Stillorgan

Local Area Plan 2018 - 2024

Appendix I - Stillorgan Village Area Movement Framework Plan

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Comhairle Contae County Council

Clifton Scannell Emerson Associates

Stillorgan Village Area MFP Preliminary Design and Options Report

NTA Stillorgan Village Area Movement Framework Plan

Dún Laoghaire-Rathdown County Council Comhairle Contae Dhún Laoghaire-Ráth an Dúin

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Executive Summary

Clifton Scannell Emerson Associates (CSEA), in collaboration with Brady Shipman Martin (BSM), has produced this report detailing the Preliminary Design Stage of the Stillorgan Village Area Movement Framework Plan. The purpose of this study was to create an environment that will promote and sustain a rich and vibrant village where people living and working in Stillorgan can walk, cycle and access public transport within a network of safe, pleasant and well connected streets, civic spaces, green links and benefit from an improved environment around the village core.

The study has build on the recommendations from the Stillorgan Local Area Plan 2012 – 2017 and was conducted in accordance with the objectives of the County Development Plan 2016 - 2022.

The main problems that currently exist within the study area were identified as follows:

- Disconnected village sections
- Impression of car priority
- Inadequate Pedestrian/ Cycle facilities
- Extensive parking areas dominate landscape
- Poor visual and recreational/leisure amenity
- Wide traffic lanes

A number of surveys were conducted to obtain relevant data to inform the study including Topographical Surveys, Land Use and Planning Surveys, Origin Destination Surveys, Traffic Surveys, Public/ User attitudes survey and Parking Surveys. Accident data was also collated as part of the data collection process.

The Stillorgan Village Area Movement Framework Plan was informed by a full assessment of the exiting urban structure, public space, and movement patterns, combined with detailed analysis of the planned and likely future land use and movement requirements within and surrounding the study area. In developing options for Stillorgan Village, the vision and strategic objectives of the *Stillorgan Village Local Area Plan 2012-2017* in terms of Land Use, Accessibility, Community and People, Urban Design and Public Realm, and Infrastructure, were considered in full.

Options were looked at for Stillorgan Village with a focus on Urban Design, Public Realm, pedestrian (taking desire lines into account), cycle and road network improvements. Options for key junctions were then looked at in terms of network feasibility using capacity traffic modelling packages including Oscady Picady and Linsig.

The proposed design options include modifications to the layout of a number of key junctions, including:

- Junction of Lower Kilmacud Road, The Hill and Old Dublin Road;
- Main Shopping centre car park access arrangements;
- Junction of Lower Kilmacud Road, Upper Kilmacud Road, and South Avenue; and
- Junction of Lower Kilmacud Road and N11 Stillorgan Road.

To inform the design process, the existing and proposed layouts were modelled utilising traffic survey information obtained during data collection phase of the project. The modelling results shaped the preferred layout designs of these key junctions.

With respect to consultation, key land stakeholders were identified and contacted at the early stages of the project in order to facilitate engagement with the framework development process. This informed the study by providing the design team with an understanding of potential constraints and opportunities that could arise relating to future plans and objectives these stakeholders had for their developments.

Key Land stakeholders included:

1. Stillorgan Shopping Centre
2. Kilmacud Crokes
3. Blakes and Leisureplex Sites

Taking key skateholders views and modelling results into account, the emerging preferred options were drawn up for the study area. The study area was divided into a number of different sections,each with an associated package of works.

These preferred options were then used for public information. Public information was provided on the emerging options between October and Devember, 2015, with the public invited to provide feedback on the proposal.

The drawings of the proposal included existing layouts and medium term plans proposed for the following areas:

- **Lower Kilmacud Road/ Overflow Parking (existing)**
- **Lower Kilmacud Road/Old Dublin Road Junction/N11 (existing)**
- **Old Dublin Road**
- **Lower Kilmacud Road at Mill House**
- **Upper/Lower Kilmacud Road South Avenue Junction**

- **The Hill/ N11 Slip Lane**

The feedback received from this public information period was collated and the preferred design options were updated to incorporate feasible alterations based on this feedback.

Indicative sketches of the proposed design options are shown below and included short to medium term options and long term options for the study area. A full set of design drawings can be found in Appendix E.

Figure (i): Short to Medium Term Proposal for Village Core

Figure (ii): Long Term Proposal for Village Core

Photomontages and cross-sections were also provided to give an indication as to what the scheme would look like into the future. The proposed works associated with each individual section of the study area were costed up separately, such that works could be carried out in stages in accordance with available funding.

Upon completion, the scheme will provide a positive transformation of the village, with the photomontages below providing a graphical representation of what this transformation will look like.

Figure (iii): Lower Kilmacud Road Potential (Looking East)

Figure (iv)*: Lower Kilmacud Road Potential (Looking West)*

Figure (v): Lower Kilmacud Rd / The Hill Junction Potential

Figure (vi): Old Dublin Road Potential (South Section)

Figure (vii): Old Dublin Road Potential (Middle section)

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1. Introduction

Clifton Scannell Emerson Associates (CSEA), in collaboration with Brady Shipman Martin (BSM), has produced this report detailing the Preliminary Design Stage of the Stillorgan Village Area Movement Framework Plan. The study area encloses Stillorgan Village and is shown in *Figure 1*. It is bound by the N11 to the north (at its junction with the Old Dublin Road), the N11 to the south (at its junction with the Hill), the N11 to the east (at its junction with Lower Kilmacud Road) and to a point just west of the staggered junction of Lower Kilmacud Road, the R826 and South Avenue to the west.

***Figure 1.1**: Study Area*

Stillorgan Village Area is a district centre and has many trip attractors including Stillorgan Village Shopping Centre, Kilmacud Crokes GAA club, the Leisure Plex facility (this may be redevelped into the future), Lidl supermarket, educational developments and various other local businesses including pubs, cafes, restaurants, banks, retail, etc.

With regard to character, Stillorgan Village provides a high parking provision, with wide junctions and mulitlane carriageways, and gives an overall impression of car priority. The urban environment in its present form provides little cohesion or sense of place.

o Brief

The purpose of this study is to create an environment that will promote and sustain a rich and vibrant village where people living and working in Stillorgan can walk, cycle and access public transport within a network of safe, pleasant and well connected streets, civic spaces, green links and benefit from an improved environment around the village core.

The study will build on information sourced from the Stillorgan Local Area Plan 2012-2017 and will be conducted in accordance with the objectives of the County Development Plan 2016-2022.

Stillorgan Local Area Plan 2012-2017

Stillorgan Local Area Plan (LAP) 2012-2017 provides a high-level vision for Stillorgan Village. It reports on the issues, oportunities, and constriants within Stillorgan Village Core, and focuses on a similar study area to that of our study. The LAP noted that the study area is affected by severe traffic congestion and poor pedestrian linkages, particularly within the vicinity of the shopping centre.

The LAP refers to the dominance of the car in Stillorgan Village. It noted that further use of public transport, walking and cycling should be promoted by facilitating the development of a pedestrian and cycle friendly area to address the problems created by this.

The LAP enphasised the importance of creating a strong urban form to facilitate a strong sense of community and identity, through the promotion of high quality architecture and urban design, including the provision of quality public spaces useable by all. It also highlighted the importance of providing an improved public realm with an emphasis on pedestrian safety.

It also noted that Stillorgan has experienced a decline in population for 24 years to 2007, with a low number of persons per household. The LAP enphasised the need to sustain the catchment population by reviving the heart of Stillorgan and enhancing the diversity of housing to cater for all needs to create a thriving and diverse community.

The LAP contains a land use strategy which identifies a vision for the redevelopment of the area. This vision supports the continued development of Stillorgan as a District Centre and Neighbourhood Centre. The aim of the land use strategy is to promote vitality and viability, improve the amenity of the surrounding environment, encourage an appropriate range of quality retail development and protect, where possible, the survival of small and specialists shops.

County Development Plan 2016-2022

Dun Laoghaire Rathdown County Councils 'County Development Plan 2016-2022' consists of a written statement and a set of 14 maps. The written statement sets out the general policy of the Council for the development of the overall area of Dun Laoghaire Rathdown County Council. It includes detailed standards for the control of development and specific objectives for different areas, including Stillorgan.

The maps illustrate the land use zoning provisions of the Plan, the road programmes and other objectives such as the preservation of trees and structures of archaeological interest. The Plan seeks to provide for the future well-being of the residents of the County by facilitating the growth of employment. To assist in achieving this, it is important to ensure there is an adequate supply of zoned lands for anticipated needs, by protecting the quality of the environment and by safeguarding the provision of necessary infrastructure.

Our study area is contained within Map 2 of the Development Plan. The map shown in figure 1.2 focuses on the study area and is taken from the bottom middle section of 'Map 2'. The map identifies strategic development sites suitable for redevelopment, including the existing Shopping Centre, the Leisureplex and Blakes sites. These sites are zoned for District Centre uses.
The land use zoning objective for the area contained with this map are as follows:

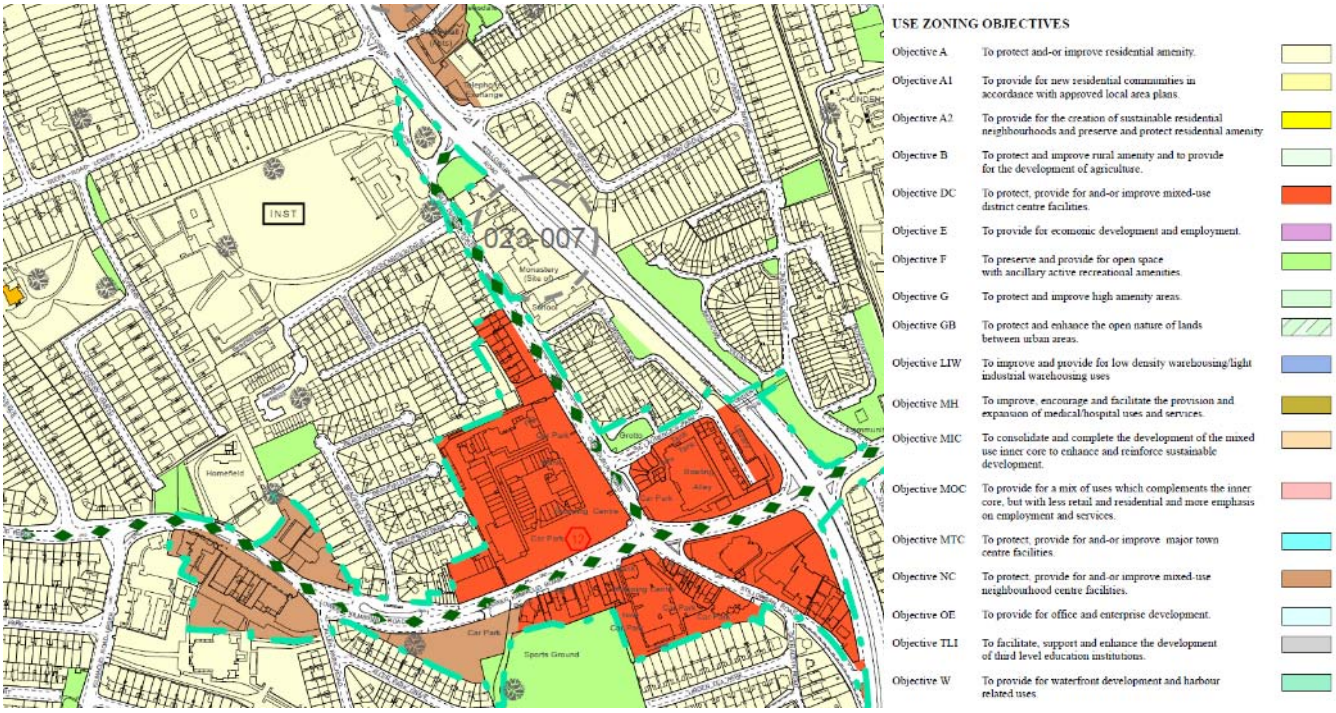


***Figure 1.2**: DLRCC Development Plan 2016-2022 - Map 2*

- Objective A (cream): To protect and-or improve residential amenity.
- Objective DC (orange): To protect, provide for and-or improve mixed-use district centre facilities.
- Objective NC (brown): To protect, provide for and-or improve mixed-use neighbourhood centre facilities.
- Objective F (green): To preserve and provide for open space with ancillary active recreational amenities.

It should be noted that the area enclosed by the light green broken line indicates the area covered in the LAP.

o Objectives

The main objectives of this study are as follows:

- To advance measures/initiatives in line with the objectives of Stillorgan Local Area Plan;
- To facilitate the future growth and success of Stillorgan Village;
- To protect and enhance the role of Stillorgan Village as a District Centre focusing on public realm improvements to create a safe and attractive environment for visitors;
- To assess movements around and through the Stillorgan Village Area and optimise accessibility within the village;
- Modal shift through improved access to public transport and better connectivity for pedestrians and cyclists;
- Pedestrian, cycle, public transport, car and delivery vehicle networks to be designed to maximise connectivity, permeability and ease of movement for soft modes;
- To create multi-functional streets that balance 'movement' and 'place' and safety for all users within a traffic calmed environment;
- To improve access to and legibility of short stay car parking.

2. Problem Identification

As mentioned previously, the purpose of this study is to create an environment that will promote and sustain a rich and vibrant village where people living and working in Stillorgan can walk, cycle and access public transport within a network of safe, pleasant and well connected streets, civic spaces, green links and benefit from an improved environment around the village core.

In order to achieve this, it is important to identify the problems that currently exist within the study area.

The main problems identified within the study area are as follows:

- Disconnected village sections
- Impression of car priority
- Inadequate Pedestrian/ Cycle facilities
- Extensive parking areas dominate landscape
- Poor visual and recreational/leisure amenity
- Wide traffic lanes

Disconnected Village Sections

The shopping centres two car parks are disconnected: The two parking areas for the shopping centre comprise the main car park and the overflow car park. The overflow car park is located south west of the shopping centre on the south side of Lower Kilmacud Road. It is separated from the main shopping centre by a wide carriageway, with no clear visual link between the two.

The shopping centre and the village section opposite it on Lower Kilmacud Road are disconnected. There are a number of businesses on the south side of Kilmacud Road adjacent the shopping centre including three banks, a café, a betting shop, Lidl, a cinema, a pub. These business are disconnected from the shopping centre due to the wide carriageway that separates them. There are limited pedestrian facilities to assist crossing, which effectively acts as a deterrent to pedestrians who would be more likely to travel between the two areas if the urban environment was more inviting.

Similarly, the hostile pedestrian environment acts as a deterrent for potential customers who may otherwise travel between the shopping centre and the businesses on the Hill and on the east side of Old Dublin Road (near the junction with Lower Kilmacud Road).

There are a number of local businesses clustered together on the west side of Old Dublin Road just north of the shopping centre, including a hardware store and an Asian supermarket which are also disconnected from the shopping centre. Again this is due to a lack of visual continuity between the two, with an idol plot of land separating the two areas and a built out wall blocking a visual path between them.

There is a further cluster of local businesses including a Centra, a restaurant/ bar and a pharmacy, located west of the overflow car park (between the overflow car park and the junction of Lower Kilmacud Road, the R826 and South Avenue). These businesses are located sufficiently far from the shopping centre giving the impression of being located outside the village.

***Figure 2.1**: Poor visual connection between overflow car park and shopping centre.*

Impression of car priority

The road network passing though Stillorgan Village features multilane carriageways with surplus to requirement widths, oversized junctions, and limited pedestrian and cycle facilities. Pedestrian footpaths are, for the most part, poorly maintained. No cycle lanes are provided through the core village area.

There are high levels of congestion through Stillorgan Village. There is also a high parking provision, with no access or turn restrictions on car parking access points, encouraging vehicles to make erratic manoeuvres to travel the shortest route to their preferred destination. This further reinforces the village's impression of car priority and creates an intimidating environment for cyclists and pedestrians to get around.

***Figure 2.2**: High parking provision and wide carriageway widths create impression of car priority – opportunity for public realm improvement*

Wide traffic lanes

Wide traffic lanes are a prominent feature of the Stillorgan Village core area. The carriageway layout on the section of Lower Kilmacud Road, between the N11 and its junction with Old Dublin Road/ The Hill comprises between four and five traffic lanes.

Between a point approximately 60 metres east of its junction with South Avenue to a point just west of the service vehicle access to the Shopping Centre, Lower Kilmacud Road provides two traffic lanes in each direction. However, east of this service vehicle access and moving into the villages core area, Lower Kilmacud Road expands significantly in width to form up to five traffic lanes at its widest point (i.e. on the west approach to its junction with Old Dublin Road and The Hill) including a left slip lane, two straight lanes, a short right lane and one exit lane.

Similarly, the carriageway of Old Dublin Road varies in width between two and four lanes. Its widest point is located on the northern approach to its junction with Lower Kilmacud Road. At this point, it comprises four lanes, including a continuous left slip lane, a straight lane, a short right lane and a single exit lane. It also facilitates movements coming from a left slip lane on Lower Kilmacud Road to merge with the exit lane.

While numerous lanes can assist capacity at junctions, excessively wide carriageways make it difficult for pedestrians to cross and create an unattractive urban environment for pedestrians and cyclists. A balance needs to be struck between reducing vehicular lane widths through the village and preventing queuing onto the N11.

***Figure 2.3**: Wide carriageway width on Lower Kilmacud Road adjacent Shopping Centre*

Inadequate Pedestrian facilities

Stillorgan village is divided into a number of areas containing clusters of businesses. In order to move between these village sections, there is often the need to cross wide carriageways. Pedestrians tend to choose the shortest route between two points of interest. Thus, it is necessary to position pedestrian crossings to match desire lines in order to discourage pedestrians from crossing wide carriageways at uncontrolled locations.

Pedestrian crossing facilities are currently provided at the junction of Lower Kilmacud Road, South Avenue and the R826. Moving along Lower Kilmacud Road east of this junction, the next crossing is located 230 metres away, at a point just west of Allen Park Road. Continuing east, the next pedestrian crossing is located a further 230 metres away. This crossing facilitates movements between the overflow car park and the main shopping centre car park.

The heart of Stillorgan Village lies east of this point and, despite this, the next crossing is located 180 metres away at Lower Kilmacud Roads' junction with The Hill and Old Dublin Road. High volumes of

pedestrians have desire lines between these two points and therefore the gap between these two crossings is too great to meet the pedestrian demand. This creates a safety issue through this area as pedestrians tend to cross the wide carriageway without any assistance (i.e. no controlled crossings or splitter island to assist crossing). Figure 2.4 shows a vulrenable road user crossing Lower Kilmacud Road through this area, with no protection from vehicular traffic.

Moving further east along Lower Kilmacud Road, a pedestrian crossing is provided 190 metres away at its junction with the N11.

With respect to crossings on Old Dublin Road, there is a signallised pedestrian crossing located on Old Dublin Road, 150 Metres north of the junction of Old Dublin Road, the Hill and Lower Kilmacud Road. There is currently a pedestrian crossing at this junction facilitating pedestrian movements across Old Dublin Road.

However, these crossings do not match the desire line for pedestrians wishing to travel between the Shopping Centre and the Leisure Plex site, library, northbound bus stop on the N11 and/ or the line of businesses on the east side of Old Dublin Road. With no pedestrian crossing facilitating movements through this desire line, pedestrians are likely to cross the road at uncontrolled points between the two existing signalised crossings currently provided on Old Dublin Road.

***Figure 2.4**: Pedestrian crossings do not match desire lines, encouraging pedestrians to cross wide carriageway with no crossing facilities*

Inadequate Cycle Facilities

Figure 2.5 shows a cyclist using the footpath to avoid an intimidating road environment through Stillorgan Village.
There are no cycle lanes provided in the study area, except for through a short section on the east approach to the junction of Lower Kilmacud Road, South Avenue and the R826. This cycle lane starts 70 metres east of the junction. However, it is marked in the left slip lane and does not adequately highlight the merging movement of cyclists travelling straight through the junction, which is the point at which cyclists are particularly vulrenable.

Cycle parking is provided at a number of locations in Stillorgan Village. The demand for cycle parking within the private land owned by the shopping centre site, particularly in the cycle parking area located beside TESCO supermarket, is greater than the supply of cycle parking spaces. It should be noted that sufficient levels of cycle parking are provided in most areas of Stillorgan.

It is recommended that more spaces are provided outside TESCO supermarket. This land, however, is not in charge of DLRCCs and consultation will need to be undertaken with shopping centre management to suggest an increase in cycle parking provision at that location.

***Figure 2.5**: Intimidating road environment for cyclists encourages cyclists to travel on the footpath*

Unattractive Public Realm

Figure 2.6 shows a busy urban environment. There are expansive areas of concrete with little planting or aestheticallly pleasing features such as street furniture, water features, high quality paving (e.g. granite paving), etc. through the village core. Such features often act as a signal to drivers that they are driving through a high pedestrian activity zone. This, in turn, improves safety by encouraging lower speeds through the area.

***Figure 2.6**: Unattractive Public Realm with expansive areas of concrete paving*

3. Data Collection

A number of surveys were conducted to obtain relevant data to inform the study including Topographical Surveys, Land Use and Planning Surveys, Origin Destination Surveys, Traffic Surveys, Public/ User attitudes survey and Parking Surveys. Accident data was also collated as part of the data collection process.

3.1 Topographical Survey

Topographical surveys were tendered for sections of the study area not already covered in existing topographical data held by DLRCC. Figure 3.1 shows the extent of the area for which survey data was obtained. As shown in Figure 3.1, the survey area also includes a section of the N11 from a point north of its junction with Lower Kilmacud Road to a point north of its junction with Trees Road Lower, which lies outside our study area.

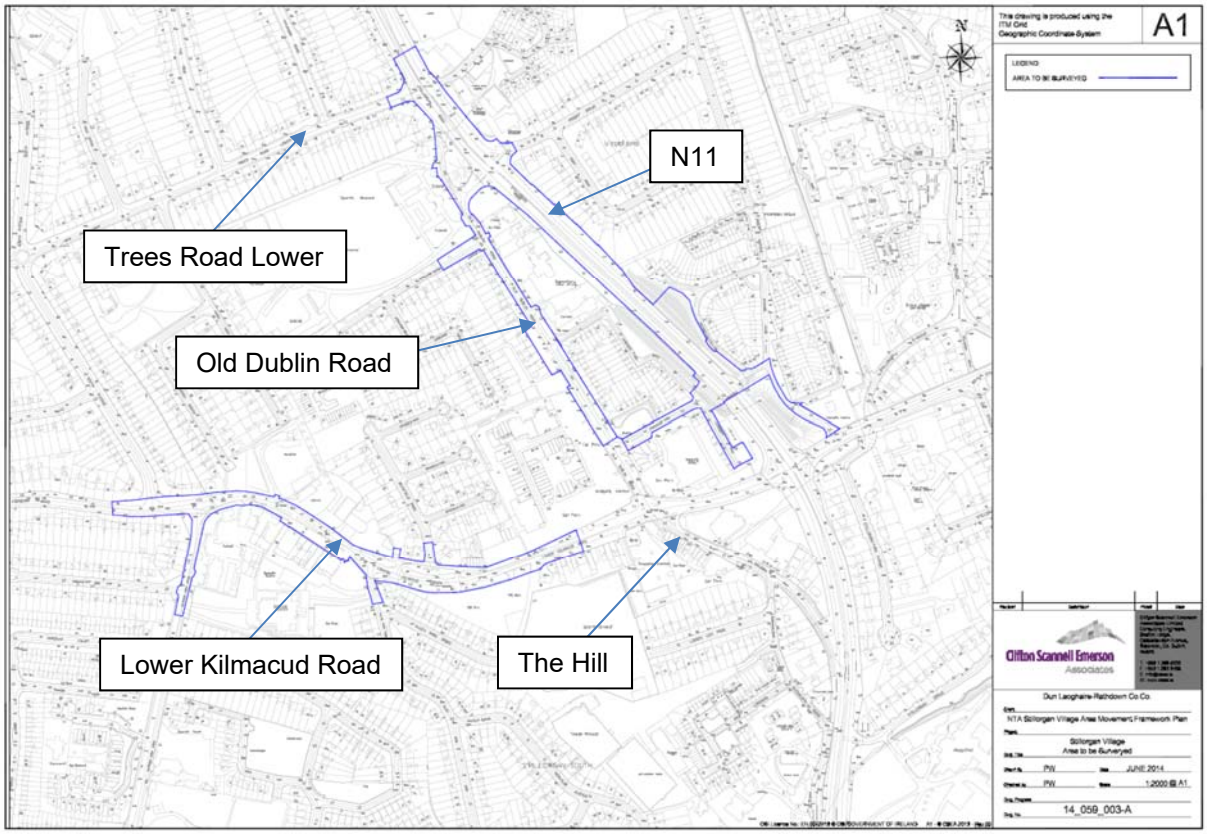


***Figure 3.1**: Extent of Topographical Survey Area*

3.2 Land Use and Planning Survey

The Stillorgan Village Area Movement Framework Plan has been informed by the existing built context of the area; existing movement patterns to, from and through the area; and an understanding of the potential future development and regeneration objectives and capacity.

It is recognised that the current land use pattern that has evolved over the last number of decades is inefficient. A combination of underutilised lands, poor provision for pedestrian and cyclist movement, significant opportunity for increased use of public transport, and a lack of a structured urban environment, all contribute to the continuance of sub-optimal and unsustainable land use. The Stillorgan Village Area Movement Framework Plan considers all aspects fo land use in an integrated and multi-disciplinary manner, and sets out a strategy to consolidate land use at Stillorgan; to enhance its mobility and access characteristics; and to coordinated all investment towards a more structure and identifiable urban environment.

Stillorgan Local Area Plan 2012- 2017

The Vision for Stillorgan set out in the Stillorgan Local Area Plan 2012- 2017 emphasises the establishment of a "sense of place and community" within Stillorgan, enhancing its vitality and viability as a District Centre. It anticipates consolidation and intensification of development to address the issue of population decline, as well as major improvements in the public realm and the quality of services and amenities.

The Stillorgan Local Area Plan 2012- 2017 sets out Strategic Objectives under five headings, and they are summarised as follows:

1. Land Use – seeking to maximise the significant redevelopment potential of available sites at Stillorgan that are well served by public transport.
2. Accessibility – to provide an enhanced pedestrian environment, reduce vehicular congestion, and promote the use of public transport.
3. Community and People – to support community facilities as focal elements that contribute to the creation of a strong sense of community and identity.
4. Urban Design and Public Realm – to promote the creation of an identifiable civic core through the introduction of mixed-use developments that delivers a structured urban context that responds to and enhances the local character and promotes a good quality visual environment.
5. Infrastructure

Section 1.3.4 of the **Dun Laoghaire Rathdown County Development Plan 2016 – 2022** provides a summary of the Stillorgan Local Area Plan (LAP) and states that the quantum and type of development specified in the LAP is in accordance with the Core Strategy. Chapter 9 of the County Development Plan 2016-2022 sets out a vision statement for Dun Laoghaire Rathdown County Council as follows: 'to initiate and/or give effect to the package of specific local objectives within the lifetime of the 2016-2022 County Development Plan.' A list of local objectives is then provided in this chapter. Objective 12 relates to this study and sets out 'to implement and develop the lands at Stillorgan in accordance with the Stillorgan LAP'

Land Use and Planning Activity

The current land use pattern is identified on *Figure 3.2* below. The core retail and commercial area is readily identifiable at the junction of Lower Kilmacud Road and Old Dublin Road, with Kilmacud Crokes and Glenalbyn immediately south of the core, and with a secondary cores further west along the Lower Kilmacud Road comprising retail and community uses, and to the north along the Old Dublin Road. The core areas are immediately surrounded by residential settlements.

Of particular significance to the future of Stillorgan, and as identified in the Stillorgan Local Area Plan, is the fact that there are substantial regeneration sites available that are focussed around the main core. These include the Shopping Centre and its overflow carpark, the Blakes and Esmonde Motors sites, and the Leisureplex site.

It is important that investment in public realm and mobility at Stillorgan anticipates the future intensification of these core regeneration sites, and that such regeneration contributes to the future urban structure and to the character of Stillorgan.

Movement

Stillorgan today is a legacy of late 20th century planning and development, and manifests as a car-centric sub-urban retail and residential centre. It was designed for high levels of vehicular access, and had minimal pedestrian and cycle infrastructure. Despite increased awareness and uptake of walking, cycling and public transport, Stillorgan retains its vehicle dominant character, and undermines the sense of road safety and potential sense of place.

The Stillorgan Village Area Movement Framework Plan anticipates significant change to the way in which Stillorgan functions as a more dense urban centre, and provides for high levels of pedestrian and cycle movement in a safe environemnt, together with the development of streetscapes of higher

visual quality and active frontage that will contribute towards the establishment of an vibrant and healthy contemporary village environment.

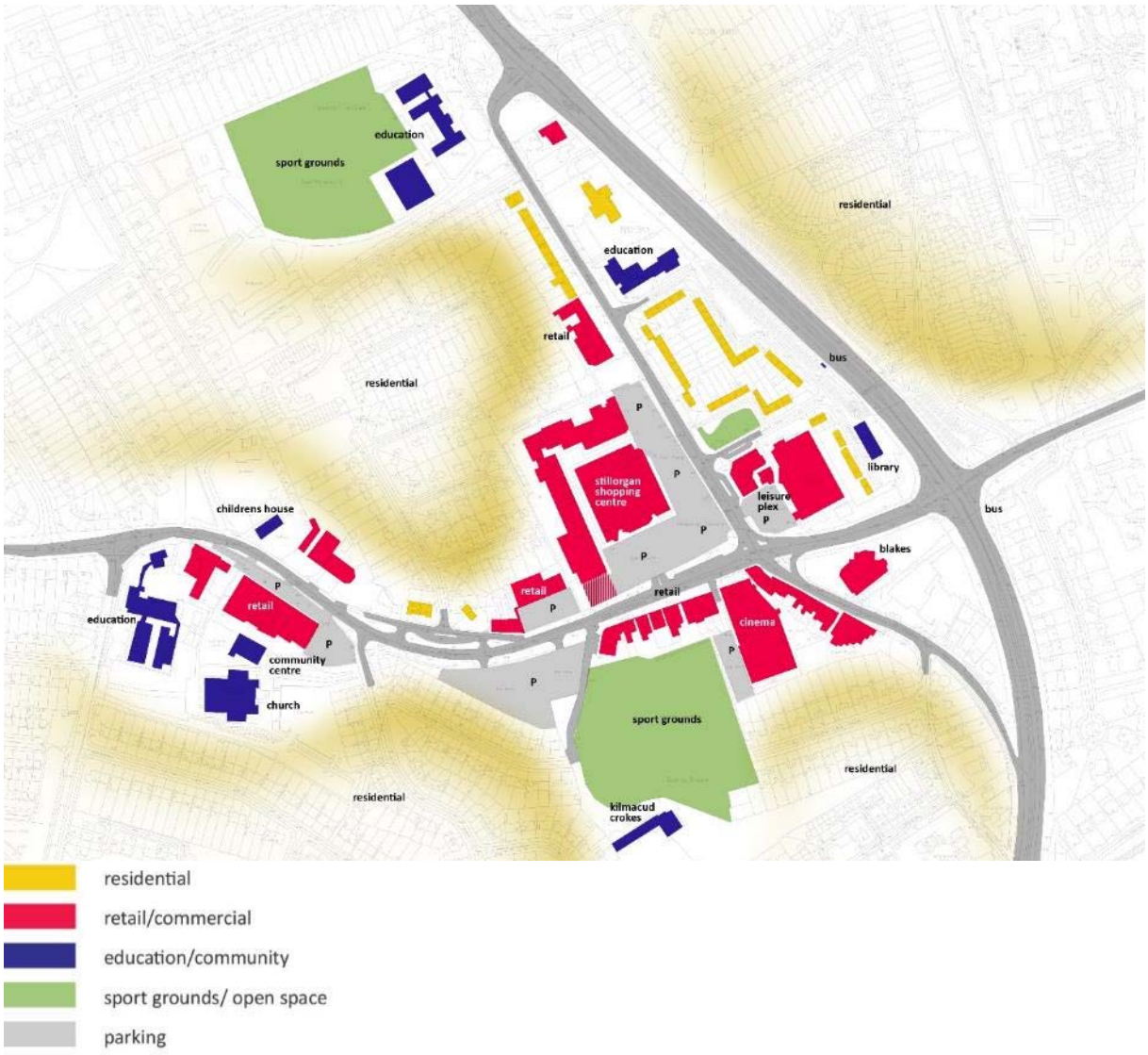


***Figure 3.2**: Current Land Use Map*

In developing the Stillorgan Village Area Movement Framework Plan, each of the major landowners in the area were consulted in order to understanding their short, medium and longer term objectives. These included the major commercial land owners and Kilmacud Crokes. A number of synergies were identified that would be mutually beneficial to both the stakeholders and to the village and the public realm.

The proposals for streetscapes, public realm, movement and access contained in the Plan, are compatible with stakeholder plans for future development.

3.3 Origin Destination Survey

Irish Traffic Surveys conducted an origin destination survey using Bluetooth technology. Each Bluetooth device comprises two parts - the Bluetooth unit itself (which can be cable tied to street furniture) and a box on the ground which houses the battery to power the device. Once installed, the units obtain Bluetooth data by measuring signals from mobile phones, hands free kits, satellite navigation devices via Bluetooth and Wi-Fi.

The MAC addresses are tagged with anonymous ID's using a complex hashing algorithm before being analysed to ensure people's privacy is maintained. These anonymous ID's are collated over time to develop an understanding of people's travel and behaviour.

Hashed ID's from numerous sites can be combined to provide data over a specific study area, providing an accurate understanding of movements over any time period. For example, it is possible to obtain information on where people are coming from/ going to by compiling information on the 'first time' a specific MAC address was seen and the 'last time' that same MAC address was seen. It is also possible to obtain information on whether or not they stopped within a specified cordon area by tracking the time elapsed between when the signal was first seen and last seen.

The measuring of the signals can be accurately focused to ensure signals are only collected from the user's area of interest i.e. specific road, car park area etc. Sample rates of between 15-40% can be achieved through Bluetooth scanning whilst Wi-Fi can add a further 20-30%. It should be noted that it is not possible to capture 100% of vehicle movements because not all vehicles travelling past the Bluetooth detector device data capture zone have an active Bluetooth device.

The unique MAC addresses of people/vehicles can be tracked at a number of scanning locations to assess routing on roads, or routing to/from a given destination e.g. car park, etc.. The units scan up to 1000 devices per minute and have an adjustable range of up to 500m which ensures any locations can be scanned.

For our study, eleven Bluetooth detector devices were installed at strategic locations within a defined cordon area (the cordon area was defined by the study area). Figure 3.3 shows the locations these Bluetooth devices were installed. Most of the devises were positioned in such a way to capture Bluetooth data for vehicles entering and exiting the Stillorgan Village cordon area. This meant calibrating the Bluetooth detector devices to pick up data from vehicles passing a specific point on a road at the periphery of the cordon.

Information was compiled showing the location at which a Bluetooth device was 'first seen' and 'last seen' to provide origin destination information (presented in matrix form) for trips made within the cordon. There were also a number of Bluetooth devices installed in the Main Shopping Centre Car Park. This provided information on car park usage patterns.

The Bluetooth surveys were conducted in Stillorgan Village between Wednesday 24th September 2014 and Saturday 27th September 2014. It should be noted that the first day (24th September) was used to calibrate the devices, with the data collected on 25th and 27th September used for analysis. Traffic surveys were also conducted for these two days. The Thursday am peak hour was recorded between 8am and 9am, the Thursday pm peak was recorded between 5pm and 6pm and the Saturday mid-day peak was recorded between 12pm and 1pm.

The traffic surveys were conducted for the same time period as the Bluetooth surveys in order to establish sample rates. For a given time period (e.g. AM peak), Bluetooth data collected for a section of road was compared with traffic volumes recorded at the same location. Once a sample rate was established, sample data was then factored up to match the traffic count data.

It was assumed that vehicles that took longer than 15 minutes to pass through the cordon (i.e. the time period between when the Bluetooth device was first seen entering the cordon and last seen exiting the cordon was greater than 15 minutes), stopped or had business in Stillorgan Village.

