



**Residential Housing & Apartment
Development on Zoned Lands at
Crodaun, Celbridge, Co Kildare
ABP- 307100-20**

**Traffic & Transport Submission to
An Bord Pleanála**

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1 INTRODUCTION

This report has been prepared as part of a submission to An Bord Pleanála with regard to Residential Housing & Apartment Development SHD application on Zoned Lands at Crodaun, Celbridge, Co Kildare by Crodaun Development Company Ltd., ABP Reference: ABP- 307100-20.

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A digital survey of residents was carried out by Celbridge Community Council to capture their views about existing infrastructure and understand their views of the infrastructure impacts of a large scale development such as this development. Data recorded in this survey has been interrogated and utilised in the appropriate sections.

2 TRAFFIC & TRANSPORT ISSUES

The sections below highlights traffic and transport issues associated with the development.

2.1 Provision of Road and Transport Improvements

Development of Key Development Areas should be provided in tandem with road and transport infrastructure improvements as noted in LAP Objective CSO1.2.

CSO1.2: Support new residential developments in Key Development Areas (KDAs) in tandem with the delivery of supporting physical and social infrastructure.

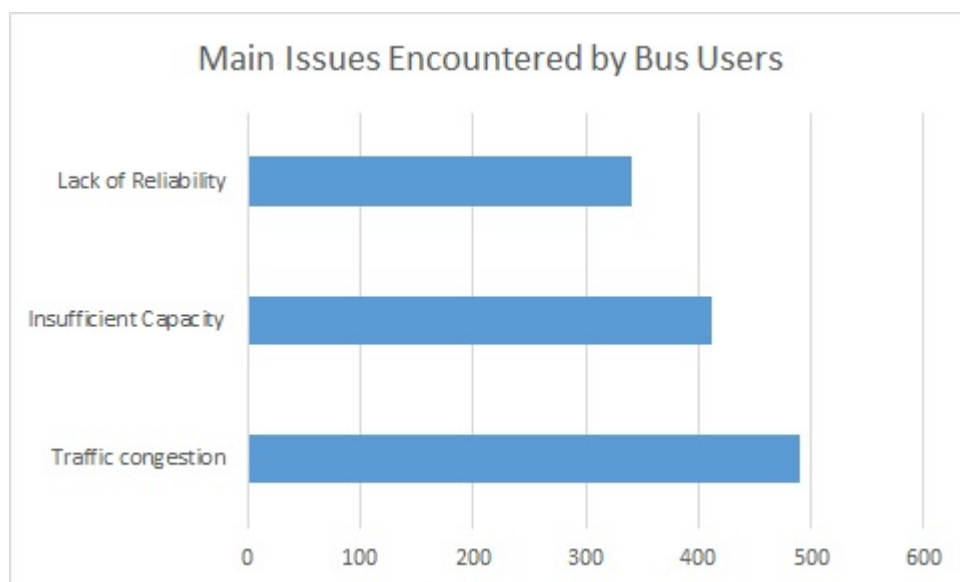
The subject development site sits within Key Development Area 4 and is reliant on these infrastructure improvements.

In relation to delivery of the road infrastructure improvements the most recent improvement to the road network in Celbridge provided by Kildare County Council was the Upgrade of R405-Maynooth Rd / Aghards Road junction in 2012.

In terms of public transport four additional 67X bus services were added to the timetable from Monday 25th November 2019.

The survey of residents in Celbridge has shown outstanding issues with the bus services on the Maynooth Road even with the provision of the additional services noted above as shown. Figure 2.1 shows that bus service improvements will be required to support additional development in Celbridge.

Figure 2.1 – Main Issues encountered by Bus Users on Maynooth Road



Survey responses indicated overwhelmingly that traffic congestion is a serious issue for them as bus users. This was closely followed by capacity and reliability issues. Survey respondents were able to specify other issues and recurring themes relating to excessive journey lengths and inadequate frequency of services are noted.

It is worth noting that the route of 67 bus service through Celbridge has no bus lanes and the service shares the traffic lanes with the other vehicles, this means that the 67 bus service is highly susceptible to congestion on the R405 Maynooth Road resulting in reliability issues.

Overall there is a lack of delivery of significant roads and transport infrastructure improvements in the Celbridge area to support the addition of new large scale residential developments in Key Development Area 4 and other the Key Development Areas in Celbridge.




















2.2 Walking and Cycling Distances

New development should be focused in locations within walking and cycling distances of key locations as noted in LAP Objective RDO1.4.

RDO1.4: To focus the majority of new housing in Celbridge within walking or cycling distance of a school cluster, the town centre, neighbourhood centre or transport routes.

The distance from the proposed development to key locations within Celbridge is detailed in Table 2.1 below.

Table 2.1 – Key Location Distances

Key Location	Icon	Distance
Town Centre (Main Street)		2.1km
Neighbourhood Centre (Castle Village)		0.6km
Supermarkets / Food stores		0.6-2.8km
Bus Stops (to Dublin)		0.1km
Bus Stops (from Dublin)		0.2km
Rail Station – Leixlip Louisa Bridge		4.1km
Rail Station – Hazelhatch and Celbridge		4.6km
Salesian College - Secondary School		500m
Celbridge Community School - Secondary School – Temporary Location		500m
Celbridge Community School - Secondary School – Future Location		2.9km
St. Wolstan's Community School - Secondary School		3.0km
Scoil Mochua - Primary School		1.0km
Scoil na Mainistreach - Primary School		2.1km
St Brigid's Girls National School - Primary School		2.1km
North Kildare Educate Together School - Primary School		3.5km
Primrose Hill National School - Primary School		2.5km
St. Patrick's National School - Primary School – Temporary Location		4.0km
St. Patrick's National School - Primary School – Future Location		3.0km
Sports Facilities / Playing Fields		2.8-5.2km

The key locations listed in Table 2.1 are mapped in relation to the 5-minute interval walking and cycling isochrones maps as detailed in Figure 2.2 & 2.3, respectively. (Journey times as per colour code below)

