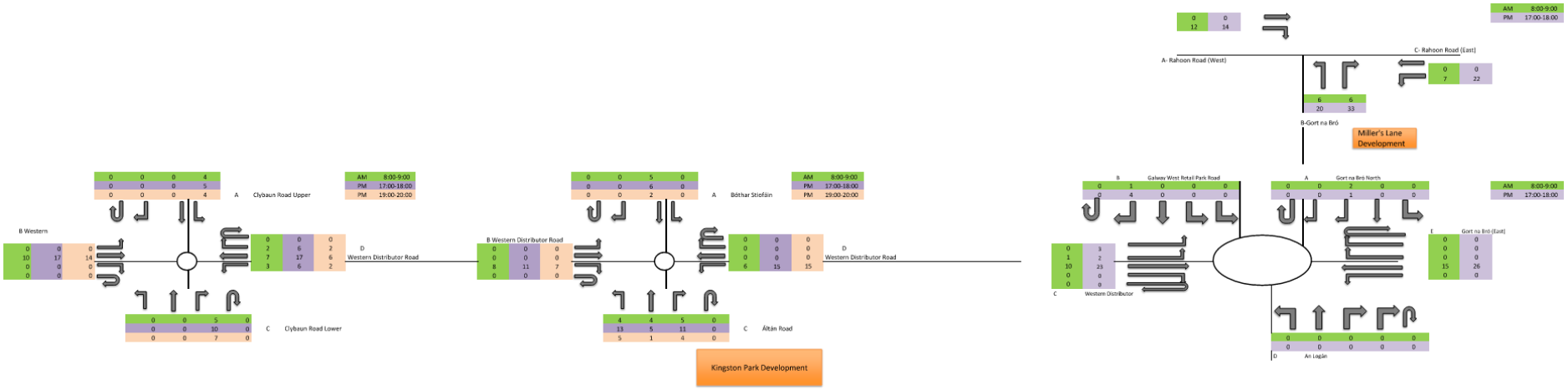


Figure 8- 1: Overview of Distribution of Proposed Development Peak Hour Traffic at all Junctions

7 Traffic Forecasting

7.1 Future Baseline Traffic Growth

In the absence of any specific local traffic growth information, it was assumed that baseline traffic will continue to grow at the levels recommended by the TII in the Project Appraisal Guidelines (PAG) – Unit 5.3 - Travel Demand Projections publication by the TII (May 2019). The Project Appraisal Guidelines describe three levels of transport model functionality. The static model, which reflects traffic volumes based on link flows, is best suited to the proposed development. Such models do not attempt any route assignment and hence are applicable for networks where no change in traffic flows will result from a proposed scheme. We have used figures from Table 6.1 'Link-Based Growth Rates: Metropolitan Area Annual Growth Rates' for the Galway Central Growth Rate Area.

The year of opening of the scheme was assumed to be 2028, with the year 2023 taken as the base year. A 15-year analysis period for the scheme would give a design year of 2043. The Central Growth Rates from the Project Appraisal Guidelines – Unit 5.3 publication are appropriate and are detailed below:

- TII Link Based Growth Rates: Annual Growth Factor for 2016-2030 = 1.0169 (LVs) and 1.0217 (HVs).
- TII Link Based Growth Rates: Annual Growth Factor for 2030-2040 = 1.0097 (LVs) and 1.0182 (HVs).
- TII Link Based Growth Rates: Annual Growth Factor for 2040-2050 = 1.0095 (LVs) and 1.0220 (HVs).

With regards to the volume of traffic using the road, generally the passenger car is adopted as the standard unit and other vehicles are assessed in terms of PCU's. Cars and Light Goods Vehicles are grouped together as Light Vehicles (LV). All other Goods Vehicles, Buses and Coaches are defined as Heavy Vehicles (HV).

Estimated future baseline traffic flows on the road network in the vicinity of the proposed development were calculated by applying these factors to the year 2023 surveyed flows.

8 Modal Split

Census 2022 was carried out by the Central Statistics Office (CSO) on 3 April 2022.

To obtain information regarding 'car ownership' and 'modal split' for the journey to work, school, or college, six areas surrounding the Kingston Park development site have been consulted, demarcated as 'Small Areas' as per the 2022 Census. These consulted areas in relation to the proposed development site location are illustrated in Figure 8-1.