Similarly, it was assumed that trips that entered and exited the cordon in less than 15 minutes did not stop or have business in Stillorgan (i.e. these trips were through trips). Data on through traffic was compiled into matrices for the Thursday Am peak, Thursday PM peak and Saturday Midday Peak and these matrices were factored up in accordance with count data to obtain through traffic volumes. The results are tabulated in Tables 3.1, 3.2, and 3.3.

Table 3.1 corresponds to the Thursday AM peak period (8am-9am) and shows a matrix of traffic flows moving between six origin and six destination points. The origin and destination points are the same and are located at the entry/exit points to the cordon. As mentioned previously, it is assumed that any trip that enters and leaves the cordon area in less than 15 minutes (i.e. doesn't stop) is a through trip.

The matrix provides information on the following:

1. The number of through trips travelling between a specific origin-destination pair. For example, during the AM peak, 49 vehicles travel from 'Old Dublin Road North' (origin zone) to 'Upper Kilmacud Road' (destination zone), with a journey time of less than 15 minutes;

2. the total number of through trips from a given origin zone to any destination zone ('total'). For example, during the AM peak, 75 vehicles travel from 'Old Dublin Road North' to any of the six destination zones, with a journey time of less than 15 minutes;
3. the total number of trips from a given origin zone to any destination zone that are made within any time period ('traffic Count') – i.e. trips are not just confined to through trips. For example, during the AM peak, 247 vehicles travel from 'Old Dublin Road North' to any of the six destination zones, with a journey time of less than or more than 15 minutes;
4. the percentage through traffic travelling from a given origin zone to any destination zone ('% through traffic'). For example, 30.5% of the trips originating at Old Dublin Road North are through trips. This can be calculated by dividing the total though trips from that origin zone by the total number of trips originating in that origin zone –i.e. 75/247=30.5
5. Similar data on through trips, total trips and percentage through trips can be extracted from the matrix for destination zones.

Tables 3.2 and 3.3 provide similar origin-destination information for Thursday PM peak and Saturday Midday peak periods. Information from these three tables has been extracted and is presented graphically in Figure 3.3.

Figure 3.3 shows the percentage through traffic on a number of links, including through the study areas critical link (i.e. Lower Kilmacud Road in the vicinity of the Shopping Centre- shown in Blue). The larger text boxes show the peak hour traffic volume, the through traffic volume and the percentage through traffic for the AM, PM and Saturday midday peak periods. The data shows that the highest proportion of through traffic passes through the study area during the AM peak.

The text box highlighted in blue shows information for Lower Kilmacud Road, outside the shopping centre. During the AM peak period, 22% of eastbound traffic passing this point is through traffic. This can be compared to the PM and Saturday midday peak periods, when the through traffic percentage comprises 16, and 13% of the total,respectively.

During the AM peak period, 36% of westbound traffic passing this point is through traffic. This can be compared to the PM and Saturday midday peak periods, when the through traffic percentage comprises 24, and 18% of the total; respectively.

It is useful to know the proportion of through traffic as it gives an indicator of the proportion of trips that could potentially be diverted away from Stillorgan Village through soft and hard traffic management measures if required.

	Old Dublin Rd nth	Lwr Kilmacud Rd East	The Hill N11 Slip	St Bridgid's Church Rd	Upper Kilmacud Road	Lower Kilmacud Rd West	Total	Traffic Count	% Through Traffic
Old Dublin Rd Nth	4	4	0	4	49	13	75	247	30.5
Lwr Kilmacud Rd East	13	0	0	7	59	52	131	520	25.2
The Hill N11 Slip	85	39	0	0	0	46	170	273	62.4
Glenalbyn Rd	63	25	0	0	13	13	114	285	40.1
Upper Kilmacud Road	23	27	0	4	4	27	85	493	17.2
Lower Kilmacud Rd West	18	79	0	4	14	4	119	685	17.3
Total	207	174	0	19	139	155			
Traffic Count	554	524	1	71	629	601			
% Through Traffic	37.3	33.3	0.0	26.6	22.1	25.9			

***Table 3.1**: AM Peak Hour Origin – Destination Matrix (8-9am)*

	Old Dublin Rd nth	Lwr Kilmacud Rd East	The Hill N11 Slip	St Bridgid's Church Rd	Upper Kilmacud Road	Lower Kilmacud Rd West	Total	Traffic Count	% Through Traffic
Old Dublin Rd Nth	9	13	0	27	22	9	80	342	23.4
Lwr Kilmacud Rd East	0	7	0	33	72	59	171	512	33.4
The Hill N11 Slip	0	7	0	7	0	20	34	159	21.4
St Bridgid's Church Rd	4	4	0	0	4	4	16	131	12.2
Upper Kilmacud Road	23	31	0	4	4	27	89	549	16.2
Lower Kilmacud Rd West	14	39	0	4	14	0	71	461	15.3
Total	50	101	0	74	116	119			
Traffic Count	341	567	5	209	592	624			
% Through Traffic	14.6	17.8	0.0	35.6	19.6	19.1			

***Table 3.2**: PM Peak Hour Origin – Destination Matrix (5-6pm)*

	Old Dublin Rd nth	Lwr Kilmacud Rd East	The Hill N11 Slip	St Bridgid's Church Rd	Upper Kilmacud Road	Lower Kilmacud Rd West	Total	Traffic Count	% Through Traffic
Old Dublin Rd Nth	9	5	0	19	9	14	56	302	18.5
Lwr Kilmacud Rd East	0	18	0	12	48	42	120	492	24.4
The Hill N11 Slip	5	5	0	5	5	0	20	207	9.7
St Bridgid's Church Rd	4	5	0	0	0	5	14	152	9.2
Upper Kilmacud Road	14	15	0	0	0	9	38	512	7.4
Lower Kilmacud Rd West	6	59	0	4	26	4	99	498	19.8
Total	38	107	0	40	88	74			
Traffic Count	349	606	4	180	492	481			
% Through Traffic	10.9	17.7	0.0	22.0	17.9	15.4			

***Table 3.3**: Saturday Afternoon Peak Hour Origin – Destination Matrix (12-1pm)*

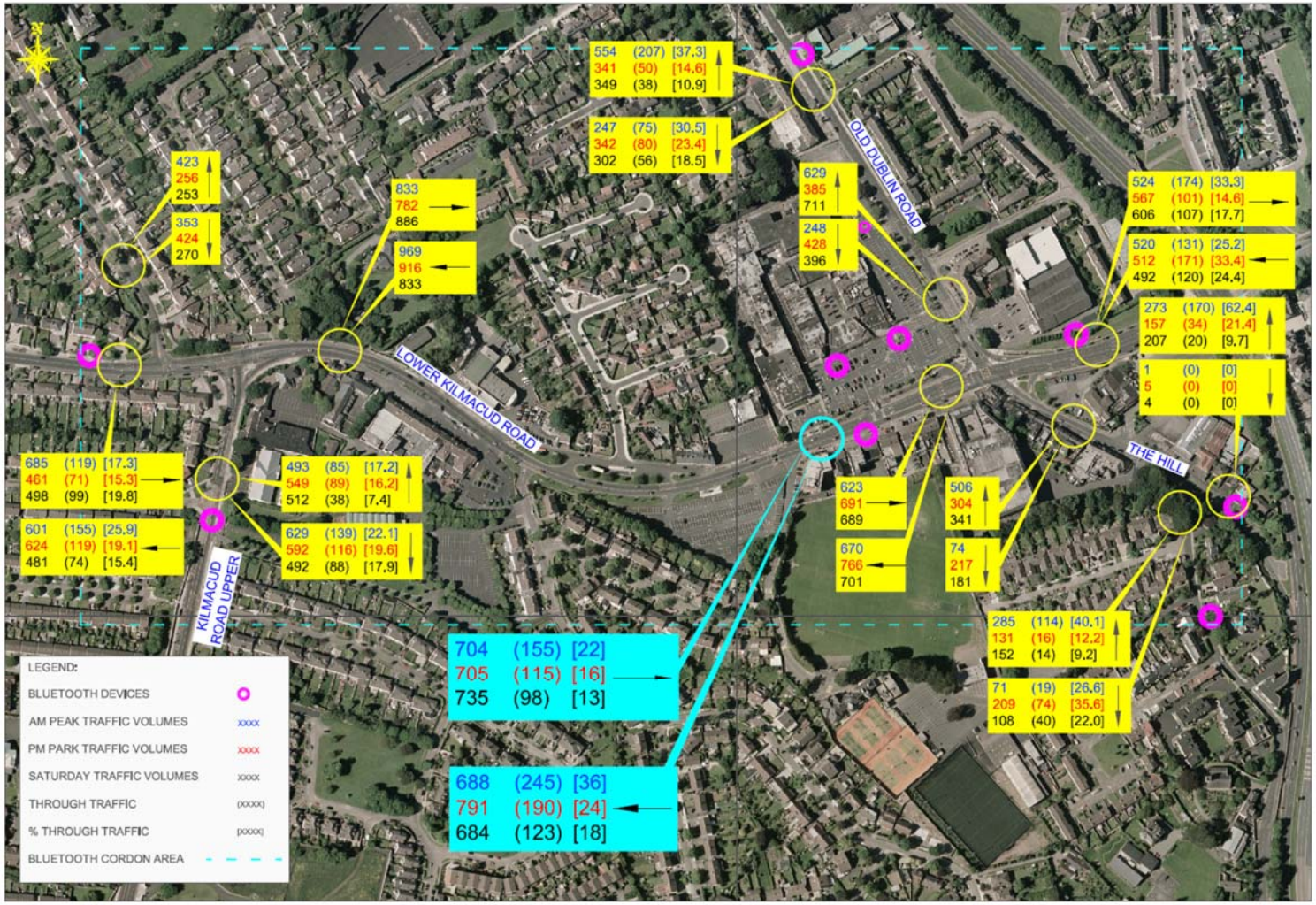


***Figure 3.3**: Bluetooth Survey Cordon Area showing through traffic volumes*

3.4 Public/ User Attitudes Survey

A public/user attitudes survey was conductied within Stillorgan Village on Thursday 25th September (9am-6pm) and Saturday 27th September (11am-3pm). The purpose of this survey was to gain a better understanding of travel patterns for people with business in Stillorgan and to get the publics opinion on what they like, dislike and would like to change about Stillorgan Village. The results of the survey were used to inform the study. The interview questionaire and results of the survey are included in *Appendix A* of the report.

3.5 Traffic Surveys

Traffic surveys were conducted on Thursday 25th September and Saturday 27th September 2014. The Thursday am peak hour was recorded between 8am and 9am, the Thursday pm peak was recorded between 5pm and 6pm and the Saturday mid-day peak was recorded between 12pm and 1pm.

Traffic surveys were undertaken at the following junctions on 25/27th September 2014:

- Lower Kilmacud Road, The Hill and Old Dublin Road (see Figure 3.4);
- Lower Kilmacud Road, Upper Kilmacud Road (R826) and South Avenue (see Figure 3.5);
- The Hill, Left Slip Lane from N11 and St Bridgid's Church Road;
- The N11 and Old Dublin Road;
- Main Shopping Centre Car Park Access and Lower Kilmacud Road (see Figure3.6);
- Old Dublin Road and Car Park Access, north of St Laurances Park; and
- Old Dublin Road and Car Park Access, south of St Laurances Park.

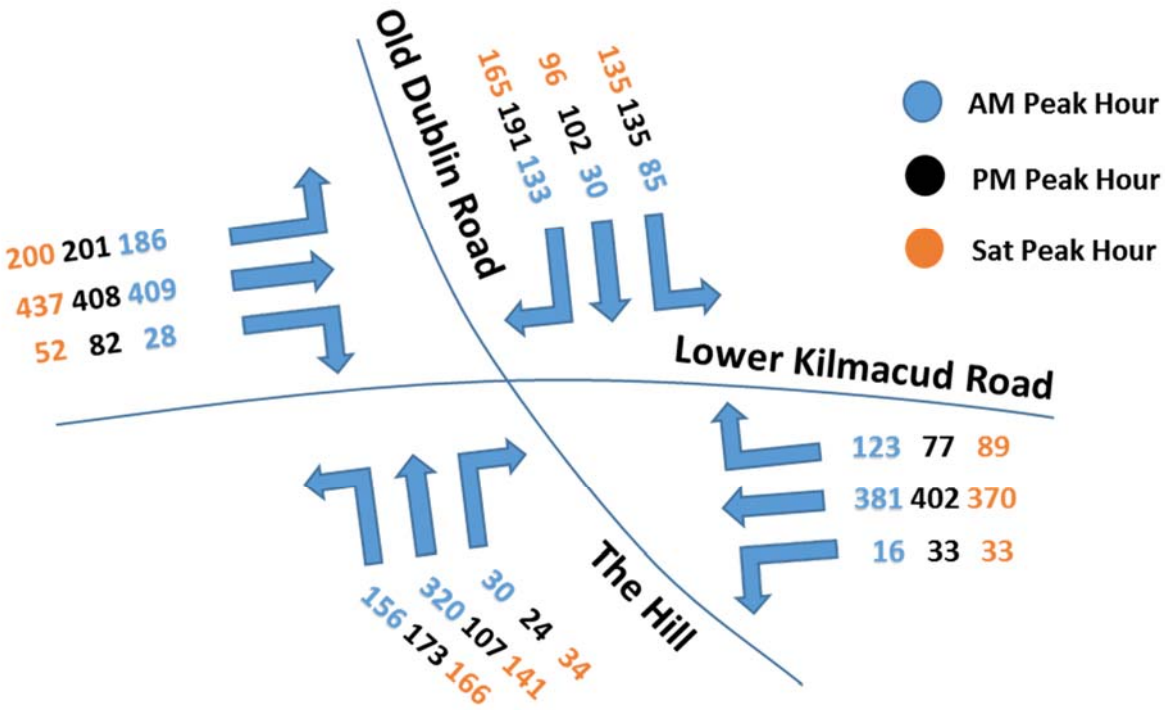


Figure 3.4 *Existing Peak Hour Classified Turning Counts (vehicles)*

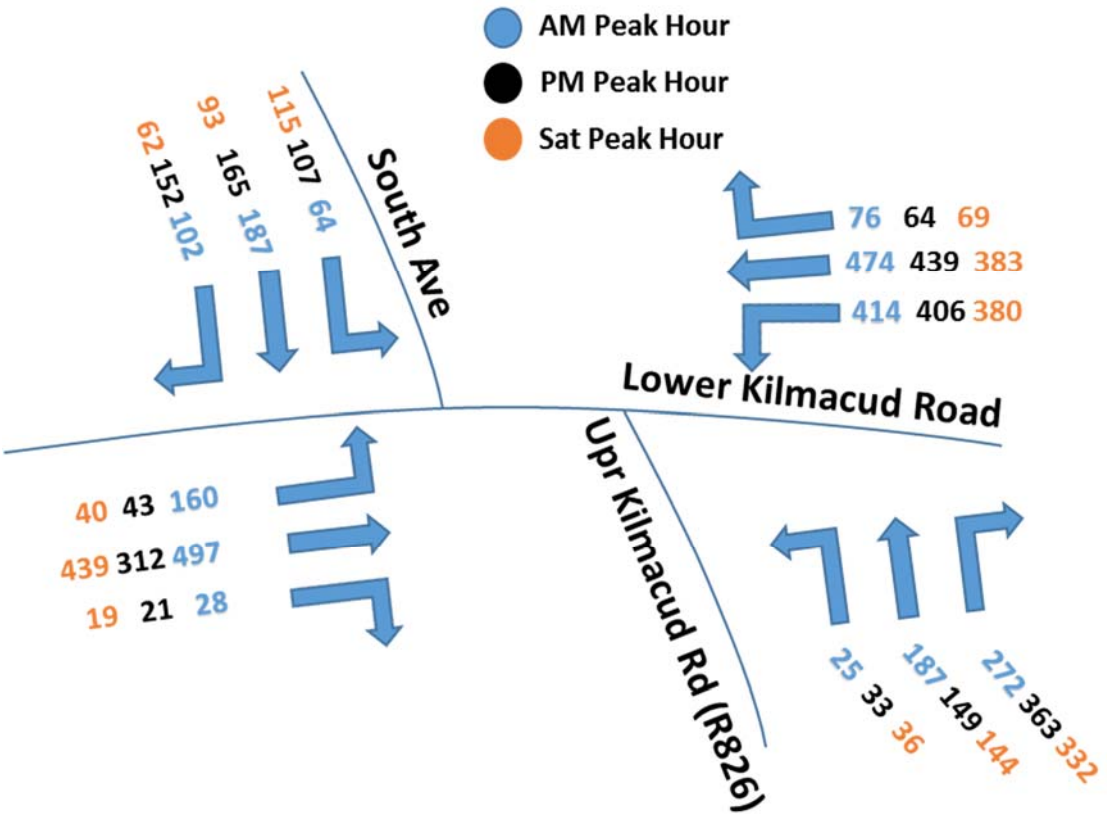


Figure 3.5 *Existing Peak Hour Classified Turning Counts (vehicles)*

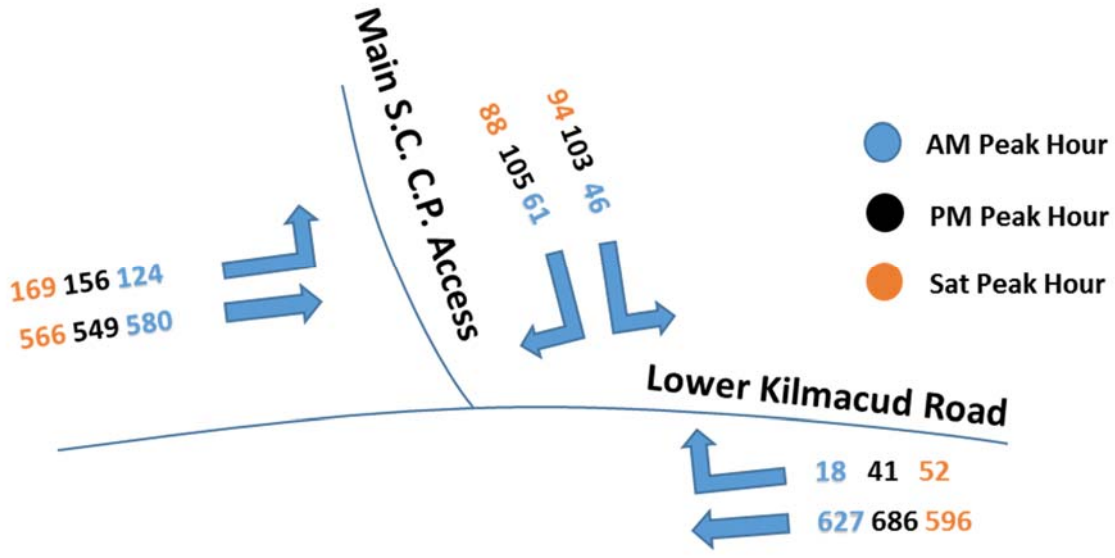


Figure 3.6 *Existing Peak Hour Classified Turning Counts (vehicles)*

A Traffic Survey was also undertaken at the following junction on Thursday 3rd October 2013:

- The N11, Stillorgan Park Road and Lower Kilmacud Road (see Figure 3.7);

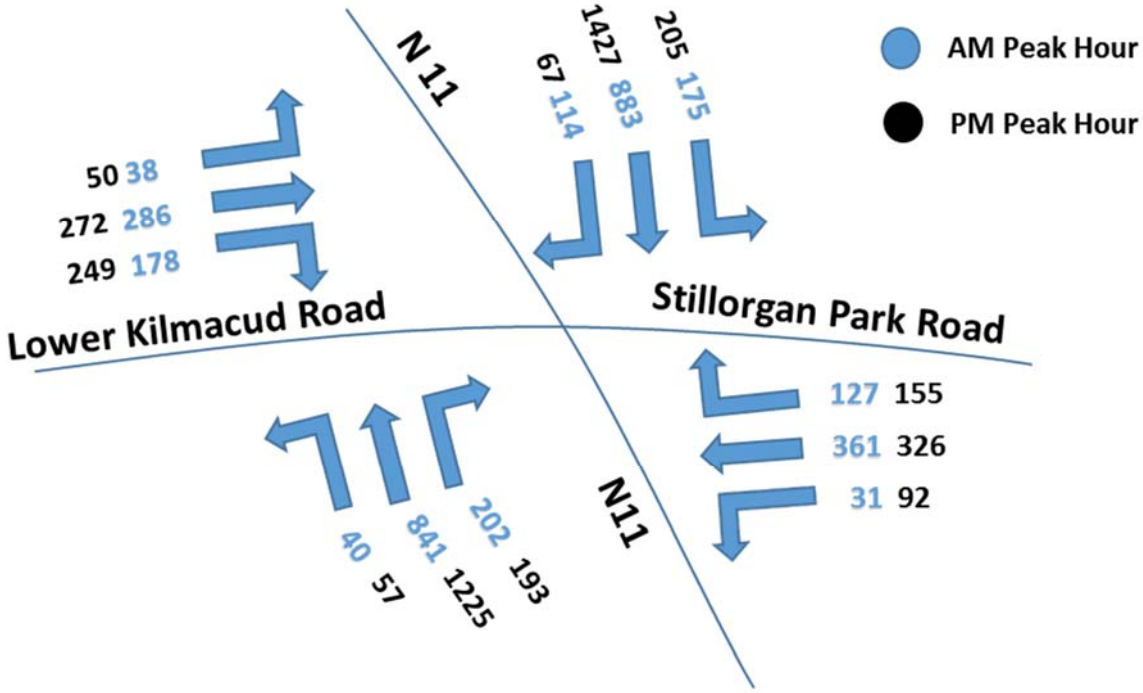


Figure 3.7 *Existing Peak Hour Classified Turning Counts (vehicles)*

3.6 Parking Surveys

Parking surveys were conducted at the Stillorgan Shopping Centre Main Car Park and Overflow Car Park on Thursday 25th October 2014 and Saturday 27th October 2014 on approximately a bi-hourly basis during the same period the Public/ User Attitudes Surveys were conducted. The results of these parking suveys are shown in Table 3.4.

Date	Time	Shopping Centre Car Park		Overflow Car Park	
		No. Cars	No. Vans/ (Trucks)	No. Cars	No. Vans/ (Trucks)
25/09	9.00	133	3	12	1
25/09	10.30	238	5	58	1
25/09	12.30	309	6	92	2
25/09	14.45	301	3	85	1
25/09	17.00	258	3 / (1)	60	1
27/09	11.00	301	2	140	1
27/09	12.45	318	1	127	1
27/09	14.15	310	4	120	2

***Table 3.4**: Shopping Centre Car Parking Survey Results*

3.7 Collision Survey

Table 3.7 shows collision data recorded within the study area between 2005 and 2013. Collision data was sourced from the RSA Irish Road Collision database (http://www.rsa.ie/RSA/Road-Safety/Our-Research/Collision-Statistics/Ireland-Road-Collisions/).

Twenty-six accidents were recorded during this period, including three (11.5%) fatal, one(3.8%) serious, and twenty-two (84.6%) minor (see Figure 3.8).

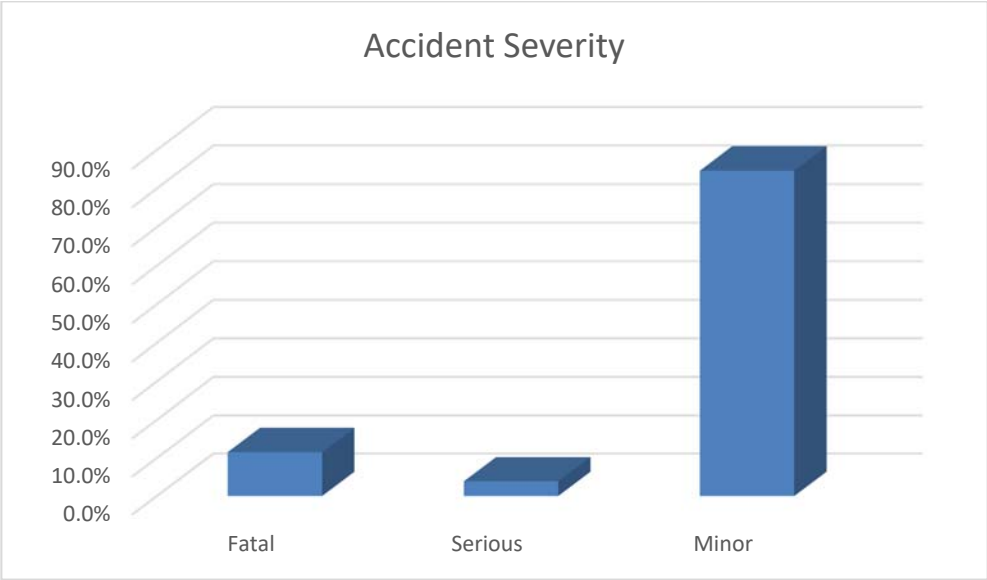


***Figure 3.8**: Accident Severity*

Figure 3.9 shows the type of accidents recorded in the area. Fourteen (54%) of these accidents involved a vehicle hitting a pedestrian. Of these pedestrian type collisions, three involved a pedestrian being stuck by a bus (two of which were fatal, one was minor), 10 involved a pedestrian being struck by a car (one serious, nine minor), and one involved a pedestrian being struck by an unknown vehicle (one fatal). This highlights the crucial need for improved pedestrian facilities in the area.

Five (19.2%) of these accidents involved a vehicle rear ending another vehicle whicle travelling straight. It should be noted that rear-end collisions often occur in congested road conditions.
Three accidents were recorded involving right turning vehicles, including two 'head-on, right turn' and one 'angle, right turn' collisions. These accidents had a mean casulty rate of two casulties per collision, compared with one casulty per collision for all other collisions recorded in the study area for the specified period.

The remaining four collisions were classed as 'Other'. One involved a car, one a bus, one a bicycle and the vehicle involved in the fourth accident was not recorded by an Garda Síochana. All four 'Other' class accidents were minor in severity.

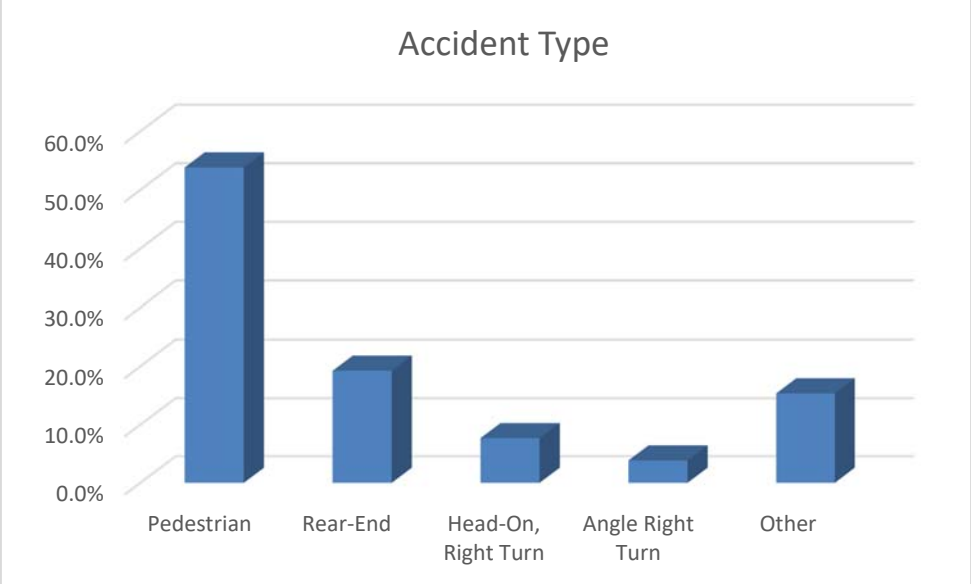


***Figure 3.9**: Accident Type*

Figure 3.10 shows the day of the week when each accident occurred. The highest proportion of accidents occurred on Thursday, with 26.9% of total accidents recorded on that day. Tuesdays and Saturdays also recorded relatively high proportions of total collisions at 19.2% and 15.4%; respectively.

The lowest proportion of accidents occurred on Wednesdays and Sundays, with 7.7% of the total recorded on each of these days. An equal number of accidents occurred on the remaining two days, with 11.5% recorded on Monday and 11.5% recorded on Friday.

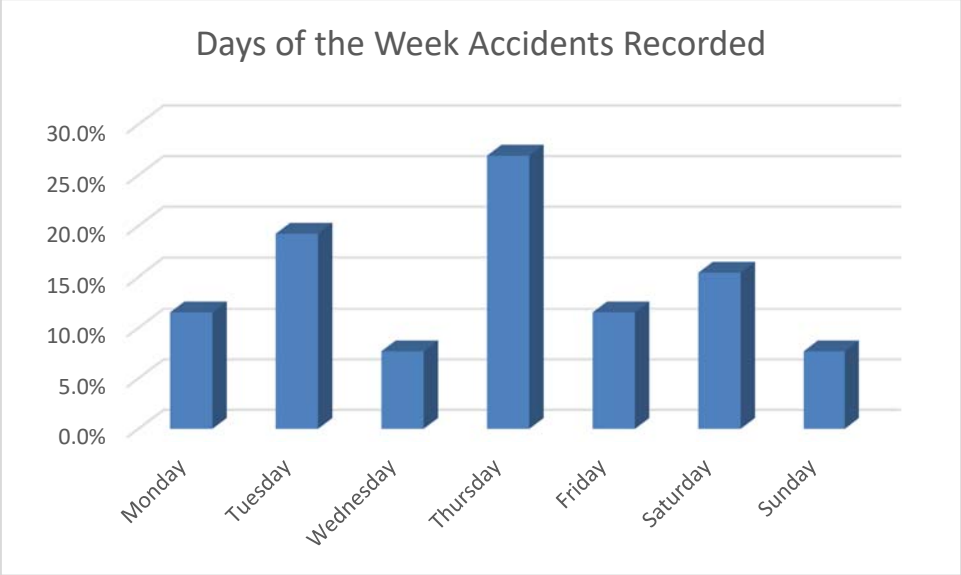


***Figure 3.10**: Days of week Accidents Recorded*

Figure 3.11 shows the time of day collisions in the study area occurred. Times are categorised into five time periods as follows:

- 03:00-07:00 (3 hrs)
- 07:00-10:00(3 hrs)
- 10:00-16:00 (6 hrs)
- 16:00-19:00 (3 hrs)
- 19:00-23:00 (4 hrs)

It should be noted that no accidents were recorded during the time period 23:00-03:00 and thus this time period was excluded from the graph in Figure 3.11. At 34.6%, the highest proportion of accidents occurred during the 10:00-16:00 time period. However, this was the longest time period, with an average accident rate of 5.8% per hour.

At 26.9%, the next highest proportion of accidents occurred during the 19:00-23:00 time period. This time period was 2 hours shorter than the 10:00-16:00 period and the accident rate was found to be the highest per hour at 6.7% during this period.

The accident rate per hour was the second highest for the 07:00-10:00 period at 6.4%. The accident rate per hour was lower during the remaining two time periods of 03:00-07:00 and 16:00-19:00 at 3.8% and 2.6%; respectively.

Time Period when Accidents Occurred	03:00-07:00	07:00-10:00	10:00-16:00	16:00-19:00	19:00-23:00
Percentage of total accidents recorded during time period	11.5%	19.2%	34.6%	7.7%	26.9%
Percentage of total accidents recorded per hour of specified time period	3.8%	6.4%	5.8%	2.6%	6.7%

***Table 3.6**: Time of Day Accidents Recorded*

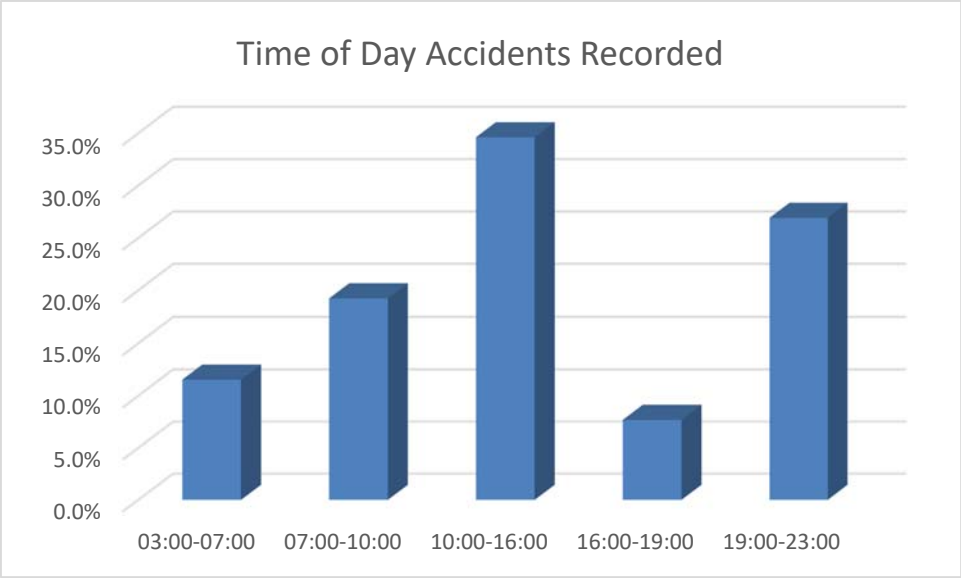


***Figure 3.11**: Time of Day Accidents Recorded*

Location	Severity	Road User(s)	Accident Type	No. Casualties	Year	Day	Time	Speed
Old Dublin Rd/St Laurence's Pk North	Minor	Unknown	Rear-end/straight	1	2007	Tues	7-11pm	50km/hr
Old Dublin Rd/ St Laurence's Pk South	Serious	Car/ Pedestrian	Pedestrian	1	2009	Thurs	3-7am	50km/hr
Old Dublin Rd/ Lwr Kilmacud Rd	Minor	Car	Angle/ Right Turn	2	2007	Fri	7-10am	50km/hr
Old Dublin Rd/ Lwr Kilmacud Rd	Minor	Car	Head on/Right turn	3	2006	Fri	7-11pm	50km/hr
Lwr Kilmacud Rd/ s.c. c/p access	Minor	Car/Pedestrian	Pedestrian	1	2012	Thurs	10-4pm	50km/hr
Lwr Kilmacud Rd/ s.c. c/p access	Minor	Car/Pedestrian	Pedestrian	1	2009	Sat	7-11pm	50km/hr
S.C. c/p adjacent to Lwr Kilmacud Rd access	Minor	Car/Pedestrian	Pedestrian	1	2012	Thurs	10-4pm	50km/hr
Lwr Kilmacud Rd/ Lidl access	Minor	Car/ Pedestrian	Pedestrian	1	2013	Sat	10-4pm	50km/hr
Lwr Kilmacud Rd/ Lidl access	Minor	Car/ Pedestrian	Pedestrian	1	2009	Thurs	3-7am	50km/hr
Lwr Kilmacud Rd @kilmacud Crokes access	Minor	Car	Head-on/right turn	1	2005	Tues	4-7pm	50km/hr
Lwr Kilmacud Rd, west of N11	Minor	Car	Rear end, straight	1	2012	Tues	10-4pm	100k/hr
Lwr Kilmacud Rd, west of N11	Minor	Car	Rear-end/straight	1	2012	Mon	10-4pm	60km/hr
Lwr Kilmacud Rd, west of N11	Minor	Bus/Pedestrian	Pedestrian	1	2005	Thurs	10-4pm	50km/hr
Lwr Kilmacud Rd/ N11	Minor	Car	Other	1	2005	Mon	7-10am	80km/hr
Lwr Kilmacud Rd/ N11	Minor	Car/Pedestrian	Pedestrian	1	2008	Wed	7-10am	60km/hr
Lwr Kilmacud Rd/ N11	Minor	Car/Pedestrian	Pedestrian	1	2006	Thurs	7-11pm	50km/hr
Lwr Kilmacud Rd/ N11	Minor	Bicycle	Other	1	2012	Thurs	4-7pm	30km/hr
Lwr Kilmacud Rd/ N11	Minor	Bus	Other	1	2010	Sat	7-11pm	60km/hr
Lwr Kilmacud Rd/ N11	Minor	Unknown	Other	1	2011	Tues	7-10am	50km/hr
Lwr Kilmacud Rd/ N11	Minor	Car/Pedestrian	Pedestrian	1	2008	Sat	10-4pm	60km/hr
Lwr Kilmacud Rd/ N11	Minor	Car	Rear End, straight	1	2013	Wed	10-4pm	60km/hr
Lwr Kilmacud Rd/ N11	Fatal	Veh /Pedestrian	Pedestrian	1	2013	Fri	7-11pm	60km/hr
Lwr Kilmacud Rd/ N11	Fatal	Bus/Pedestrian	Pedestrian	1	2011	Tues	7-10am	60km/hr
Lwr Kilmacud Rd/ N11	Fatal	Bus/Pedestrian	Pedestrian	1	2010	Sun	3-7am	60km/hr
Lwr Kilmacud Rd/South Ave/R826(sth approach)	Minor	Car	Rear End/ Straight	1	2010	Sun	10-4pm	50km/hr
Lwr Kilmacud Rd/South Ave/R826 (wst approach)	Minor	Car/Pedestrian	Pedestrian	1	2008	Mon	7-11pm	50km/hr

***Table 3.7**: Accident Data for Study Area*

4. Options Development

The Stillorgan Village Area Movement Framework Plan has been informed by a full assessment of the exiting urban structure, public space, and movement patterns, combined with detailed analysis of the planned and likely future land use and movement requirements within and surrounding the study area. In developing options for Stillorgan Village, the vision and strategic objectives of the *Stillorgan Village Local Area Plan 2012 – 2017*, of Land Use, Accessibility, Community and People, Urban Design and Public Realm, and Infrastructure, have been considered in full.