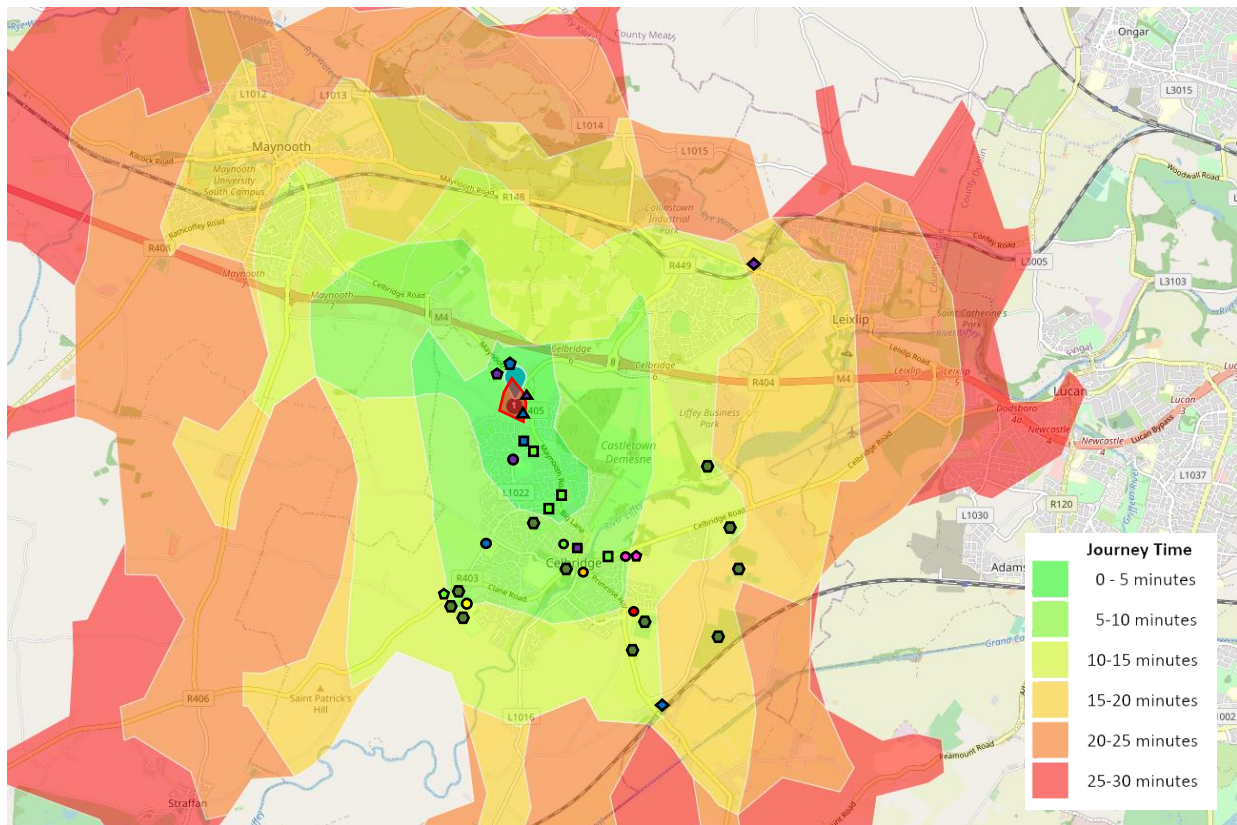
Journey Time

- 0 - 5 minutes
- 5-10 minutes
- 10-15 minutes
- 15-20 minutes
- 20-25 minutes
- 25-30 minutes

Two secondary schools, Salesian College & Celbridge Community School, are located within this distance however Celbridge Community School will be relocating to a permanent location 2.9km from the development. The other secondary school, St. Wolstan's Community School, will have to cater to the Development and is located 2.9km from the development. All female students will need to travel to schools located at least 2.9km from the development after Celbridge Community School relocates.

The recommended walking distance to public transport is 500m, two bus stops are located inside this range however the two train stations are 4.1km & 4.6km from the development and outside the recommended walking distance and will require other modes of transport, i.e. cycling or driving, to travel to their locations.

Figure 2.3 - Cycling Isochrones – 5-minute intervals



The majority of key locations are within a 15-minute cycle from the development. This cycle time is acceptable for cycling to school, however not all schools are located on routes with safe cycle infrastructure; routes to schools have only partial provision of cycle infrastructure and this provision is often substandard (inadequate width, unsafe road crossings, etc). This lack of safe cycling infrastructure will encourage driving as the transport mode to the school locations.

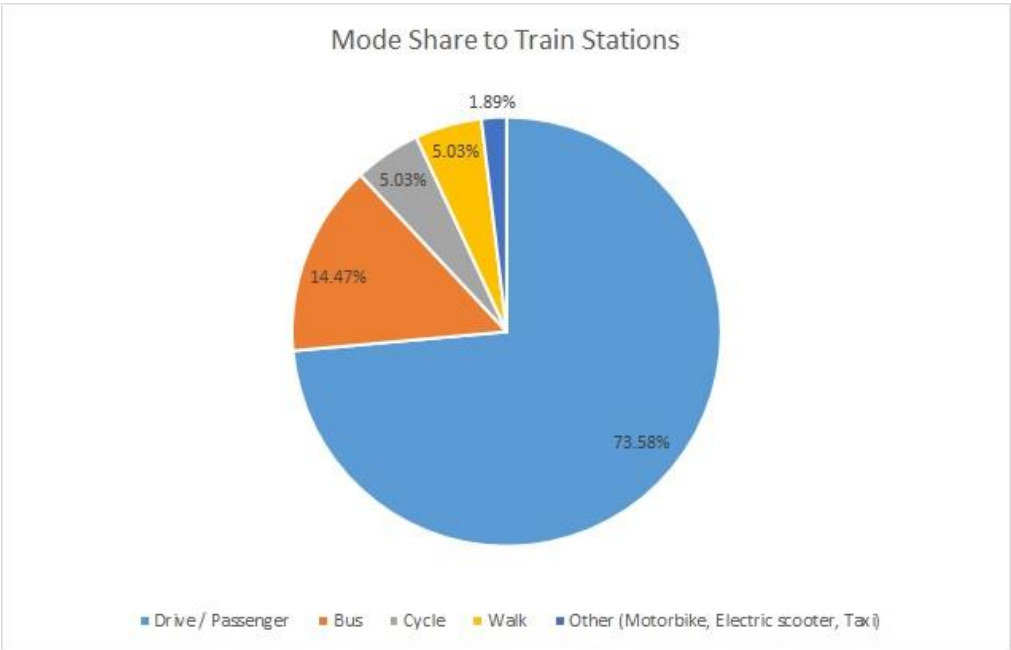
The two rail stations are marginally outside the 15-minute cycle time. The route to Leixlip Louisa Bridge Rail Station from the development has cycling infrastructure. The route to Hazelhatch and Celbridge Rail Station from the development has only partial provision of cycling infrastructure. The lack of safe cycling infrastructure coupled with an unreliable shuttle bus service to Hazelhatch train station and the absence of a shuttle bus service to Louisa Bridge train station will encourage driving as the transport mode.

