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Author: Jane Hennaghan

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DBFL Consulting Engineers

Dublin Office
Ormond House
Ormond Quay
Dublin 7

Tel 01 4004000
Fax 01 4004050
Email info@dbfl.ie
Web www.dbfl.ie

Waterford Office
Unit 2
The Chandlery
1-2 O’Connell Street, Waterford

Tel 051 309500
Email info@dbfl.ie
Web www.dbfl.ie

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**EXECUTIVE SUMMARY**

This overall scheme aims to extend and provide a new ‘Main Street’ in Belmayne that links the Malahide Road in the west to New Priory in the east. This scheme forms part of the Clongriffin - Belmayne Local Area Plan 2012.

The study area for the scheme includes a section of Belmayne Avenue from the junction with Parkside Boulevard to immediately south of the junction with Main Street. The scheme also includes the partially constructed Belmayne Main Street. This is to be completed and extended both east to New Priory and west to the Malahide Road as shown in the image below.

The scheme is in line with a number of planning and policy documents including the following:

- Smarter Travel – A Sustainable Transport Future 2009 – 2020
- Transport Strategy for the Greater Dublin Area 2016 – 2035
- GDA Cycle Network Plan – December 2013
- Dublin City Council Development Plan – 2016 – 2022
- Clongriffin – Belmayne Local Area Plan – 2012

In terms of existing roads, Belmayne Avenue is a single carriageway road, varying in width between 6.5m and 14m. The road is a local road that extends from the junction with Parkside Boulevard to the roundabout with the R139.
Belmayne Main Street, as currently constructed, is a dual carriageway road, approximately 23m wide from kerb to back of footpath. It is noted that the original planning application was approved for a 25m wide carriageway, however, this scheme did not include for dedicated cycle facilities.

Main Street is currently partially constructed between the junction of Belmayne Avenue and Churchwell Crescent and, as such, there is no through route to the Malahide Road. There is also currently no through route to New Priory travelling eastbound along Main Street as the street currently terminates at Belmayne Avenue.

Main Street consists of a footpath of varying width, between 1.5m-2m, on the northern side of the street. Car parking is evident both sides of the street, both numbered parking and non-dedicated parking. A median island of 3m runs the length of the street. The area south of the median does not carry vehicular traffic, and is predominantly used for local parking.

The overall need of the proposed scheme for Belmayne includes the following:

- Align with relevant Policy Documents such as the Belmayne – Clongriffin LAP;
- Improve the pedestrian and cycling environment in Belmayne;
- Provide a safer environment for all road users;
- Promote sustainable transport;
- Provide enhanced bus priority through Belmayne;
- Provide for a balance of car movement and sustainable travel modes;

The scheme proposes an improvement for access and movement for road users through Belmayne, including improved pedestrian and segregated cycle facilities as well as providing improved bus lane facilities and a bus gate along Main Street to the Malahide Road.

Along Belmayne Avenue, the scheme proposes to retain the existing parking on both sides of the street with the exception of parking on the eastern side of the road adjacent to the proposed school campus. Belmayne Avenue does not propose bus or cycle facilities; however, a new signal controlled pedestrian crossing is located along Belmayne Avenue to serve access to the proposed schools. A signalised toucan crossing is also proposed on the
eastern arm of Parkside Boulevard at the priority junction with Belmayne Avenue.

Along Main Street from Belmayne Avenue to New Priory the scheme proposes a bus lane in both directions and one traffic lane in both directions. Cyclists are proposed to be accommodated within a segregated cycle track both sides of the road. A central median island is proposed to be retained in this section. Parking is not proposed along this section. This section proposes 3.25m footpaths. A signalised toucan crossing is proposed in this section at an indicative signalised junction that will accommodate traffic for a proposed development access.

Along Main Street from Belmayne Avenue to Churchwell Crescent, a footpath of 3m width is proposed on the northern side of the street with a footpath width of 2m proposed on the southern side of the street. Parking bays of 2.4m width are proposed both sides of the street. 3m bus lanes are proposed both sides of the street, in accordance with the NTA Bus Connects proposals, with one traffic lane in both directions. A 2m median island is proposed within the carriageway. A signalised toucan crossing is proposed along this section in order to facilitate access to a future proposed park entrance.