Movement infrastructure and urban structure are fundamentally linked. Movement infrastructure provides for access into and around the urban centre, and the urban structure establishes the nature, character and uses of the urban centre. The Stillorgan Village Area Movement Framework Plan considers the movement infrastructure and the urban structure requirements of Stillorgan in a fully integrated manner, so as to establish a framework for both that will advance the objectives of the Local Area Plan.

There are a number of high level pre-requisites for the future of Stillorgan that are implicit in the Local Area Plan and in the proper planning and sustainable development of the area:

1. Stillorgan Village will be consolidated over time through regeneration opportunities so as to develop as a more compact, dense and sustainable urban centre that can support economic growth;
2. Stillorgan Village must be re-positoinned as a distinctive destination and an appealing urban place, and incorporating a diverse and more intense range of retail, commercial, community and residential uses.
3. Sustainable transport, including walking, cycling and public transport, will play an increasingly imnportant role in the future of Stillorgan, with improved connectivity and multi-functional streets that balance movement, place and safety for all users within a traffic calmed environment;
4. The future of Stillorgan Village will be as a destination. Vehicular access will be catered for, including parking, and through traffic will be discouraged;

4.1 Existing Characteristics

Key to informing the Stillorgan Village Area Movement Framework Plan is understanding the existing characterisitcs of the study area in terms of:

- Urban Structure;
- Public Realm;
- Pedestrian Desire Lines and Road Network.

4.1.1 Existing Urban Structure

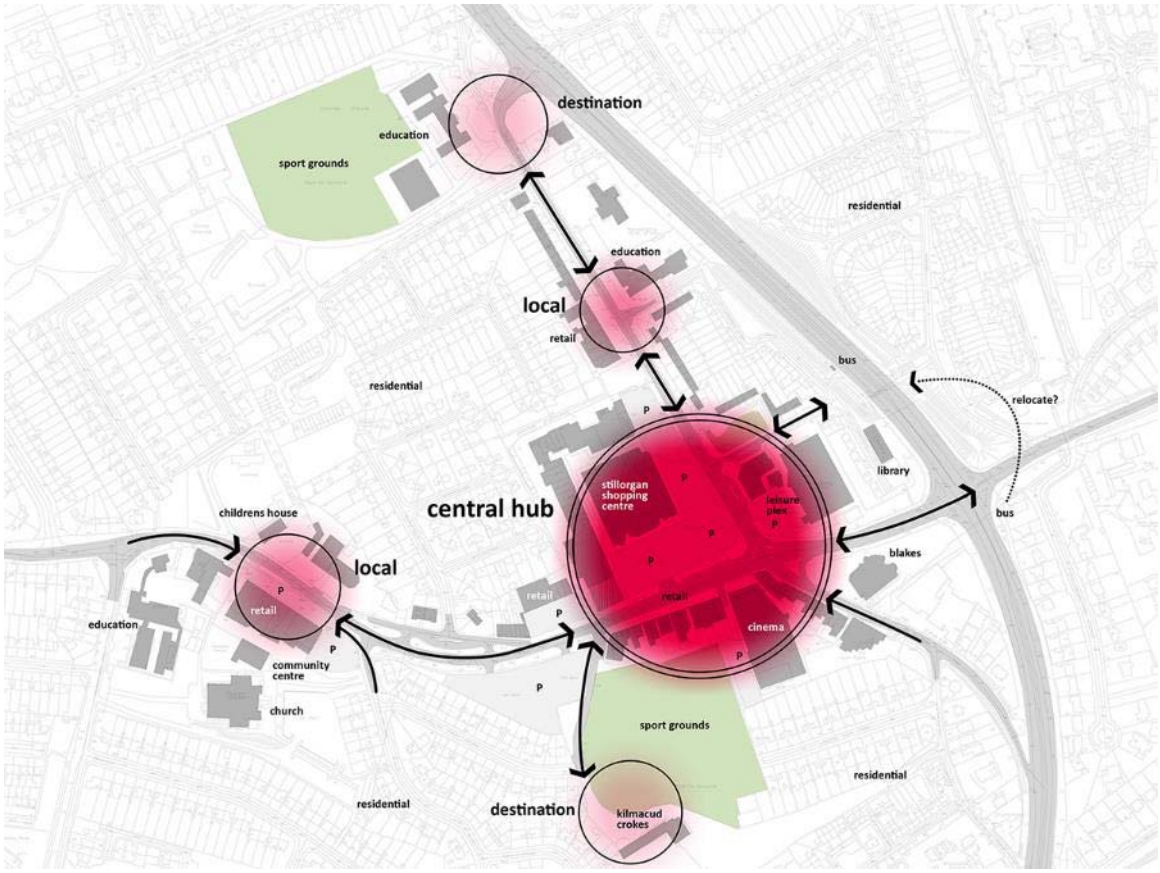


***Figure 4.1**: Existing Urban Structure*

1. Main retail and commercial core located around the junction of Lower Kilmacud Road and Old Dublin Road;
2. Additional local cores to the west and north;
3. Community facilities, including Kilmacud Crokes and Glenalbyn Pool, within the study area and within close proximity to the main and local cores.
4. Regerenation opportunity lands principally with and to the immediate east of the main core;
5. Primary Quality Bus Corridor on N11 immediately to the east, with local bus services.

4.1.2 Existing Public Realm

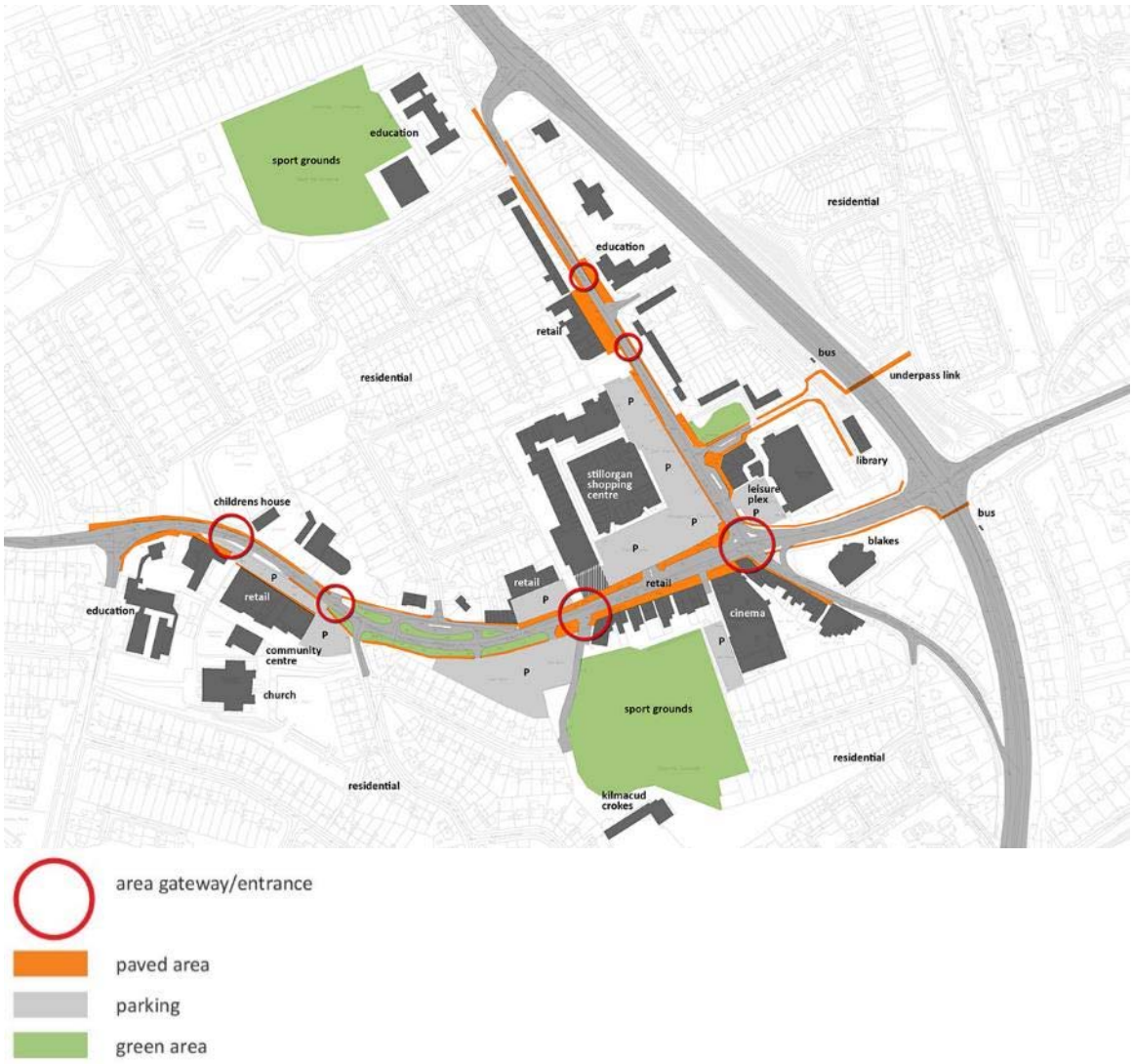


***Figure 4.2**: Existing Public Realm*

1. Primary gateway/entrances either side of the main core on the Lower Kilmacud Road;
2. Gateway/entrances to local cores on Lower Kilmacud and Old Dublin roads;
3. Pedestrian facilities variable in quality and dispersed;
4. Extensive surface parking and vehicular dominance at cores;
5. Building frontages generally set back significantly from road carriageways;
6. Roadways generally wide and vehicle-centric incorpoating extesive traffic management infrastructure and limited visual appeal.
7. Generally lacking streetscapes and human scale public space.

4.1.3 Existing Pedestrian Desire Lines and Road Network

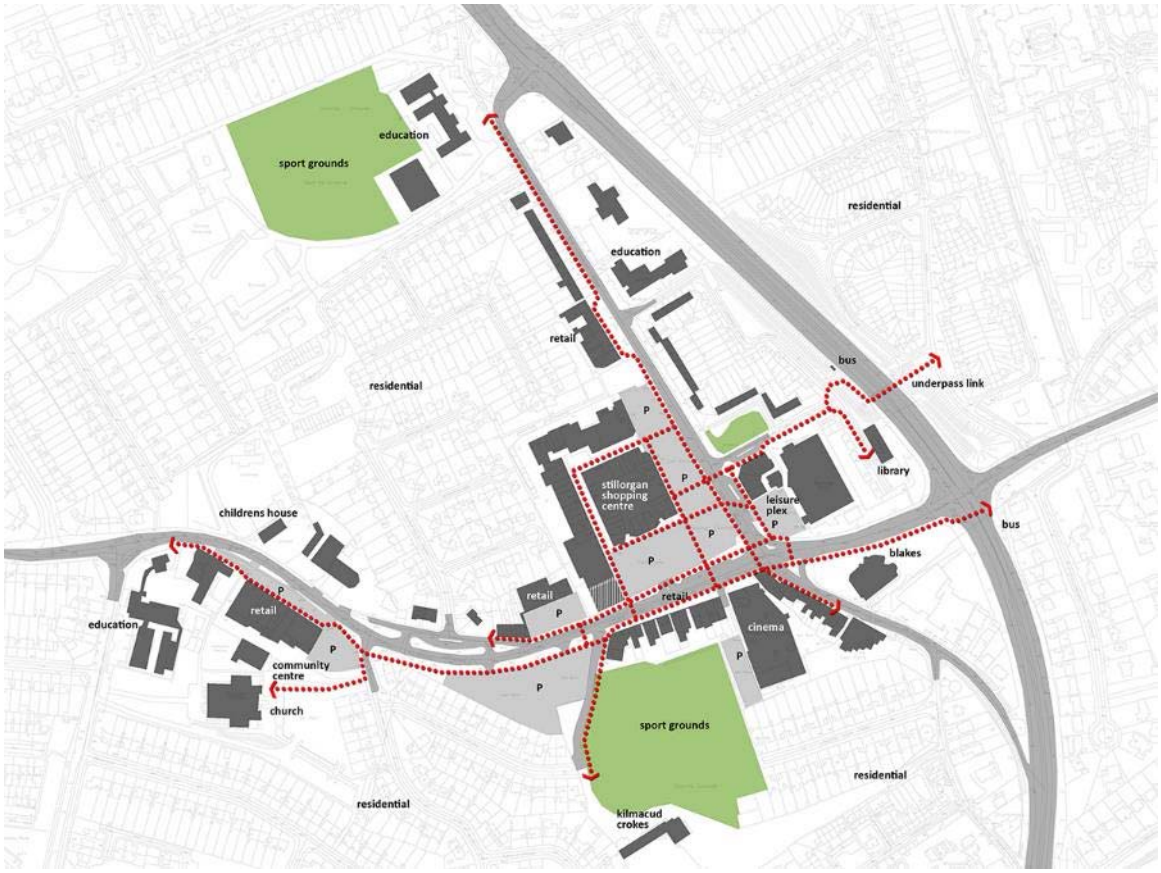


***Figure 4.3**: Existing Pedestrian Desire lines and Road Network*

1. Highest volumes of pedestrians in and around the shopping centre and the main core, with pedestrians crossing roads in numerous locations – whether crossing facilities present or not;
2. High volumes of pedestrian movement along Lower Kilmacud Road comprising movement between car parks and retail as well as local access;
3. Pedestrian movement on Old Dublin Road heavily influenced by school access;
4. Pedestrian routes from main core to N11 connect with north and southbound bus services;
5. Lower Kilmacud Road: Wide carriageway with high traffic volumes and almost no cycle provision;
6. Old Dublin Road: High traffic volumes, on-street parking and no cycle facilities;
7. N11 slipway and Old Dublin Hill: High traffic volumes, on-street parking, no cycle facilities and evidence of rat running to avoid N11 congestion at peaks hours.
8. Wide carriageways with large volumes of vehicular traffic;

4.2 The Village Core

In that context, the Stillorgan Village Area Movement Framework Plan anticipates future consolidation and growth of the core village area. It examines the most effective movement infrastructure for all modes that can serve both the existing, medium-term and long-term build-out of the village, and also where the focus of investment should be in terms of estblishing a strong identity for Stillorgan Village through the the enhancement of its public spaces and streets.

Key considerations include:

1. Re-balancing of the roadways to cater for pedestrians, cyclist and vehicles as appropriate;
2. Facilitating vehicular access to carpark facilities;
3. Passive traffic claming to enhance road safety and assist in creating a higher quality urban environment of human scale;
4. Safety for pedestrians and cyclists, including for crossings where demand identified;
5. Pedestrian connectivity to public transport services;
6. Location of taxi services;
7. Facilitating future regereation opportunities in a manner that delivers a strong urban structure;
8. Establish a hierarchy of public spaces and streetscapes to assist in giving identity to the village core;
9. Multi-functional spaces on streets;
10. Active frontage along streets, including loner term build-out of regeneration opportunities to street edges;
11. Identify appropriate public realm treatments, including materials, lighting, planting and street furniture, to reinforce the identity of the village core, enhance the quality of pedestrian connections in the wider study area, and deliver an attractive and safe urban street network.

The first task, and fundamental to the future function and identity of Stillorgan Village, is exploring options for re-balancing the carriageways – particualrly towards the core village area around the junction of Lower Kilmacud Road and the Old Dublin Road.

The following pages describe Options 1 to 4, and collectively illustrate the main configuration alternatives that were considered. While all Options shown illustrate both the Lower Kilmacud Road and the Old Dublin Road, the detail on the Old Dublin Road remains the same, and refelcts the maximum gain of pedestrian space, the optimum short to medium term adjustments to vehicular access to carparks, and optimum pedestrian crossing provision and location. The changes focus on the alternatives for the Lower Kilmacud Road.

It should be noted that the options to re-align the Hill and to stagger the junction as shown, was subsequently discounted as a viable option based on traffic modelling results. A further refined option is shown later in the Preferred Option.

4.2.1 Village Core Option 1 (streetscape configuration)

Figure 4.4: Village Core Option 1

1. Lower Kilmacud Road:
    a. Single lane traffic and dedicated cycle facility in both directions, with access (existing or modified) to parking and loading facilities;
    b. On-street taxi bay, bus bay and parking bays;
    c. Raised pedestrian crossings, signalised and uncontrolled, corresponding to key pedestrian desire lines.
2. Old Dublin Road:
    a. Single lane traffic, shared with cyclists, in directions, with right turn median slips at entrances/junctions;
    b. Raised pedestrian crossings, signalised and uncontrolled, corresponding to key pedestrian desire lines.
    c. Modified entry/exit points to shopping centre carpark. Southern entrance becomes left in only, and northern entrance caters for all movements;

3. Main Junction:
    a. Junction staggered (rationalised in Preferred Option – see Section 7);
    b. Increase in pedestrian/public space to anticipate corner frontage opportunities of future re-developments and establishment of gateway to Stillorgan Village.

4.2.2 Village Core Option 2 (streetscape configuration)

***Figure 4.5**: Village Core Option 2*

1. Lower Kilmacud Road:
    a. Single-lane traffic and dedicated cycle facility in both directions;
    b. Raised central median incorporating right tuning pockets to parking and loading facilities;
    c. On-street taxi bay, bus bay and parking bays;
    d. Raised pedestrian crossings, signalised and uncontrolled, corresponding to key pedestrian desire lines.
2. Old Dublin Road and Main Junction as per Option 1

Compared to Option 1

- Significant Advantage in that the central median reduces the perceived width of the road for pedestrians, and also facilitates a two-stage crossing if required. The median, whether raised or at grade, can be finished in a contrasting material to the main carriageway so as to visually reduce the width of the road over the whole village core.
- Right turning pockets reduce potential congestion on main carriageway.

4.2.3 Village Core Option 3 (streetscape configuration)

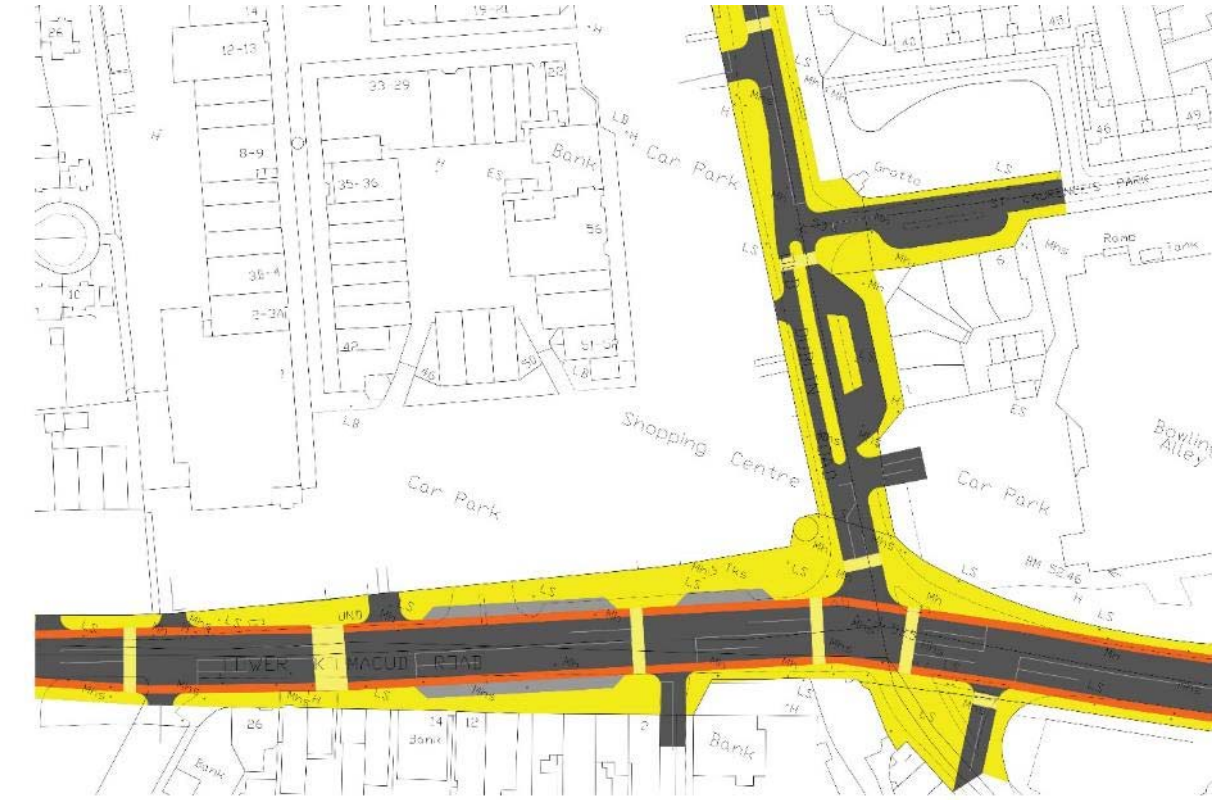


***Figure 4.6**: Village Core Option 3*

1. Lower Kilmacud Road:
    a. Two-lane traffic and dedicated cycle facility in both directions, with access (existing or modified) to parking and loading facilities;
    b. On-street taxi bay, bus bay and parking bays;
    c. Raised pedestrian crossings, signalised and uncontrolled, corresponding to key pedestrian desire lines.
2. Old Dublin Road and Main Junction as per Option 1

Compared to Options 1 & 2

- Significant Disadvantage in that the width of the road for pedestrians, and perceived safety, does not change much from the existing situation.
- Two lanes encourgaes through traffic and undermines overall aspirations of the Framework Plan.
- Longer pedestrian crossings require longer signal times and increase tailbacks.

4.2.4 Village Core Option 4 (streetscape configuration)

***Figure 4.7**: Village Core Option 4*

1. Lower Kilmacud Road:
    a. Single lane traffic and dedicated cycle facility in both directions, with access (existing or modified) to parking and loading facilities;
    b. On-street taxi and bus bay, off-street slip for parking bays (southern side);
    c. Raised pedestrian crossings, signalised and uncontrolled, corresponding to key pedestrian desire lines.
2. Old Dublin Road and Main Junction as per Option 1

Compared to Option 1

- Significant Disadvantage in that the off-street parking bay introduces additional conflict with cyclists, provides less parking spaces, and reduces the effective pedestrian space outside the retail units on the southern side of the street.

4.3 Overall Stillorgan Village Movement Framework Plan

Options 1 to 4 shown in *Sections 4.2.1 to 4.2.4* above examine the potential to address the combined movement needs of pedestrians, cyclists and vehicular traffic in the village core. The initial preferred option for the core area is Option 2, as it has overall advantages over Option 1 that Options 3 and 4 do not enjoy. Traffic modelling, detailed in Section 5 below, considers this area from a junction capacity point of view, and further informs the preferred option.

With the general arrangement of the village core established in principle, this was then expanded to the wider project area, and the issues of Urban Structure, Public Realm, and Pedestrian Desire Lines and Road Network identified in Section 4.1 examined further in the context of the Vision and Objectives for the *Stillorgan Village Local Area Plan 2012 – 2017*. The medium and longer term potential build out of Stillorgan Village is illustrated in *Section 4.3.1 and 4.3.2* below, and each incorporates, as appropriate:

Gateways/Focal Areas
Areas that mark the transition or entry points and are important in giving identity to the village.

Primary Public Realm
Areas that will be the primary public space in the medium and long term, and that will give definition to the expantion and consolidation of Stillorgan Village as it evolves.

Neighbourhood Public Realm
Areas include the two local cores on Lower Kilmacud Road and Old Dublin Road. Each of these areas are in need of more legible physical structure and enhancement of their streetscapes and facilities.

Village Public Realm
The area on The Hill that incorporates elements of the original village cottages which are still being used to facilitate a range of retail and services businesses. This area will be enhanced and secured as part of the overall and longer term future of the area by increasing pedestrian space and enhancing presentation. This will increase footfall and underpin the security and appeal of these units into the future.

Green Public Realm
The wide area of grass margin on Lower Kilmacud road that was provided as part of the last major road upgrade in the 1960's. This land was never developed to realise its potential amenity value for the area, and can be take advantage of in the current Movement Framework Plan to enhance the movement infrastructure along Lower Kilmacud Road.

Street Public Realm
Connections between areas of greater urban significance, but that are nonetheless important in themselves as they contribute to the overall public realm and pedestrian offer, and must be attractive and lend to a feeling of personal safety.

4.3.1 Medium Term Overall Concept

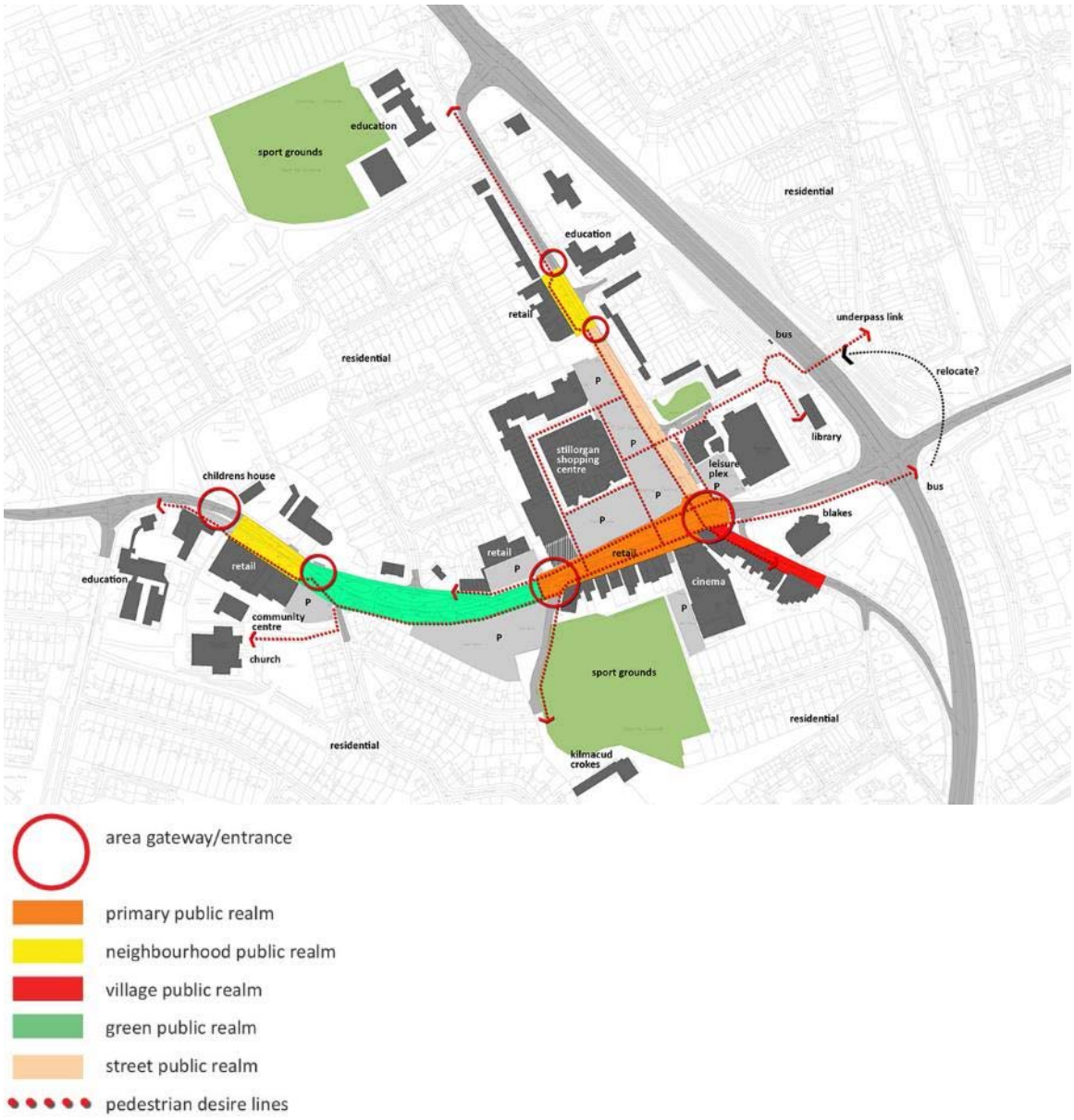


***Figure 4.8**: Medium Term Overall Concept*

The medium term includes the first suite of deliverables that will change the movement characteristics, and the visual quality of village area, without any of the re-generation opportunities being implemented. The key road infrastructure changes are delivered, together with public realm improvements, including:

1. Lower Kilmacud Road at village core;
2. Neighbourhood areas;
3. Connecting streets and green spaces.

4.3.2 Long Term Overall Concept

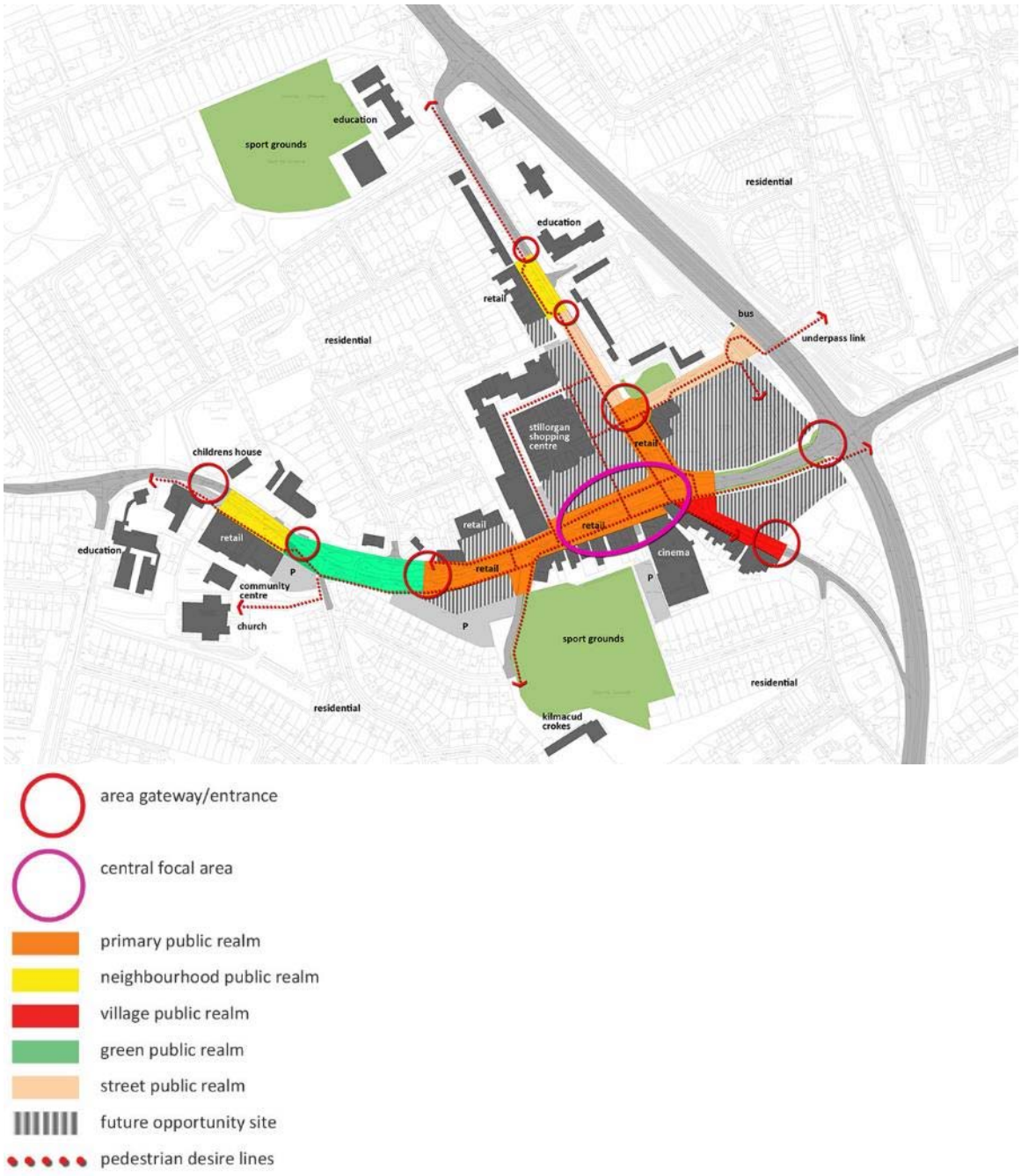


***Figure 4.9**: Long Term Overall Concept*

The long term plan integrates and interfaces with emerging re-generation sites. The core area in particular is expanded and consolidated, with significant additonal built frontage onto the streets. The enclosure and definition of the public space and streetsacpes – that give identity to the village – is reinforced, and it is likely that the primary public realm can be extended to include part of Old Dublin Road.

The expanded built environement will give rise to additional gateway entry points on the N11 and on The Hill.

5. Junction modifications and Model Testing

The proposed design options include modifications to the layout of a number of junctions. Key junctions in the study area include:

- Junction of Lower Kilmacud Road, The Hill and Old Dublin Road;
- Main Shopping centre car park access arrangements;
- Junction of Lower Kilmacud Road, Upper Kilmacud Road, and South Avenue; and
- Junction of Lower Kilmacud Road and N11 Stillorgan Road.

To inform the design process, the existing and proposed junction layouts were modelled using OSCADY, PICADY and LINSIG utilising traffic survey information outlined in Section 3.5. The modelling results are show in Appendix B.

This section provides information on the proposed options for each of the junctions listed above and also for the two access driveways on Old Dublin Road. It should be noted that the proposed designs have taken the modelling results into consideration.

5.1 Lower Kilmacud Road, The Hill and Old Dublin Road

The existing layout of the junction of Lower Kilmacud Road, Old Dublin Road and The Hill is shown in Figure 5.1. It has a wide geometry with large turning radii.

On the junction's north approach (Old Dublin Road), it provides a straight lane, right turn lane, a left slip lane and one exit lane. On its south approach (The Hill), it provides one combined straight and right tuning lane, a short left turning lane of approximately two car lengths and one exit lane. On its east approach (Lower Kilmacud Road), it provides one combined straight and left tuning lane, with the left lane diverging into a left slip lane, a right turning lane and two exit lanes. On its west approach (Lower Kilmacud Road), the junction provides one left slip lane, two straight lanes, one short right tuning lane and one exit lane.

Pedestrian crossings are provided on the north, south and west approaches to the junction. Despite this, the junction is wide and intimidating for pedestrians and cyclists. It should be noted that there are no cycle lanes provided through the junction.

The proposal for this junction sets out to create a less intimidating environment for pedestrians and cyclists whilst also striking a balance between improving pedestrian and cycle facilities and reducing traffic lane widths, and ensuring the proposed measures will not result in traffic queuing onto the N11.

The proposed junction layouts were modelled using OSCADY (Transport Research Laboratory UK software which provides data on capacity at signalised Junctions) for eight layout options. The lane arrangement shown in Figure 5.2 provided the best balance between maintaining functionality, while also providing pedestrian and cycle facilities. The maximum RFC achieved is 0.97 during the AM Peak (0.93 existing), 0.92 during the PM peak (vs 0.84 existing) and 0.95 during the Saturday Midday Peak (vs 0.85 existing). The worst case scenario result (AM peak) is within 4% of its current level. This option involves the closure of the left slip lane from the N11 onto the Hill and the redistribution of this traffic onto the east arm of the junction (i.e. Lower Kilmacud Road).