Some details in relation to the Celbridge-Hazelhatch shuttle bus service are provided below:

- 6 shuttle bus services take passengers from Celbridge to the train station on weekdays - these feed 40% of the weekday trains leaving Hazelhatch for Dublin
- 9 shuttle bus services collect passengers from the train station on weekdays - these meet 34% of the weekday trains arriving at Hazelhatch from Dublin
- No shuttle bus service runs at the weekend

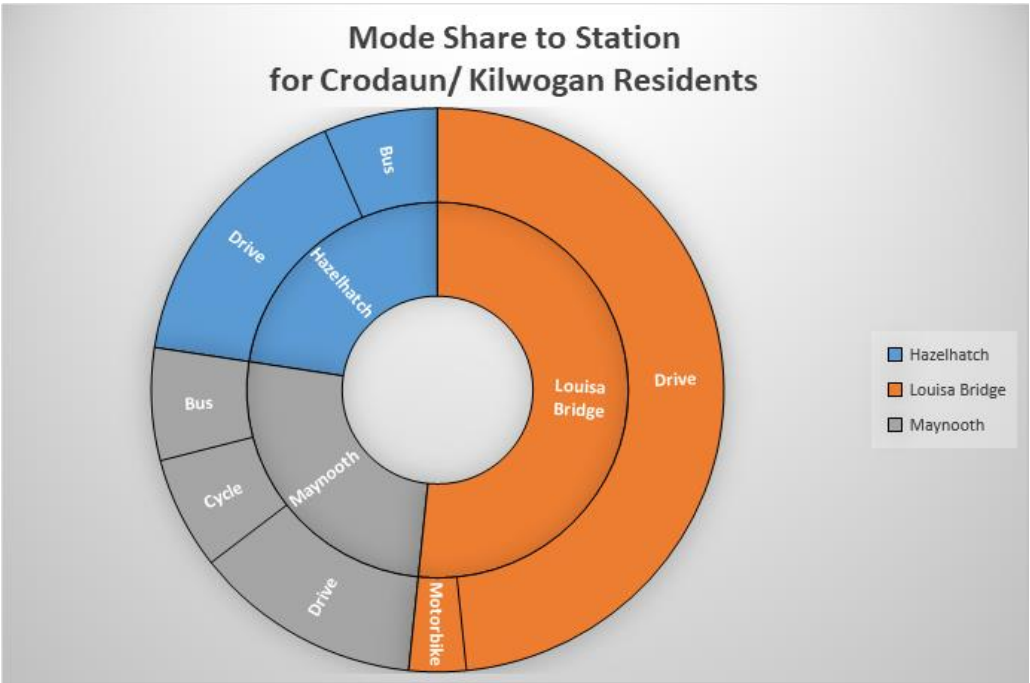
The current mode share to the train stations taken from the survey of residents is detailed in Figure 2.4. This shows that nearly 74% of rail users drive to the rail stations.

Figure 2.4 - Mode Share to Train Stations



Further, the mode share to train stations from only the Crodaun area taken from the survey of residents is detailed in Figure 2.5.

Figure 2.5 - Mode Share to Train Stations from the Crodaun Area



This highlights that over half of all journeys to a train station from Crodaun are to Leixlip Louisa Bridge and that the remainder are evenly split between Hazelhatch and Maynooth. Despite the applicant’s belief that the “dedicated pedestrian route and cycle track” from the site to Louisa Bridge Train station would be an attractive option for commuters, existing patterns of travel from the Crodaun area fail to support this - no residents from this area of town walk to the train station and the only station to which anyone cycles is Maynooth. The predominant mode of transport is by private car.

2.3 Transport Management Plan and Public Transport Strategy

A Transport Management Plan and Public Transport Strategy were supposed to be prepared within 12 months of the adoption of the Celbridge LAP as noted in LAP Objective MTO3.1.

LAP Objective MTO3.1: To seek to prepare, within 12 months of the date of the adoption of the Celbridge Local Area Plan, a Transport Management Plan and Public Transport Strategy for Celbridge to support the sustainable growth and development of the town.

These documents were not generated within the 12 months period of the adoption of the LAP in 2017 and will most likely not be generated prior to the 2023 expiry of the LAP.

Lack of a transport plan with key timelines to provide key infrastructure and public transport improvements impacts on the sustainable growth and development of the town. Approval of large-scale developments in Celbridge without knowing these key timelines will have a detrimental impact on the existing transport infrastructure and public transport service of the town.

An example of a location lacking an appropriate improvement plan is the narrow Liffey Bridge where all of Main Street, English Row, the Dublin Road, the Hazelhatch Road and the Ardclough/ Newtown Road converge. This bridge has poor footpath facilities and constrained carriageway widths leading to regular occurrences of collisions between large vehicles as shown in Figure 2.6 below.