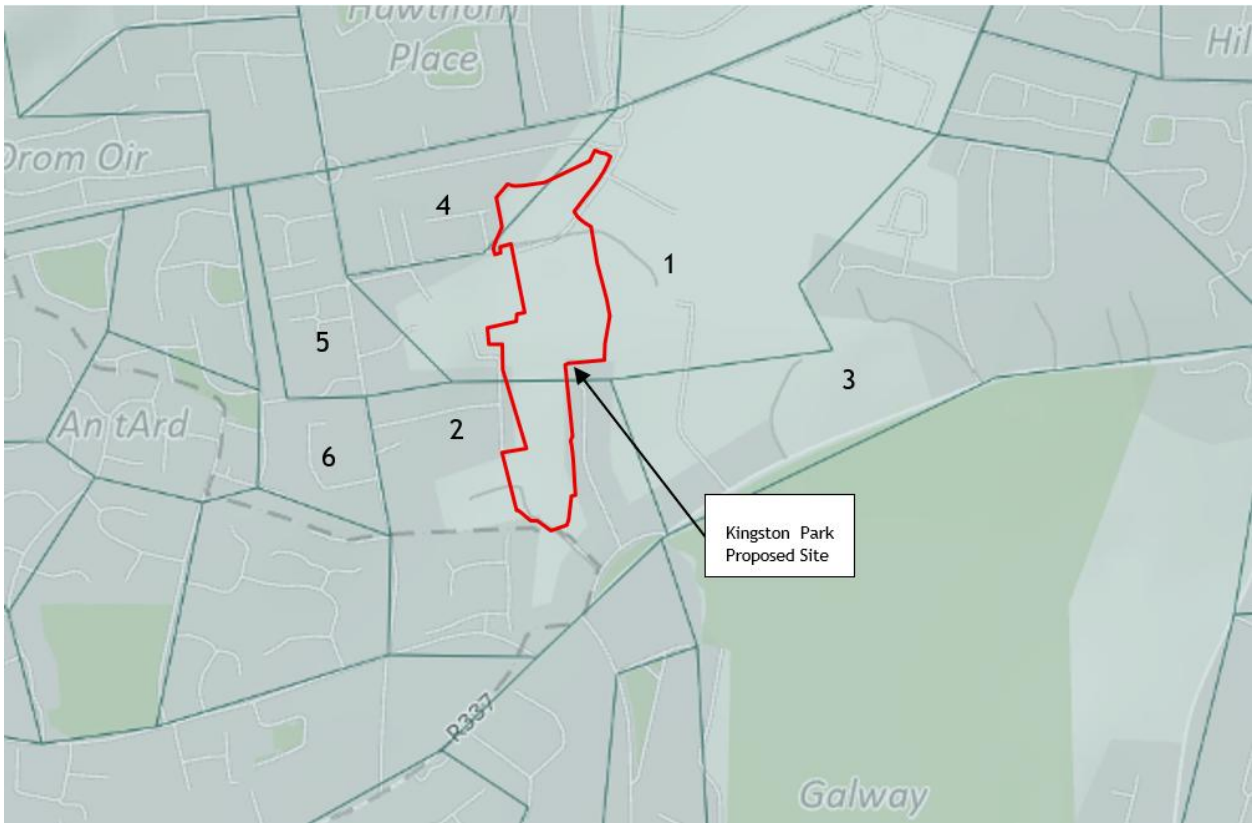


Figure 8- 1: Small Areas as per the 2022 Census for Kingston Park- Extracted from SAPMAPs

Table 8-1: Car Ownership for area surrounding Kingston Park

Car Ownership									
Area	Population	Housing	0	1	2	3	4+	Total No. cars	Total No. Cars/ Housing
1	268	116	32	54	24	0	1	111	0.96
2	301	115	3	53	49	3	0	108	0.94
3	343	113	6	41	46	14	2	109	0.96
4	225	77	5	41	24	3	2	75	0.97
5	163	69	11	27	23	2	1	64	0.93
6	202	77	12	32	25	3	2	74	0.96
Total	1502	567	69	248	191	25	8	541	0.95

Similarly, five areas surrounding the Miller's Lane development site have been consulted. These consulted areas in relation to the proposed development site location are illustrated in Figure 8-2.

Figure 8-2: Small Areas as per the 2022 Census for Miller's Lane- Extracted from SAPMAPs

The results of car ownership based on the consulted small areas in the vicinity of the Kingston Park site location are illustrated in Table 8-2. The survey recorded that the population of 1502 persons living in these areas had a car ownership of 567 vehicles, equivalent to 1 car per 2.78 persons or 0.95 cars per residential unit. The results of car ownership for the areas in the vicinity of the Miller's Lane site location are illustrated in Table 8-2. The survey recorded that the population of 1176 persons living in these areas had a car ownership of 380 vehicles equivalent to 1 car per 3.1 persons or 0.94 cars per residential unit. Therefore, car usage is likely to be the most prevalent mode of transport used. The trips generated by the proposed development were assumed to be mostly by private cars for modelling purposes.

Table 8-2: Car Ownership for the area surrounding Miller's Lane

Car Ownership									
Area	Population	Housing	0	1	2	3	4+	Total No. cars	Total No. Cars/ Housing
1	216	74	4	34	27	2	1	68	0.92
2	357	108	11	50	34	2	2	99	0.92
3	189	69	4	44	17	1	1	67	0.97
4	204	69	3	33	26	2	3	67	0.97
5	210	85	16	38	21	4	0	79	0.93
Total	1176	405	38	199	125	11	7	380	0.94

To obtain information regarding 'commuting' for the journey to work, school or college, the five electoral divisions surrounding both sites were consulted, demarcated as electoral divisions as per the 2022 Census. These consulted areas in relation to the proposed development sites are illustrated in Figure 8-3.