Along Main Street from Churchwell Crescent to Malahide Road, this section is proposed as the ‘Town Centre Square’ within the Masterplan for Belmayne. It is proposed to provide a 4m footpath on the northern side of the street and a 3m footpath on the southern side of the street. Parking bays of 2.4m width are proposed in this section on both sides of the street. A 2m median island is proposed along the length of this section of the street. A bus gate is proposed along this section out on to the Malahide Road with vehicular traffic having to divert north or south off Main Street before this via local roads to be constructed at a future date when the town centre proposals are developed. This proposed bus gate will tie in with future proposals along the Malahide Road as part of the NTA’s Bus Connects scheme. Signalised toucan crossings are proposed in this section to facilitate access to the existing greenway in this location.

The horizontal and vertical alignment of the road generally matched that of existing roads in this location. The horizontal alignment between Churchwell
Avenue to Malahide Road has been designed as per the Design Manual for Urban Roads & Streets and the National Cycle Manual.

Three junctions are proposed to be upgraded as part of this scheme, these are:

- Belmayne Avenue/Parkside Boulevard Priority Junction;
- Belmayne Avenue/Belmayne Main Street Signalised Junction; and
- Belmayne Main Street/Malahide Road Signalised Junction.

In terms of proposed traffic movements through the scheme, Main Street will form a new arm at the junction between Malahide Road & Mayne River Avenue which will be upgraded to signal control. This route will only be accessible for buses, and therefore, the traffic implications onto the Malahide Road are not envisaged to be significant.

Vehicular traffic along Main Street will be mostly internal residential movements since there is no through route along this section to the Malahide Road.

Road lighting is proposed to be upgraded along the proposed route. The standard of lighting is to be in accordance with Dublin City Councils design specification for Road Lighting of British Standards BS5489 and BS EN 13201.

The surface water drainage and attenuation has been substantially constructed within the overall Belmayne Lands under planning permissions DCC Reg. Ref. 0354/02, 4315/03 and 2941/14. Some new drainage works are required in the proposed western section of Belmayne Main Street to complete the drainage network. Surface water drainage will be designed and constructed in accordance with the Greater Dublin Regional Code of Practice for Drainage Works with spurs incorporated for future development to the north and south. Similar to the surface water drainage network, the foul sewer network has been substantially constructed within the overall Belmayne Lands.

In order to undertake an assessment with regard to the potential traffic implications from the proposed scheme, the NTA Eastern Regional Model was referenced. This showed a reduction in traffic movements due to a large modal shift from car to bus transportation. The model also shows a large increase in pedestrian and cyclist movements within the new link road.
An EIAR screening report was undertaken by Future Analytics. The report concluded that the road development would not be likely to have significant effects on the environment and that a sub-threshold EIA is not required.

An AA screening was undertaken by Openfield Ecological Services. The report concluded that the proposed development was not located within or directly adjacent to any SAC or SPA but pathways do exist to a number of these areas. An assessment of the aspects of this project has shown that significant negative effects are not likely to occur to these areas either alone or in combination with other plans and projects.

Desktop Environmental assessments have been undertaken in relation to Ecology, Archaeology & Built Heritage, Flooding Impact and Traffic Impact. These assessments have not identified significant environmental effects.
1.0 INTRODUCTION

1.1 BACKGROUND

1.1.1 DBFL Consulting Engineers (DBFL) have been commissioned by Dublin City Council to provide consulting engineering services for the Design and Construction of Belmayne Main Street & Belmayne Avenue.

1.1.2 The overall scheme, which aims to extend and provide a new ‘Main Street’ in Belmayne that links the Malahide Road in the west to New Priory in the east, forms part of the Clongriffin – Belmayne Local Area Plan 2012. This statutory plan provides a planning framework by which this new route is to be delivered.

1.2 STUDY AREA

1.2.1 The study area for the scheme is shown in Figure 1.1 below. The study area includes a section of Belmayne Avenue from the junction with Parkside Boulevard to immediately south of the junction with Main Street. The scheme also includes the partially constructed Belmayne Main Street. This is to be completed and extended both east to New Priory and west to the Malahide Road.