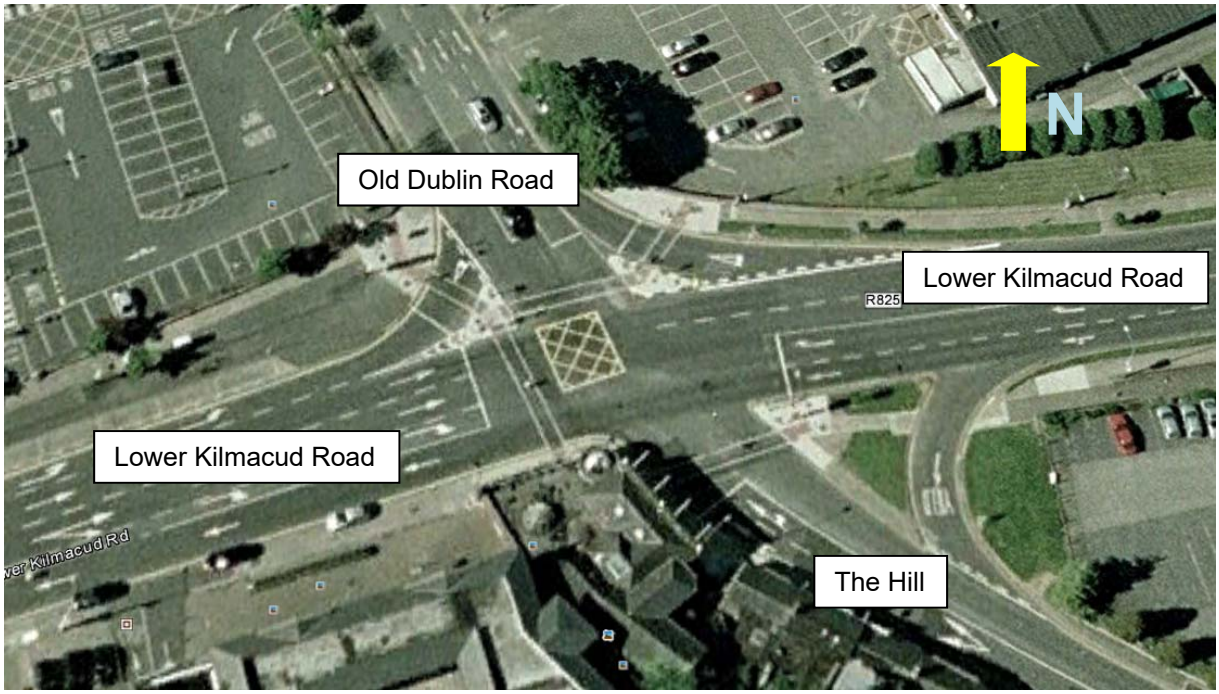


Figure 5.1: *Existing Junction Layout (Satellite)*

Figure 5.2 shows a sketch of the junction's new layout design. The following changes have been made to the junction:

- Junction narrowed;
- Turning radii reduced;
- Cycle lanes provided through the junction on Lower Kilmacud Road;
- The left slip lanes previously provided on three legs of the junction have been removed;
- Pedestrian crossings are provided on all approaches (i.e. new crossing on east approach);
- Additional space gained from tightening junction used to provide planting and urban design features on junction corners;

- North approach reduced from three (incl. left slip) to two lanes;
- South approach currently providing one long lane and a short left turning lane of two car lengths modified to increase the short left turning lane to five car lengths;
- East approach currently providing two wide approach lanes with a slip lane diverging from the straight lane in advance of the junction modified to maintain two (reduced width) traffic lanes, with no left slip lane and cycle lanes on both sides;
- West approach reduced from four (incl. left slip) to two approach traffic lanes, with cycle lanes on both sides.

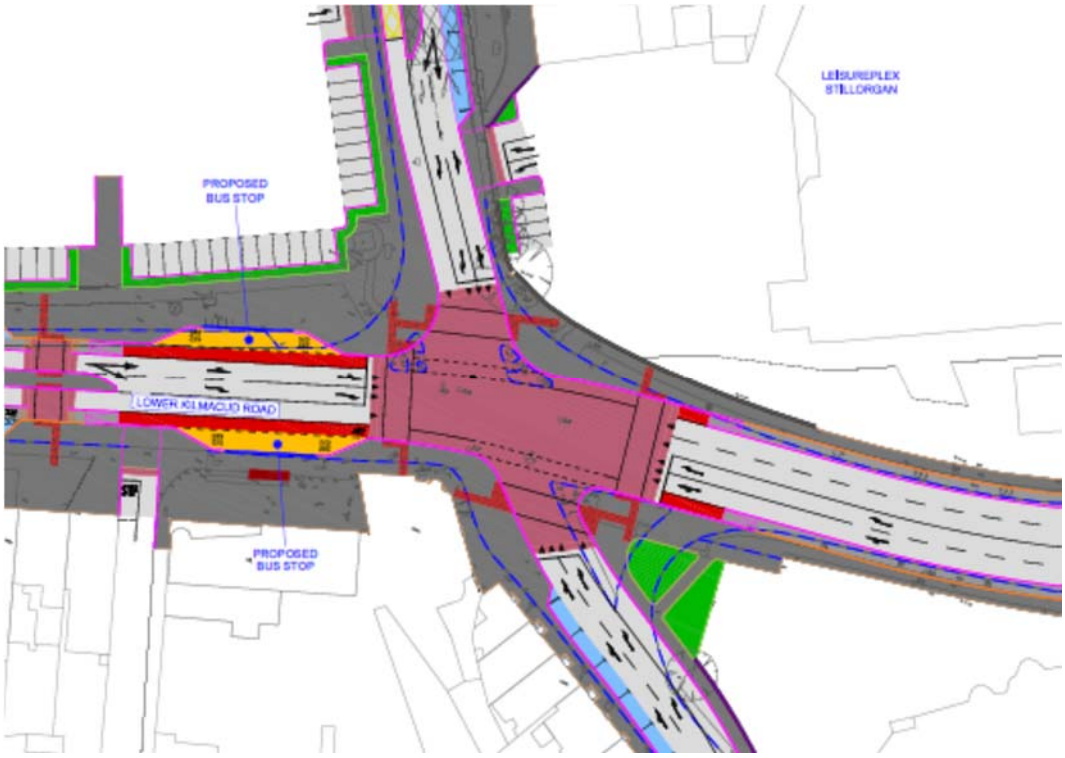


Figure 5.2: *Proposed Junction Layout*

5.2 Shopping Centre Car Park Access

There are currently three access points to the Stillorgan Shopping Centre main car park, including one on Lower Kilmacud Road and two on Old Dublin Road.

Lower Kilmacud Road Car Park Access

The car park access on Lower Kilmacud Road is shown in Figure 5.3. It is the main access to the car park and permits all turning movements at its junction with Lower Kilmacud Road.

Two proposed junction layouts were modelled using PICADY, with the lane arrangement shown in Figure 5.4 providing the best balance between maintaining functionality, while also providing pedestrian and cycle facilities. Figure 5.4 shows a sketch of the junction's new layout design. The following changes have been made to the junction:

- The junction will be moved approximately 20 metres west of its current location;
- West approach has been reduced from two lanes to a single combined left/ through traffic lane.
- East approach modified from a combined straight/right turn lane to a long straight and short right turning lane.
- North approach provides one entry lane and two exit (right and left turn) lanes to the car park;
- Cycle lanes are provided on both sides of Lower Kilmacud Road through the junction.

Figure 5.3: *Existing Junction Layout (Satellite)*

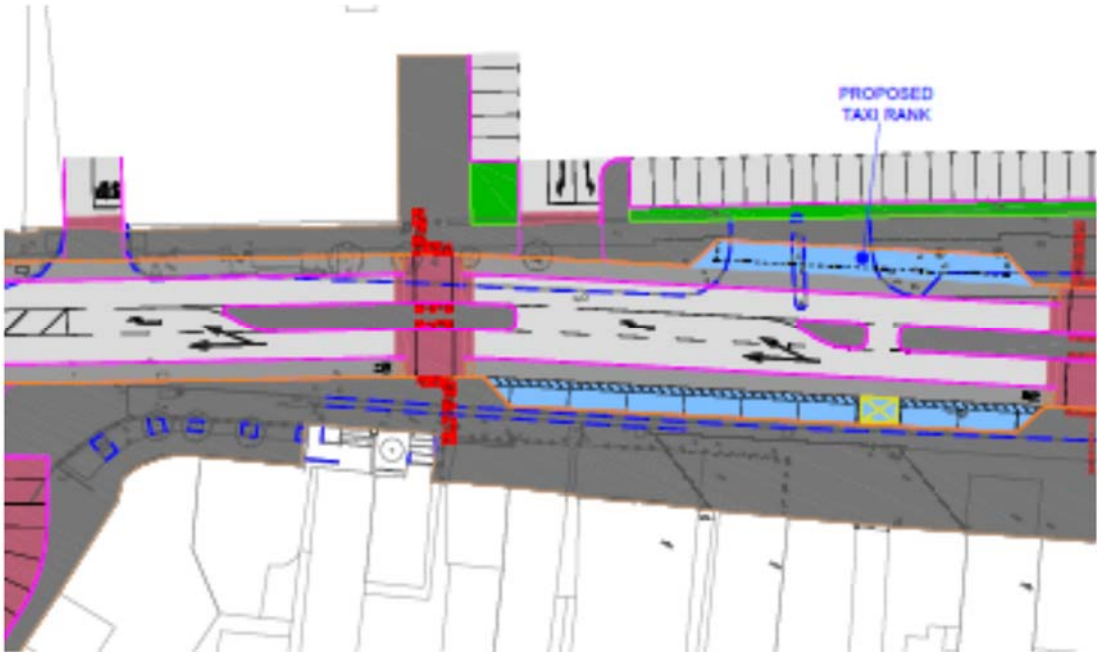


Figure 5.4 *Proposed Junction Layout*

Old Dublin Road Access - South of St Laurances Park

The car park access located south of St Laurance's Park on Old Dublin Road is shown in Figure 5.5. It is a secondary access to the car park and permits all turning movements at its junction with Old Dublin Road.

Figure 5.5 *Existing Junction Layout (Satellite)*

This shopping centre car park access is located on a wide section of carriageway on Old Dublin Road. The access currently provides two egress lanes - one right and one left turning lane and one entry lane. It should be noted that there is an access into the existing 'Leisure Plex' site located just south of this access on the opposite side of the road. It is also located less than 50 metres from Old Dublin Roads junction with Lower Kilmacud Road.

The positioning of these junctions so close together with all movements permitted creates a busy road environment with vehicles often pulling out of driveways across multiple traffic lanes. This makes this section of carriageway difficult to manouvre and reiterates the villages impression of car priority through this section.

Figure 5.6 shows a sketch of the junction's new layout design.

Figure 5.6 *Proposed Junction Layout*

The following changes have been made to the junction:

- Movements in and out of the car park will be restricted to left in, left out only;
- North approach to be reduced from two to one traffic lane (i.e. the proposed geometry will not facilitate access from the north approach)
- South approach will continue to provide a single traffic lane;
- Access driveway will be reduced from two to one traffic lane, and will allow left only movements out of the car park. .

Old Dublin Road Access North of St Laurance's Park

The car park access located north of St Laurance's Park on Old Dublin Road is shown in Figure 5.7. It currently permits exit movements only (via. Separte right and left turning lanes) at its junction with Old Dublin Road.

Figure 5.7 *Existing Junction Layout (Satellite)*

Figure 5.8 shows the junction's new layout design. The following changes have been made to the junction:

- The car park access will be widened to include an additional lane permitting vehicles on Old Dublin Road to turn into the driveway. The existing separate right and left turning approach lanes will be retained;

- This car park access is located at a less congested road environment than the access further south. Therefore, permitting right turning movements at this access will reduce congestion further south.
- North approach to be increased from two wide traffic lanes to three reduced width traffic lanes, including the addition of a right turning lane (to facilitate right turning movements into the car park), a straight traffic lane and an exit lane.
- South approach will continue to provide one traffic lane. However, left turning movements into the car park will be permitted;
- It should be noted that the pedestrian crossing currently located just north of St Laurence's Park, will be relocated such that it lines up with the internal pedestrian crossing route through the car park.

Figure 5.8: *Proposed Junction Layout*

5.3 Lower/ Upper Kilmacud Road Junction

The existing layout of the staggered junction of Lower Kilmacud Road, Upper kilmacud Road (R826) and South Avenue is shown in Figure 5.9.

On the junction's north approach (South Avenue), it provides a single approach lane which facilitates left, right and straight (i.e. left from South Avenue and right from the staggered section of the junction) movements.

On its south approach (Upper Kilmacud Road/ R826), the junction provides two approach lanes comprising one right and a combined left and straight lane.

On its east approach (Lower Kilmacud Road), the junction provides one combined straight/ left turning lane (left movements turn via a left slip lane which branches from this combined lane at the junction) and a right turning lane.

On its west approach (Lower Kilmacud Road), the junction provides a combined left/ straight lane, and a short right tuning lane.

The lane configuration on the internal section of the staggered junction comprises one straight and right turning lane in each direction.

Pedestrian crossings are provided on the south, east and west approaches to the junction, with no crossing facilities provided through the internal section of the junction.

Cycle lanes are provided on both sides of Upper Kilmacud Road (southern leg of the junction). There is also a cycle lane provided on the westbound lane of Lower Kilmacud Road on the east approach to the junction. This cycle lane facilitates movements onto Upper Kilmacud Road via the left slip lane, but fails to highlight potential cycle movements traveling straight through the junction. Cyclists are most at risk when crossing the left slip lane to travel straight. However, no cycle markings are provided at this location to raise drivers' awareness of cyclists travelling straight ahead.

The proposal for this junction sets out to create a less intimidating environment for pedestrians and cyclists whilst also striking a balance between improving pedestrian and cycle facilities and maintaining capacity through the junction.

Figure 5.10 shows the junction's new layout design. The following changes have been made to the junction:

- Turning radii have been reduced;
- Cycle lanes provided through the junction on Lower Kilmacud Road;
- Left slip cycle lane to be provided between the eastern and southern legs of the junction;
- The left slip lane previously provided on the eastern leg of the junction to be removed;
- Pedestrian central islands to be provided at the three pedestrian crossings to enhance pedestrian safety at these locations;

- East approach modified to provide a straight lane, a short right turning lane and a short left turning lane. Red surfacing is proposed to reduce conflicts with left turning vehicles by highlighting a straight cycle movement path through the junction.

Figure 5.9: *Existing Junction Layout (Satellite)*

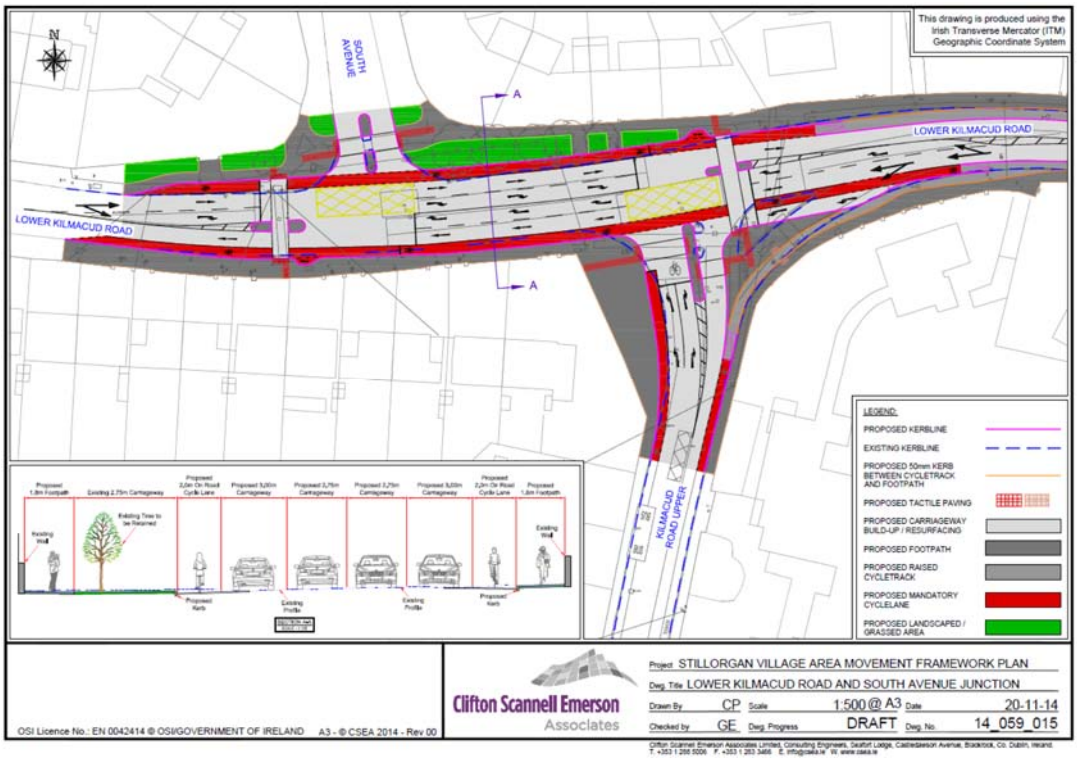


Figure 5.10*: Proposed Junction Layout*

5.4 Lower Kilmacud Road, Stillorgan Park Road and N11

The junction of Lower Kilmacud road, Stilorgan Park Road and the N11 will be upgraded as part of the N11 upgrade project. The existing layout and the proposed layout for the N11 scheme are shown in Figures 5.11 and 5.12; respectively.

The proposed junction layout includes the following modifications:

- Left-turn slip lane onto N11 from Lower Kilmacud Road to be removed
- Left-turn slip lane onto N11 from Stillorgan Park Road to be removed
- Existing traffic lanes on N11 to be reduced to a minimum of 3.25m in order to provide widened central islands on N11 at staggered pedestrian crossings.
- Cycle lanes to be provided on all approaches to the junction.

Figure 5.11: *Existing Junction Layout (Satellite)*

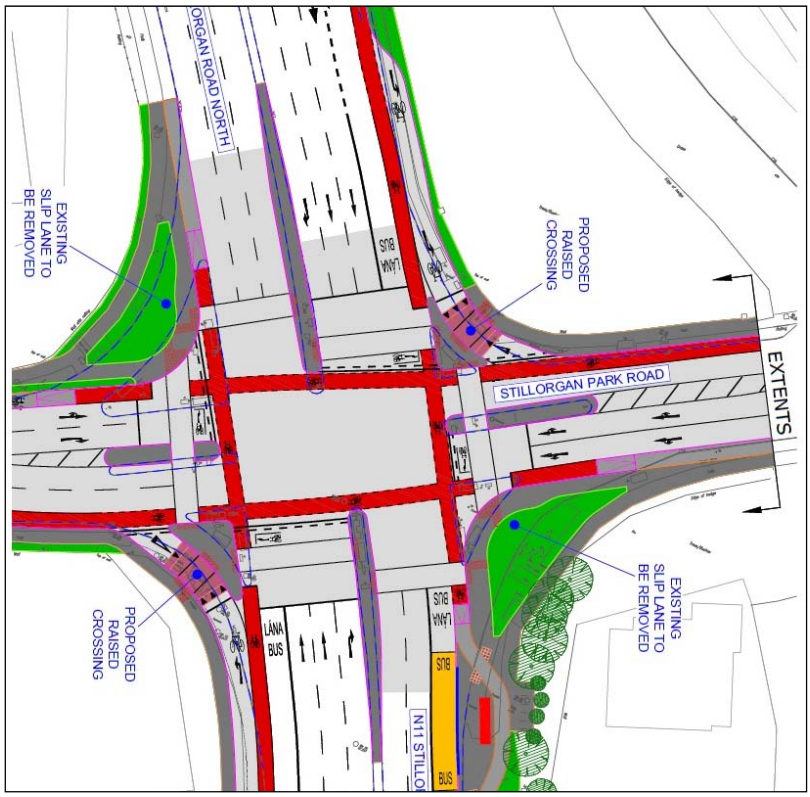


***Figure 5.12**: Proposed Junction Layout*

5.5 Traffic Re-Distribution

The origin destination surveys provided information on the proportion of traffic travelling though Stillorgan Village that comprised through traffic. Traffic travelling through Stillorgan that had business in Stillorgan was not considered through traffic.

Knowing the proportion of through trips is useful as it gives a good indication of the proportion of trips that could potentially be re-disributed onto other routes if the capacity through Stillorgan village was reduced.

The proportion of overall trips that comprised through trips varied throughout the day, with the highest proportion of through trips assocated with the AM peak. It should be noted that the junction of Lower Kilmacud Road, Old Dublin Road and the Hill performs at its worst (i.e. has the least amount of spare capacity) during the AM peak period.

The results of the O-D survey showed that, during the AM peak, the following proportions of overall traffic at the referenced location comprised through traffic (see Figure 5.13):

- 62.4% of the northbound traffic coming from the N11 onto the Hill;
- 40.1% of northbound traffic coming from St Bridgids Church Road onto the Hill;
- 37.3% of northbound traffic exiting the cordon on the northern end of Old Dublin Road;
- 30.5% of southbound traffic entering the cordon at the northern end of Old Dublin Road;
- 22% of eastbound traffic passing the main car park access; and
- 36% of westbound traffic passing the main car park access,

As mentioned previously, the junction of Lower Kilmacud Road, Old Dublin Road and The Hill is currently approaching capacity. However, the redesign of this junction is a critical element of the proposed scheme. In order to improve capacity through this junction, the closure of the Hill is recommended. It is likely that with the closure of the Hill, a relatively high proportion of the traffic using the Hill as a through route (in particular those cutting through Stillorgan Village in order to avoid queues on the N11) .

While it is likely a proportion of through traffic will redisrubute onto adjacent routes on the surrounding road network, the proposal was tested assuming no redistribution of though traffic out of the study area in order to reflect the worst case scenario.

However, redistribution of traffic will occur if the left slip lane from the N11 onto the Hill is closed (as shown in the preferred proposal). Traffic currently using the N11 slip lane will turn left at the junction of The N11 with Lower Kilmacud Road. An underutilised left slip lane is currently provided at this junction and therefore the additional traffic rerouted through this junction will have a negligible effect on capacity at this junction. From here, the traffic will redistribute through the junction of Lower Kilmacud Road with the Hill via the junctions east approach (as opposed to its south approach).

The junction of Lower Kilmacud Road, Old Dublin road and The Hill has been modelled with the redistribution of traffic induced by the closure of the left slip lane onto the Hill (see Appendix B). The results of the modelling found the performance of the junction improved significanty. This was due to the fact that the signal sequencing at the junction is currently dominated by the Hill. By reducing the traffic on the Hill, more time can be given to the main traffic flow on Lower Kilmacud Road and, for the same geometry, the overall capacity of the junction can be improved significantly. Furthermore, with the N11 slip lane closure onto the Hill, the junction can continue to operate within capacity for the proposed geometry, despite the proposed geometry providing a reduced number of lanes at the junction.

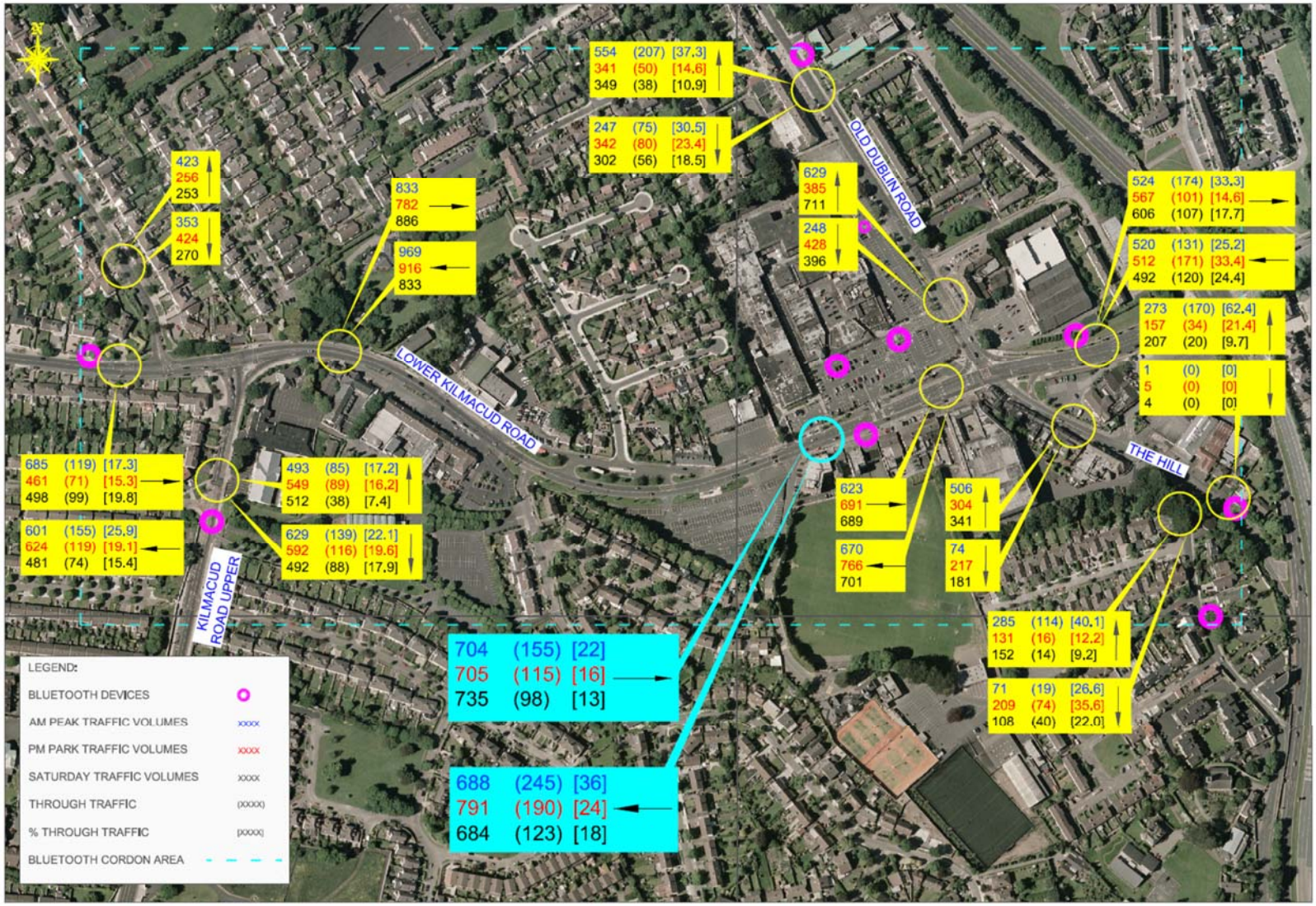


***Figure 5.13**: Through Traffic Volume Data*

5.6 Modal Shift

The existing urban environment gives an impression of car priority. This encourages car use and creates a busy urban environment.The proposed scheme provides improved pedestrian and cycle facilities, while also improving access to public transport facilities. By creating a pleasant and less imtimadating urban environment for soft modes, this will, in turn, encourage more people to walk, cycle and take public transport to and from Stillorgan.

The use of public transport, walking and cycling will be encouraged with respect to new development. High cycle parking provision will be important in encouraging modal shift and maximum parking rates will apply to new developments to discourage the use of the private car.

Results of the public attitudes survey showed that a high proportion of residents living within comfortable walking distance of Stillorgan Shopping Centre chose to drive to the centre. Many of those surveyed said they would walk if pedestrian facilites were improved. The proposal provides public realm improvements including a more pedestrian and cycle friendly urban environment. This will encourage some car users to change their travel mode to a sustainable transport mode.

6. Initial Consultations

At the early stages of the project, the key land stakeholders within the study area were identified and contacted in order to facilitate engagement with the framework development process and understanding of potential constraints and opportunities that might be present through their plans and objectives for their lands.

6.1 Stillorgan Shopping Centre

Kennedy Wilson, the new owners of the shopping centre, met with the project team. An outline of the objectives of the Framework Plan was put to them. An informative and constructive dialogue followed, in which the potential benefits of the Framework Plan to the Shopping Centre were identified, and also how the short, medium and long term potential development at the Shopping Centre could contribute to the succes of the Framework Plan and the Village.

The key points emerging included:

1. The short to medium term plan of the Shopping Centre was to upgrade the existing centre, with particular regard to the public spaces and pedestrian access into, out of, and through the centre, and also modifications to the car park layout to enhance the appearance of and facilities of the carpark.
2. The vehicular entrance and exit points were discussed, as well as potential modifications to the traffic movements and the physical location of each gateway. There were considerable synergies between the emerging details of the Framework Plan and those of the Shopping Centre, particularly with regard to moving the Lower Kilmacud Road entrance westwards and further from the Old Dublin Road junction, and also in changing the southern Old Dublin Road gateway to be an entrance only gateway, with the northern gateway catering for all movements. This arrangement is described later in *Section 7, Emerging Preferred Option.*
3. The nature and use of the over-flow car park is an important part of the Shopping Centre operation. A weakness of this facilitiy at present is its perceived remoteness from the Shopping Centre, and Kennedy Wilson were keen to consider options that might reinforce the connection, and perception of connection, between the two. A particular challenge in this regard was the poor standard of presentation of the area around the junction of Lower Kilmacud Road and the access to Kilmacud Crokes, and that most pedestrians opted to use the signalised crossing on the main road to get to the Shopping Centre – despite it not being as direct a route as it could be.

4. There had been dialogue between Kennedy Wilson and Kilmacud Crokes in relation to a planning application for revisions to the access roadway to their facility and also the re-orientation of their main playing pitch. The application had been appealed by third parties and was with An Bord Plenála, with one particular issue relating to the lack of pedestrian facility along the revised access route – arising from constrained site ownerhsip at the critical point. This is discussed in further detail below under *Kilmacud Crokes*.
5. The long term development potential of the Shopping Centre, and potentially of the overflow car park were also identified. The key points in that regard were ensuring capacity for access and egress to a multi-story car park in conjunction with a built-out over the existing surface car park, and flexibility of options for the overflow car park.

Engagement with Kennedy Wilson was positive and constructive, and the mutual benefits of a collaboration with other stakeholders recognised.

6.2 Kilmacud Crokes

Kilmacud Crokes facilitated a meeting where they presented their objectives including their desire to enhance their facilities and to secure the future of the club as a major community facility within Stillorgan and the wider catchment. Kilmacud Crokes is the largest GAA club in Ireland, and notwithstanding this, it is almost hidden away out of sight behind a row of two-storey commercial and retail premises.

The key points from this consultation with Kilmacud Crokes included:

1. The challenges they were facing with securing planning permission for their immediate requirements to increase the size of, and change the orientation of, their main pitch, and also upgrade the vehicular capacity of their entrance driveway, including for coach access.
2. Conflicting capacity requirements between access to Kilmacud Crokes and to the adjacent overflow carpark, making peak period access and egress very difficult, and not helped by the location of the signalised pedestrain crossing on Lower Kilmacud Road.
3. Site constriants, particuarly in close proximity to the overflow car park and Lower Kilmacud Road, that limited the ability to provide segregated access facilities for vehicles and pedestrians to the club.
4. Any development of the public realm and streetscape at Lower Kilmacud Road could enhance the sense of presence and visibility of the club as an important part of the village and community.

Engagement with Kilmacud Crokes was positive and constructive, and it was clear that there already had been collaboration with other stakeholders, and this was to be further welcomed.

6.3 Blakes Site and Lesureplex

While a number of proposals had been developed in the past for both the Blakes site and the Leisureplex site, there were no immediate plans to progress either. The professional consultants were in a position to articualte the constraints and opportunities previously encountered and considered. It was acknowledged that any interim changes in the village environment, particularly in relation to road access, might alter the relative importance or difficulties in the event of re-embarking on significant redevelopment plans.

The key points emerging included:

1. Vehicular access to the Leisureplex site: This could only remain as existing under current circumstances, but may be required to change in the event of significant redevelopment, and may require access to be relocated to the western or eastern side of the site.
2. Vehicular access to the Blakes site: This was dependent on both the junction with Lower Kilmacud Road and Old Dublin Road, and also on the slipway off the N11 onto The Hill. Depending on the details of the Framework Plan, there may be scope to review access arrangements that could be beneficial to the village and also to the sites.

Engagement with the professional consultants was positive and constructive, and the mutual benefits of a collaboration with other stakeholders acknowledged.

6.4 Overview of Collective Stakeholder Consultations

Consultation with the key stakeholders indicated enthusiasm for the Framework Plan, acknowledged the potential benefits it could bring to Stillorgan, and also highlighted a number of areas of mutual or common interest which might be facilitated, directly or indirectly, through the process.

Between stakeholders:

1. The boundary betwen the overflow car park and Kilmacud Crokes access. If any flexibility could be afforded at this location, it would greatly assist the establishement of segregated vehicular and pedestrian access to the club, as well as greater visibility of the club from the main street
2. The irregular shape of the overflow carpark gave rise to a sub-optimal car parking layout. A small adjustment along part of the boundary with Lower Kilmacud Road, if the cross section of the road was to be modified, could allow for an improved layout and less redundant space.
3. The latter, if it could be secured, might offer some flexibility along the eastern boundary to resolve the access issues to Kilmaud Crokes.
4. The main Shopping Centre car park is slightly constrained at the south eastern corner. If there was any modification to the cross section of the street, it might be possible to incorporate a minor adjustment to the effective boundary.

Framework Plan and Stakeholders

1. Recognition of the benefit of an enhanced streetscape and safer with a more managed traffic environment, and greater provision for safe movement of pedestrians throughout the village.
2. Acknowledgement of the changeing nature to streets in village [District Centre] environments, and the value of re-balancing streetscapes to make better pedestrian provision while maintaining appropriate vehicular access.
3. Overall alignment of the proposals with individual stakeholder objectives, including the short through to longer term objectives.

The outcomes of Stakeholder consultation have been considered in full in developing the details for the Framework Plan and are incorporated as possible in the *Preferred Option.*

7. Emerging Preferred Option

Lower Kilmacud Road/ Overflow Parking (existing)

***Figure 7.1**: Lower Kilmacud Road/ Overflow Car Park (Existing)*

***Figure 7.2**: Roadway character of Lower Kilmacud Rd, overflow car park and Kilmacud Crokes access*

Lower Kilamcud Road/ Overflow Parking (medium term proposal)

***Figure 7.3**: Lower Kilmacud Road/ Overflow Car Park (Indicative Medium Term Proposal)*

Key interventions

- Creation of high quality urban space at the entrance to Kilmacud Crokes to enhance the visibility of Kilmacud Crokes within Stillorgan, and also to improve the pedestrian offer and experince of movement between the shopping centre and the overflow car park.
- Lower Kilmacud Road transitions from west to east, from general carriageway to an urban centre, with slow speed environemnt and enhanced pedestrian facilities.
- Cycle facilities encorporated throughout.
- Southern side of street developed as stronger footpath / urban space to encourage greater east-west pedestrian movement, with the introduction of a new pedestrian crossing point that corresponds to established desire lines.
- Adjustment for boundary between overflow car park and Lower Kilmacud Road, and consequent rationalisation of car park layout, incorporating enhanced pedestrian offer and boundary landscaping.
- Incorporation of pavement facility along re-aligned access to Kilmacud Crokes.

Lower Kilmacud Road/Old Dublin Road Junction/N11 (existing)

***Figure 7.4**: Lower Kilmacud Road/ Old Dublin Road/ N11 (existing)*

***Figure 7.5**:* Vehicle-centric roadways and outdated pedestrian provision

Lower Kilmacud Road/Old Dublin Road Junction/N11 (medium term proposal)

***Figure 7.6**: Lower Kilmacud Road/ Old Dublin Road/ N11 (Indicative Medium Term Proposal)*

Key interventions

- Re-align Lower Kilmacud Road/ Old Dublin Road junction to tighen corners and increase pavement/ public space to facilitate the establishment of focal public space as re-generation opportunities are implemented.
- Enhanced pedestrian crossings at junction to cater for pedestrian movement and also to signal transition to pedestrian / urban environment and passively manage driver bahaviour.
- Locate local bus stop at junction.
- Move shopping centre access northwards and change to left-in only, with all movements accomodated at northern gateway. This will reduce traffic queuing in proximity to junction in both directions and improve pedestrian safety.
- Modify carriageway to single lane in each direction, with a median incorpoating right turns and/or landscape as required.
- Focus usage of link to N11 for vehicular usage, incorporating cycle facilities.
- Establish strong pedestrian link along upgraded streetscape from shopping centre eastwards directly to QBC bus stop on N11.
- Enhance steps and ramps leading to bus stop.
- Re-location of southbound N11 bus stop northwards to be opposite the northbound bus stop, and incorporating an at-grade pedestrian crossing as an alternative to the underpass.