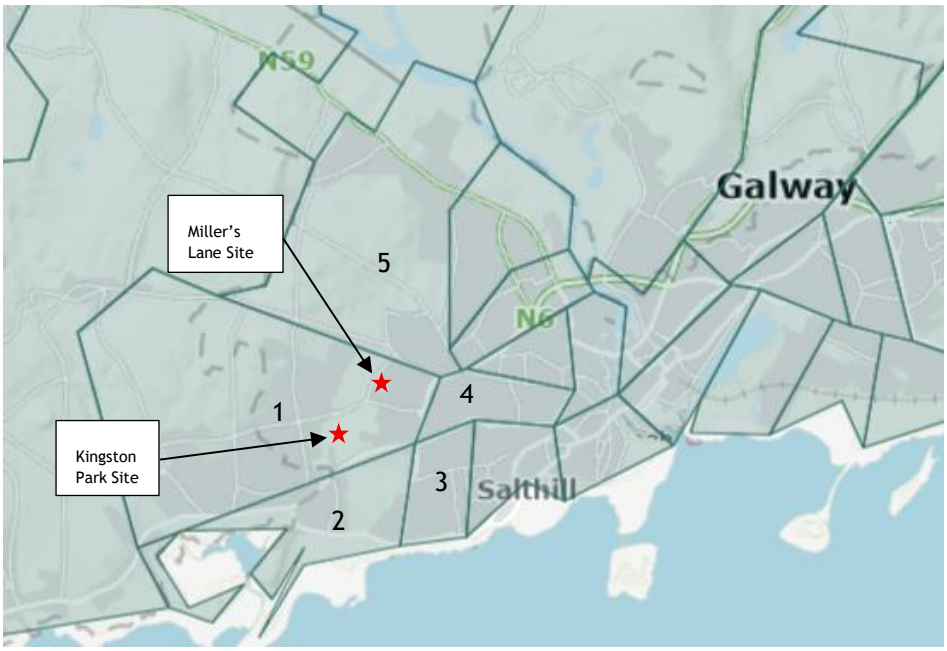


Figure 8-3: Electoral Divisions as per the 2022 Census - Extracted from SAPMAPs

The results of means of travel based on the consulted electoral divisions in the vicinity of the Kingston Park and Miller's Lane are illustrated in Table 8-3. The survey recorded that 25.6% use Sustainable Travel (foot, bike, public transport) as a means of commuting, 56.6% use a car to travel to work, school and college and the remaining 17.8% use a motorcycle or scooter, van, other, work mainly at/ from home or not stated in the survey.

Table 8-3: Means of Travel for the area surrounding Kingston Park

Area	On Foot	Bicycle	Bus, Minibus or Coach	Train	Motor-cycle or Scooter	Car	Van	Other	Work mainly at or from home	Not Stated	Total
1	932	702	1,157	35	26	7,711	244	16	1,029	791	**1,2643**
2	60	53	69	1	1	572	21	2	123	40	**942**
3	170	109	46	5	1	514	20	1	106	106	**1,078**
4	581	206	215	11	4	821	22	1	136	246	**2,243**
5	332	159	137	7	4	1410	55	7	181	281	**2,573**
Total	**2,075**	**1,229**	**1,624**	**59**	**36**	**11,028**	**362**	**27**	**1,575**	**1,464**	**19,479**
Percent	**10.7%**	**6.3%**	**8.3%**	**0.3%**	**0.2%**	**56.6%**	**1.9%**	**0.1%**	**8.1%**	**7.5%**	

9 Assessment and Road Impact

The impact on the local external road network has been assessed in this TTA.

This involved examining the projected traffic flows on the local road network both 'with' and 'without' the proposed development in place. The morning peak period and the evening peak period have been examined to assess the busiest case in terms of local traffic on the road network and traffic generated by the proposed development.

9.1 Junction Analysis

Capacity analysis was carried out for the junctions listed below:

Junction 1 – Priority Roundabout- Clybaun Road Upper/ Western Distributor Road/ Clybaun Lower

Junction 2 - Priority Roundabout - Bóthair Stiofáin / Western Distributor Road /Altán

Junction 3 - Priority Roundabout - Gort na Bró / Western Distributor Road/ An Logán

Junction 4 - Priority T-Junction- Gort na Bró / Rahoon Road

The junctions as detailed in the previous sections were each assessed for the proportion of generated development traffic against the existing background traffic.

According to the TII threshold for traffic-congested areas, where the generated traffic development accounted for less than 10% of the existing background traffic, junction capacity modelling of that junction is not required as the predicted development trips generated are deemed to have very little impact on that existing junction. In areas where severe congestion is prevalent, a Transport Assessment may still be necessary even if traffic flows from a proposed development account for less than 5% of the traffic on adjacent roads. Initially, based on the trip generation data presented in Table 9-1, only junctions 3 and 4 were identified as requiring modeling. However, considering the long-standing congestion issues on the Western Distributor Road, it was decided to conduct modeling regardless of the assessment indicating less than 5% impact from the generated trips. This decision was made to comprehensively evaluate the potential effects on the traffic network in light of historical congestion patterns.

Table 9-2 shows the analysis of trips generated against background traffic for the peak night time. It was noted that, the generated traffic accounted for less than 10% of the existing traffic hence no modelling was undertaken for the night time scenario.

Table 9- 1: Development trips against existing traffic conditions for AM and PM Peaks

Site	Junction	Trips Generated		Background Traffic	Percentage	Modeling Required
JTC 1	Clybaun Roundabout	AM	31	1831	2%	x
		PM	61	2025	3%	
JTC 2	Áltan Roundabout	AM	31	1610	2%	x
		PM	61	1588	4%	
JTC 3	Gort na Bró Roundabout	AM	61	1275	5%	✓
		PM	149	1360	11%	
JTC 4	Rahoon Junction	AM	31	713	4%	✓
		PM	88	672	13%	

Table 9-2: Development trips against existing traffic conditions for Nighttime Peaks

Site	Junction	Trips Generated		Background Traffic	Percentage	Modeling Required
JTC 1	Clybaun Roundabout	PM	35	1224	3%	x
JTC 2	Áltan Roundabout	PM	35	826	4%	x

The following development scenarios were analysed with and without development for all junctions:

1. Survey year: 2023
2. Current year: 2025
3. Opening year: 2028
4. Design year: opening year + 5 years: 2033
5. Design year: opening year + 15 years: 2043

For the design year 2043, the Active Travel (AT) Scheme and the Galway City Ring Road were taken into account for all the junctions.

6. Design year: opening year + Active Travel Scheme + 15 years: 2043
7. Design year: opening year + Galway City Ring Road + 15 years: 2043

The Junctions 9 OSCADY and PICADY modules were used for roundabout and priority junction analysis, respectively.