![Figure 1.1 Site Location](image-url)
1.3 NEED FOR THE SCHEME

1.3.1 This scheme is in line with the most up to date policy documents, including the Clongriffin to Belmayne Local Area Plan 2012 as well as the Dublin City Council Development Plan 2016 – 2022. The Clongriffin – Belmayne LAP sets out the overall vision for Belmayne and Clongriffin. The LAP identifies lands to the north west of the Malahide Road Junction at Belmayne as a ‘Key Development Site’. These lands form part of a Key District Centre as designated in the 2016 – 2022 City Development Plan as well as in the LAP.

1.3.2 The delivery of the vision for the Belmayne lands requires major roads infrastructure including the delivery of a proposed relief road and the provision/completion of Belmayne ‘Main Street’ along with sustainable transportation approaches.

1.3.3 Policy MTP1 of the Clongriffin – Belmayne Local Area Plan 2010, seeks the completion of the existing road infrastructure network in the area (including ‘Main Street’). Funding has been approved for the completion of ‘Main Street’ west of New Priory to the Malahide Road under the Local Infrastructure Housing Activation Fund (LIHAF), as part of the Rebuilding Ireland programme. The funding facilitates the completion of the Main Street thereby linking Clongriffin Station to Malahide Road (via a bus gate) and providing an axis linking the west and east town centres along a central civic route with the potential for upgraded sustainable transport provision (including potentially a Core Bus Corridor). The completion of this road will facilitate the development of an adjacent housing development at Belmayne and the development of a new mixed use urban quarter at Belmayne.

1.3.4 When complete, Belmayne Main Street will provide a direct link between Malahide Road and Clongriffin and will provide for sustainable modes of travel including walking facilities, cycling facilities as well as bus lane facilities along the route.
2.0 PLANNING POLICY & DESIGN GUIDANCE

2.1 SMARTER TRAVEL – A SUSTAINABLE TRANSPORT FUTURE 2009 - 2020

2.1.1 Smarter Travel - A Sustainable Transport Future, was published in February 2009, and represents a new transport policy for Ireland for the period 2009-2020. The policy recognises the vital importance of continued investment in transport to ensure an efficient economy and continued social development, but it also sets out the necessary steps to ensure that people choose more sustainable transport modes such as walking, cycling and public transport.

2.1.2 The policy is a direct response to the fact that continued growth in demand for road transport is not sustainable due to the resulting adverse impacts of increasing congestion levels, local air pollution, contribution to global warming, and the additional negative impacts to health through promoting increasingly sedentary lifestyles.

2.1.3 The following five key goals form the basis of the Smarter Travel policy document:

- Improve quality of life and accessibility to transport for all and, in particular, for people with reduced mobility and those who may experience isolation due to lack of transport.
- Improve economic competitiveness through maximising the efficiency of the transport system and alleviating congestion and infrastructural bottlenecks.
- Minimise the negative impacts of transport on the local and global environment through reducing localised air pollutants and greenhouse gas emissions.
- Reduce overall travel demand and commuting distances travelled by the private car.
• Improve security of energy supply by reducing dependency on imported fossil fuels.

2.1.4 These aims will be achieved through 49 specific actions listed within the Smarter Travel Policy, which can be broadly grouped into 4 key areas:

• Actions to reduce distance travelled by private car and encourage smarter travel,
• Actions aimed at ensuring that alternatives to the private car are more widely available,
• Actions aimed at improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies, and
• Actions aimed at strengthening institutional arrangements.

2.1.5 The Smarter Travel policy also includes for a comprehensive range of supporting ‘actions’ including mode specific (e.g. walking, cycling and public transport etc.) and behaviour change initiatives which both encourage and provide for sustainable travel practices for all journeys.

2.2 TRANSPORT STRATEGY FOR THE GREATER DUBLIN AREA 2016 – 2035

2.2.1 This strategy aims to provide for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (GDA) over the next two decades.