Old Dublin Road (existing)

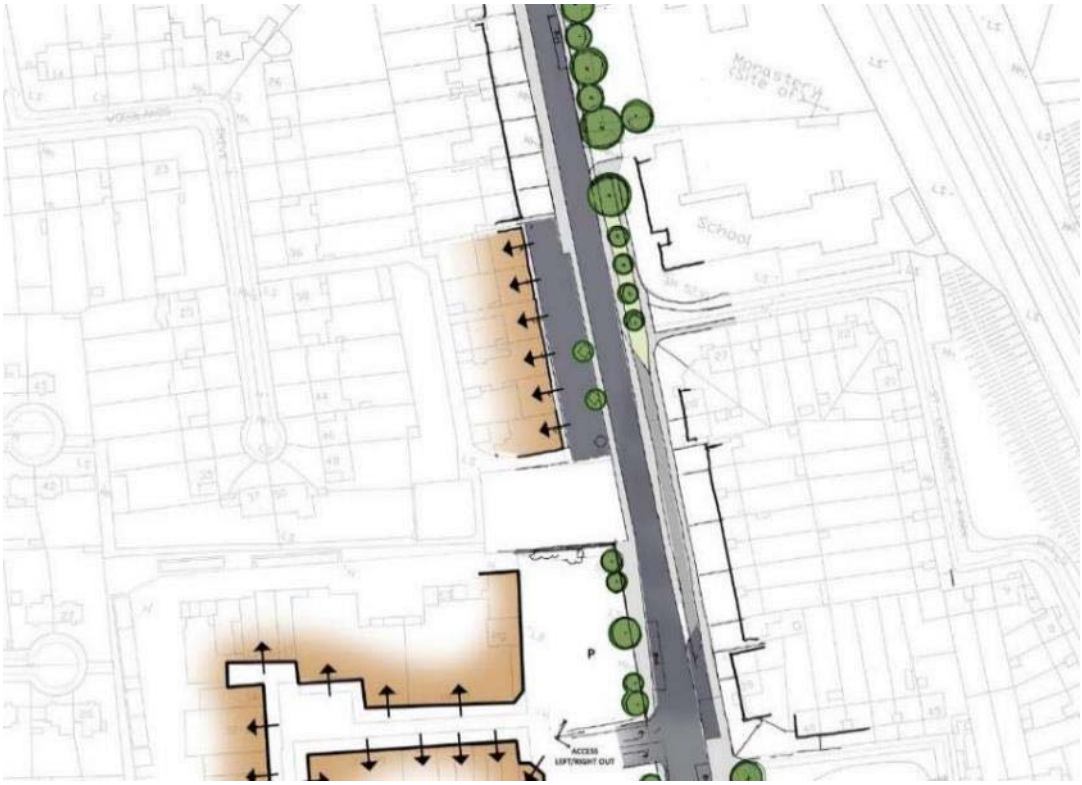


***Figure 7.7**: Old Dublin Road (Existing)*

***Figure 7.8**:* Vehicle-centric roadways, poor pedestrian provision and legibility.

Old Dublin Road (medium term proposal)

***Figure 7.9**: Old Dublin Road (Indicative Medium Term Proposal)*

Key interventions

- Rationalise roadway provision to one lane in each direction.
- Increase pavement space, particularly on western side of the road.
- Provision of high quality pedestrian crossings.
- Re-configuration of retail frontage and parking area at local centre.
- Enhanced landscape along Old Dublin Road
- Maintaining connectivity to adjoinig residential lands.

Lower Kilmacud Road at Mill House (existing)

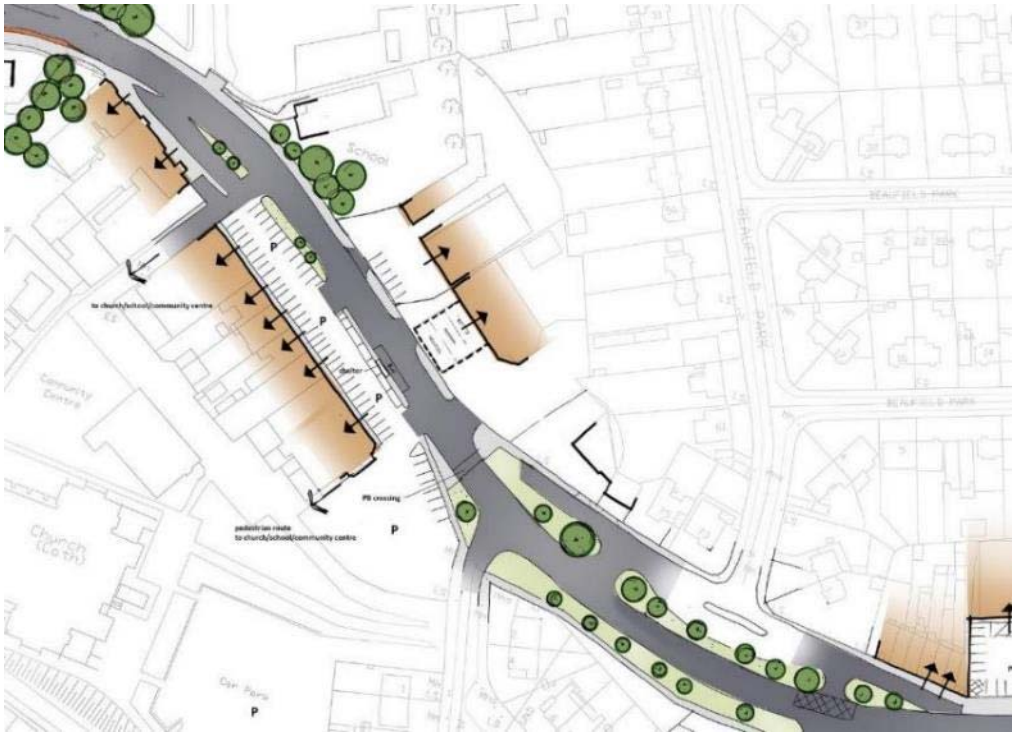


***Figure 7.10**: Lower Kilmacud Road at Mill House (Existing)*

***Figure 7.11**:* Opportunity for better utilisation of space, enhanced pedestrian provision and retail frontages

Lower Kilmacud Road at Mill House (medium term proposal)

***Figure 7.12**: Lower Kilmacud Road at Mill House (Indicative Medium Term Proposal)*

Key interventions

- Rationalise roadway provision to one lane in each direction, with continuous cycle facilities.
- Enhanced landscaping in green street connection between main core and local core.
- High quality pedestrian crossings at key desire lines.
- Re-configuration of retail frontage and parking area at local centre to include legible pedestrian routes through parking area.
- Maintaining and reinforcing connectivity to adjoining land uses.

Upper/Lower Kilmacud Road South Avenue Junction (existing)

***Figure 7.13**: Upper/ Lower Kilmacud Road, South Avenue Junction (Existing)*

***Figure 7.14**:* Limited footpath space, excessive road engineering and conflict betwen cyclists and vehicles.

Upper/Lower Kilmacud Road South Avenue Junction (medium term proposal)

***Figure 7.15**: Upper/ Lower Kilmacud Road, South Avenue Junction (Indicative Medium Term Proposal)*

Key interventions

- Rationalise roadway provision to one lane in each direction with continuous cycle facilities.
- Removal of left turn slip lane onto Upper Kilmacud Road and provision of a shared left turn lane to minimise cyclist / vehicular conflict.
- Increased pedestrian space to incorporate landscaping at junction to bring visual interest and human scale elements to streetscape.
- Single stage pedestrian crossings.

The Hill/ N11 Slip Lane (existing)

***Figure 7.16**: The Hill/ N11 Slip Lane (Existing)*

***Figure 7.17**:* Limited footpath space, excessive road engineering and lack of cycle facilities

The Hill/N11 Slip Lane (medium term proposal)

***Figure 7.18**: The Hill/ N11 Slip Lane (Indicative Medium Term Proposal)*

Key interventions

- Closing the left slip access from the N11 to eliminate rat-running and change the traffic regime – speed and volume – to a more pedestrian friendly environment that is safe and encourages walking and footfall
- Opportunity to establish more attractive residential frontages onto the street by virtue of new cul-de-sac profile.
- Facilitate pedestrian and cycle movement from N11 onto The Hill, and create pocket park at N11 junction.

Oatland College (existing)

***Figure 7.19**: Oatland College (Existing)*

***Figure 7.20**:* Limited footpath space, excessive road width

Oatland College (medium term proposal)

***Figure 7.21**: Oatland College (Indicative Medium Term Proposal)*

Key interventions

- Improved pedestrian crossing at Woodlands Avenue
- New Pedestrian crossing at top end of Dublin Road to N11 Bus Stop
- Widened and improved footpath along Oatland College boundary

8. Feedback from Public Information Period

Public information was provided on the emerging options from October to Devember, 2015. The proposed design drawings showing emerging options were put on public display and the public were invited to provide feedback on the proposal.

Table 8.1 provides a summary of the submissions recieved, with a response provided for each submission/ comment/ issue listed.

Ref. no.	Submission / comment	Response
1	30km/hr. speed limit requested on Old Dublin Road, Stillorgan.	It may not be possible to legally reduce the speed limit on the Old Dublin Road to 30km/hr. However the proposed moderations should result in the roadway becoming a 'Slow Zone.'
	Request for no through traffic for HGVs on Old Dublin Road.	HGVs will be restricted by the proposed modifications to the Old Dublin Road. However local access to businesses will need to be maintained.
2	Glenalbyn Road – existing footpaths are too narrow and need to be widened in the interest of health & safety, particularly for users of the HSE baby clinic.	It is acknowledged that the widths of the existing footpaths along Glenalbyn Road are very narrow. Surveys will be undertaken to see if the existing roadway can accommodate wider footpaths.
3	Feels that Stillorgan Village is vibrant and doesn't need to be altered	Noted
4	Stillorgan Village needs updating / modernisation, plus will ease traffic movements.	Noted
5	Replacement of trees bordering interface from St. Laurence Park and the Stillorgan Leisureplex site.	Proposals for both soft and hard landscaping will be developed as part of the overall Plan.
	Improvements to footpath interface between St. Laurence's Park and Stillorgan Leisureplex site.	Footpaths will be upgraded, altered or widen depending on their location, in line with the proposals in the Plan.
	Re-alignment of car parking outside retail units at junction of St. Laurence's Park and the Old Dublin Road, however concern with drivers parking on footpaths.	It is proposed that the parking area outside the retail units, at this location, will be completely revamped. Parking will be within indented bays. Parking on footpaths to be controlled by means of hard landscaping and street furniture.
	General upgrade requested of all footpaths within St. Laurence's Park Estate, due to the level of footfall through the area.	The Stillorgan Movement Framework Plan provided for the upgrade of all footpaths etc. within the areas of the Public Realm.

	Replacement of section of existing footpath along the Old Dublin Road with tree planting welcomed but concern that they don't overshadow residential houses.	All tree planting and landscaping proposed as part of the Stillorgan Movement Framework Plan will be chosen to suit the intended areas.
	Closure of the slip road from the N11 onto The Hill, Stillorgan acknowledged and welcomed.	Noted
	Final design to ensure no decrease in parking to front of shops at junction of St. Laurence's Park and Old Dublin Road.	The Stillorgan Movement Framework Plan is intended to improve the Public Realm and balance the needs of all users. Therefore it unlikely to be possible to maintain the existing level of parking at this location.
	Litter bins requested for outside Nimble Fingers / Joseph Kramer, Old Dublin Road.	The number and extent of litter bins required will be decided at detail design stage.
	Proposed Pedestrian crossing points, within St. Laurence's Park welcomed.	Noted
	Concern about illegal parking within St. Laurence's Park.	Illegal parking is a Garda Enforcement matter and doesn't form part of the Brief for the Stillorgan Movement Framework Plan
	Request for a yellow box junction on the Old Dublin Road, at the entrance to St. Laurence's Park.	The type and extent of new road markings required will be decided at detail design stage.
	Request that the location of the existing Pedestrian Crossing on the Old Dublin Road be reviewed, as it is felt to be too near the exit from the Stillorgan Shopping Centre.	Disagree. However it should be noted that increased safety will be provided by the modifications proposed for the Old Dublin Road.
	Request that the first phase of the Stillorgan Village Area Movement Framework Plan incorporate the area that includes St. Laurence's Park.	Phasing of the construction works for the Stillorgan Movement Framework Plan will be based on the maximum return / gains and the level of funding, combined with the co-operation of the relevant stakeholders.
6	Pedestrian lights requested on the slip lane at the Lower Kilmacud Road and Upper Kilmacud Road junction in the interest of safety, particularly for local school-children.	In the interest of improved safety, especially for school-children, it is proposed to completely remove the slip lane, as part of the total re-design of the Lower Kilmacud Road – Upper Kilmacud Road signalised junction.
	Request that no modifications are made to the green open space or trees at the junction of South Avenue / Lower Kilmacud Road as part of any junction upgrade works.	Noted.
7	Unsure how new layout will address traffic flows through Stillorgan Village.	The proposed Plan provided for one traffic lane in each direction along Lower Kilmacud Road for through traffic, as per the existing arrangement. However the proposed revised

		layout will impose greater control on internal traffic speeds and movements.
	Objections to any introduction of Pay & Display, as part of the proposed re-design of the Public Realm.	The introduction of Pay & Display is a Policy issue, to be decided at a later date, and therefore is not part of the proposals under consideration in the Stillorgan Movement Framework Plan.
	Request for reinstatement of old 46A Dublin Bus route through Stillorgan Village.	This is a matter for Dublin Bus, as the Bus Operator.
	Proposal that a local feeder bus service, (IMP bus system), be introduced to Stillorgan Village to serve the Luas and the residential estates along Lower and Upper Kilmacud Road, thus reducing the level of car use in the area.	The Purpose of the Stillorgan Movement Framework Plan is to develop the Public Realm within and around Stillorgan Village. The provision of a local bus service is a matter between the businesses and the residents.
8	Welcome for the proposals in attempting to improve safety for pedestrians, motorists and cyclists.	Noted
	Request for a signalised traffic junction, incorporating the existing Pedestrian Crossing, at the Lower Kilmacud Road / Allen Park Drive in order in order to improve access and egress to Merville Estate.	Noted and will be considered in developing the proposals for the Stillorgan Movement Framework Plan.
9	Dangerously narrow width, (0.6m – 1.0m), of existing footpaths on Glenalbyn Road needs to be addressed as part of the improvements to the Public Realm.	It is acknowledged that the widths of the existing footpaths along Glenalbyn Road are very narrow. This issue will be reviewed. However, it should be noted that Glenalbyn Road lies outside the extent of the study area.
10	Welcome for the proposed Pedestrian crossing point between The Children's House Montessori Primary School and the 'Fruit World' premises but request for traffic calming measures to be incorporated in order to increase safety.	The objective of the Plan is to provide an improved and safer environment for all users. Therefore the proposed measures in terms of narrower traffic lanes, cycle tracks, pedestrian crossing points, wider footpath etc. will provide for increased traffic calming in the area.
	Consideration that the existing drop off / pick up parking on the Lower Kilmacud Road, to serve The Children's House Montessori School, be allowed for in the new design for this section of roadway, also consideration for deliveries etc.	In order to provide for upgraded footpaths and new cycle tracks, combined with reduced traffic lanes widths, it won't be possible to allow on-road parking along any section of the Lower Kilmacud Road.
11	Welcome for the improved safety for families and children with the increased pavement widths, enhanced cycling facilities, single lane traffic and an island separating the lanes.	Noted

	Concerns about the continuing grid-lock caused by traffic accessing the Stillorgan Shopping Centre car park.	Traffic grid-lock within Stillorgan Village is currently an issue at certain times of the day. It is intended that measures will be incorporated into the final design to address, as best as possible, this problem.
	Query if cycle lanes could be moved away from edge of traffic lanes for safety consideration.	Available space doesn't allow for off-road cycle tracks. However the proposed cycle tracks will be vertically separated from the adjoining roadways, except at junctions, in line with the National Cycle Manual.
12	Objection to the closure of the slip road from the N11 onto The Hill, Stillorgan due to concerns about loss of business due to removal a link to the customer catchment area.	Objection noted and accepted from the local business interests. Further surveys will be undertaken before any final decision is made on closing the slip road from the N11.
13	Welcome for the proposals and looking forward to the completion and implementation of the Plan.	Noted
14	Supports proposals for the upgrade of roadways and pedestrian areas within the vicinity of Stillorgan Village but feels that the Public Consultation could have been better advertised.	Noted. The purpose of the Information Period was to receive some initial feedback on the emerging options from a cross-section of local businesses and residents. This we feel was achieved and will help to inform the approach and final layout of the Stillorgan Village Area Movement Plan.
15	Supportive of the measures in the Plan, in addressing traffic and parking arrangements in the Stillorgan area.	Noted
16	Reduction in traffic lanes will cause tailbacks and queuing for drivers assessing Stillorgan Village. Review Plan with a view to improving traffic flows.	While the traffic lanes particularly on the Lower Kilmacud Road will be reduced in width, two-way traffic flows will be maintained by preventing any on-road parking and improving junction design.
17	Smarter layout, especially for pedestrians. A pedestrian flyover on the N11 at the junction with Oaklands School would make it safer for pedestrians and allow traffic to exit the Old Dublin Road in a more organised manner.	Aside from the high cost involved, there is the insufficient land available to construct the required access ramps and pedestrian flyover infrastructure. There is a new Pedestrian crossing point, on the N11, included in the proposals.
18	Supportive of Plan but disappointed that there is very little proposed for the redesign of the Allen Park Road – Lower Kilmacud Road junction, very difficult to exit when turning right towards Stillorgan Village.	Noted and the installation of traffic lights at the Lower Kilmacud Road / Allen Park Road junction will be considered in the development of the Stillorgan Movement Framework Plan.
19	Impressed with the improvement in crossing points on the Lower Kilmacud Road and the installation of cycle lanes.	Noted.

	Request for cycle lanes to be included on the Old Dublin Road to serve Oaklands School, including the provision of cycle parking area.	The installation of cycle lanes on the Old Dublin Road will be considered in the development of the Stillorgan Movement Framework Plan. However it should be noted that this may require the removal of the existing on-road parking.
20	Welcomes the re-location of the out-bound bus stop on the N11, the proposed access from Patrician Villas and the new Pedestrian crossing on the N11.	Noted.
	Request for a Pedestrian crossing on South Avenue, at the junction with Lower Kilmacud Road and on Redesdale Road, at the junction with Lower Kilmacud Road in order to improve safety for children going to the local schools.	It is proposed, as part of the upgrade of the existing traffic lights at the Lower Kilmacud Road / South Avenue junction, to incorporate a Pedestrian crossing on South Avenue. In relation to Redesdale Road, it is not possible or safe to provide an isolated Pedestrian crossing on a side roadway.
21	The use of unclear technical jargon e.g. ‘‘modal shifts,’’ soft modes,’’ ‘’balance movement’’ and ‘‘place’’ makes the proposals very hard to follow and evaluate.	While sometimes technical jargon can be difficult to understand, the photographs, drawings and artist’s impressions were designed to fully convey the objectives and emerging options for the proposed Stillorgan Village Area Movement Framework Plan.,
	Creating a ‘’traffic calmed environment’’ with ‘’reduced lane widths’’ will result in traffic diverting through Mount Merrion to bypass Stillorgan Village. The Plan doesn’t consider the wider traffic management issues which are likely to result in the adjoining residential areas.	Extensive traffic surveys were undertaken and traffic modelling reviewed in order to inform the development of the proposals for the Stillorgan Village Area Movement Framework Plan. The proposals are designed to facilitate a level of throughput traffic, while restoring a village feel to the centre of Stillorgan.

Table 8.1: Summary of Submissions Received

9. Key Feedback Items

The key items requiring further investigation that emerged from the public information period on emerging options were as follows:

9.1 *Allen Park Drive:*

Submissions 8 and 18 refer to the difficulty drivers experience turning right from Allen Park Drive onto Lower Kilmacud Road and request consideration for the redesign of this junction as part of the scheme.

A survey was undertaken on Monday 27th June between 8:40 and 9:00 which recorded a maximum queue length on the approach to the junction of three passenger car units and a maximum delay of less than eighty seconds for right turning vehicles.

This indicates that signalisation of the junction is not appropriate at this location. However, in order to assist right turning vehicles exiting Allen Park Drive, the proposal has been modified to include a yellow box at the junction. It is also proposed to modify the operation of the pedestrian crossing located west of Allen Park Drive to increase its activation frequency during busy periods.

9.2 *Glenalbyn Road*

Submission 9 refers to 'dangerously narrow footpaths' on Glenalbyn Road. This issue was reviewed and upon preliminary investigation it appears that the existing carriageway widths are not sufficiently wide to accommodate the use of roadway space to increase the width of the footpath. It should be noted that Glenalbyn Road is outside the extent of the study area, and thus, a detailed assessment (i.e. land acquisition potential etc.) was not undertaken as part of this study.

9.3 *Closure of the left Slip lane from The N11 onto 'The Hill'*

The proposals provided for public consultation included the closure of the left slip lane from the N11 onto The Hill. During consultation concerns were raised with respect to the impact the closure of this slips lane would have on local businesses.

In particular, the Orchard Pub and 'Village Vets' veterinary practice were concerned regarding the impact it would have on their businesses. Traffic and parking surveys were conducted in order to quantify any potential impacts the closure of the Hill may have.

CSEA conducted these surveys on Friday 22nd January 2016, with observations made adjacent the junction of the Hill and Glenalbyn Road during three time periods as follows:

- 09:30 -11:30;
- 12:30 -14:30; and
- 16:00 -18:00.

The results of the survey can be found in Appendix C. The removal of direct access from the N11 left slip lane onto the Hill may deter a small percentage of customers from these local business as they would have to Access these business via. a left turn onto Lower Kilmacud Road and a second left turn onto the Hill. However, the redesign of Stillorgan Village as a more attractive vibrant town centre with the implementation of the scheme is likely to offset any negative impacts resulting from modified access arrangements.

Thus, it is not proposed to close The Hill initially but the operation of the junction of the Hill, Lower Kilmacud Road and Old Dublin Road will be reviewed following implementation of the scheme. If this junction becomes congested, it may be advisable to implement the Closure of the slip lane from the N11 in the medium to long term.

9.4 *Pedestrian Crossing at Oatlands College*

Further to review during the consultation period, it is proposed to provide a new controlled pedestrian crossing on Old Dublin Road. The pedestrian crossing will be located adjacent to Oatlands College on the west side of Old Dublin Road and a healthcare clinic on the east side of the road.

10. Proposal

This chapter shows the overall concept designs for the medium and long term proposals, focusing on the Village Core Area. Detailed engineering drawings of the proposal covering all areas of the scheme are provided in Appendix E and Chapter 10 should be read in conjunction with these drawings.

10.1 Existing Village Core

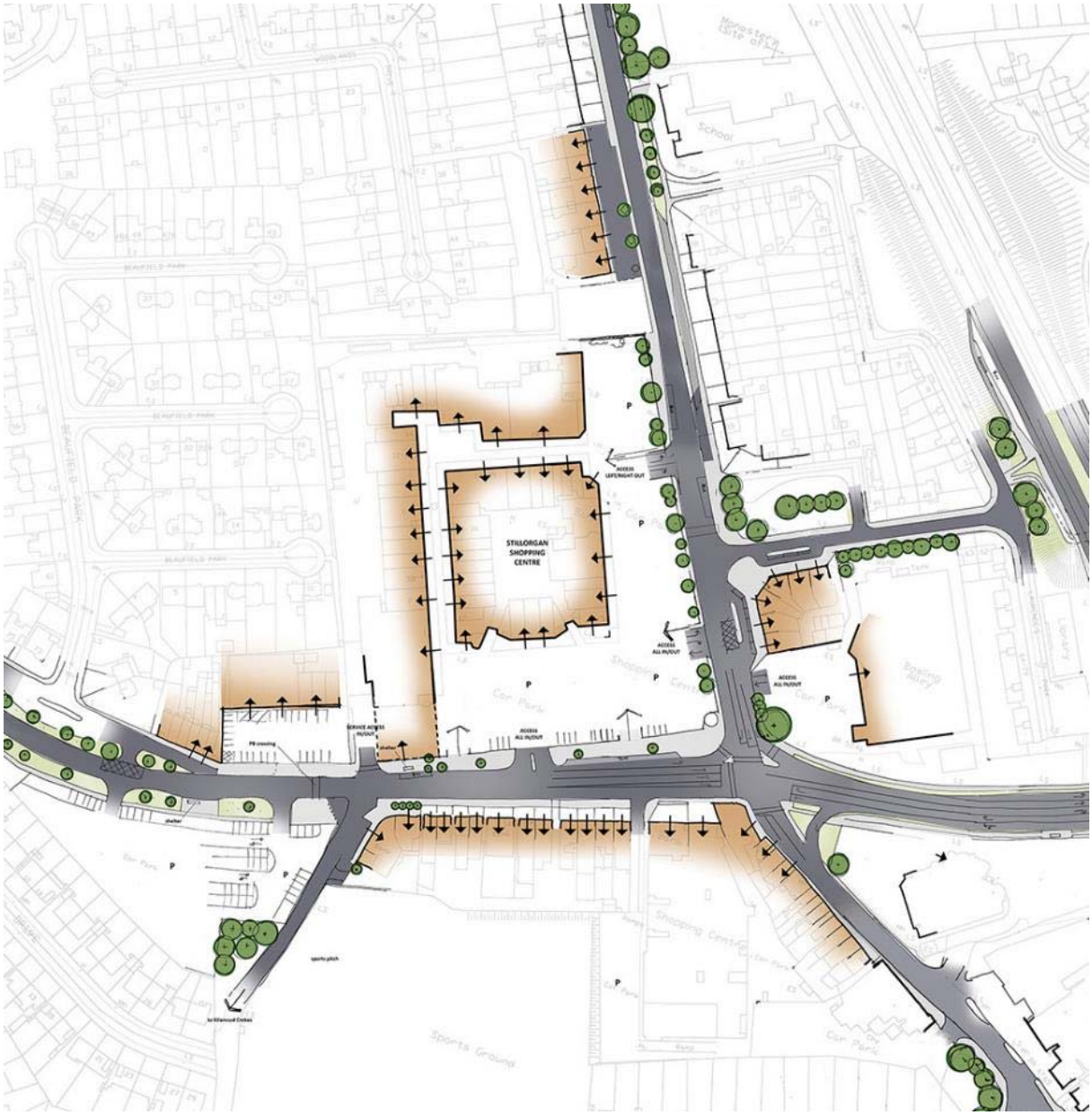


***Figure 10.1**: Existing Village Core*

Key Overall Issues:

- Disconnected village sections;
- Wide traffic lanes;
- Impression of car priority;
- Inadequate Pedestrian/ Cycle facilities;
- Extensive parking areas dominate landscape.

10.2 Village Core (Medium Term Proposal)

***Figure 10.2**: Village Core (Medium Term Proposal)*

Key Medium Term Objectives:

- Improved pedestrian connections between key urban spaces with potential to expand to future re-generation sites;
- Re-balancing of the roadways to cater for pedestrians, cyclist and vehicles as appropriate;
- Enhanced public realm treatments, including materials, lighting, planting and street furniture, to reinforce the identity of the village core and to decrease impression of car priority;
- Improved safety for pedestrians and cyclists, including for crossings where demand identified;
- Rationalising parking access points and proposing screening landscaping to boundaries.

10.3 Village Core (Long Term Proposal)

***Figure 10.3**: Village Core (Long Term Proposal)*

Key Long Term Objectives:

- Further Improvement and expansion of pedestrian connections between key urban spaces and re-generation sites;
- Re-balancing of the roadways around re-generation sites to cater for pedestrians, cyclist and vehicles as appropriate;
- Further improvement of public realm treatments around the core area which is expanded and consolidated, with significant additonal built frontage onto the streets;
- Enhanced safety for pedestrians and cyclists around re-generation sites;

- Further rationalising of car parks layouts, typologies, locations and access points in conjunction with regerenation opportunity lands.

10.4 Photomontages

***Figure 10.4**: Lower Kilmacud Road Currently (looking East)*

***Figure 10.5**: Lower Kilmacud Road Potential (looking East)*

***Figure 10.6**: Lower Kilmacud Road Currently (looking West)*

Lower Kilmacud Road Potential (looking West)

***Figure 10.7**: Lower Kilmacud Road Potential (looking West)*

***Figure 10.8**: Lower Kilmacud Rd / The Hill Junction Currently*

***Figure 10.9**: Lower Kilmacud Rd / The Hill Junction* Potential

***Figure 10.10**: Old Dublin Road Currently (South section)*

***Figure 10.11**: Old Dublin Road Potential (South Section)*

***Figure 10.12**: Old Dublin Road Currently (Middle section)*

***Figure 10.13**: Old Dublin Road Potential (Middle section)*

10.5 Indicative Sections through Lower Kilmacud Road

***Figure 10.14**: Section AA (as existing)*

***Figure 10.15**: Section AA (as proposed)*

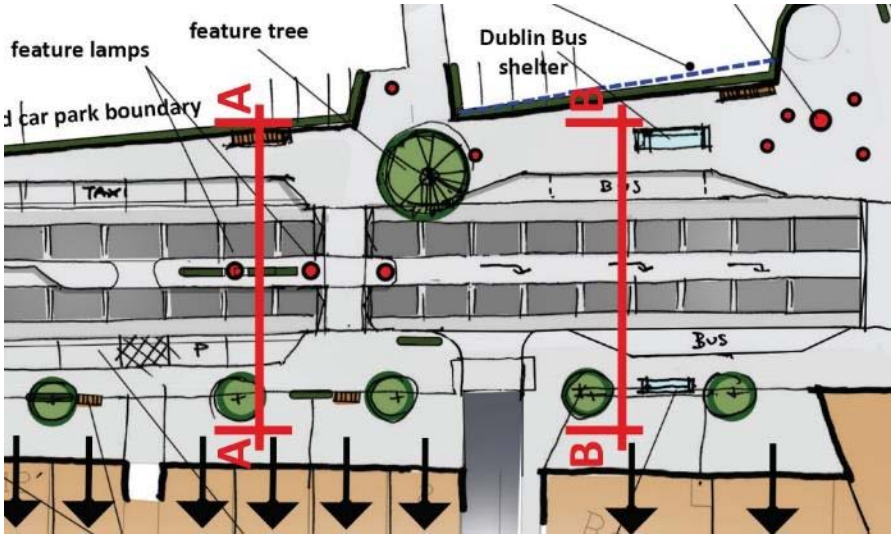


***Figure 10.16**: Section Location Plan*

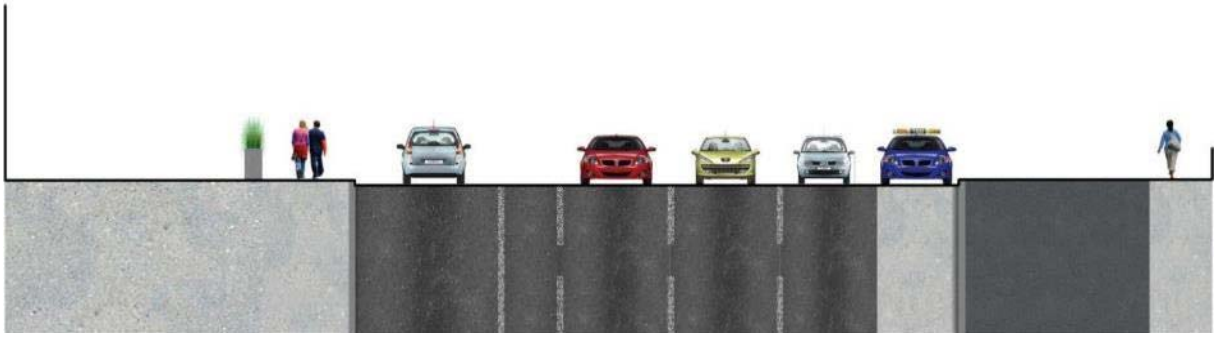


***Figure 10.17**: Section BB (as existing)*

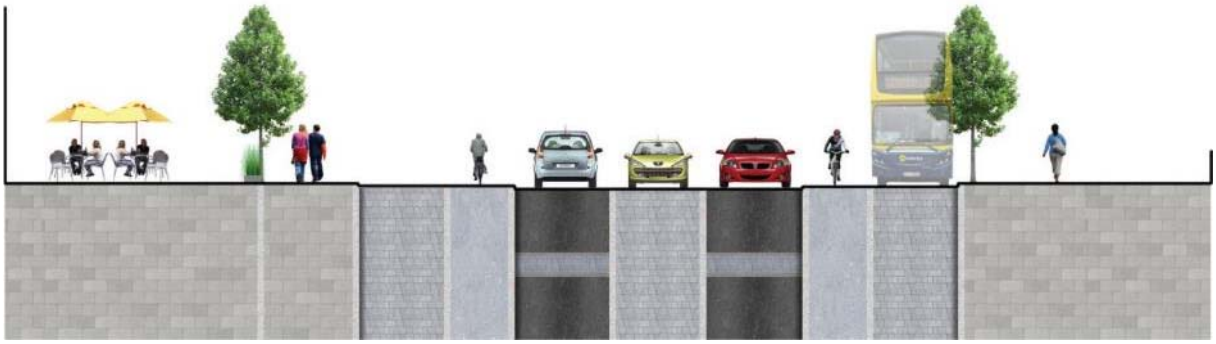


***Figure 10.18**: Section BB (as proposed)*

10.6 General Materials

***Figure 10.19**: numerical values indicating location of materials listed below*

1. Quality asphalt to carriageway
2. Exposed aggregate tarmac to cycle tracks/lanes
3. Grey concrete setts to pedestrian crossing and parking/taxi bays
4. Grey concrete/granite kerb
5. Light grey concrete flag paving to footpaths and other pedestrian areas
6. Granite/concrete planters with low planting
7. Semi-mature trees in tree grille
8. Selected modern ‘heritage’ style feature street lamps

11. Cost Estimate

The scheme can be broken down into a number of separate work packages, with each section costed individually. The extent of these sections and the costs associated with each package of work are shown graphically in Appendix D. It should be noted that Section 2, as indicated on the drawing, will be implemented as part of the N11 scheme and thus, this sum may be subtracted from the total cost of the scheme

Appendix A: Public/ User Attitudes Survey

File Note

Clifton Scannell Emerson Associates

Project	Stillorgan Framework – Phase 1	**File No.**	FN14_059_001
Subject	Interview Questionnaire	**Date**	21/10/2014

Survey Dates: Thursday 25th September (9am-6pm) & Saturday 27th September (11am-3pm) 2014.