As listed above, the design year 2043 has been analysed to include the scenario where the Galway City Ring Road has been fully implemented. The expected traffic reduction from the Galway Ring Road (formerly known as the N6 Galway City Ring Road) has been estimated in various transport studies and planning documents. Based on available data from the Galway Transport Strategy and related assessments:

- Up to 50% reduction in traffic volumes through Galway city centre, particularly on key radial routes like the Headford Road, Quincentenary Bridge, and Seamus Quirke Road.

- Significant relief on the N6 corridor, with traffic rerouted around the city rather than through it.
- Journey times across the city are expected to improve by 20–30% during peak hours.

These figures are based on modelled scenarios assuming full implementation of the Ring Road and complementary measures (e.g., public transport improvements, active travel infrastructure). Therefore, to be conservative we used 25% (median of the journey times improvements across the city) for the traffic reduction based on the Ring Road.

The roundabouts have been thoroughly analysed to account for the comprehensive implementation of Active Travel (AT) measures for the Year 2043 only. Although the proposed AT schemes do not extend to the priority junction at the Rahoon Road / Gort na Bró intersection, it has been assumed that vehicular traffic will diminish towards the Miller's Lane development. This assumption is because its access is directly linked to the approved Forbairt Snámh Thia Cuideachta Faoi Theorainn Ráthaiochta development, bearing the planning reference number 2460370, which is associated with the AT schemes being executed throughout the city.

Galway City Council has initiated a comprehensive approach to enhance AT schemes throughout the city, reflecting both local and national mobility goals. These initiatives are designed in accordance with the guidelines established by the National Transport Authority (NTA) in the "Achieving Effective Workplace Travel Plans: Guidance for Local Authorities." A key objective outlined within these guidelines is to limit car commuting to 45%, with the remaining transport modes comprising walking, cycling, and public transportation, among others. Considering the national modal split targets and the implementation of new AT cycle routes, coupled with the Galway BusConnects projects, it is anticipated that reliance on car commuting will decline progressively over the coming years. The recent 2022 census data for electoral divisions surrounding the sites indicates that 56.6% of the population currently commutes by car. Therefore, to meet the 45% target in this area would require a 20.6% reduction in car usage.

Achieving the ambitious target of 45% car commuting would necessitate a marked reduction in the current rate of car use. To systematically assess the potential impact of the AT initiatives and align them with proposed urban development, we have applied a reduction factor in our projections for the year 2043.

While AT is estimated to significantly reduce car commuting, a cautious reduction factor of 10% was applied to car reduction for the projection year of 2043, supporting Galway City Council's sustainable transport objectives, adhering to national targets, while also incorporating a factor of safety in our assumptions. For a detailed illustration of these effects, please refer to Tables 9-2 to 9-8 below which outlines the outcomes of the '2043 Do Something Scenario and Active Travel Implemented' where active travel initiatives have been integrated.

9.1.1 Site 1- Priority Roundabout- Clybaun Road Upper/ Western Distributor Road/ Clybaun Lower

The Junctions 9 output is summarised below, and the full detailed output is included in greater detail in Appendix D.

Table 9- 3: Summary of Junction 9 Analysis Results for Clybaun Road Upper/ Western Distributor Road/ Clybaun Road Lower Roundabout for Morning and Evening Peaks

	Without Development			With Proposed Development		
Peak Hour Flow	**Maximum RFC**	**Maximum Queue (PCU)**	**Max Delay (Seconds)**	**Maximum RFC**	**Maximum Queue (PCU)**	**Max Delay (Seconds/PCU)**
AM 2023 Existing Survey	1.13	31.8	267.54	-	-	-
AM 2028 Opening Year	1.35	111.8	736.22	1.38	122.7	802.59
AM 2033 Design Year	1.47	159.0	1045.46	1.50	171.0	1126.97
AM 2043 Design Year	1.66	246.2	1674.69	1.69	261.0	1772.05
AM 2043 Design Year & AT Implemented	-	-	-	1.62	228.5	1553.28
AM 2043 Design Year & Galway City Ring Road	-	-	-	1.53	186.7	1241.71
PM 2023 Existing Survey	1.48	201.6	1187.73	-	-	-
PM 2028 Opening Year	1.62	293.0	1736.23	1.68	330.5	1942.40
PM 2033 Design Year	1.75	376.2	2210.76	1.79	410.3	2399.33
PM 2043 Design Year	1.94	508.0	2988.80	1.99	546.8	3215.98
PM 2043 Design Year & AT Implemented	-	-	-	1.96	532.7	3081.72
PM 2043 Design Year & Galway City Ring Road	-	-	-	1.91	512.4	2910.27

The analysis presented indicates that the roundabout is currently functioning beyond its acceptable operating thresholds, suggesting that the traffic flow and capacity are being strained. Moreover, the projected impact of the proposed development on the roundabout's performance appears to be minimal. Given the existing conditions, the additional traffic generated by the development is unlikely to exacerbate the current issues.

9.1.2 Site 2 - Priority Roundabout - Bóthair Stiofáin / Western Distributor Road /Altán

The Junction 9 output is summarised below, and the full detailed output is included in greater detail in Appendix D.