Figure 2.6 – Traffic Issue on Liffey Bridge



The statement outlined below by TII from their submission on the LAP is relevant in relation to the lack of a Transport Management Plan.

“While the TII acknowledges the requirement for a Traffic and Transport Assessment for all applications within the KDAs and the associated phasing requirements, they also state that this approach should not be taken as a substitute for undertaking a more strategic assessment of the capacity of the road network and its capacity to accommodate the extent of development proposed in the plan, which, the submission states, appears to be absent. The TII recommends that an evidence based transport assessment be undertaken to support development proposals and phasing set out for the KDAs.”

2.4 Requirements of Traffic Impact Assessment

The requirements of the Traffic Impact Assessment should be agreed with the Planning Authority, Kildare County Council, as noted in LAP Objective MTO3.6

LAP Objective MTO3.6: To ensure that all significant development proposals for the KDAs are subject to a Traffic Impact Assessment (TIA), to be carried out in accordance with the Traffic and Transport Assessment Guidelines, NRA (2014). The requirement for TIA will be determined, by the Planning Authority, on a case-by-case basis.

A review of the NRB Transportation Assessment Report hasn’t detailed any agreement of the requirements of the Traffic Impact Assessment with Kildare County Council. As noted within the Traffic and Transport Assessment Guidelines, NRA 2014 these requirements should form an agreed scoping study document. This scoping study document would normally be provided as an appendix to the Traffic Impact Assessment report.

Appropriate scoping of the Traffic Impact Assessment would most likely have included additional junctions within the assessment, the Aghards Road signalised junction and Shackleton Road signalised junction are two keys junctions that should have been included. The Aghards Road signalised junction and Shackleton Road signalised junction are significant junctions in Celbridge Town and the lack of inclusion of these junctions fails to detail the development traffic impacts on these junctions.

The Celbridge River Crossing Feasibility Report carried out in May 2015 included an assessment of the Shackleton Road signalised junction, this analysis showed two arms of this junction operating close to capacity in 2019. Additional development traffic would most likely push this junction over capacity.

The survey of residents provided information on driver delay in minutes experienced by drivers at Aghard’s Road and Shackleton Road signalised junctions. Figures 2.7 & 2.8 show the average delay experienced at these junctions in the mornings.

Figure 2.7 – Delay at Aghard’s Road Signalised Junction (AM)

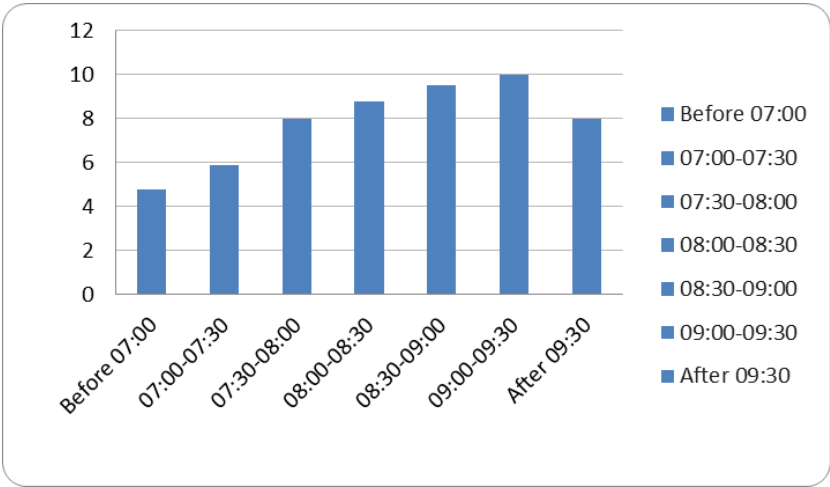
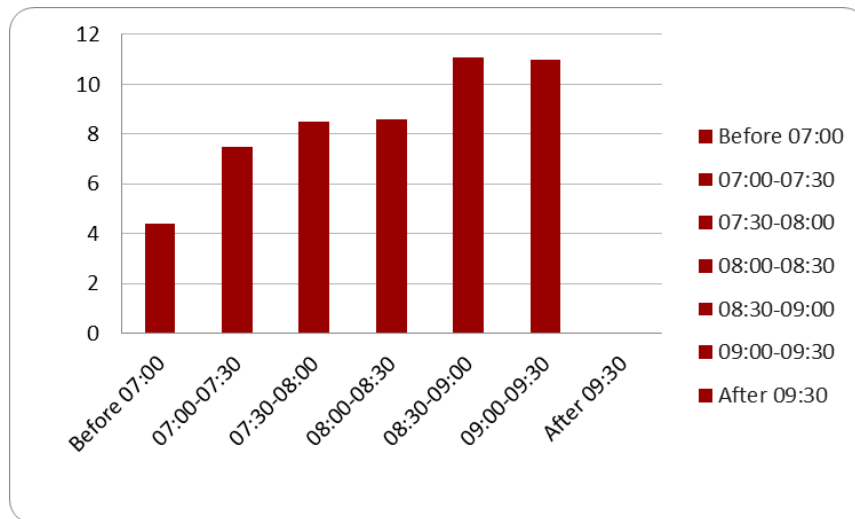


Figure 2.8 – Delay at Shackleton Road Signalised Junction (AM)



These delays confirm that these junctions are operating close to capacity at peak times which will be further exacerbated with the addition of development traffic.

2.5 Traffic Survey Data

No details are provided for the day and date of the 2019 traffic survey data used in the NRB Transportation Assessment Report submitted as part of the application. Traffic surveys should be carried out as recommended by Traffic & Transport Assessment Guidelines, NRA 2014 and will need to identify the development trip impacts during the peak periods for the local network. In general terms the peak periods for the local network are;

- Midweek – Tuesday to Thursdays
- Outside of School Holiday Periods

It is difficult to ascertain if the 2019 traffic survey data used in the NRB Transportation Assessment report complied with the above requirements.