2.2.2 The Strategy Purpose of the document is “to contribute to the economic, social and cultural progress of the Greater Dublin Area by providing for the efficient, effective and sustainable movement of people and goods”.

2.2.3 As part of the strategy, a number of studies were undertaken which have identified routes where the demand for travel necessitates significant levels of infrastructural investment in order to minimise delays to bus services. From this, a ‘Core Bus Network’ was identified for the overall region. The identified
core network comprises sixteen radial bus corridors, three orbital bus corridors and six regional bus corridors. The 2035 Core Bus Network – Radial Corridors is shown below in Figure 2.1.

Figure 2.1: 2035 Core Bus Network – Radial Corridors (Source: Transport Strategy for the Greater Dublin Area)

2.2.4 This map outlines that one of the radial bus routes is proposed along the R107, Malahide Road. This forms part of the Clongriffin – Artane – Fairview bus route. This bus route was proposed to be developed as a Bus Rapid Transit route, where passenger numbers forecast on the route is approaching the limits of conventional bus route capacity.

2.2.5 The National Transport Authority’s ‘Bus Connects’ scheme, launched in 2017, aims to overhaul the current bus system within the Dublin region. The main objectives for the scheme are the following:

- Build a network of ‘next generation’ bus corridors on the busiest routes in order to make bus journeys faster, predictable and reliable;

- Introduce Bus Rapid Transit, a higher quality of bus system, on three of the busiest corridors;

- Redesign the network of bus routes to provide a more efficient network, connecting more places and carrying more passengers;
2.2.6 The NTA’s ‘Core Bus Corridors Project Report’ was published in June 2018. This report provides an overview of the proposals and benefits of the Bus Connects scheme as well as the potential issues and likely impacts on the road network.

2.2.7 The document highlights that this scheme forms part of a major investment programme to improve public transport in Dublin and that the three major elements of that include the MetroLink, DART Expansion and BusConnects Dublin.

2.2.8 Figure 2.2 shows the preliminary route for the Clongriffin to City Centre Core Bus Corridor (CBC). The route is proposed along the proposed Belmayne 'Main Street' link, terminating at Clongriffin Train Station. The corridor will take the form of a conventional Radial CBC as opposed to the originally proposed BRT corridor. The BRT concept no longer forms part of the BusConnects proposals.

2.2.9 It has been referenced in the report that the Clongriffin – City Centre route, approximately 10kms in length, will provide improved journey times from the current bus journey time of 65mins down to 30-35mins.
2.2.10 At the time of writing, the BusConnects proposals were subject to Public Consultation.

2.3 **GDA CYCLE NETWORK PLAN – DECEMBER 2013**

2.3.1 The GDA Cycle Network Plan is a document, prepared on behalf of the National Transport Authority, that identifies and determines a consistent, clear and logical cycle network within the Greater Dublin Area.

2.3.2 The plan aims to ensure that cycling as a transport mode is supported, enhanced and exploited in order to achieve strategic objectives and reach national goals. The steps undertaken within the plan include the following:

1. Collate existing and planned network information;
2. Undertake quality of service review;
3. Identify gaps in existing network;
4. Cycle travel demand assessment;
5. Develop cycle network plan;
6. Target quality of service for routes;
7. Develop design concepts.

2.3.3 These seven steps proposed are in line with the National Cycle Manual methods for designing a Cycle Network.

2.3.4 The GDA Cycle Network map, shown in Figure 2.3, outlines the current proposals for the Belmayne/ Clongriffin area. This shows a primary cycle route 1C proposed along the R107, Malahide Road, and a secondary cycle route 1A proposed along the R139/R809.
2.4 **DUBLIN CITY COUNCIL DEVELOPMENT PLAN - 2016 – 2022**

2.4.1 The Dublin City Council Development Plan states that “The continued delivery of an efficient, integrated and coherent transport network is a critical component of the development plan core strategy.” The development plan has the following aims and objectives:

- To support the sustainability principles as set out in various planning documents;

- To continue to promote modal shift from private car use towards increased use of more sustainable forms of transport such as cycling, walking and public transport;

- To support and facilitate the development of an integrated public transport network;

- To improve the city’s environment for walking and cycling through the implementation of improvements to thoroughfares and junctions and also through the development of new and safe routes; and
- To continue to promote improved permeability for both cyclists and pedestrians in existing urban areas.