Table 9- 4: Summary of Junction 9 Analysis Results for Bóthar Stiofáin / Western Distributor Road / Altán Roundabout for morning and evening peaks

	Without Development			With Proposed Development		
Peak Hour Flow	**Maximum RFC**	**Maximum Queue (PCU)**	**Max Delay (Seconds)**	**Maximum RFC**	**Maximum Queue (PCU)**	**Max Delay (Seconds/PCU)**
AM 2023 Existing Survey	1.24	100.0	507.55	-	-	-
AM 2028 Opening Year	1.4	189.5	931.32	1.42	200.9	997.13
AM 2033 Design Year	1.68	390.9	1941.95	1.70	405.3	2015.64
AM 2043 Design Year	1.87	542.2	2682.08	1.90	557.0	2761.40
AM 2043 Design Year & Active Travel Implemented	-	-	-	1.72	415.4	2077.96
AM 2043 Design Year & Galway City Ring road	-	-	-	1.46	219.5	1103.92
PM 2023 Existing Survey	0.96	12.2	67.74	-	-	-
PM 2028 Opening Year	1.15	62.2	298.06	1.16	54.1	285.75
PM 2033 Design Year	1.25	82.3	490.73	1.25	104.4	536.94
PM 2043 Design Year	1.38	151.7	897.57	1.41	169.0	1031.52
PM 2043 Design Year & Active Travel Implemented	-	-	-	1.29	101.9	597.66
PM 2043 Design Year & Galway City Ring road	-	-	-	1.07	30.6	163.30

The analysis presented indicates that the roundabout is currently functioning beyond its acceptable operating thresholds, suggesting that the traffic flow and capacity are being strained. Moreover, the projected impact of the proposed development on the roundabout's performance appears to be minimal. Given the existing conditions, the additional traffic generated by the development is unlikely to exacerbate the current issues.

9.1.3 Site 3 - Priority Roundabout - Gort na Bró / Western Distributor Road/ An Logán

The Junction 9 output is summarised below, and the full detailed output is included in greater detail in Appendix D.

Table 9- 7: Summary of Junction 9 Analysis Results for Gort na Bró/ Western Distributor Road/ An Logán Roundabout for morning and evening peaks

	Without Development			With Proposed Development		
Peak Hour Flow	**Maximum RFC**	**Maximum Queue (PCU)**	**Max Delay (Seconds)**	**Maximum RFC**	**Maximum Queue (PCU)**	**Max Delay (Seconds/PCU)**
AM 2023 Existing Survey	0.62	1.6	10.19	-	-	-
AM 2028 Opening Year	0.92	8.6	42.08	0.95	11.6	54.72
AM 2033 Design Year	0.99	17.5	77.04	1.02	25.1	102.47
AM 2043 Design Year	1.01	22.5	93.80	1.04	32.4	126.04
AM 2043 Design Year & Active Travel Implemented	-	-	-	1.02	26.5	105.42
AM 2043 Design Year & Galway City Ring road	-	-	-	0.99	19.0	78.86
PM 2023 Existing Survey	0.55	1.2	6.24	-	-	-
PM 2028 Opening Year	0.68	2.1	9.33	0.73	2.7	11.15
PM 2033 Design Year	0.73	2.7	11.03	0.78	3.4	13.60
PM 2043 Design Year	0.74	2.8	11.51	0.72	3.6	14.24
PM 2043 Design Year & Active Travel Implemented	-	-	-	0.75	3.0	12.24
PM 2043 Design Year & Galway City Ring road	-	-	-	0.71	2.4	10.41

The analysis indicates that the junction is operating above the threshold during the morning session for all years considered, yet the development's impact on the junction remains minimal. In contrast, during the evening session, the junction operates within the threshold, and the development has a negligible effect on its operation.

9.1.4 Site 4 - Priority T-Junction- Gort na Bró / Rahoon Road

The Junction 9 output is summarised below, and the full detailed output is included in greater detail in Appendix D.

Table 9- 8: Summary of Junction 9 Analysis Results for Gort na Bró/ Rahoon Road Priority Junction for morning and evening peaks

	Without Development			With Proposed Development		
Peak Hour Flow	**Maximum RFC**	**Maximum Queue (PCU)**	**Max Delay (Seconds)**	**Maximum RFC**	**Maximum Queue (PCU)**	**Max Delay (Seconds/PCU)**
AM 2023 Existing Survey	0.30	0.6	6.95	-	-	-
AM 2028 Opening Year	0.65	2.3	13.92	0.68	2.7	15.44
AM 2033 Design Year	0.71	3.0	16.58	0.74	3.5	18.68
AM 2043 Design Year	0.81	5.1	24.62	0.84	6.1	29.55
AM 2043 Design Year & AT Implemented	-	-	-	0.81	5.1	26.04
AM 2043 Design Year & Galway City Ring Road	-	-	-	0.76	3.6	21.20
PM 2023 Existing Survey	0.41	0.7	11.95	-	-	-
PM 2028 Opening Year	0.45	0.8	13.12	0.57	1.3	17.10
PM 2033 Design Year	0.48	0.9	14.24	0.61	1.5	19.06
PM 2043 Design Year	0.55	1.2	16.66	0.68	2.0	23.59
PM 2043 Design Year & AT Implemented	-	-	-	0.66	1.9	22.07
PM 2043 Design Year & Galway City Ring Road	-	-	-	0.63	1.7	19.30

The above analysis predicts that by the Design Year 2043, the junction would be operating well within the design threshold with the full development in operation during both the AM and PM peak hours.

10 Road Safety

A Road Safety Audit for the development will be undertaken and supplied as a separate report. The Road Safety Authority offers online collision statistics for Irish roads, but the website is currently being updated to include collision mapping data for specific locations. Figure 10-1 presents an overview of collision statistics by county. It is important to note that the development site is in the fifth-ranked county regarding high collision statistics associated with serious injuries and the fourth-ranked county in terms of high collision rates associated with fatalities.