The use of traffic survey data carried out during an inappropriate period would lead to flawed analysis of the traffic impacts of the development.

2.6 Development Traffic Trip Distribution

Appendix C of the NRB Transportation Assessment report shows that the development traffic has been assigned to the surrounding road network based on the percentages below:

- AM Departure – 71% to Maynooth Road (North) & 29% to Maynooth Road (South)
- AM Arrival – 75% from Maynooth Road (North) & 25% from Maynooth Road (South)
- PM Departure – 65% to Maynooth Road (North) & 35% to Maynooth Road (South)
- PM Arrival – 75% from Maynooth Road (North) & 25% from Maynooth Road (South)

To determine a more accurate trip distribution for a residential development in the Crodaun area the traffic counts at the Crodaun Forest Park Phase 1 access junction, provided within the NRB Transportation Assessment report, have been reviewed to determine the traffic distribution below:

- AM Departure – 53% to Maynooth Road (North) & 47% to Maynooth Road (South)

- AM Arrival – 50% from Maynooth Road (North) & 50% from Maynooth Road (South)
- PM Departure – 38% to Maynooth Road (North) & 62% to Maynooth Road (South)
- PM Arrival – 42% from Maynooth Road (North) & 58% from Maynooth Road (South)

If the trip distribution above was assigned to the development, it would have provided a more accurate assessment of the distribution of the traffic to and from the proposed development. The distribution detailed above also shows a clear attraction of traffic to/from the Maynooth Road (South) direction towards Celbridge town. This attraction of traffic towards Celbridge town is in line with the position of key locations to the south of the development as detailed in Section 2.2.

The NRB Transportation Assessment is lacking a robust and accurate trip distribution assessment for the proposed development and fails to account for the attraction of development traffic to/from the Maynooth Road (South).

2.7 Traffic Analysis

The NRB Transportation Assessment report failed to address the development traffic impacts of the Crodaun Forest Park Phase 2 access junction and only checked the impact on the Crodaun Forest Park Phase 1 & Kilwogan Lane junction. Crodaun Forest Phase 2 is the larger of the two development phases with 229 houses as compared to 69 houses in Phase 1.

The survey of residents in Celbridge provided the delays experienced at the main access junctions onto the R405 Maynooth Road. The average delay experienced at these junctions in the mornings is provided in Figure 2.9 with the delays experienced at the neighbouring residential junction, Crodaun Forest Phase 1 and Crodaun Forest Phase 2 detailed in Figures 2.10 & 2.11

Figure 2.9 - Average Delay at Junctions (AM)

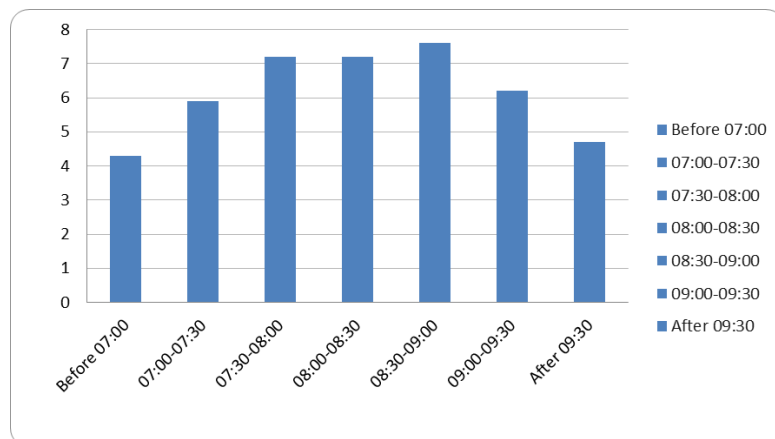


Figure 2.10 - Crodaun Forest Phase 1 Delay at Junctions (AM)

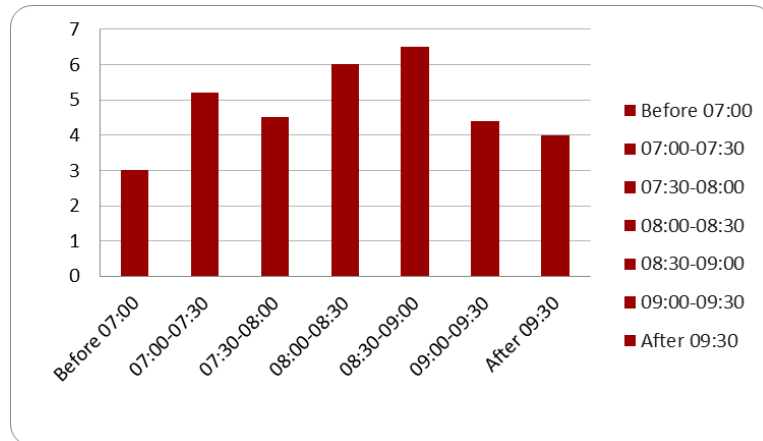
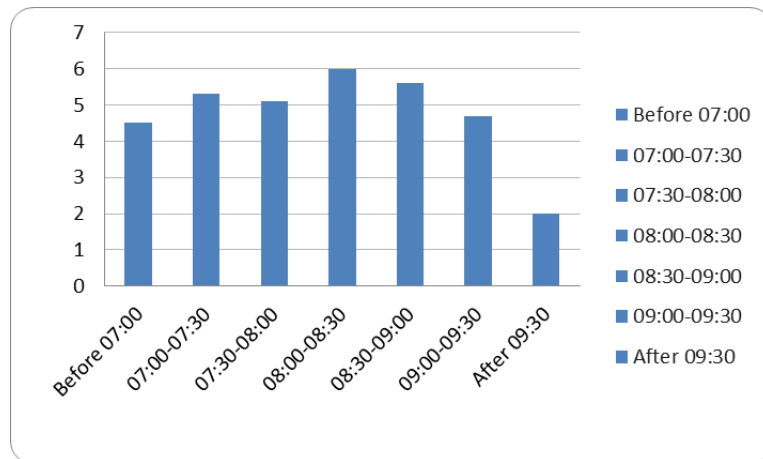


Figure 2.11 - Crodaun Forest Phase 2 Delay at Junctions (AM)



It is clear from the figures above that residents in both the Crodaun Forest Phase 1 and Phase 2 developments are suffering significant delays when accessing the R405 Maynooth during peak times.