2.4.2 The City Development Plan defines Clongriffin – Belmayne as a:

- Strategic Development and Regeneration Area (SDRA1 North Fringe Clongriffin – Belmayne Land Use Zoning Objective Z14);
- Key District Centre (KDC1 North Fringe East and West); One of eight such centres, within Dublin City administrative area. These are the top tier of urban centres outside of the city centre.
- Land Use Zoning Objective Z4 (District Centre Uses) uses will be considered.

2.4.3 Figure 2.4 illustrates the DCC & FCC Development Plan map illustrating the Belmayne and Belcamp areas.

Figure 2.4: DCC Development Plan 2016 – 2022 & FCC Development Plan 2017 - 2023

2.4.4 SDRA 1 (Clongriffin – Belmayne), Dublin City Development Plan 2016 – 2022 is illustrated below in Figure 2.5. The plan is based on the following key objectives/guiding principles:

- To create a highly sustainable, mixed use urban district based around high quality public transport nodes, with a strong sense of place;
- To achieve a sufficient density of development to sustain efficient public transport networks and a viable mix of community facilities;
- To establish a coherent urban structure, based on urban design principles, as a focus for a new community and its integration with established community.

![Figure 2.5: SDRA 1 – Clongriffin – Belmayne (North Fringe)](image)

**2.5 CLONGRIFFIN – BELMAYNE LOCAL AREA PLAN - 2012**

2.5.1 The Clongriffin – Belmayne area is a developing new settlement of approximately 200 Ha of zoned land. The LAP presents the opportunity to provide an updated strategy on how this area should be developed and managed in line with best practice in sustainable urban planning to meet the needs of all existing and future residents.

2.5.2 Due to its strategic location on intercity rail and a QBC bus route, Clongriffin – Belmayne is envisaged to be a settlement with c. 7,000 residential units and will have a potential population of between 20,000 to 25,000 people.
2.5.3 The Movement and Transport Strategy for the LAP is to focus in particular on maximising the connection potentials to and within the local area, and to design the area to enable people to move in a sustainable way, without use of private motor car as the predominant choice of travel.

2.5.4 The urban structure shows the Main Street Boulevard traversing the lands on an east west axis linking two main nodes (Key District Centres) at either end of the Main Street - Clongriffin Town Centre, located around Clongriffin Railway station, and Belmayne Town Centre centred on the Malahide Road Junction R107/R139).

![Figure 2.6: Key District Centres, Belmayne & Clongriffin](image)

2.5.5 The key aims of a sustainable movement and transportation strategy for the local area, as set out in the plan, include:

- To improve accessibility and maximise the use of public transport;
- Cater not only for travel demand but also for reductions in congestion and pollution;
- Place a stronger emphasis on sustainable forms of transport such as walking, cycling and public transport, particularly for short trips; and
- Take a pro-active approach to influencing travel behaviour and effective traffic management.
2.5.6 The key objectives of the LAP include the following:
- The completion of the Main Street Boulevard axis to the R107 Malahide Road;
- The establishment of a Quality Bus Corridor from the Malahide Road to Clongriffin Railway Station;
- The integration of the QBC into a Town Square at Belmayne Town Centre (to be subject of a future Masterplan).

2.5.7 **Figure 2.7** outlines the long term phasing strategy map for the Clongriffin and Belmayne areas.

![Figure 2.7: Long term phasing Strategy for Clongriffin and Belmayne](Source: LAP)

2.5.8 The completion of Main Street will facilitate the development of a central civic route with public transport emphasis through the Plan area. It will also facilitate local movement, the unlocking of housing lands for development and the development of Belmayne Town Centre.
Figure 2.8: Smarter Travel Map for Belmayne/Belcamp Areas (Source: LAP)

Figure 2.9: Transport Strategy Map for Belmayne/Belcamp Areas (Source: LAP)
2.6 **DCC MASTERPLAN FOR BELMAYNE AND BELCAMP**

2.6.1 The Clongriffin – Belmayne LAP 2012 seeks the preparation of an integrated Masterplan for the Belmayne and Belcamp areas to ensure that new development will positively and functionally integrate with the Northern Cross development and Clarehall Shopping Centre. At the time of writing, a Masterplan for the Belmayne and Belcamp area is being developed.