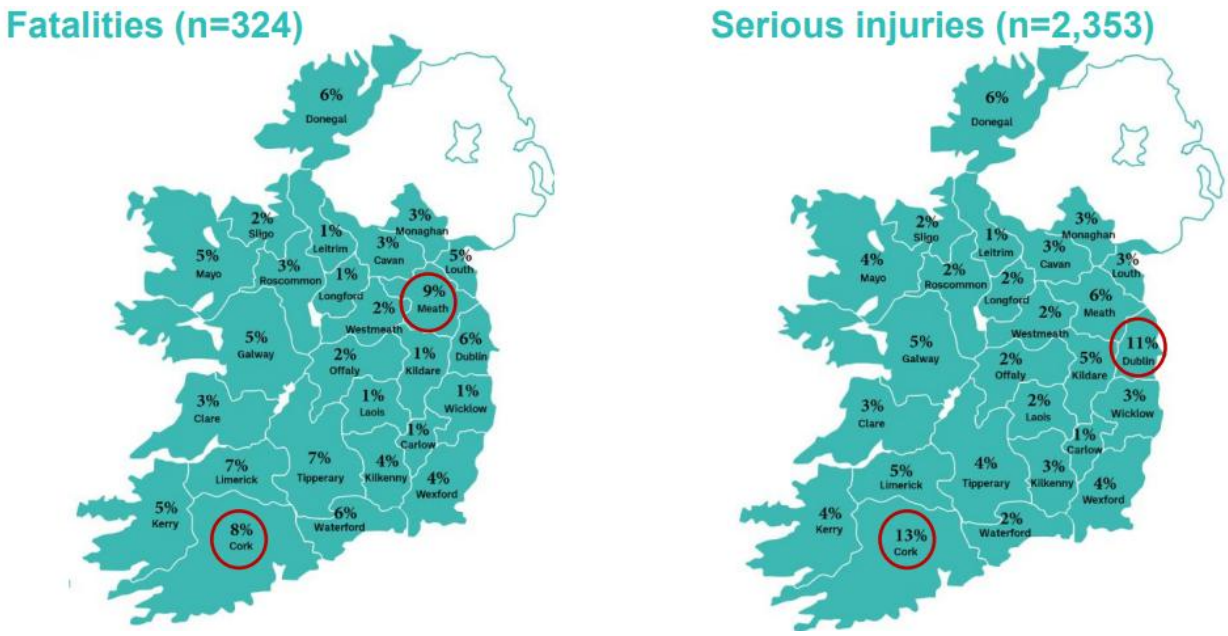


Figure 10- 1: Road Safety Statistics per County

Ref: https://www.rsa.ie/en/RSA/Road-Safety/RSA-Statistics/Collision-Statistics/Ireland-Road-Collisions/

11 Internal Layout

The layout of the proposed development is detailed in the architect and landscape architect's drawings submitted as part of this application.

11.1 DMURS

The roads layout together with pedestrian and cycle facilities for the site have been developed considering the design principles set out in the Design Manual for Roads and Streets (2019). The hierarchy of the streets on the site are all local in nature which reflects the end destination typology of the site. The design speed for the site is **25 kph**, and appropriate speed restriction signs will be set out at the site entrance.

11.2 Visibility Splays

The site layout has been developed to provide adequate turning provision and fire tender access. Forward visibility and visibility splays have been provided on the basis of the requirements of Sections 4.4.4 and 4.4.5 of the DMURS manual. Compliance with the requirements is set out on the relevant PUNCH drawings.

11.3 Vehicle Manoeuvring

Autotrack analysis has been undertaken to ensure there are no issues with swept paths and the manoeuvrability of fire appliances, refuse vehicles, buses, cars, and small vans.

12 Parking

12.1 Car Parking and Motorcycle Provision

Car parking serving the development is provided in accordance with the Galway City Council City Development Standards (GCCCDP) (2023-2029) - Part B, Table 11.6. The applicable car parking standards are noted in Table 12-1 below:

Table 12-1 Galway Development Plan Car Parking Requirement

Site	Development type	Gross Floor Area	Requirement	Total Maximum
Kingston Park	Leisure Centre	2480	1 space per 50m²	48
Millers Lane		1316		27

It is proposed to provide 50 car parking spaces on the Kingston Park development site and 27 spaces on the Millers Lane site.

The Millers Lane proposal allows for a total of 27No. car parking spaces consisting of.

- 21No. Standard parking bays
- 2No. Standard EV charging spaces
- 1No. Standard accessible parking space
- 1No. Combined EV charging and accessible parking space
- 1No. Family space
- 1No. Age friendly space
- 2No. Coach drop off spaces located off L5000 with automated access control
- 3No. Motorcycle spaces

The Kingston Park proposal allows for a total of 50No. car parking spaces consisting of.

- 41No. Standard parking bays
- 4No. Standard EV charging spaces
- 3No. standard accessible parking space
- 1No. combined EV charging and accessible parking space
- 1No. age friendly space
- 1No. Coach parking bay
- 1No. set-down area
- 2No. Motorcycle spaces

Taxis and buses will be accommodated at a designated set-down area within the Kingston Park site location which will also be used as a designated school drop off for children attending St. Johns national school as noted in Figure 2 of the proposed site plan for the development.

The standard parking spaces will be marked with white lines. The dimensions of the parking spaces adhere to the GCCCDP Standards and shall be 2.5m x 5m minimum

12.2 Cycle Parking

Cycling is to be significantly encouraged as part of the development. Cycle parking serving the development is provided in accordance with the GCCCDP DM standard 32 Table 15.4. The applicable cycle parking standards are noted in Table 12-2.