Figure 2.12 shows the mainline traffic on the R405 Maynooth Road in the afternoon in the vicinity of the Crodaun Forest development.

Figure 2.12 - Traffic on R405 Maynooth Road



The NRB Transportation Assessment report fails to account for these existing delays in the traffic assessment of the Crodaun Forest Park (Phase 1) access junction, the analysis carried out with development traffic applied doesn't accurately model the impact on this junction and the increased delays due to the development traffic.

The traffic modelling NRB Transportation Assessment hasn't been accurately set up to account for exiting traffic situations and hasn't provided an accurate assessment of development traffic impacts.

2.8 Impact on Aghards Road Signalised Junction

As noted in Section 2.4, the Aghards Road Signalised Junction is a key junction in Celbridge. Based on the revised development traffic trip distribution detailed in Section 2.8, the Aghards Road Signalised Junction should have been assessed for development traffic impacts.

In order to determine the development traffic impacts on the Aghards Road Signalised Junction, a high-level assessment of the development traffic impacts was completed using the traffic count data from the granted Castlewella Park Development, Planning reference 16260. This traffic count was carried out in 2016 and is recent enough for the purpose of a high-level assessment.

This assessment is detailed in Tables 2.3 and 2.4. Table 2.3 details the impact of development traffic from this SHD application, ABP- 307100-20 (Crodaun). Table 2.4 details the combined impact of development traffic from the two adjacent SDH applications, ABP- 307100-20 (Crodaun) & ABP-306504-20 (Ardstone).

Table 2.3 - ABP- 307100-20 Development Traffic Impacts

	Southbound Traffic from Development to Junction - AM	Northbound Traffic from Junction to Development - AM	Southbound Traffic from Development to Junction - PM	Northbound Traffic from Junction to Development - PM
Mainline Traffic (R405 Maynooth Road)	584	1002	864	560
Development Traffic (ABP- 307100-20)	74	38	58	93
Percentage Increase	13%	4%	7%	17%

Table 2.4 - ABP- 307100-20 & ABP-306504-20 Development Traffic Impacts

	Southbound Traffic from Development to Junction - AM	Northbound Traffic from Junction to Development - AM	Southbound Traffic from Development to Junction - PM	Northbound Traffic from Junction to Development - PM
Mainline Traffic (R405 Maynooth Road)	584	1002	864	560
Development Traffic (ABP- 307100-20 & ABP-306504-20)	132	58	98	166
Percentage Increase	23%	6%	11%	30%

The Traffic & Transport Assessment Guidelines, NRA 2014 note that the threshold for sensitive locations is 5%, the Aghards Road Signalised Junction would be considered a sensitive junction in relation to traffic for the town of Celbridge.

From Table 2.3 and Table 2.4, the average percentage increase is 11% for this application's development traffic and 18% for the development traffic for the combined development traffic from the two applications.

The percentage increase is well above the 5% threshold and demonstrates that the Aghards Road Signalised Junction should have been included in the traffic assessment for this application.

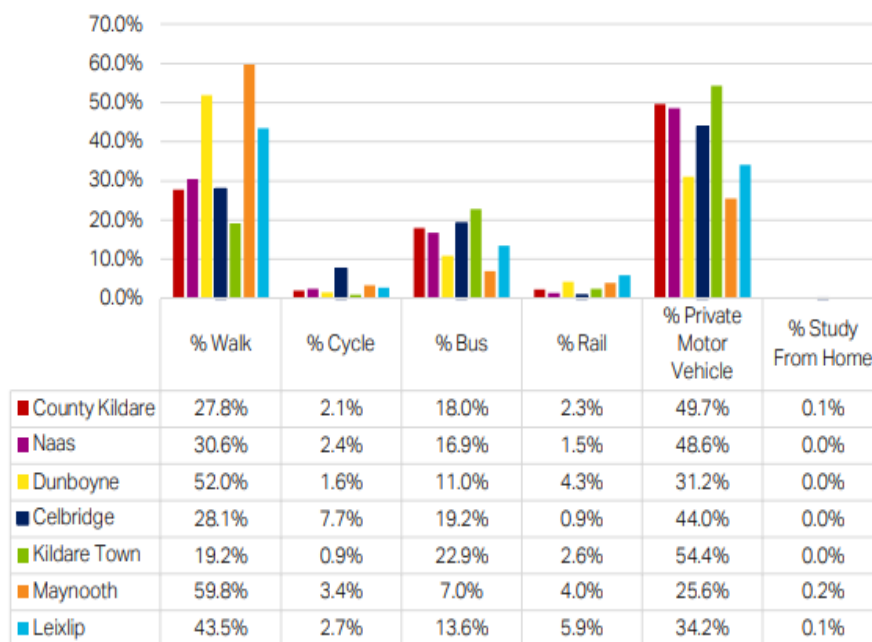
A similar analysis if carried out on the Shackleton road Signalised Junction would most likely show similar impacts.

2.9 Pedestrian & Cycle Route along the R405 Maynooth Road

The R405 Maynooth Road fronting the development is heavily used as a pedestrian and cyclist route for students of the two secondary schools, Salesian College and Celbridge Community School, both situated to the north of the R405-R449 roundabout. The combined number of students enrolled between the secondary schools in 2020-21 is expected to be 1455, 705 for Salesian College & 750 for Celbridge Community School.

Figure 2.13 provides information on mode share for education trips in Kildare towns including Celbridge from the Leixlip LAP Strategic Transport Assessment.