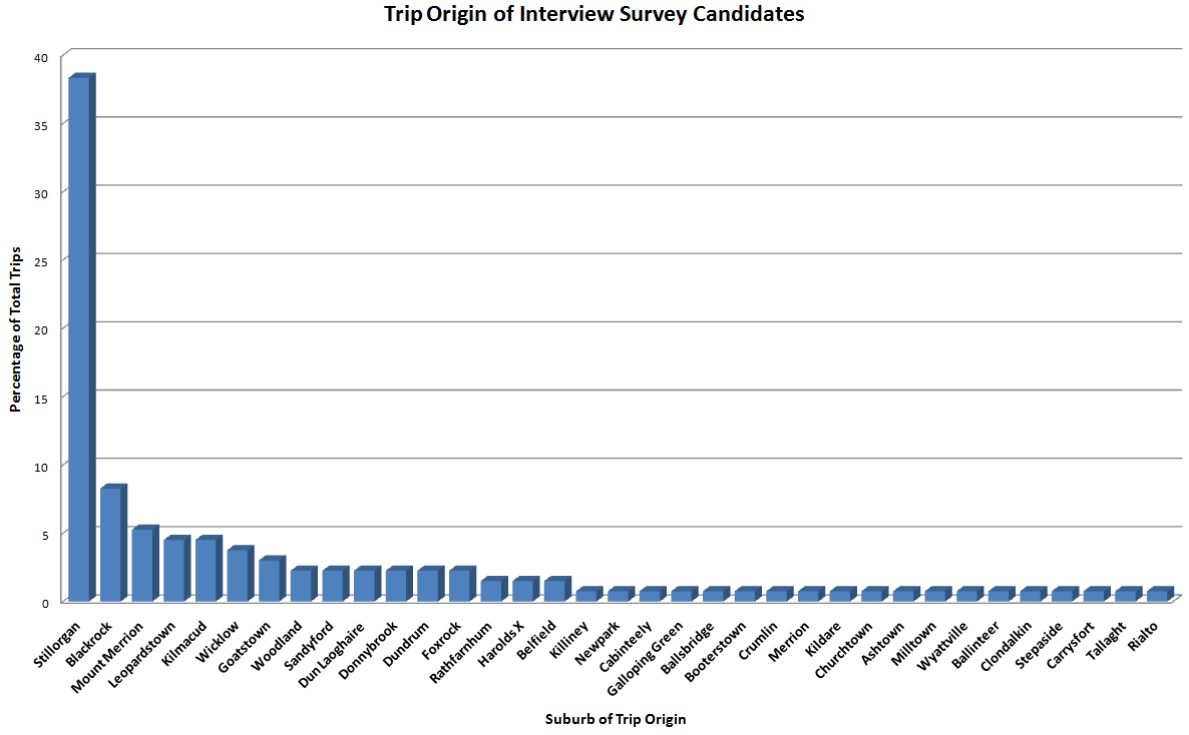
Surveys conducted:

- Within the shopping centre complex outside Tesco supermarket;
- Within the shopping centre complex outside Tesco Liquor Store;
- Along Old Dublin Road, opposite Stillorgan College of Further Education;
- Along Old Dublin Road, at its intersection with St. Laurence's Park;
- Along Old Dublin Road, at its intersection with Lower Kilmacud Road and the Hill;
- On the Hill, outside Boland's pub;
- On Lower Kilmacud Road, outside the AIB;
- On Lower Kilmacud Road, outside Centra.

Number of Responses: 133

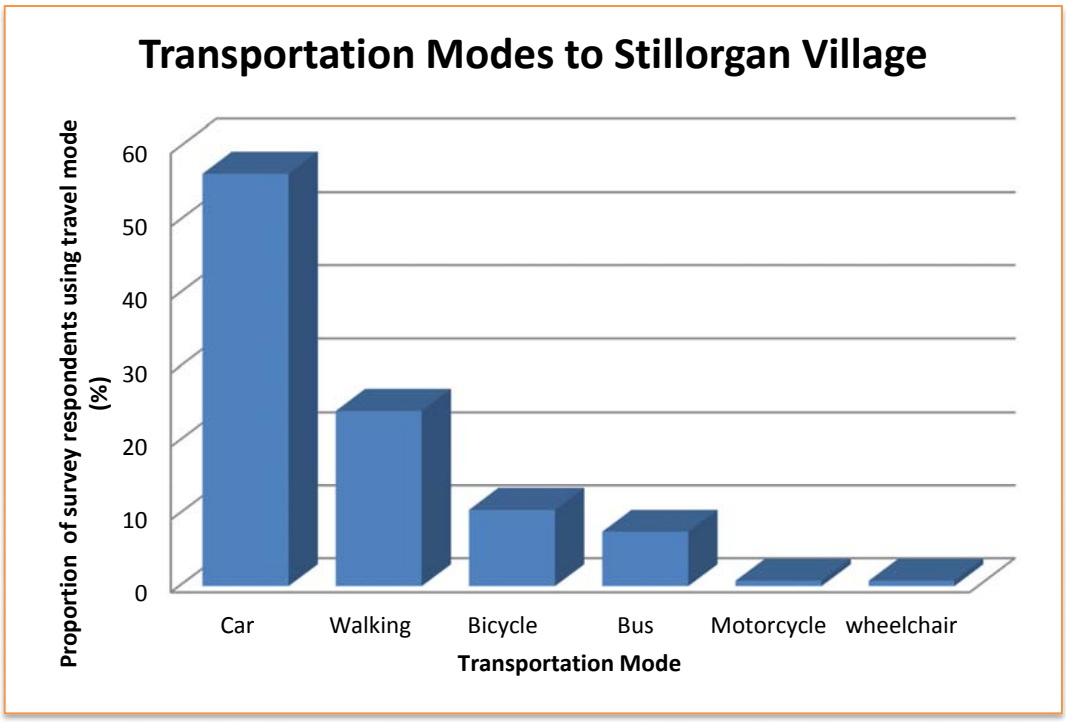
Interview Questions and Responses

1. **Where did your trip originate?** .....



2. **Travel Mode** : Car □ Push Bike □ Bus □ Motorcycle □ Walking □ Other □

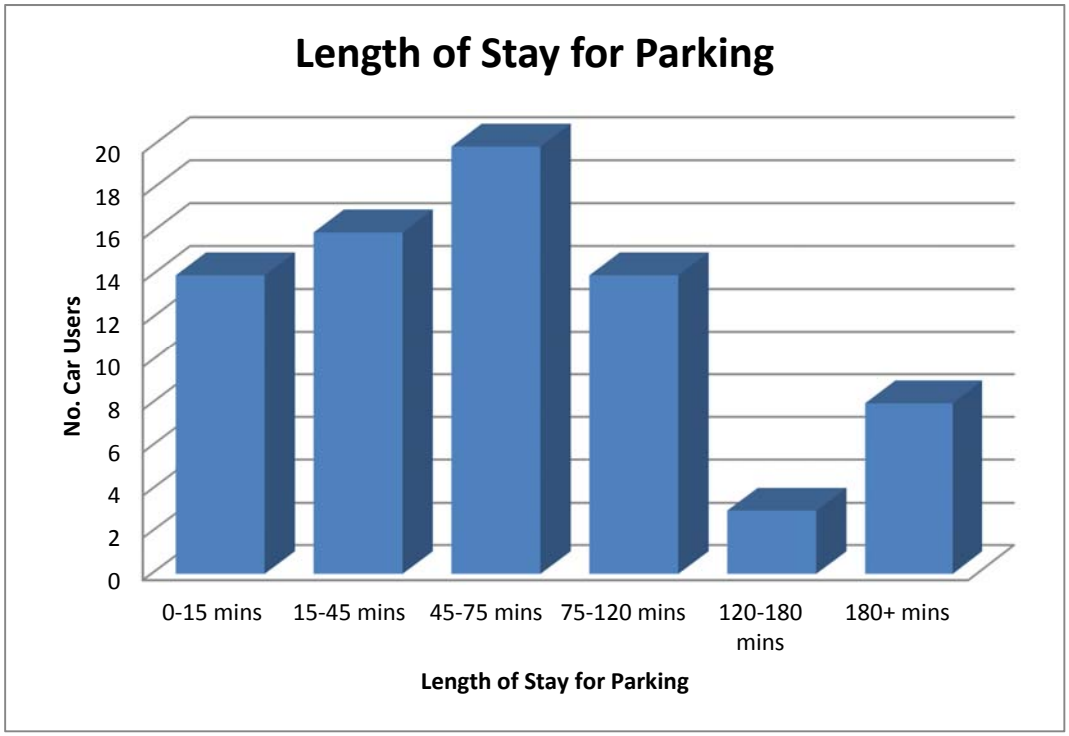
If other, specify .....



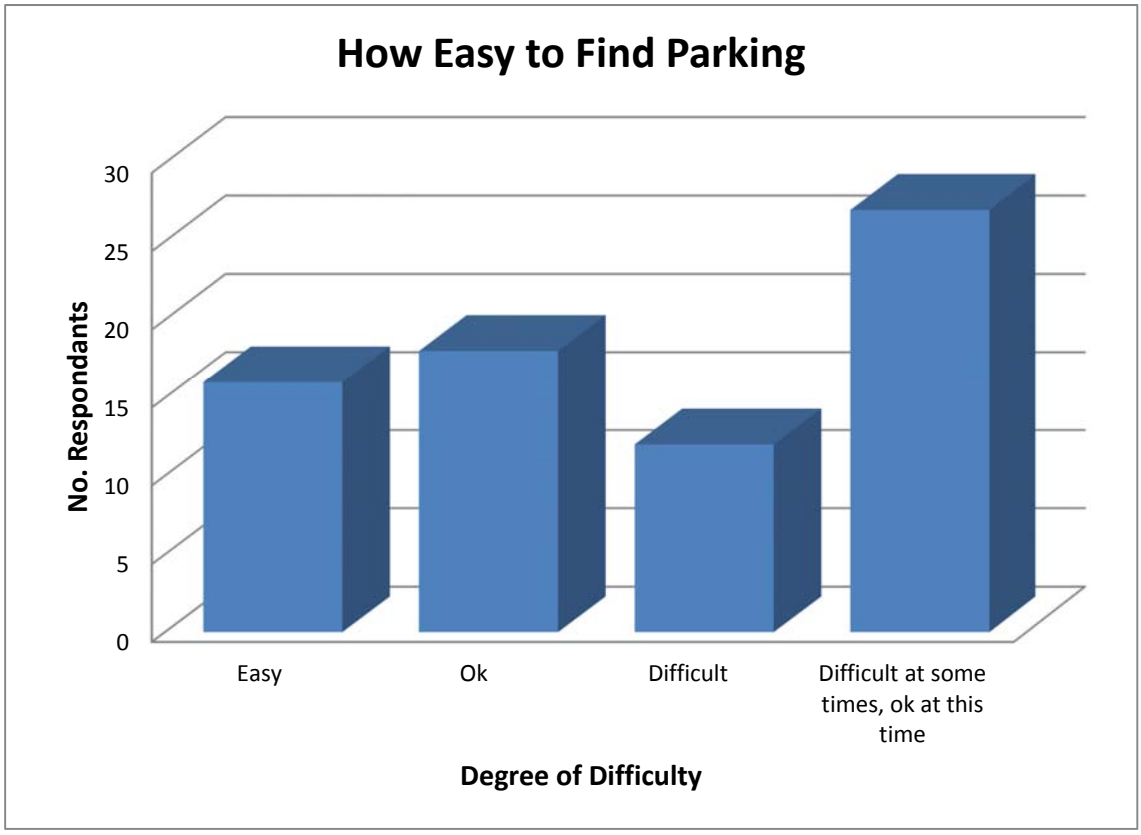
3. **If you travelled by car** (please ignore questions 4 & 5):

(i) Where did you park?.....

(ii) Length of stay?.....



(iii) How easy was it to find parking?.....



(iv) Would you ever consider cycling, walking or taking public transport to the shopping centre?

Would you consider walking, cycling, taking bus?					
yes				no	yes (not grocery shopping)
total	Walking	Cycling	Bus	32	2
38	21	6	10		

What improvements would you like to see in the area to encourage you to do so?

.....

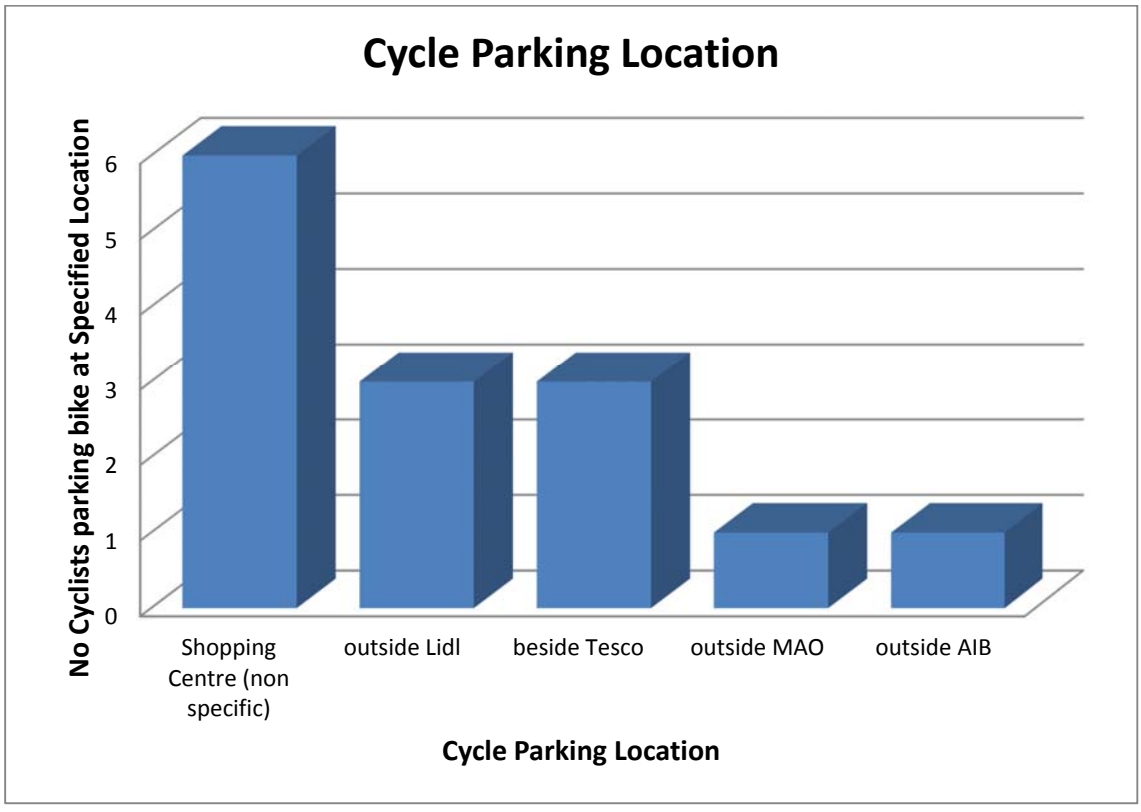
(main/ most useful data collected):

- More street furniture e.g. Benches

- Refurbish footpaths and provide better pedestrian crossings
- Bring No. 11 bus back into Stillorgan village
- provide better desognated cycle lanes along N11 that are not shared with busses
- bring 46A bus back into Stillorgan village
- more cycle Parking
- cycle lane improvements (e.g. from Goatstown)
- introduce Dublin Bikes to Stillorgan

4. **If you travelled by bicycle** (please ignore questions 3 & 5):

(i) Where did you park your bike?.....



(ii) Do you think there is enough conveniently located cycle parking in Stillorgan?

Enough conveniently located cycle parking?	
yes	5
No	9

If not, where would you like to see more cycle parking located?

……

- near CCTV and in busier locations
- near Nimble Fingers
- within shopping centre
- near McDonalds (sc)

(iii) Where would you like to see cycle lane improvements within Stillorgan?

……

- Improvements on N11
- Along Lower Kilmacud Road
- Along Old Dublin Road
- improve connection to N11 x 2 - make it safter/ trees block street light/ conflicts between pedestrians and cyclists.
- improve cycle links from Carrysfort Avenue and Kilmacud Road
- improve cycle track between Blackrock and Dun Laoghaire
- dedicated cycle lane from back of Kilmacud church to Stillorgan village, improve public lighting at back of church
- better lanes from Roebuck/Mount Merrion

5. **If you travelled by bus** (please ignore questions 3 & 4):

(i) Did you have a positive or negative experience? Explain why.

……

Positive	ok	Negative
7	3	0

Positive feedback	Negative feedback	improvement suggestions
App makes transportation by bus easier	n/a	make busses more comfortable
no 47 bus is frequent		provide more space on seats
appreciates WIFI x 2		

6. **Regarding the general layout of Stillorgan town centre;**

(a) What do you like?

.....

- Free parking
- Local feel
- Open layout of shopping centre
- Good Mix of shops
- Good amenities
- Nice cafes
- Familiarity
- Single storey shopping centre
- Easy to get around

(b) What do you dislike?

.....

- Traffic
- No village feel
- Not enough Parking
- Outside residential housing on Old Dublin Road, south of northern section of St Laurences Park, cars mount footpath on corner-dangerous for pedestrians
- no parking outside oakland school
- lack of street furniture
- dated-needs revamping and refurbishment
- not child friendly,
- lack of shelter
- car park spaces too narrow
- bus service very infrequent + dont go into stillorgan village
- Abandoned shops
- lack of crossings, more lights for pedestrains

- not sufficient time to cross at lights on Old Dublin Road for Elderly
- long wait for green light at pedestrian crossing connecting the overflow car park with the shopping cnetre

(c) What would you like to change?

.....

- zebra crossing on Lower kilmacud Rd
- more parking
- better street lighting
- better public transport – in particular bring bus services back into village (e.g. 46A)
- crossing to get to N11 bus stop
- more landscaping
- traffic calming
- play area for children e.g. at Blakes site
- plant trees and provide more cafes
- more shelter
- park with seating, water features and birds
- crossing at roundabout via orpen estate
- more crossings on Old Dublin Road
- occupy derelict sites
- public transport connection from Blackrock to Stillorgan
- improve accessibility for wheelchairs – provide refuges in middle of road
- make better bus stops (Old Dublin Rd near school)
- ped.crossing - St. Laurences Park, conflict at enterance/exit of SC
- better lighting at back of church
- more public toilets
- more public bins

(d) How do you think Stillorgan village could be made more vibrant?

……

……

- redirect the through traffic around the village
- covered-less cold
- hanging baskets and trees
- more pedestrian crossings
- community areas + more public playgrounds
- markets on Saturday
- landscape areas and refurbishment of existing
- attractions in evenings and weekend
- bridge accross N11-safer for users
- events for older people, geared for families
- outside eating areas, lighting, pedestrain areas
- more reasonably priced cafes
- more street furnature

Appendix B: Traffic Modelling Report

Clifton Scannell Emerson Associates

Stillorgan Village Area Movement Framework Plan

Junction Traffic Assessment

dlr Comhairle Contae County Council

Client: Dun Laoghaire-Rathdown County Council

Date: January 2015

Job Number: 14_059

CONSULTING ENGINEERS

Civil Engineering | Structural Engineering | Transport Engineering | Environmental Engineering | Project Management | Health and Safety

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Table of Contents

1. Introduction

CSEA has produced the following Traffic Analysis Report as part of the Preliminary Design Stage of the Stillorgan Village Area Movement Framework Plan.

The following junctions were assessed:

- Lower Kilmacud Road, The Hill and Old Dublin Road;
- Lower Kilmacud Road and south west shopping centre car park access;
- Lower Kilmacud Road and N11 Stillorgan Road; and
- Lower Kilmacud Road, Upper Kilmacud Road, and South Avenue (Staggered junction).

The existing and proposed junction layouts were modelled in OSCADY, PICADY and SIDRA using Thursday am and pm and Saturday midday peak-hour vehicle turning counts obtained from a classified 12-hour traffic count carried out at the junctions on 25th and 27th September 2014 and 3rd October 2013 (N11 junction). A summary of the OSCADY, PICADY and SIDRA analysis results is provided for each scenario along with a brief discussion on the traffic implications for the junctions.

2. Lower Kilmacud Road/ The Hill Junction

2.1 Existing Junction Layout

The existing junction layout is shown in Figures 2.1 and 2.2 below.

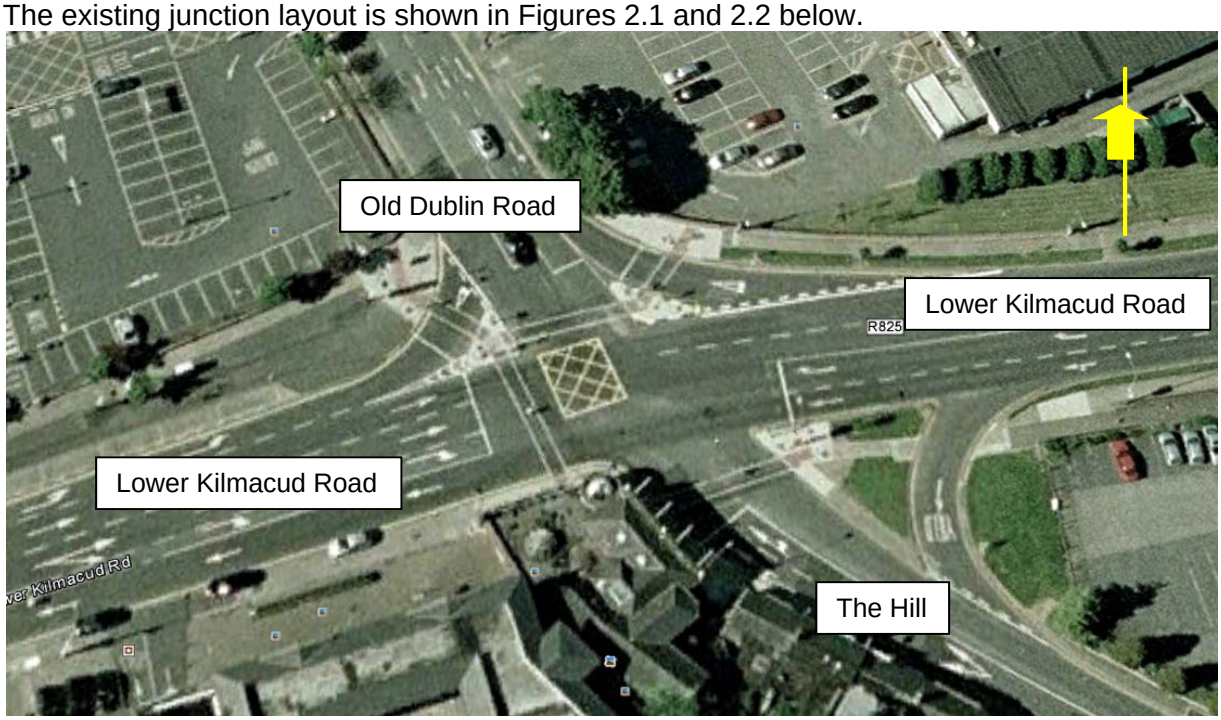


Figure 2.1 Existing Junction Layout (Satellite)

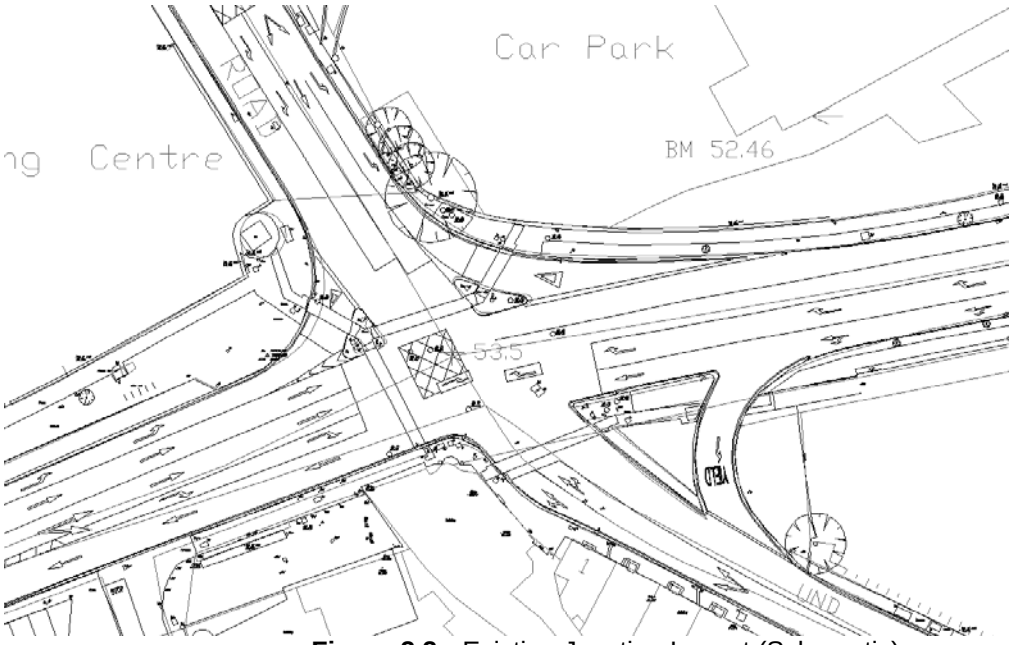


Figure 2.2 Existing Junction Layout (Schematic)

2.2 Existing Traffic Counts

Traffic surveys were conducted on Thursday 25th September and Saturday 27th September 2014. The Thursday am peak hour was recorded between 8am and 9am, the Thurrsday pm peak was recorded between 5pm and 6pm and the Saturday mid-day peak was recorded between 12pm and 1pm.

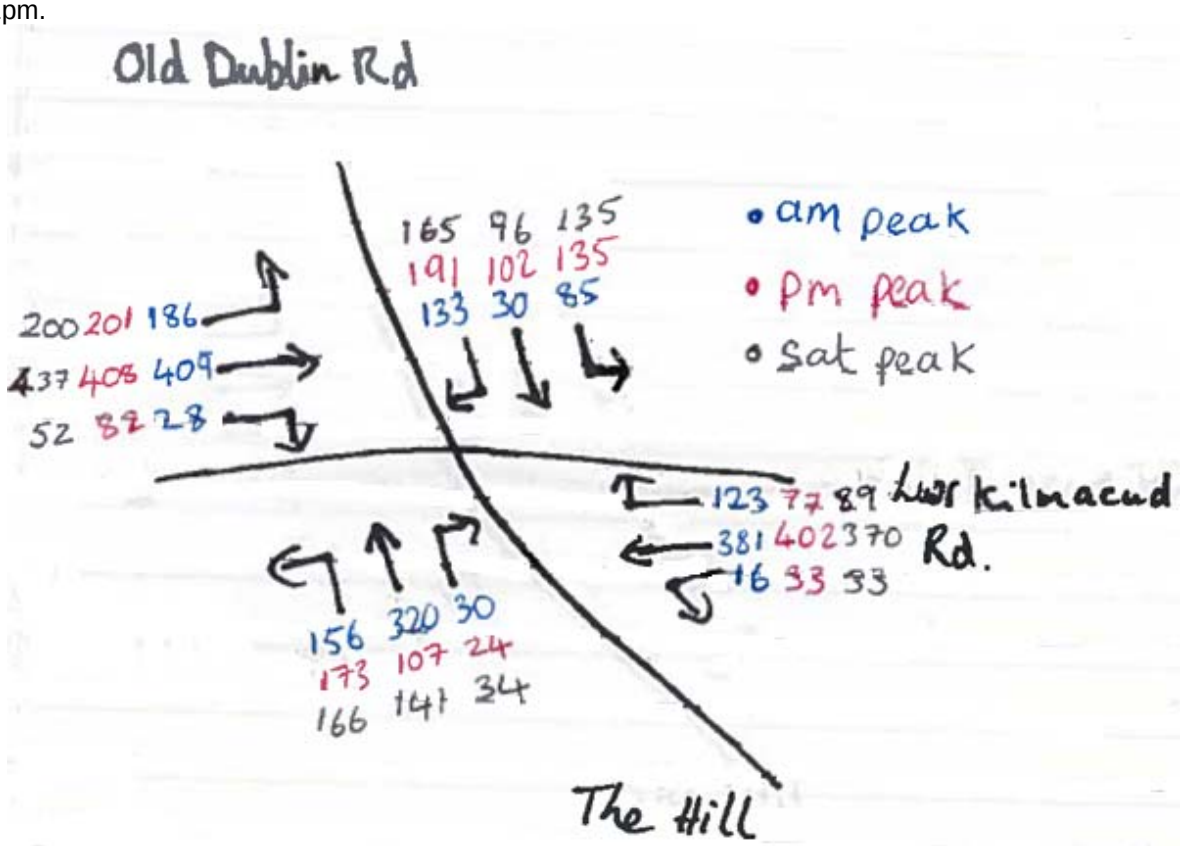


Figure 2.3 Existing Peak Hour Classified Turning Counts (vehicles)

2.3 Existing Traffic Signal Plan

Figure 2.3 is a screenshot from the SCATS intersection monitoring window for the junction showing the intersection layout and stage design. It shows that the existing junction has five stages and a cycle time of 120 seconds. Further information is provided in the Appendix on the phasing used for the traffic analysis, including minimum times required for each phase to accomodate pedestrian crossings.

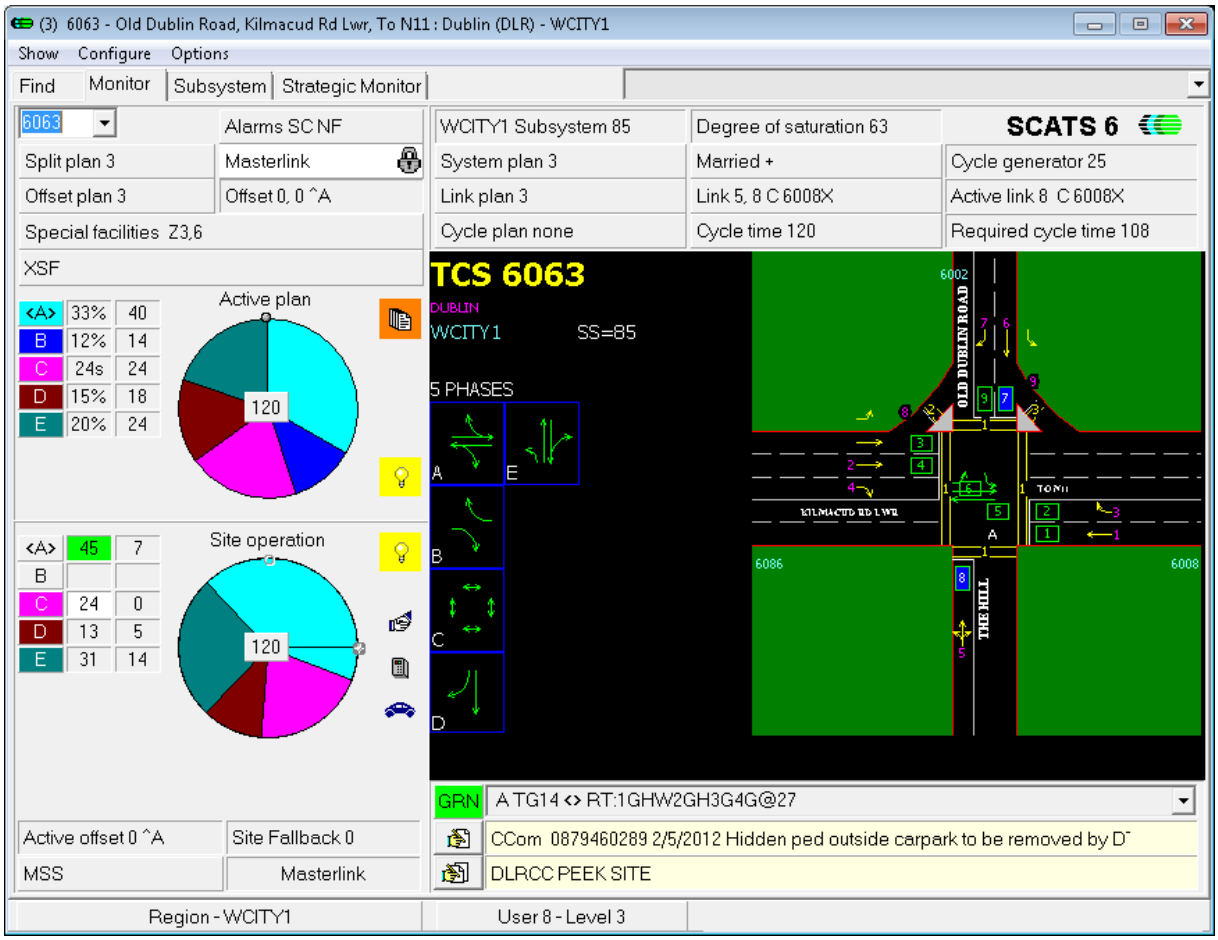


Figure 2.4 *Screenshot of SCATS main window*

2.4 Proposed Junction Layout Options

Eight case scenarios were tested for the junction as follows:

1. Non-Staggered, 3 lane approach from west, N11 slip open;
2. Non-Staggered, 2 lane approach from west, N11 slip open;
3. Non-Staggered, 3 lane approach from west, N11 slip closed;
4. Non-Staggered, 2 lane approach from west, N11 slip closed;
5. Staggered, 3 lane approach from west, N11 slip open;
6. Staggered, 2 lane approach from west, N11 slip open;
7. Staggered, 3 lane approach from west, N11 slip closed; and
8. Staggered, 2 lane approach from west, N11 slip closed.

Case Scenario 1

Figure 2.5 shows the junction layout for Case Scenario 1. It is a non-staggered intersection and includes one through traffic lane and left and right pockets on the Lower Kilmacud Road west approach and one traffic lane and a left pocket with capacity for five vehicles on The Hill (south approach). This option maintains the left slip lane from the N11 onto The Hill. It should be noted that pedestrian crossings will be provided on all legs of the intersection and 2 metre cycle lanes will be provided on Lower Kilmacud Road in both directions.

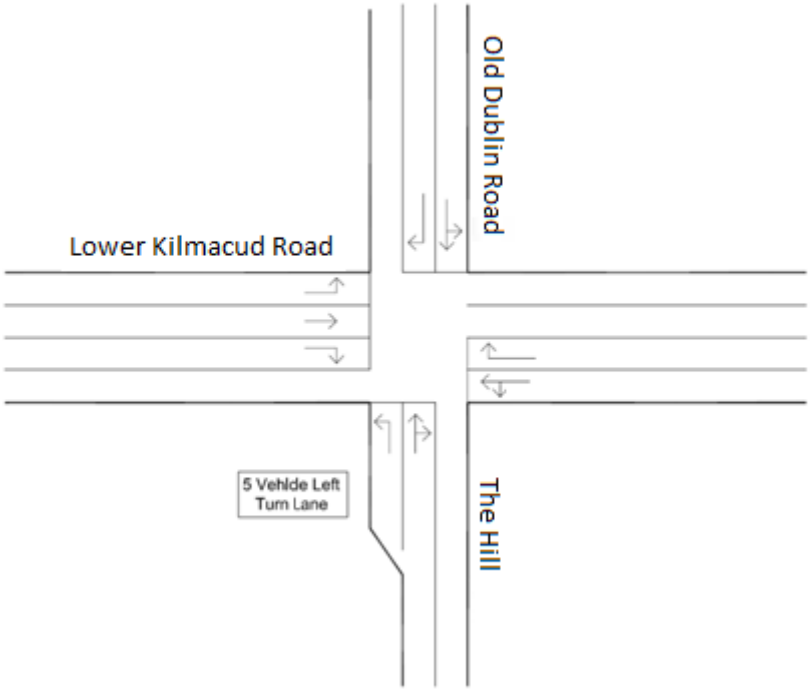


Figure 2.5 *Case Scenarios 1 & 3*

Case Scenario 2

Figure 2.6 shows the junction layout for Case Scenario 2. It is a non-staggered intersection and includes one left/through traffic lane and one through/right lane on the Lower Kilmacud Road west approach and one traffic lane and a left pocket with capacity for five vehicles on The Hill (south approach). This option maintains the left slip lane from the N11 onto The Hill. It should be noted that pedestrian crossings will be provided on all legs of the intersection and 2 metre cycle lanes will be provided on Lower Kilmacud Road in both directions.

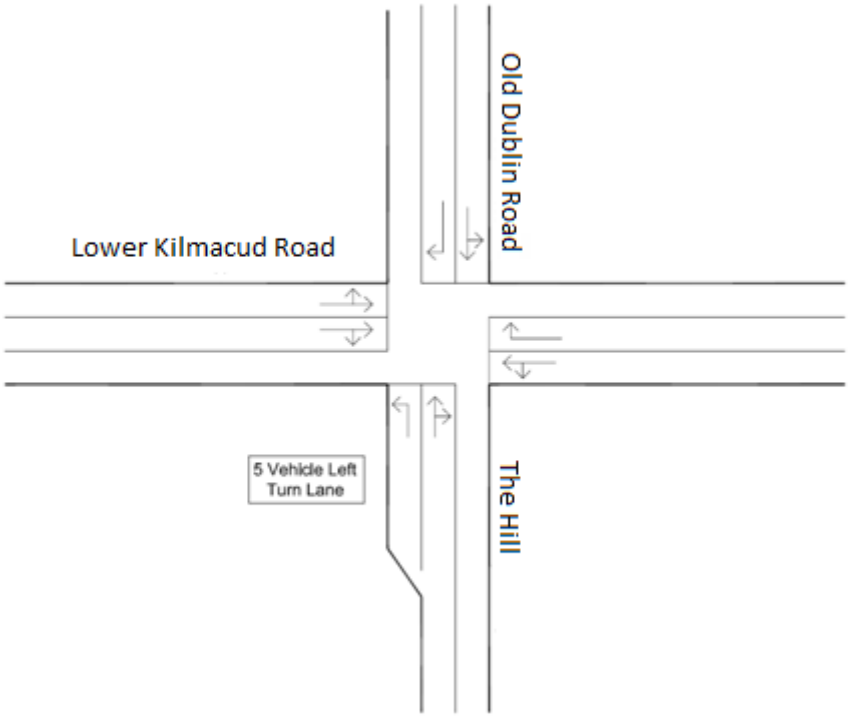


Figure 2.6 *Case Scenarios 2 & 4*

Case Scenario 3

Figure 2.5 shows the junction layout for Case Scenario 3. It is a non-staggered intersection and includes one through traffic lane and left and right pockets on the Lower Kilmacud Road west approach and one traffic lane and a left pocket with capacity for five vehicles on The Hill (south approach). This option involves the closure of the left slip lane from the N11 onto The Hill. It should be noted that pedestrian crossings will be provided on all legs of the intersection and 2 metre cycle lanes will be provided on Lower Kilmacud Road in both directions.