Table 12-2 GCCCDP Cycle Parking Space Requirements

Type	No. Car Park Spaces	Requirement	Total Requirement
Other Developments	50	1 cycle stand* per 20 car spaces	2
	27		1

*Each Cycle Stand should accommodate a minimum of five bicycles

In the GCCCDP, it states that 'Provisions for cycle parking shall also be made at community centres, sports grounds and other recreational facilities. Inclusivity and accessibility should be considered in the design and location of all cycle-parking. In developments with more than 20 cycle-parking spaces, a minimum of 10% of spaces should be provided, which are family and disability friendly, with spaces configured to accommodate cargo-bikes, tricycles, bikes with trailers, recumbent bikes and other non-standard cycles.' Table 5 shows the adherence to these standards. Both the Millers Lane and Kingston Park developments are seeking LEED accreditation and as a result the bicycle parking proposed goes above the requirements of the GCCCDP requirements.

The Millers Lane proposal allows for a total of 64No. cycle parking spaces consisting of.

- 40No. Standard short-term spaces
- 2No. short-term cargo bike spaces
- Secure bike shed accommodating 20 No. standard and 2No. cargo bike spaces.

The Kingston Park proposal allows for a total of 82No. cycle parking spaces consisting of.

- 60No. Standard short-term spaces

Secure bike shed accommodating 20 No. standard and 2No. cargo bike spaces

12.3 Service and Delivery Trips

A bus set-down is provided within each site. Visitor, delivery and service access will be available and managed by a management company.

Any deliveries by HGV in particular will generally be by appointment and managed to minimise any potential conflict with cars.

Further details and description regarding access management, segregation of the different uses, access routing, security and management thereof would be covered in an Access Management Plan.

13 Public Transport, Pedestrians/ Cyclists

To ensure future transport sustainability and to endeavour to make new developments as accessible as possible to travel by other modes of transport, an assessment has been made of the proposed and existing pedestrian, cyclist and public transport facilities. A detailed Mobility Management Plan/Workplace Travel Plan will be provided as a separate report with this planning application.

13.1 Public Transport

13.1.1 Train Services

Ceannt Railway Station is located in the centre of Galway City, just off Eyre Square. This station provides efficient train services that connects Galway to various nearby towns and cities. The first trains leave at 5:25am and the last train from Dublin leaves at 8:30pm. The Kingston Park and Miller's Lane Park are located 4.6km and 4.8km away from the railway station, respectively.

13.1.2 Bus Services

The developments are conveniently accessible through a well-established public bus service. Six bus routes connect Knocknacarra to Eyre Square.

The 411-bus commences at Liosmór and terminates in Eyre Square. Bus frequency is every 30 minutes. Bus stops are located on the Lower Clybaun road which is 450m from the proposed Kingston Park entrance and on the Rahoon Roan circa 270m from the proposed Millers Lane entrance. The service operates from 07:00 to 23:11 Monday to Friday and from 07:45 to 21:11 Saturday and 11:15 to 21:11 Sunday.

The 405 bus begins at the Gort na Bró bus stop located at the entrance to the Galway Shopping Park and travels to Ballybane via Eyre Square. The bus stop is located 650m from the proposed Kingston Park entrance and circa 400m from the proposed Millers Lane entrance. Bus frequency is every 20 minutes Monday to Saturday and every 40 minutes on Sundays. The buses operate from 06:35 to 23:53 Monday to Friday and 08:00 to 23:53 on Weekends.

The 412 bus commences Liosmór in Knocknacarra and terminates in Eyre Square. Buses frequency is every 30 minutes. Bus stops are located on the Western Distributor Road, 240m from the proposed Kingston Park entrance which is 3-minute walk. Further bus stops are located either side of the Gort na Bró roundabout circa 450m from the proposed Millers Lane entrance. The service operates from 07:30 to 17:51 Monday to Friday.

These strategic locations allow users of the park to easily utilise public transportation, making travelling both simple and efficient. The presence of the bus service not only promotes accessibility but also encourages sustainable transportation options in the community. Figure 13-1 highlights local bus stops and the routes they serve, and Figure 13-2 shows the current Galway City bus network map