Figure 2.13 - Leixlip LAP Education Mode Share



This figure shows Celbridge having the highest mode share for students cycling to school compared to the other towns. This is backed up by the Census 2016 data which shows Celbridge is 3rd for primary school students cycling to school and 1st for secondary students cycling to school. This is detailed in Figure 2.14 below.

Figure 2.14 – Census 2016 Cycling Data

Table 5.2 Towns with population above 1,500 with the highest percentage of primary students cycling to school, 2016

Cycling	Number	%
Skerries	72	5.6
Donabate	64	5.3
Celbridge	143	5.2
Ballymahon	10	4.8
Dungarvan	46	4.5
Rush	58	4.2
Lusk	56	4.1
Moate	13	4.0
Enfield	22	3.8
Westport	20	3.8

Table 5.4 Towns with population above 1,500 with the highest percentage of cycling secondary students, 2016

Cycling	Number	%
Celbridge	243	14.1
Dungarvan	58	8.3
Rush	40	4.9
Balrothery	8	4.5
Ashbourne	32	4
Moate	7	3.6
Skerries	28	3.5
Tubbercurry	4	3.5
Swords	86	3.3
Kilkenny	56	3.2

The Kildare Bicycle Account carried out by Kildare County Council in 2013 showed Salesians College standing out with a cycling percentage of 21.6%. Celbridge Community School wasn't in place when this report was undertaken but based on observations, the cycling percentage for Celbridge Community School is also high.

At peak times, the number of students cycling along the R405 Maynooth Road is close to 300 and the number of students walking along the R405 is significantly more. The recommended width for this level of cyclists based on advice in the National Cycle Manual would be 2.0 to 2.5m.

The footpath and cycle facilities along this route are substandard for this level of peak time activity, existing footpaths are 1.5m wide and existing cycle paths are 1.5m wide for one-way paths and 3.0m wide for two-way paths. No segregation exists between the footpath and cycle path leading to pedestrian and cyclist conflicts along this route.

The development has not proposed any upgrade to these facilities. Figure 12.3 (Design Concept for KDA 4 Crodaun) from the LAP proposes a segregated pedestrian and cycle route to be provided in an open space landscaped buffer to the Maynooth Road. Due to the increased pedestrian and cyclists' number that the development would add to the existing road network, proposals to improve these facilities should have been incorporated as part of the development.

It is worth noting that the Kildare Transport Report included in the Chief Executives report to An Bord Pleanála for the adjacent SHD application, Ref ABP-306504-20, noted that the development should include upgrade of the substandard footpath and cycle paths along the entire frontage of their boundary.

The development should have included an upgrade of the footpath and cycle paths along the frontage of the development, the widths of the footpath and cycle paths should be provided in line with the recommended widths for the high level of activity. Segregation between the cycle path and footpath should be incorporated to improve safety for the users.

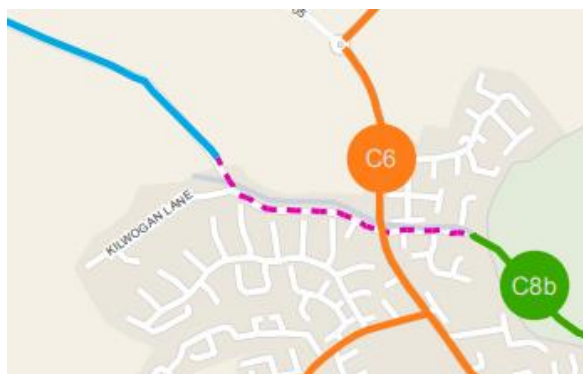
2.10 Provision of Pedestrian/Cycle Route

In accordance with LAP Objective MTO1.2 noted below, the development should facilitate the provision of routes identified in the Greater Dublin Area Cycle Network Plan.

LAP Objective MTO1.2: To facilitate and encourage cycle as a more convenient and safe method of transport through the development of new or improved cycle facilities in Celbridge with a particular focus on the routes identified in the National Transport Authority (NTA) Greater Dublin Area Cycle Network Plan to link population, commercial, community facilities, schools and transport nodes. Any new development to facilitate routes identified in the Greater Dublin Area Cycle Network Plan shall be subject to the mitigation detailed in the environmental assessments for that plan.

Sheet N16 of the Greater Dublin Area Cycle Network Plan details a feeder route along Kilwogan Lane, this route is also highlighted on the Map 8.1 of the LAP. These are detailed in Figure 2.15 below.

Figure 2.15 - Proposed Western Link Road Alignment



Greater Dublin Area Cycle Network Plan Sheet N16



LAP Map 8.1

The An Bord Pleanála Inspector's report on the 302887-18 Strategic Housing Development consultation notes that Kildare County Council were seeking "Provision of pedestrian/cycle route along Kilwogan Lane or within subject site as per Celbridge LAP and indicated on map 8.1 of same".

The proposed development has not facilitated the provision of this cycle route within the site or along Kilwogan Lane.

2.11 Conformance with DMURS Design Standard

In accordance with LAP Objective MTO3.8 noted below the development should comply with the Design Manual for Urban Roads and Streets (DMURS).

LAP Objective MTO3.8: To require all new developments to comply with the recommendations of the Design Manual for Urban Roads and Streets (DMURS) and National Cycle Manual, or any subsequent relevant publication.

The NRB DMURS Statement of Consistency submitted with the application details the provision of a single street hierarchy, a local street with a 6.0m carriageway width.

This street width is greater than the 5.0-5.5m recommended local street width noted in section 4.4.1 of DMURS. The provision of local streets above the recommended width will promote higher traffic speeds and be difficult to achieve a 30km/hr self-regulating development street network.

The NRB DMURS Statement of Consistency notes the provision of 6m junction radii, the engineering drawings submitted as part of the application do not detail the junction radii at the individual junction so it can only be assumed that 6m has been applied to all junctions within the development. DMURS section 4.3.3 recommends 3-4.5m junction radii for local street junctions, this would apply to the internal development junction. The provision of junction radii above the recommended radii for local street junction will promote higher traffic speeds and be difficult to achieve a 30km/hr self-regulating development street network.