Case Scenario 4

Figure 2.6 shows the junction layout for Case Scenario 4. It is a non-staggered intersection and includes one left/through traffic lane and one through/right lane on the Lower Kilmacud Road west approach and one traffic lane and a left pocket with capacity for five vehicles on The Hill (south approach). This option involves the closure of the left slip lane from the N11 onto The Hill. It should be noted that pedestrian crossings will be provided on all legs of the intersection and 2 metre cycle lanes will be provided on Lower Kilmacud Road in both directions.

Case Scenario 5

Figure 2.7 shows the junction layout for Case Scenario 5. It is a staggered intersection and includes one through traffic lane and left and right pockets on the Lower Kilmacud Road west approach and one traffic lane and a left pocket with capacity for five vehicles on The Hill (south approach). This option maintains the left slip lane from the N11 onto The Hill. It should be noted that pedestrian crossings will be provided on all legs of the intersection and 2 metre cycle lanes will be provided on Lower Kilmacud Road in both directions.

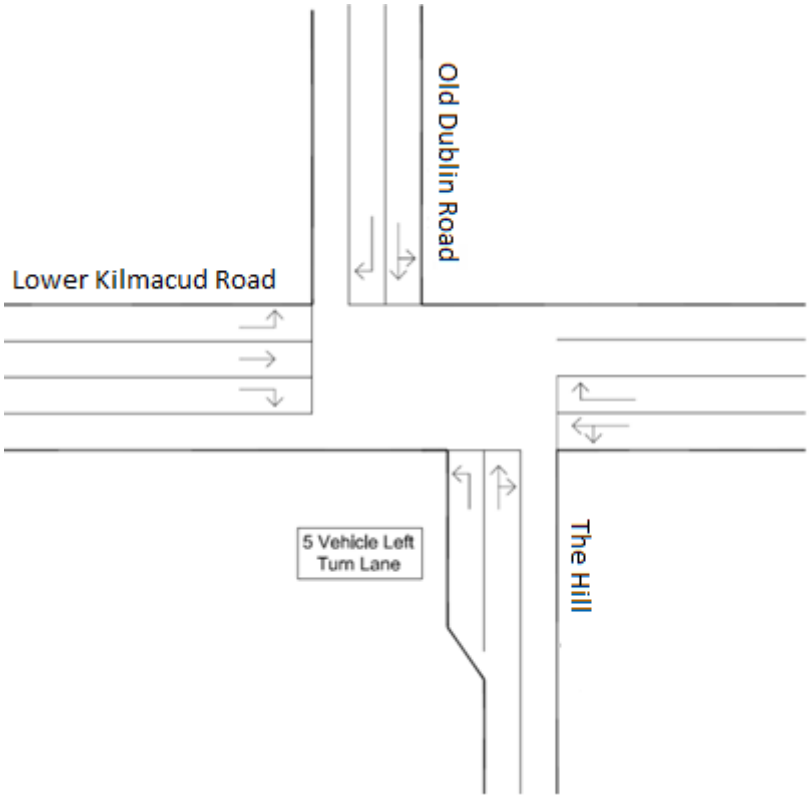


Figure 2.7 *Case Scenarios 5 & 7*

Case Scenario 6

Figure 2.8 shows the junction layout for Case Scenario 6. It is a staggered intersection and includes one left/through traffic lane and one through/right lane on the Lower Kilmacud Road west approach and one traffic lane and a left pocket with capacity for five vehicles on The Hill (south approach). This option maintains the left slip lane from the N11 onto The Hill. It should be noted that pedestrian crossings will be provided on all legs of the intersection and 2 metre cycle lanes will be provided on Lower Kilmacud Road in both directions.

Case Scenario 7

Figure 2.7 shows the junction layout for Case Scenario 7. It is a staggered intersection and includes one through traffic lane and left and right pockets on the Lower Kilmacud Road west approach and one traffic lane and a left pocket with capacity for five vehicles on The Hill (south approach). This option involves the closure of the left slip lane from the N11 onto The Hill. It should be noted that pedestrian crossings will be provided on all legs of the intersection and 2 metre cycle lanes will be provided on Lower Kilmacud Road in both directions.

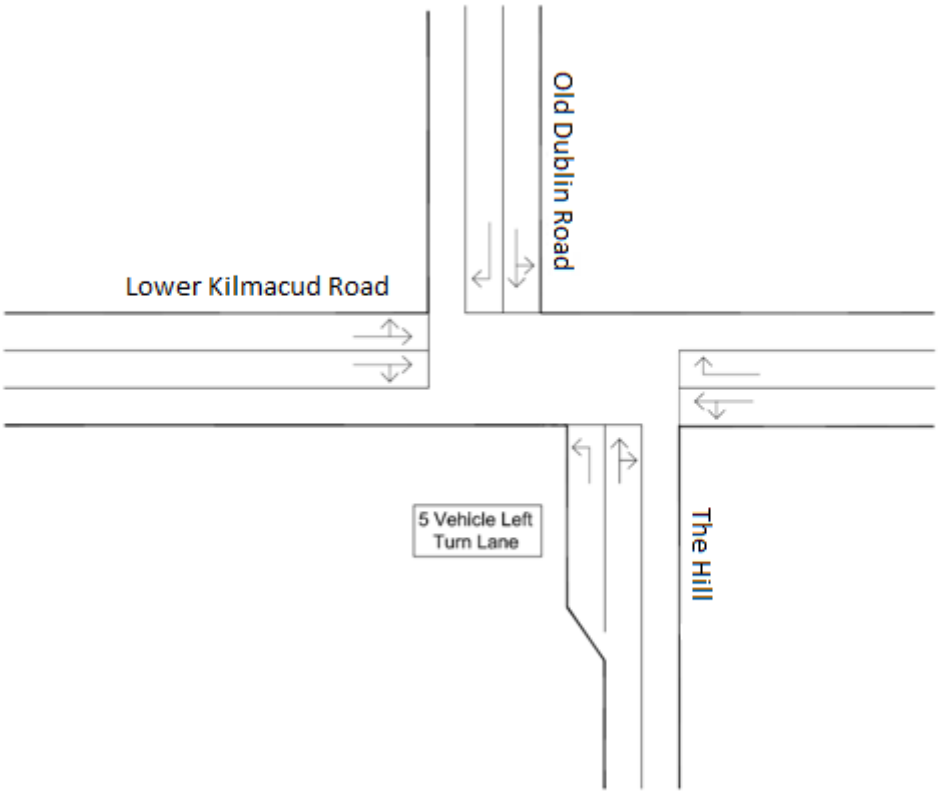


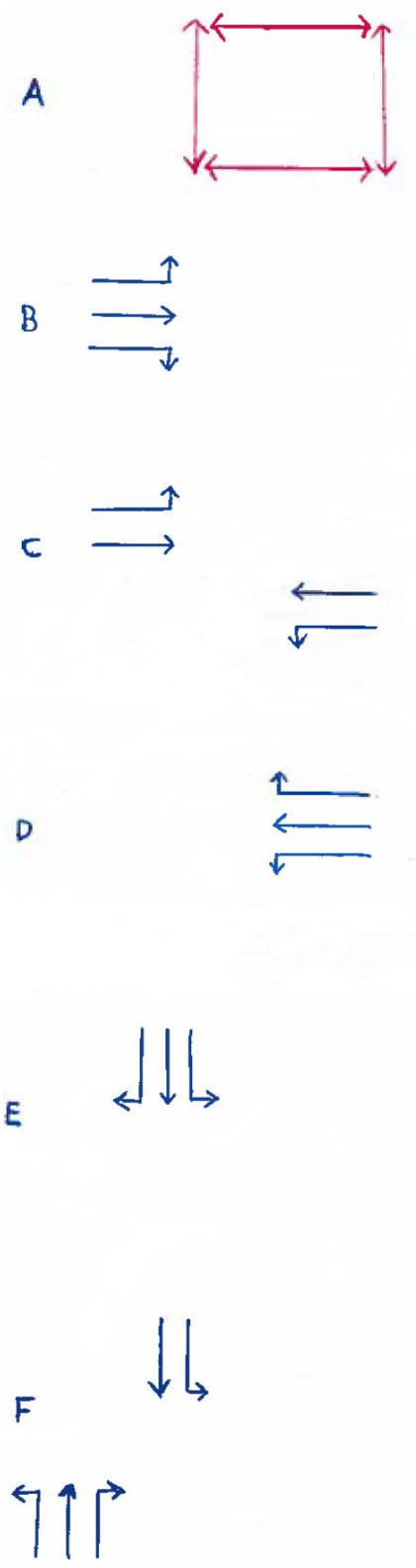
Figure 2.8 *Case Scenarios 6 & 8*

Case Scenario 8

Figure 2.8 shows the junction layout for Case Scenario 8. It is a staggered intersection and includes one left/through traffic lane and one through/right lane on the Lower Kilmacud Road west approach and one traffic lane and a left pocket with capacity for five vehicles on The Hill (south approach). This option involves the closure of the left slip lane from the N11 onto The Hill. It should be noted that pedestrian crossings will be provided on all legs of the intersection and 2 metre cycle lanes will be provided on Lower Kilmacud Road in both directions.

2.5 Proposed Traffic Signal Plan

Separate phasing diagrams are provided for the non-staggered (see Figure 2.9 (a)) and the staggered proposed junction layout options – see Figures 2.9 (a) and (b). Maximum cycle times of 120 seconds were applied to the models, with minimum all-traffic stage times set at 5 seconds and all-pedestrian stage times set at the time taken for a pedestrain to cross the widest crossing at a speed of 1.2 metres/ second. Intergreen times were set at 5 seconds for the non-staggered junction layouts and at 10 seconds for the staggered junction layouts. The increase in the intergreen time associated with the staggered junction layout would be used to compensate for the additional time required for vehicles to clear the intersection with the staggered geometry.



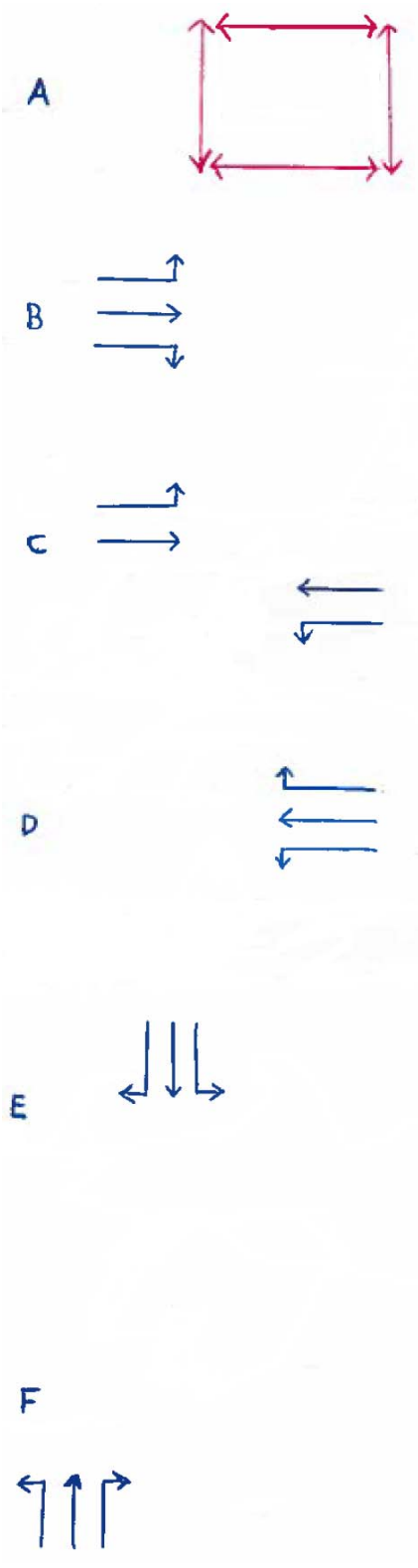


Figure 2.9 (a) non-staggered *(b) staggered*

2.6 Traffic Analysis

The results of the OSCADY traffic modelling are shown in Tables 2.1 and 2.2. These tables give values for degree of saturation, flow-capacity ratios and queue lengths. The complete OSCADY outputs are included in the Appendix.

Table 2.1 *OSCADY Outputs – Existing Layout (120s fixed cycle time, splits optimised)*

Period	Max. Degree of Saturation (%)	Max. RFC (ratio flow to capacity)	Max. Queue (vehs/lane)
am peak (08:00 – 09:00)	84.4	0.93	17.7
pm peak (17:00 – 18:00)	75.9	0.841	11.9
sat peak (12:00 – 13:00)	76.7	0.851	11.9

Table 2.1 shows that the existing junction is operating within capacity during the peak hours and has spare capacity to cater for additional demand.

Table 2.2 *OSCADY Outputs – Proposed Layout, Case Scenarios 1-8 (120s fixed cycle time, splits optimised)*

Case Scen.	Description	Max. Degree of Saturation (%)			Max. RFC (ratio flow to capacity)			Max. Queue (vehs/lane)		
		AM	PM	SAT	AM	PM	SAT	AM	PM	SAT
1	NS, 3L, N11 open	86	76.7	77.5	0.952	0.848	0.868	20.3	12.1	12.0
2	NS, 2L, N11 open	99.1	88.9	90.3	1.096	0.979	1.010	46.9	24.0	26.9
3	NS, 3L, N11 closed	73.9	74.8	70.5	0.800	0.824	0.776	12.1	11.4	10.6
4	NS, 2L, N11 closed	88.2	83.9	86.2	0.971	0.924	0.949	22.7	18.3	20.6
5	S, 3L, N11 open	105.7	102.2	101.9	1.171	1.125	1.129	60.0	43.4	43.3
6	S, 2L, N11 open	128.0	123.4	129.0	1.417	1.359	1.420	144.3	131.1	157.3
7	S, 3L, N11 closed	94.1	93.4	90.5	1.036	1.029	0.996	31.9	30.4	24.8
8	S, 2L, N11 closed	112.6	117.5	124.8	1.239	1.294	1.374	86.9	108.5	142.0

Table 2.2 shows the results for the eight options described in Section 2.4. All four staggered intersection options (Options 5 – 8) operated above capacity during the peak hours. Of the non-staggered options, Option 2 (two approach lanes on the west leg of the intersection and N11 slip lane open) was also found to operate above capacity.

The results show that non-staggered junction layout Options 1, 3, and 4 operate within capacity during the peak hours and, out of the eight options, are the only acceptable solutions from an operational point of view.

Therefore, the staggered intersection layout is not feasible and it is necessary to either provide three lanes on the junctions west approach or to close the N11 slip lane on the Hill approach or implement both of these measures to achieve an acceptable level of junction operation.

3. Lower Kilmacud Road Car Park Access junction

3.1 Existing Junction Layout

The existing junction layout is shown in Figure 3.1 below.

Figure 3.1 *Existing Junction Layout*

3.2 Existing Traffic Counts

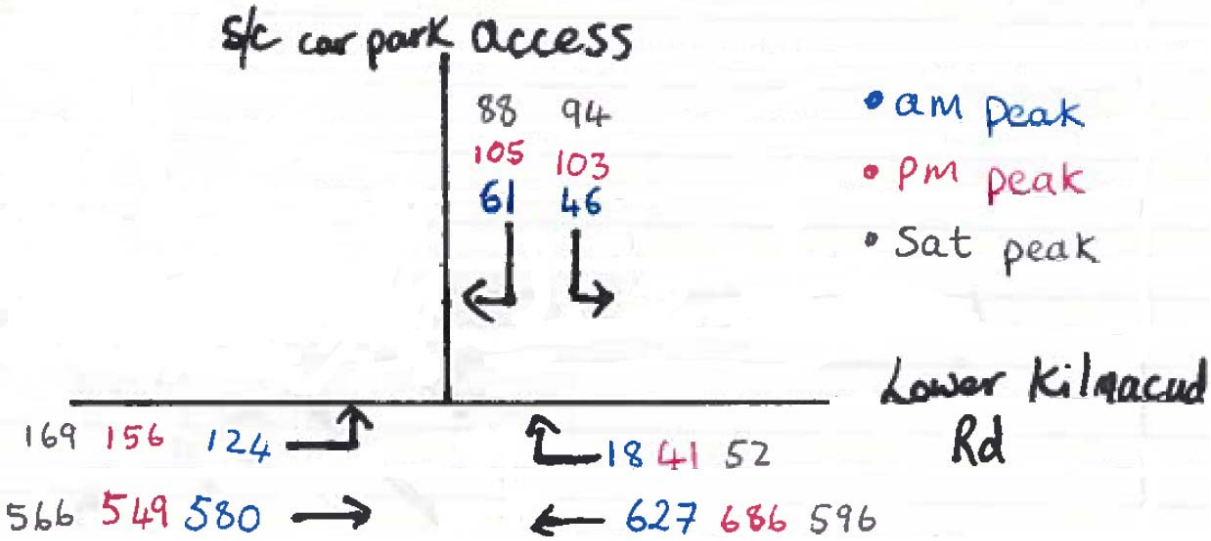


Figure 3.2 *Existing Peak Hour Classified Turning Counts (vehicles)*

3.3 Proposed Junction Layout Options

Two junction layout options were modelled using PICADY as follows:

1. Option 1 (shown in Figure 3.3) to include:
   - West approach: one left/though traffic lane;
   - East approach: one through traffic lane and one right turning pocket; and
   - North approach: one left and one right turning lane.

2. Option 2 to include:
   - West approach: one left/though traffic lane;
   - East approach: one through/right turning lane; and
   - North approach: one left and one right turning lane.

Traffic and cycle lanes along Lower Kilmacud Road would be three and two metres wide, respectively.

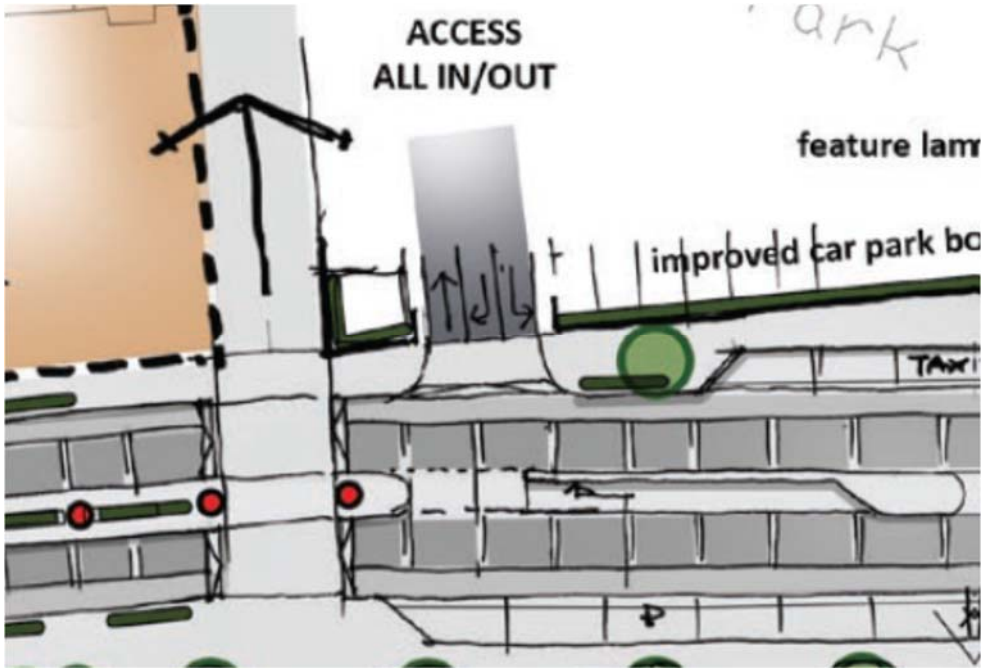


Figure 3.3 *Proposed Junction Layout – Option 1*

3.4 Traffic Analysis

The results of the PICADY traffic modelling are shown in Tables 3.1 and 3.2.

Table 3.1 *PICADY Outputs – Option 1*

Period	Max. RFC (ratio flow to capacity)	No. Right turning veh	Delay for traffic on Lwr Kilmacud Rd turning right into car park (sec/veh)	No. Vehs travelling straight through	Delay for through traffic travelling west on Lwr Kilmacud Rd (sec/veh)	Total Delay (sec)
am peak (08:00 – 09:00)	0.403	18	7.8	627	0	140
pm peak (17:00 – 18:00)	0.455	41	7.8	686	0	320
sat peak (12:00 – 13:00)	0.456	52	8.4	596	0	437

Table 3.1 shows that the junction is operating within capacity during the am, pm and Saturday peak hours for Option 1, with spare capacity to cater for additional demand and the total delay at the junction is relatively low.

Table 3.2 *PICADY Outputs – Option 2*

Period	Max. RFC (ratio flow to capacity)	No. Right turning vehs	Delay for traffic on Lwr Kilmacud Rd turning right into car park (sec/veh)	No. Vehs travelling straight through	Delay for through traffic travelling west on Lwr Kilmacud Rd (sec/veh)	Total Delay (sec)
am peak (08:00 – 09:00)	0.473	18	7.2	627	7.2	4644
pm peak (17:00 – 18:00)	0.542	41	11.4	686	11.4	8288
sat peak (12:00 – 13:00)	0.535	52	12.6	596	12.6	8165

Table 3.2 shows that the junction is operating within capacity during the am, pm and Saturday peak hours for Option 2, with spare capacity to cater for additional demand. However, the delay at the junction is substantially greater for Option 2 than for Option 1.

Therefore, Option 1 is recommended at the junction.

4. Stillorgan Junction

4.1 Existing Junction Layout

The existing junction layout is shown in Figure 4.1 below.

Figure 4.1 Existing Junction Layout

4.2 Existing Traffic Counts

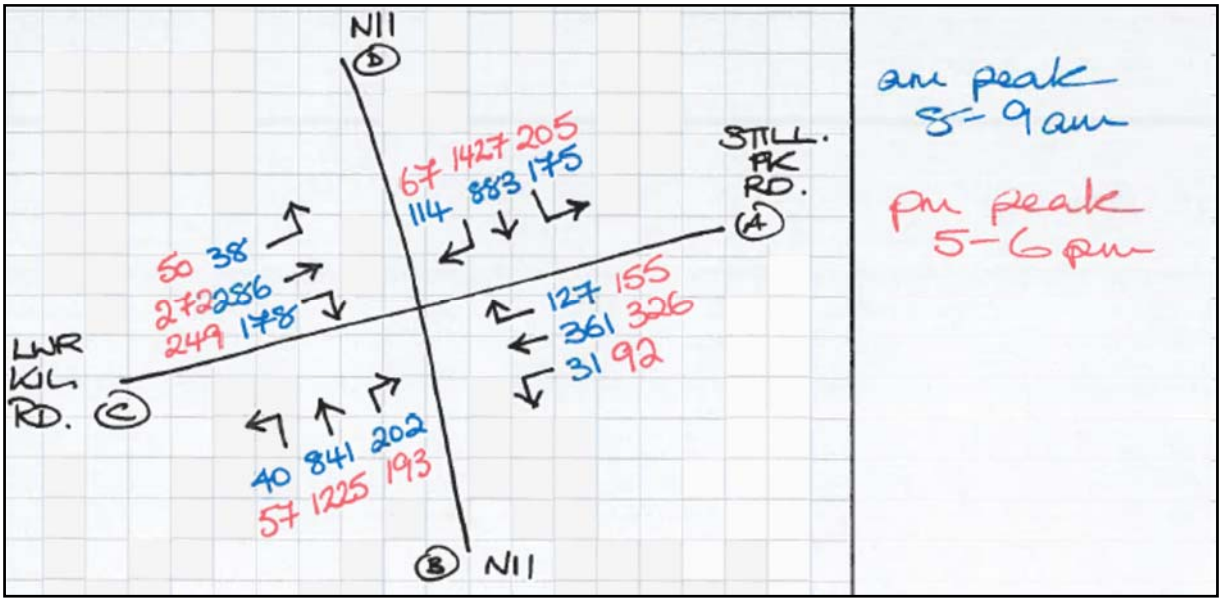


Figure 4.2 *Existing Peak Hour Classified Turning Counts (vehicles)*

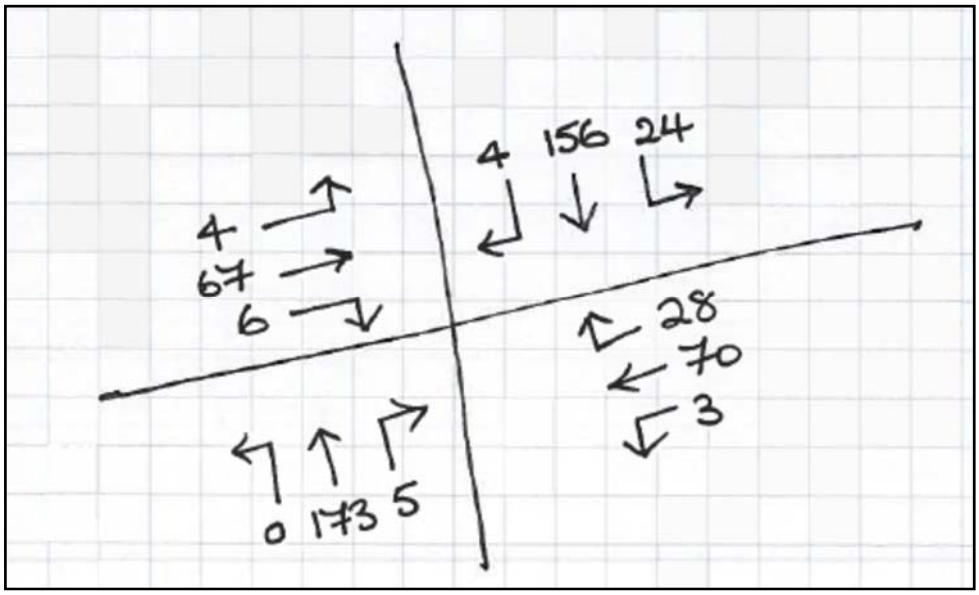


Figure 4.3 *Existing 12-hour Bicycle Turning Counts*

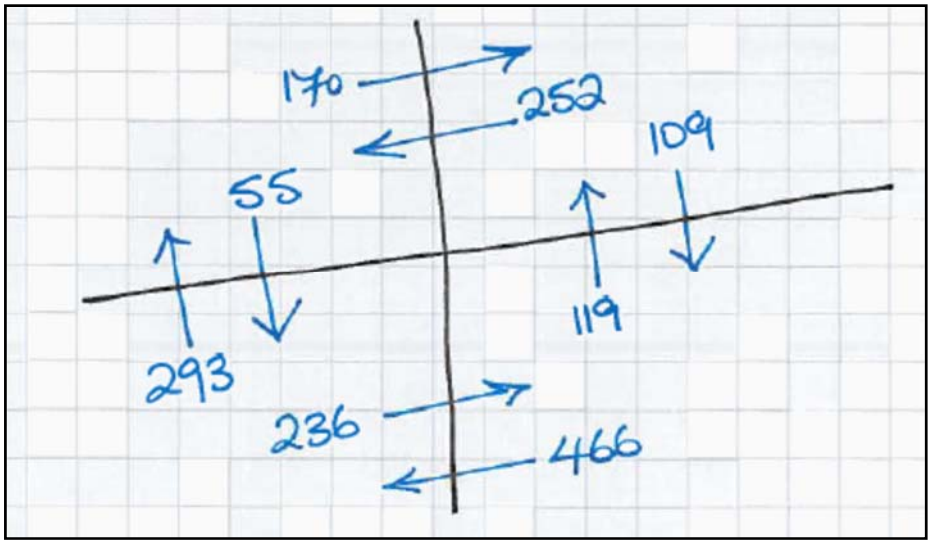


Figure 4.4 *Existing 12-hour Pedestrian Crossing Counts*

4.3 Existing Traffic Signal Plan

- Five stages
- 120s cycle time

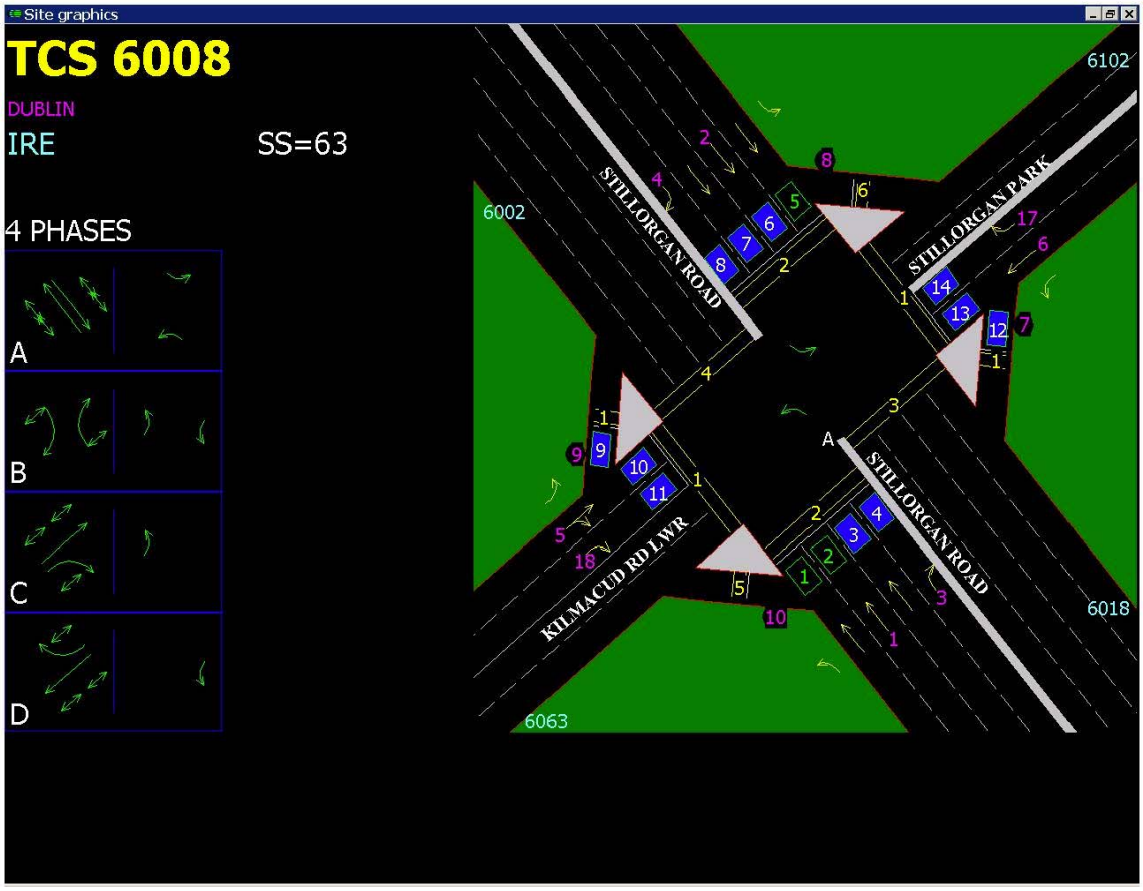


Figure 4.5 *Existing Traffic Signal Plan*

4.4 Proposed Junction Layout

The junction layout proposed as part of the N11 scheme includes the following:

- Left-turn slip lane onto N11 from Lower Kilmacud Road to be removed
- Left-turn slip lane onto N11 from Stillorgan Park Road to be removed
- Existing traffic lanes on N11 to be reduced (to a minimum of 3.25m) in order to provide widened central islands on N11 at staggered pedestrian crossings.

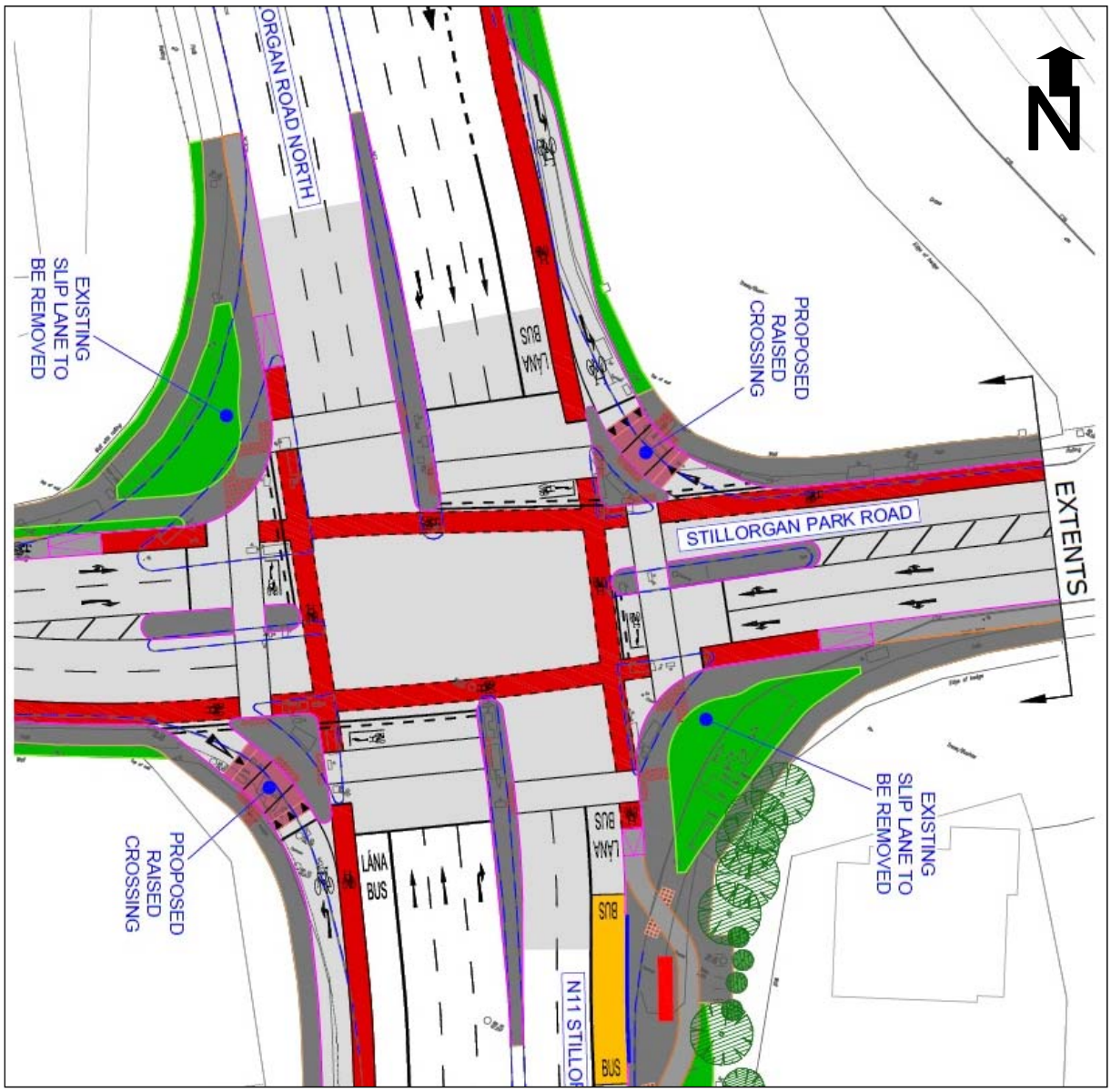


Figure 2.6 Proposed Junction Layout

4.5 Proposed Traffic Signal Plan

Existing signal plan to be retained.