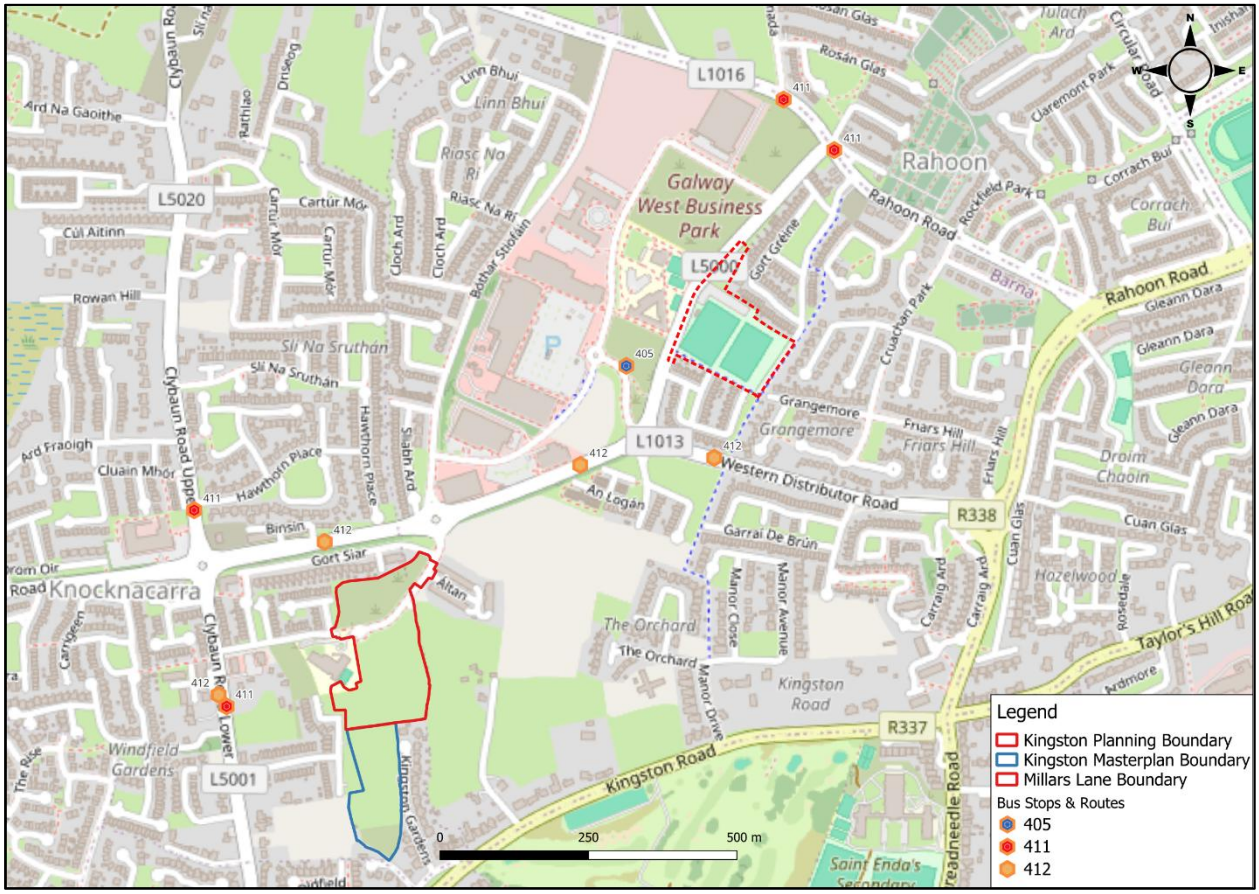


Figure 13-1: Bus Stops and Bus Routes

Figure 13- 2: TFI Current Galway City Bus Network Map

13.1.3 Taxi Services

Taxis are available on request.

13.2 Pedestrians

The site is bordered by well-maintained footpaths on both Western Distributor Road, Gort na Bró Road and the school's access road, which enhance pedestrian safety and accessibility. To further aid in safe crossings, strategically placed zebra crossings allow pedestrians to easily navigate between the footpaths and the site. These crossings are clearly marked, ensuring that both pedestrians and drivers remain aware and vigilant for safe transit.

13.3 Cycling

There are cycle lanes with bollards on either side of the schools access road. The Western Distributor Road from Clybaun Roundabout to the Gort na Bró roundabout has cycle lanes either side of the road with Zebra crossings to allow for safe crossing at the roundabouts. As mentioned in 3.2.1 Galway City Council's proposed WDR cycle lane scheme plans on improving these cycle lanes by adding bollards to increase safety of cyclists as well as upgrading the Zebra crossing at the roundabouts to improve safety of cyclists crossing the road. Overall, there is a strong, dedicated cycle infrastructure adjacent to the development.

14 Access for People with Disabilities

Parking facilities for disabled users are provided within the development in line with the requirements of the Galway City Development Plan. Disabled friendly accesses to the proposed development, including ramp access, are designed to the Technical Guidance Document M of the Building Regulations.

15 Construction Stage Traffic

15.1 Construction Phase

The volumes of traffic that will be generated during the construction phase of the proposed development will be small in comparison to the existing traffic volumes.

The construction stage therefore does not require quantitative traffic analysis, however in order to minimise disruption due to construction, wheel washing facilities will be installed at the site access during the construction stage to reduce the amount of dirt and debris carried on to the public roadway during the excavation operations, etc.

15.2 Construction Traffic Management Plan

The successful contractor will be required to carry out a traffic management plan for the duration of the works. This will involve consultation with the local authority and/or the Gardaí and once agreed will be adhered to for all aspects of construction that involves movement of vehicles in and out of the site.

16 Summary and Conclusion

1. The proposed works entail the development of multifunctional buildings, new surfaced car parking lots and vehicular access with associated signage, boundary treatment, and connections to public services on both sites. As well as the installation of a 4G synthetic turf multi-sport pitch on a greenfield site in Kingston Park, Knocknacarra, Co. Galway and the development of a 4G synthetic turf multi-sport pitch and 2G sand filled synthetic multi-sport pitch in Miller's Lane, Knocknacarra, Co. Galway.

2. For the purposes of our assessment, the TRICS database was consulted to provide an equivalent trip rate for the proposed development site.

3. It is proposed to access the proposed development in Miller's Lane Park from Gort na Bró road (L5000) and to access Kingston Park from the school's access road (L10111).

4. Capacity analysis was carried out on the four existing junctions: Roundabout at Clybaun Road Upper/ Western Distributor Road/ Clybaun Lower, Roundabout at Bóthair Stiofáin / Western Distributor Road /Altáin, Roundabout at Gort na Bró / Western Distributor Road/ An Logán, Priority Junction, Gort na Bró / Rahoon Road. The analysis showed that there will not be any capacity issues on these junctions due to the development.

5. Parking spaces for the proposed development have been provided to meet the requirements set out in the Galway Council Development Plan.

6. Secure cycle parking facilities have been provided within the development to meet the requirements set out in the Galway Council Development Plan.