DMURS Advice Note 4 (May 2019) looks for a DMURS Street Design Audit to be carried out on developments of this scale. No Street Design Audit was submitted as part of the planning application. A Street Design Audit if carried out would have picked up the issues outlined above and would have assessed the full DMURS requirements.

The internal street layout of the development fails to provide a safe low speed environment for the safe integration of vehicles, cyclists and pedestrians.

2.12 Road Safety Audit

The submitted Stage 1 Road Safety Audit (report ref 0704R01-Rev 3) carried out by Bruton Consulting Engineers on behalf of NRB has noted just 1 item with respect to the proposed development. For a development of this scale a larger number of safety issues would be expected to be raised. Notably the audit has not raised any safety issues on the existing road network fronting the development.

Figure 2.16 R405 adjacent to Development Site. (Note the narrow cycle & foot path)



A safety review of the existing road network fronting the development has been carried out. The safety issues below were noted as part of this review.

1. Footpath Width – the footpath width is too narrow for the high level of pedestrian numbers at busy times. Inadequate footpath width forces pedestrians to walk in the adjacent cycle path in conflict with cyclists. The footpath should be increased in width to cater for the pedestrian demand at busy times. This is noted in the Kildare Transport Report included in the Chief Executives report to An Bord Pleanála for the adjacent SHD application, Ref ABP-306504-20.
2. Cycle Path Width – the cycle path width is too narrow for the high level of cyclists' numbers at busy times, inadequate cycle path width forces cyclists to cycle in the adjacent footpath in conflict with pedestrians. The cycle path should be increased in width to cater for the cyclist

demand at busy times. This is noted in the Kildare Transport Report included in the Chief Executives report to An Bord Pleanála for the adjacent SHD application, Ref ABP- 307100-20.

3. Segregation between Footpath and Cycle Path – no segregation is provided between the footpath and cycle path to discourage cyclists from using the footpath and vice versa as noted above. Segregation should be provided between the footpath and cycle path to improve safety for the users.
4. Bus Stop Layout – buses pick up and drop off passengers directly on the cycle path, this places passengers in conflict with cyclists. Passengers waiting for the bus will block the footpath path forcing pedestrians onto the cycle path. The bus stop layout should be improved to remove the conflict between passengers and pedestrians and cyclists. This is noted in the Kildare Transport Report included in the Chief Executives report to An Bord Pleanála for the adjacent SHD application, Ref ABP-306504-20.
5. Crossing Facility – the signalised toucan crossing on the R405 Maynooth Road has a poor layout and prioritises cyclists, placing pedestrians in conflict with cyclists when accessing the crossing. The crossing should be improved to provide a safer crossing for pedestrians and encourage safer use by cyclists.
6. Development Access Junctions Layout – the development access junctions as proposed as simple priority junctions, the level of traffic on the R405 Maynooth Road at peak times will result in traffic turning right into the development having to wait for a gap to enter the development and blocking traffic on the main line. Drivers may feel pressured to take hasty manoeuvres resulting in vehicle collisions.
7. Junction Visibility at Kilwogan Lane – junction visibility to the right is obscured by an existing boundary wall resulting in poor visibility for right turning vehicles. This wall should be setback to improve visibility.
8. Cyclist Numbers at Peak Times – cyclists at peak times are observed to be cycling in the footpath, this is due to narrow widths of the cycle path and the lack of segregation between the footpath and cycle path. An appropriate width cycle path should be provided.

Given the number of safety issues noted above in relation to the existing road network it would be appropriate that the Stage 1 Road Safety Audit submitted with the application is deemed flawed and severely lacking.

2.13 Permeability

LAP *Objective* MTO1.8 notes the requirement to deliver or provide for filtered or full permeability as detailed below.

LAP Objective MTO1.8: To require new housing developments to deliver filtered or full permeability to adjoining development in so far as is possible and, in the case of adjoining greenfield sites, to ensure the potential for such provision is addressed.

Drawing 19080-SIT-PLAN-0008 submitted as part of the planning application details proposed connection points onto Kilwogan Lane and into the adjoining green field land. However, these connections haven't been provided to the site boundary which may lead to difficulty with making these connections in the future.

The development should provide these connections to the site boundary to allow a future developer of the adjoining land to make these connections and the council to provide the connection to Kilwogan Lane.

2.14 Western Link Road

LAP Objective MTO3.11 notes the potential for a Western Link Road to the R405 Maynooth Road as follows:

LAP Objective MTO3.11: To explore by way of Feasibility Study the potential to construct a Western Link Road that will link Maynooth Road R405 with the Clane Road R403

Figure 12.3 of the LAP Design Concept for Key Development Area 4 details a route for the Western Link Road, this route runs through Zone F zoned for Open Space and Amenity area. The development has noted this area as a natural ecological park. It is unclear from the application if the natural ecological park has been designed with the potential for the future road link to be provided through it.

The requirement for a western link road is a very probable outcome from the feasibility study to explore the potential to construct a Western Link Road and from the delayed transport strategy for Celbridge. The layout of the proposed development jeopardises the future delivery of a Western Link Road as the provision for a park is squeezed further north west into land that would be needed for this road. The site layout detailing the western link road alignment from LAP Figure 12.3 Design Concept for KDA 4 is detailed below.

Figure 2.16 - Proposed Western Link Road Alignment



The design of the natural ecological park and the north-western corner of the housing development should be evaluated in relation to the future provision of a link road and a potential design submitted for its operation with the road link in place.

3 CONCLUSION

Based on the points noted above it is clear that the application is lacking in a number of areas chiefly, traffic assessment, conformance with DMURS standards, compliance with LAP Objectives and road safety.

It would be appropriate to refuse permission to this SHD application based on the items noted in Section 2 of this report as many of these are too significant to address in planning conditions alone and may require significant redesign of the development to address them.