4.6 Traffic Analysis

The results of the OSCADY traffic modelling are shown in the following tables. The tables give values for degree of saturation, flow-capacity ratio and queue lengths.

Table 4.1 *OSCADY Outputs – Existing Layout (120s fixed cycle time, splits optimised)*

Period	Max. Degree of Saturation		Max. RFC (ratio flow to capacity)		Max. Queue (vehs/lane)	
	Existing traffic	With reassigned traffic	Existing traffic	With reassigned traffic	Existing traffic	With reassigned traffic
am peak (08:00 – 09:00)	74.0%	74.8%	0.814	0.894	11	11.2
pm peak (17:00 – 18:00)	83.9%	84.0%	0.917	0.922	18	17.9

The table above shows that the existing junction is operating within capacity during the peak hours and has spare capacity to cater for additional demand.

Table 4.2 *OSCADY Outputs – Proposed Layout (120s fixed cycle time, splits optimised)*

Period	Max. Degree of Saturation		Max. RFC (ratio flow to capacity)		Max. Queue (vehs/lane)	
	Existing traffic	With reassigned traffic	Existing traffic	With reassigned traffic	Existing traffic	With reassigned traffic
am peak (08:00 – 09:00)	80.6%	81.2%	0.888	0.894	13	12.9
pm peak (17:00 – 18:00)	89.7%	89.7%	0.988	0.988	24	24

The table above shows that, due to the N11 scheme, the degree of saturation at the proposed junction has increased. This is due to the shortened left-turn pockets and the removal of the slip lanes on the Lower Kilmacud Road and Stillorgan Park Road approaches to the junction. There is reserve capacity in the am peak. However, the junction is reaching capacity in the pm peak.

These tables also show that the impact of the additional left turning traffic (reassigned traffic) associated with the closure of the N11 slip lane onto the Hill has a negligible impact on the performance of the junction.

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Appendix C: Parking and Traffic Surveys on The Hill

Parking and Traffic surveys on the Hill

While the data collected in sections 3.1 to 3.7 was used to inform the initial design of the options, the surveys described in this section were conducted following consultation with local businesses. The initial and emerging preferred design options are described in detail in Chapters 4 and 7, with one proposed design option involving the closure of the N11 slip lane onto the Hill. In order to establish the potential impact this could have on local businesses – in particular on a veterinary practise on St Bridgid's Church Road and on the Orchard Pub – parking and traffic surveys were conducted in the vicinity of the Hill.

CSEA conducted traffic and parking surveys on Friday 22nd January 2016, with observations made adjacent the junction of the Hill and Glenalbyn Road during three time periods as follows:

- 09:30 -11:30;
- 12:30 -14:30; and
- 16:00 -18:00.

It should be noted that the surveys were conducted on a Friday to reflect the Orchard pubs busiest weekday.

The following information was gathered from the surveys:

1. The number of vehicles parked in 4 separate parking areas; the Veterinary Practice, On-Street Parking (both side of the Hill), Orchard Pub Car Park and Blakes Car Park (See Table 1). It also provides information on the direction from which they came (i.e. The Hill, Glenalbyn Road, N11 Slip Road).
2. The number of Pedestrians entering the Orchard Pub and the direction from which they came (i.e. The Hill, Glenalbyn Road). See Table 1 below.
3. The amount of traffic approaching the survey area from the N11 Slip lane that continued through the junction of the Hill, Lower Kilmacud Road and Old Dublin Road without stopping in any of the 4 parking areas listed above, and traffic from the N11 that continued onto Glenalbyn Road without stopping in any of the 4 parking areas listed above (See Table 2).

Orchard Pub

Table 1 shows the results of the parking survey. With respect to vehicles and pedestrians entering the Orchard Car Park/ Pub during the 6 hour survey period; 12% of vehicles/pedestrians entered the pub between 9:30-11:30, 46% between 12:30-14:30 and 42% between 16:00-18:00.

21% of total trade during these 6 hours comprised vehicles coming from the N11, 28% comprised trade coming from Glenalbyn Road (94% of which were vehicles, 6% were pedestrians), and 51% comprised trade coming from The Hill (67% of which were vehicles, 33% were pedestrians).

Blakes Car Park

The results of the parking survey showed that, with respect to the Blakes Car Park; 53% of vehicles recorded during the 6 hour survey period entered the car park between 9:30-11:30, 28% between 12:30-14:30 and 19% between 16:00-18:00.

22% of vehicles entering the car park during these 6 hours comprised vehicles coming from the N11, 33% comprised vehicles coming from Glenalbyn Road, and 45% comprised vehicles coming from The Hill.

Veterinary Practice

The results of the parking survey showed that, with respect to parking at the veterinary practice; 55% of vehicles recorded during the 6 hour survey period entered this parking area between 9:30-11:30, 15% between 12:30-14:30 and 30% between 16:00-18:00.

15% of vehicles entering the car park during these 6 hours comprised vehicles coming from the N11, 30% comprised vehicles coming from Glenalbyn Road, and 55% comprised vehicles coming from The Hill.

On-Street Parking.

The results of the parking survey showed that, with respect to on-street parking located on both sides of The Hill; 28% of vehicles recorded during the 6 hour survey period entered on-street parking spaces between 9:30-11:30, 32% between 12:30-14:30 and 40% between 16:00-18:00.

17% of vehicles entering on-street parking spaces during these 6 hours comprised vehicles coming from the N11, 32% comprised vehicles coming from Glenalbyn Road, and 51% comprised vehicles coming from The Hill.

Table 1: Parking survey results detailing number of vehicles parked in 4 parking areas and direction from which they came

Parking Area	**Time Period**	**Road of Origin**						**Notes**
		N11 Slip		**Glenalbyn Road**		**The Hill**		
		No. Veh	*% business Origin N11*	*No. Veh*	*No. Ped*	*No. Veh*	*No. Ped*	
Orchard Pub Car Park	09:30-11:30	5	25%	6	0	6	3	1 veh from Glenalbyn Road bin truck
	12:30-14:30	16	21%	22	3	24	11	
	16:00-18:00	13	19%	16	0	26	14	1 veh from the Hill = motorbike; 13 veh from N11 incl. 1 veh parked on-street carrying pub patrons
Total	**6 hours**	**34**	**21%**	**44**	**3**	**56**	**28**	
Blakes Site Car Park	09:30-11:30	4	21%	8	0	7	0	
	12:30-14:30	3	30%	2	0	5	0	
	16:00-18:00	1	14%	2	0	4	0	
Total	**6 hours**	**8**	**22%**	**12**	**0**	**16**	**0**	
Veterinary Practice	09:30-11:30	1	9%	2	0	8	0	1 veh from Glenalbyn Rd = delivery
	12:30-14:30	2	67%	1	0	0	0	
	16:00-18:00	0	0%	3	0	3	0	
Total	**6 hours**	**3**	**15%**	**6**	**0**	**11**	**0**	
On-street Parking	09:30-11:30	6	24%	7	0	12	0	
	12:30-14:30	6	21%	11	0	11	0	
	16:00-18:00	3	9%	10	0	22	0	4 vehicles parked on-street from N11 but 1 discounted as it carried pub patrons – counted above
Total	**6 hours**	**15**	**17%**	**28**	**0**	**45**	**0**	

Traffic approaching survey area from N11 Slip Road

Table 2 shows the results of the traffic survey. It focused on obtaining information with respect to travel patterns of traffic approaching the survey area from the N11 slip road.

The results show that 360 vehicles entered the survey area from the N11 slip road from 09:30-11:30. 94% of these vehicles passed through the junction of The Hill, Old Dublin road and Lower Kilmacud Road without stopping to park in any of the parking areas listed above. A further 2% continued along Glenalbyn Road without stopping to park, with the remaining 4% stopping to park in one of the four parking areas listed above.

Similarly, 397 vehicles entered the survey area from the N11 slip road from 12:30-14:30. 90% of these vehicles passed through the junction of The Hill, Old Dublin Road and Lower Kilmacud Road without stopping to park in any of the parking areas listed above. A further 3% continued along Glenalbyn Road without stopping to park, with the remaining 7% stopping to park in one of the four parking areas listed above.

And finally, 339 vehicles entered the survey area from the N11 slip road from 16:00-18:00. 90% of these vehicles passed through the junction of The Hill, Old Dublin road and Lower Kilmacud Road without stopping to park in any of the parking areas listed above. A further 5% continued along Glenalbyn Road without stopping to park, with the remaining 5% stopping to park in one of the four parking areas listed above.

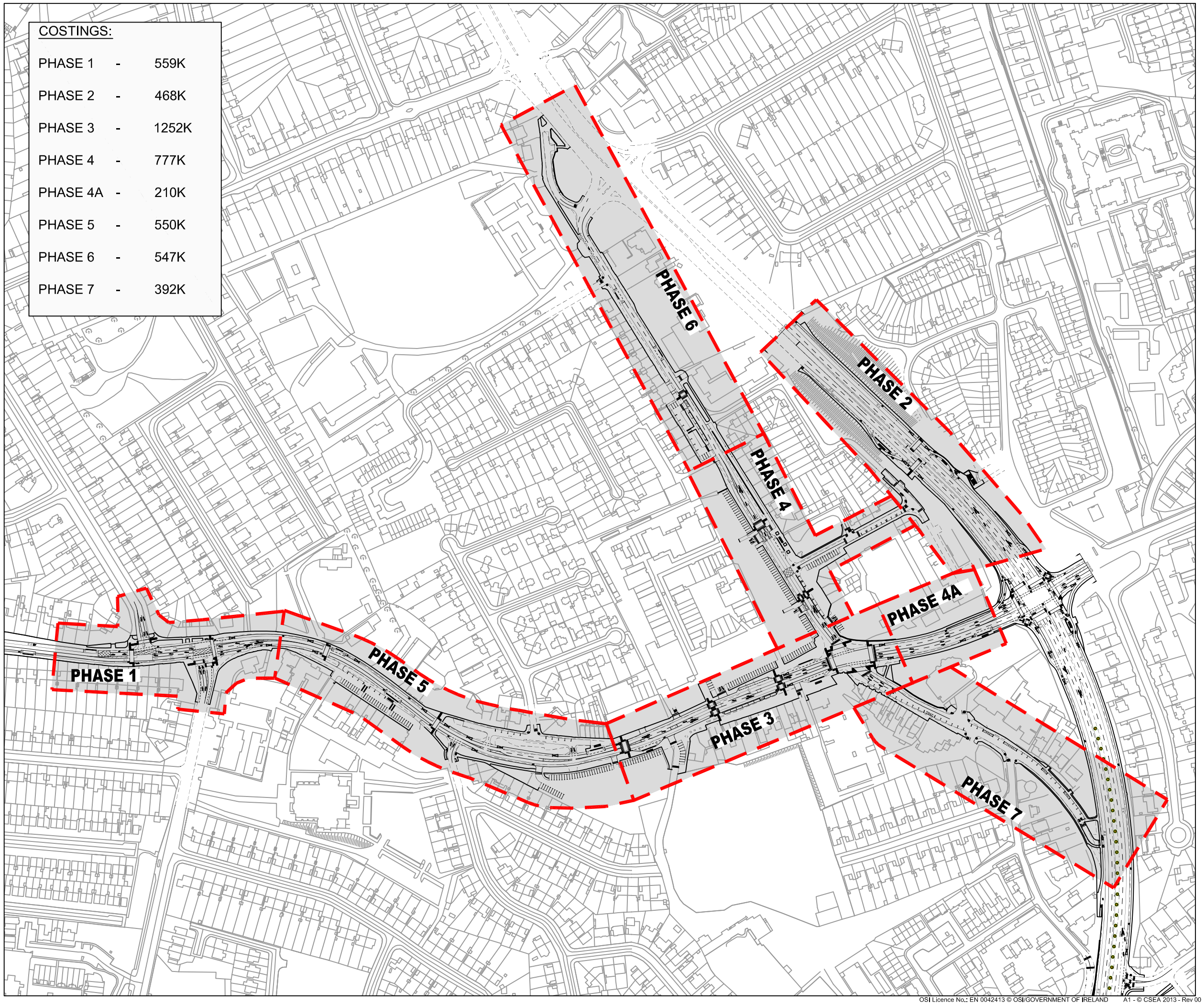
Table 2: Travel patterns of traffic approaching survey area from the N11 slip road

Time Period	N11 traffic that continues along/Passes through/ stops at						Total
	Glenalbyn Road		Junction of the Hill/Old Dublin Rd/Lwr Kilmacud Rd		Parking area listed above		
	No. veh	Proportion of total	No. veh	Proportion of total	No. veh	Proportion of total	
09:30-11:30	6	2%	338	94%	16	4%	360
12:30-14:30	10	3%	360	90%	27	7%	397
16:00-18:00	17	5%	304	90%	18	5%	339

Appendix D: Cost Estimate

COSTINGS:

PHASE 1	-	559K
PHASE 2	-	468K
PHASE 3	-	1252K
PHASE 4	-	777K
PHASE 4A	-	210K
PHASE 5	-	550K
PHASE 6	-	547K
PHASE 7	-	392K



This drawing is produced using the Irish Tranverse Mercator (ITM) Geographic Coordinate System

A1

N

Revision	Description	Initials	Date

Clifton Scannell Emerson Associates

BRADY SHIPMAN MARTIN

DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL

Client

Project: STILLORGAN VILLAGE AREA MOVEMENT FRAMEWORK PLAN

Dwg. Title: PROPOSED PHASING WITH COSTS

Drawn By: PW Date: March 2015

Checked by: GE Scale: 1:500 @ A1

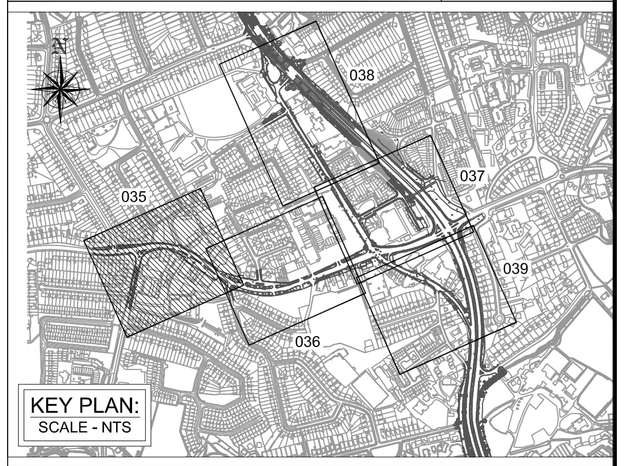
Dwg. Progress: FOR INFORMATION

Dwg. No.: 14_059_032

Appendix E: Enginneering Design Drawings

This drawing is produced using the Irish Tranverse Mercator (ITM) Geographic Coordinate System

A1



LEGEND:

- EXISTING KERBLINE
- PROPOSED KERBLINE
- PROPOSED 50mm KERB BETWEEN CYCLETRACK AND FOOTPATH
- PROPOSED TACTILE PAVING
- PROPOSED KASSEL KERBLINE
- PROPOSED CARRIAGEWAY BUILD-UP / RESURFACING
- PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE
- PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE STRIP
- PROPOSED SHARED SURFACE
- PROPOSED RAISED CYCLETRACK
- PROPOSED MANDATORY CYCLELANE
- PROPOSED LANDSCAPED / GRASSED AREA
- PROPOSED RAMP / RAISED CROSSING AREA
- PROPOSED BUS STOP / LANE
- PROPOSED FOOTPATH
- PROPOSED PAVED ENTRANCE
- PROPOSED WALL
- EXISTING WALL
- PROPOSED TREE PLANTING
- EXISTING TREE
- PROPOSED PLANTER
- PROPOSED BENCH

Revision	Description	Initials	Date

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DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL

Client

Project: STILLORGAN VILLAGE AREA MOVEMENT FRAMEWORK PLAN

Dwg. Title: PROPOSED STILLORGAN VILLAGE AND N11 LAYOUT SHEET 1 OF 5

Drawn By: CP | Date: APRIL 2017

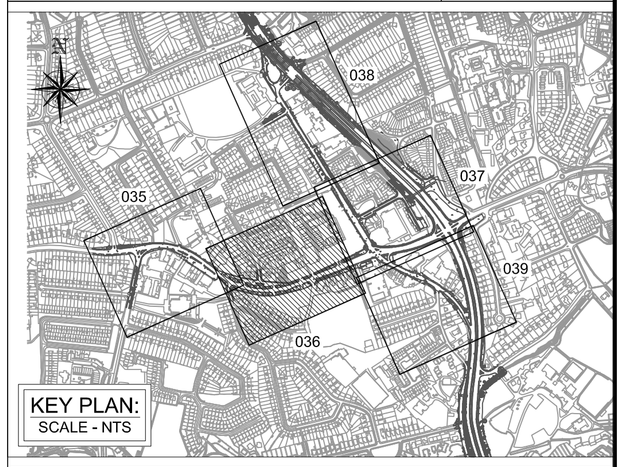
Checked by: GE | Scale: 1:500 @ A1

Dwg. Progress: DRAFT

Dwg. No.: 14_059_035

This drawing is produced using the Irish Tranverse Mercator (ITM) Geographic Coordinate System

A1



KINGSTOWN MOTORS

TEXACO SERVICE STATION

PETER-MARK

EDDIE ROCKETS

STILLORGAN VILLAGE CENTRE

MC DONALDS

STARBUCKS

TESCO

KBC BANK

EXISTING PEDESTRIAN CROSSING TO BE UPGRADED TO TOUCAN CROSSING

2.00m FOOTPATH
2.10m PARKING
4.00m CARRIAGEWAY
10.37m GRASS VERGE
2.00m CYCLETRACK
3.00m CARRIAGEWAY
2.75m RIGHT TURN LANE
3.00m CARRIAGEWAY
2.00m CYCLETRACK
2.91m GRASS VERGE
2.52m FOOTPATH
6.00m GRASS VERGE

LOWER KILMACUD ROAD

POSSIBLE FUTURE POCKET PARK (SHOWN HATCHED)

PROPOSED RELOCATED BUS STOP

4.62m FOOTPATH
2.00m CYCLETRACK
3.41m CARRIAGEWAY
2.02m ISLAND
3.00m CARRIAGEWAY
2.00m CYCLELANE
3.00m GRASS VERGE
3.00m FOOTPATH

PROPOSED FUTURE TESCO EXTENSION

2 WAY PEDESTRIAN ACCESS

INWARD VEHICLE MOVEMENTS PERMITTED AT ENTRANCE SHOWN BY RED ARROWS

NEW VEHICLE ENTRANCE

PROPOSED TAXI RANK

PROPOSED UNCONTROLLED TOUCAN CROSSING

LOWER KILMACUD ROAD

IMAGE 2

IMAGE 1

FUTURE 2ND ACCESS TO CARPARK

EXISTING CARPARK ENTRANCE REMOVED

EXISTING BUS STOP UPGRADED

VEHICLE MOVEMENTS PERMITTED AT ENTRANCE SHOWN BY RED ARROWS

PROPOSED UNCONTROLLED TOUCAN CROSSING

9.77m FOOTPATH
2.85m PARKING
2.00m CYCLETRACK
3.41m CARRIAGEWAY
2.75m RIGHT TURN LANE
3.00m CARRIAGEWAY
2.00m CYCLETRACK
2.85m TAXI PARKING
2.29m FOOTPATH

3.54m FOOTPATH
2.00m CYCLETRACK
3.41m CARRIAGEWAY
2.75m RIGHT TURN LANE
3.00m CARRIAGEWAY
2.00m CYCLETRACK
3.12m FOOTPATH

LEGEND:

- EXISTING KERBLINE
- PROPOSED KERBLINE
- PROPOSED 50mm KERB BETWEEN CYCLETRACK AND FOOTPATH
- PROPOSED TACTILE PAVING
- PROPOSED KASSEL KERBLINE
- PROPOSED CARRIAGEWAY BUILD-UP / RESURFACING
- PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE
- PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE STRIP
- PROPOSED SHARED SURFACE
- PROPOSED RAISED CYCLETRACK
- PROPOSED MANDATORY CYCLELANE
- PROPOSED LANDSCAPED / GRASSED AREA
- PROPOSED RAMP / RAISED CROSSING AREA
- PROPOSED BUS STOP / LANE
- PROPOSED FOOTPATH
- PROPOSED PAVED ENTRANCE
- PROPOSED WALL
- EXISTING WALL
- PROPOSED TREE PLANTING
- EXISTING TREE
- PROPOSED PLANTER
- PROPOSED BENCH

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DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL

Client

STILLORGAN VILLAGE AREA MOVEMENT FRAMEWORK PLAN

Project

PROPOSED STILLORGAN VILLAGE AND N11 LAYOUT SHEET 2 OF 5

Dwg. Title

Drawn By: CP | Date: APRIL 2017

Checked by: GE | Scale: 1:500 @ A1

Dwg. Progress: DRAFT

Dwg. No.: 14_059_036

This drawing is produced using the Irish Tranverse Mercator (ITM) Geographic Coordinate System

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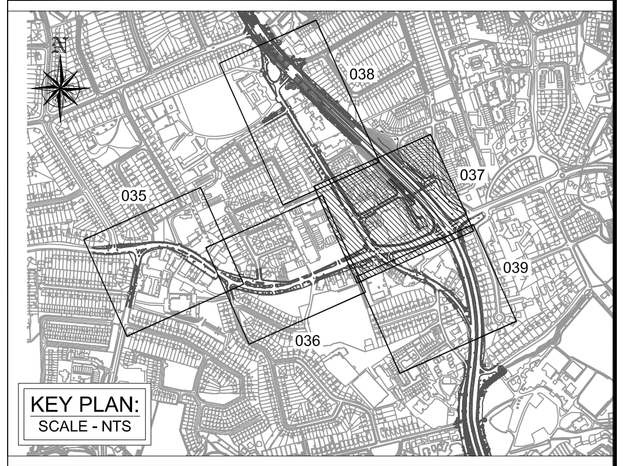

EDDIE ROCKETS

MC DONALDS

OLD DUBLIN ROAD

EXISTING BUS STOP UPGRADED

3.00m FOOTPATH
3.00m CARRIAGEWAY
3.00m RIGHT TURN LANE
3.00m CARRIAGEWAY
4.76m FOOTPATH
3.09m CARRIAGEWAY
1.80m FOOTPATH

EXISTING PEDESTRIAN CROSSINH UPGRADED TO TOUCAN CROSSING

INWARD VEHICLE MOVEMENTS PERMITTED AT ENTRANCE SHOWN BY RED ARROWS

EXISTING BUS STOP UPGRADED

9.98m FOOTPATH
3.00m CARRIAGEWAY
3.00m CENTRAL ISLAND
3.00m CARRIAGEWAY
3.00m FOOTPATH

VEHICLE MOVEMENTS PERMITTED AT ENTRANCE SHOWN BY RED ARROWS

ST. LAURENCES PARK

EXISTING BUS STOP TO BE UPGRADED

2.43m CYCLETRACK
3.63m FOOTPATH
3.00m BUS BAY
3.25m BUS LANE
3.25m CARRIAGEWAY
3.25m CARRIAGEWAY
2.81m GRASSED ISLAND
3.25m CARRIAGEWAY
3.25m CARRIAGEWAY
3.25m BUS LANE
2.00m CYCLETRACK
2.30m FOOTPATH

2.66m FOOTPATH
3.10m CARRIAGEWAY
2.10m PARKING
2.35m FOOTPATH

PROPOSED BUS STOP

PROPOSED STEPS

EXISTING PEDESTRIAN AND CYCLIST RAMP AND STEPS FROM EXISTING UNDERPASS

EXISTING UNDERPASS

1.09m GRASS VERGE
2.00m FOOTPATH
2.00m CYCLETRACK
3.25m BUS LANE
3.25m CARRIAGEWAY
3.25m CARRIAGEWAY
1.72m GRASSED ISLAND
3.00m RIGHT TURN LANE
3.25m CARRIAGEWAY
3.25m CARRIAGEWAY
3.25m BUS LANE
2.00m CYCLETRACK
2.00m FOOTPATH
1.00m GRASS VERGE

1.00m GRASS VERGE
2.02m FOOTPATH
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
5.00m PARKING
4.21m FOOTPATH

PEDESTRIAN LINK ROUTE

LEISUREPLEX STILLORGAN

LIBRARY

11.03m FOOTPATH
2.85m PARKING
3.00m CARRIAGEWAY
3.00m RIGHT TURN LANE
3.00m CARRIAGEWAY
3.00m FOOTPATH

PROPOSED UNCONTROLLED TOUCAN CROSSING

IMAGE 4

VEHICLE MOVEMENTS PERMITTED AT ENTRANCE SHOWN BY RED ARROWS

OLD DUBLIN ROAD

POSSIBLE STATUE / STREET ART

PROPOSED BUS STOP

EXTENTS

N11 STILLORGAN ROAD NORTH

N11 STILLORGAN ROAD SOUTH

PATRICIAN VILLAS

LOWER KILMACUD ROAD

2.00m FOOTPATH
2.00m CYCLETRACK
3.00m CARRIAGEWAY
2.75m RIGHT TURN LANE
2.75m RIGHT TURN LANE
3.00m CARRIAGEWAY
2.00m CYCLETRACK
2.56m FOOTPATH

EXISTING BUS STOP UPGRADED

PROPOSED ZEBRA CROSSING

PROPOSED BUS STOP

IMAGE 3

11.15m FOOTPATH
3.00m BUS BAY
2.00m CYCLELANE
3.00m CARRIAGEWAY
2.75m RIGHT TURN LANE
3.00m CARRIAGEWAY
2.00m CYCLELANE
3.00m BUS BAY
8.77m FOOTPATH

3.23m FOOTPATH
2.10m PARKING
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
2.00m FOOTPATH

2.80m FOOTPATH
2.10m PARKING
2.88m CARRIAGEWAY
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
2.00m FOOTPATH

VEHICLE MOVEMENTS PERMITTED AT ENTRANCE SHOWN BY RED ARROWS

WIDTH REQUIRED FROM EXISTING KERB TO BACK OF PROPOSED FOOTPATH = 13.70m

LEGEND:

- EXISTING KERBLINE
- PROPOSED KERBLINE
- PROPOSED 50mm KERB BETWEEN CYCLETRACK AND FOOTPATH
- PROPOSED TACTILE PAVING
- PROPOSED KASSEL KERBLINE
- PROPOSED CARRIAGEWAY BUILD-UP / RESURFACING
- PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE
- PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE STRIP
- PROPOSED SHARED SURFACE
- PROPOSED RAISED CYCLETRACK
- PROPOSED MANDATORY CYCLELANE
- PROPOSED LANDSCAPED / GRASSED AREA
- PROPOSED RAMP / RAISED CROSSING AREA
- PROPOSED BUS STOP / LANE
- PROPOSED FOOTPATH
- PROPOSED PAVED ENTRANCE
- PROPOSED WALL
- EXISTING WALL
- PROPOSED TREE PLANTING
- EXISTING TREE
- PROPOSED PLANTER
- PROPOSED BENCH

Revision	Description	Initials	Date

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DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL

Client

STILLORGAN VILLAGE AREA
MOVEMENT FRAMEWORK PLAN

Project

PROPOSED STILLORGAN VILLAGE AND N11 LAYOUT
SHEET 3 OF 5

Dwg. Title

Drawn By: CP — Date: APRIL 2017

Checked by: GE — Scale: 1:500 @ A1

Dwg. Progress: DRAFT

Dwg. No.: 14_059_037

This drawing is produced using the Irish Tranverse Mercator (ITM) Geographic Coordinate System

A1

LEGEND:

- EXISTING KERBLINE
- PROPOSED KERBLINE
- PROPOSED 50mm KERB BETWEEN CYCLETRACK AND FOOTPATH
- PROPOSED TACTILE PAVING
- PROPOSED KASSEL KERBLINE
- PROPOSED CARRIAGEWAY BUILD-UP / RESURFACING
- PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE
- PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE STRIP
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- PROPOSED BUS STOP / LANE
- PROPOSED FOOTPATH
- PROPOSED PAVED ENTRANCE
- PROPOSED WALL
- EXISTING WALL
- PROPOSED TREE PLANTING
- EXISTING TREE
- PROPOSED PLANTER
- PROPOSED BENCH

N11 STILLORGAN ROAD SOUTH

N11 STILLORGAN ROAD NORTH

EXTENTS

STILLORGAN COLLEGE OF FURTHER EDUCATION

1.80m FOOTPATH
3.83m GRASS VERGE
2.00m FOOTPATH
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
2.10m PARKING
2.00m FOOTPATH
3.94m GRASS VERGE
4.00m CARRIAGEWAY
2.04m PARKING
2.38m FOOTPATH

2.00m FOOTPATH
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
2.10m PARKING
3.16m FOOTPATH

EXISTING BUS STOP UPGRADED

OLD DUBLIN ROAD

IMAGE 5

PROPOSED TOUCAN CROSSING

3.54m FOOTPATH
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
3.16m FOOTPATH

OLD DUBLIN ROAD

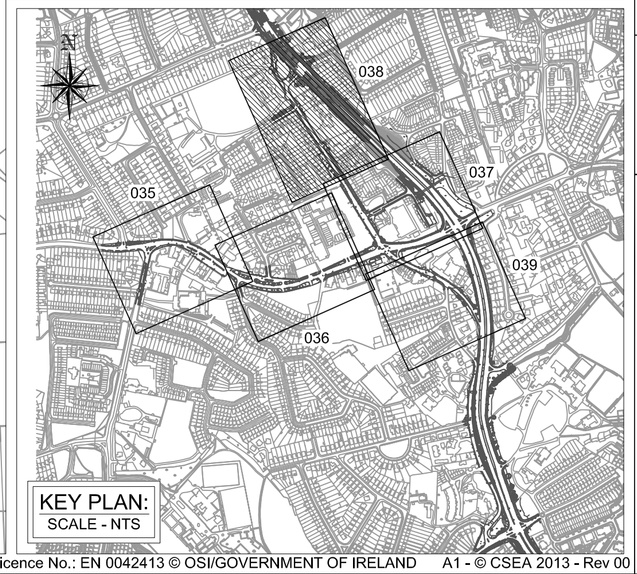
PROPOSED PEDESTRIAN CROSSING

STOP

EXISTING BUS STOP UPGRADED

WOODLANDS AVENUE

OATLANDS COLLEGE



KEY PLAN:
SCALE - NTS

Revision	Description	Initials	Date

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DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL

Client

STILLORGAN VILLAGE AREA
MOVEMENT FRAMEWORK PLAN

Project

PROPOSED STILLORGAN VILLAGE AND N11 LAYOUT
SHEET 4 OF 5

Dwg. Title

Drawn By CP Date APRIL 2017

Checked by GE Scale 1:500 @ A1

Dwg. Progress DRAFT

Dwg. No. 14_059_038

This drawing is produced using the Irish Tranverse Mercator (ITM) Geographic Coordinate System

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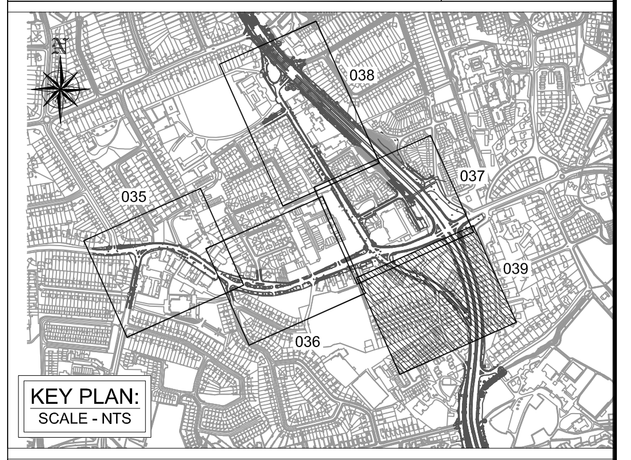

WIDTH REQUIRED FROM EXISTING KERB TO BACK OF PROPOSED FOOTPATH = 13.70m

WIDTH REQUIRED FROM EXISTING KERB TO BACK OF PROPOSED FOOTPATH = 10.75m

WIDTH REQUIRED FROM EXISTING KERB TO BACK OF PROPOSED FOOTPATH = 12.01m

2.80m FOOTPATH
2.10m PARKING
5.19m CARRIAGEWAY
3.00m CARRIAGEWAY
2.05m FOOTPATH

4.88m FOOTPATH
2.10m PARKING
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
1.80m FOOTPATH

3.00m FOOTPATH
3.00m CARRIAGEWAY
3.00m CARRIAGEWAY
2.10m PARKING
1.80m FOOTPATH

1.00m GRASS VERGE
2.00m FOOTPATH
5.00m CARRIAGEWAY
2.10m PARKING
2.00m FOOTPATH
1.00m GRASS VERGE

THE STILLORGAN ORCHARD

VEHICLE MOVEMENTS PERMITTED AT ENTRANCE SHOWN BY RED ARROWS

PROPOSED RAISED PLATFORM

EXISTING ACCESS FROM THE N11 IS TO REMAIN OPEN IN THE SHORT TERM

THE HILL

GLENALBYN ROAD

N11 STILLORGAN ROAD SOUTH

N11 STILLORGAN ROAD NORTH

LANE BUS

BUS

STOP

LEGEND:

EXISTING KERBLINE	
PROPOSED KERBLINE	
PROPOSED 50mm KERB BETWEEN CYCLETRACK AND FOOTPATH	
PROPOSED TACTILE PAVING	
PROPOSED KASSEL KERBLINE	
PROPOSED CARRIAGEWAY BUILD-UP / RESURFACING	
PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE	
PROPOSED ARCHITECTURAL CARRIAGEWAY SURFACE STRIP	
PROPOSED SHARED SURFACE	
PROPOSED RAISED CYCLETRACK	
PROPOSED MANDATORY CYCLELANE	
PROPOSED LANDSCAPED / GRASSED AREA	
PROPOSED RAMP / RAISED CROSSING AREA	
PROPOSED BUS STOP / LANE	
PROPOSED FOOTPATH	
PROPOSED PAVED ENTRANCE	
PROPOSED WALL	
EXISTING WALL	
PROPOSED TREE PLANTING	
EXISTING TREE	
PROPOSED PLANTER	
PROPOSED BENCH	

Revision	Description	Initials	Date

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DUN LAOGHAIRE RATHDOWN COUNTY COUNCIL

Client

STILLORGAN VILLAGE AREA
MOVEMENT FRAMEWORK PLAN

Project

PROPOSED STILLORGAN VILLAGE AND N11 LAYOUT
SHEET 5 OF 5

Dwg. Title

Drawn By: CP | Date: APRIL 2017

Checked by: GE | Scale: 1:500 @ A1

Dwg. Progress: DRAFT

Dwg. No.: 14_059_039

STILLORGAN VILLAGE MOVEMENT FRAMEWORK PLAN

PRELIMINARY CONCEPT PLAN (LONG TERM)

Údarás Náisiúnta Iompair
National Transport Authority

dlr
Comhairle Contae County Council

N

Widened & Improved footpath
Pedestrian crossing
BUS Stop
BUS Stop
Pedestrian crossing
EXIT only
Flush surface
Improved pedestrian access
ONE-WAY
ACCESS only
FUTURE MIXED USE
Improved pedestrian access
ACCESS ALL IN/OUT
STILLORGAN SHOPPING CENTRE
restricted service access
raised table
BUS Stop
raised table
ACCESS ALL IN/OUT
feature tree + seating
FUTURE MIXED USE
PLAZA
raised table
proposed pedestrian crossing
proposed pedestrian crossing
bus
proposed ramps
pedestrian
raised table
PB crossing
plaza /loading
one way street? to church/school/community centre
improved bus island
PB crossing
pedestrian route to church/school/community centre
FUTURE MIXED USE
ACCESS ALL IN/OUT
FUTURE MIXED USE
ACCESS ALL IN/OUT
feature tree + seating
raised table
feature lamps
feature tree
PLAZA
Dublin Bus shelter
welcome sculpture
seating
loading / parking
Dublin Bus shelter
feature tree + seating
PLAZA
raised table
POTENTIAL ACCESS LEFT IN/OUT ONLY
removed slip lane
bus
removed slip lane
relocated bus stop
POTENTIAL ACCESS LEFT IN/OUT ONLY
FUTURE MIXED USE
ACCESS ALL IN/OUT
raised table
pedestrian route
realigned sports pitch
to Kilamuod Crokes

BRADY SHIPMAN MARTIN Clifton Scannell Emerson Associates

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SCALE 1:1000 @ A0


dlr
Comhairle Contae County Council