2.6.2 The LAP identifies 12 Key Masterplan objectives which apply to the 3 Masterplan sites identified in the LAP. In terms of access and movement, these objectives include the need to:

- Demonstrate the proposed approach to pedestrian and vehicular movement and access, circulation, parking and traffic calming measures;

- Indicate an integrated relationship with public transport infrastructure.

2.6.3 More specifically, key objectives for the Belmayne Masterplan include the need to deliver pedestrian links between Belmayne Town Centre and the surrounding environment and to create a new civic space on the site enclosed by a mix of retail, commercial, community and residential uses and the integration of the bus corridor into the town square setting.

2.6.4 At the time of writing, a Masterplan for the Belmayne and Belcamp area is being developed with the aim of providing an improvement for access and movement through the ‘Town Centre’ that will cater for sustainable travel modes. An initial sketch for this is illustrated in the image in **Figure 2.10**. The image shows a strategic overview of the important links through the area.
The main design aims and objectives for this Masterplan include the following:

- Provide direct access through the two central corridors, Belcamp Lane and Main Street Belmayne, to the district centre for sustainable modes (pedestrians, cyclists and/or buses);
- To provide a major strategic pedestrian and cycle link from Belcamp and Belmayne Main Street between Darndale and Clongriffin;
- To provide additional crossings and upgraded junctions along the Malahide Road and the R139 that will service key pedestrian/cyclist desire lines and provide access for bus services to the Main Street and provide for local vehicle access; and
- The establishment of a traffic calmed, permeable and legible street network that integrates with and provides alternative means of access to established residential areas, ie, Belmayne.

A number of green links are also included within the Masterplan for Belmayne and Belcamp. These have the following design objectives:

- The creation of a range of passive and active open spaces, in the form of a Neighbourhood Park, pocket parks and Civic Squares;
- The creation of a town square, off Malahide Road that acts as a gateway to the Belmayne Town Centre site, marking the beginning of the Main Street, and facilitates the creation of a retail/commercial centre;
- The creation of landscaped ‘green links’ along the Central Axis/Main Street and Cross Links to increase legibility through the site, create a highly amenable pedestrian environment, and provide space for ecological features such as SUD’s.

2.6.7 The design objectives for the overall Masterplan as well as the Green Links are illustrated below in Figure 2.11 and Figure 2.12 respectively.
Figure 2.1: Transportation Design Objectives for Masterplan

Figure 2.12: Design Objectives for Green Links
2.7 NATIONAL CYCLE MANUAL 2011

2.7.1 The National Cycle Manual (NCM) is a national guidance document that details the principles of sustainable safety that offers a safe traffic environment for all road user including cyclists. The manual provides guidance on integrating the bicycle into the design of urban areas. The manual sets out five principle requirements for providing an adequate, safe cycle facility:

Road Safety: Providing cycle infrastructure along a route should seek to maximise road safety for all road users, including cyclists. Any perception of a lack of safety could be a deterrent to cycling.

Coherence: A cycling network should link all main origin and destination zones/centres for cyclists. Cycling routes should be logical and continuous.

Directness: Cycling infrastructure should be as direct as possible and should minimise delays or detours. A well designed urban cycle network should confer an advantage in terms of average distance or journey time when compared with other transport networks.

Attractiveness: The cycling environment along a route should be pleasant and interesting.

Comfort: Cycling infrastructure should be designed, built and maintained for ease of use and for comfort. This is particularly important for beginners, tourists and recreational cyclists. Providing adequate comfort includes design aspects such as width, gradients, surface quality, stopping and delays and shelter.

2.7.2 The width of a cycle facility as well as the type of facility proposed (Integrated or segregated) are two key factors for providing adequate, safe facilities and a sub-standard cycle lane/track is never recommended.

2.7.3 The designed width of a cycle facility is comprised of the effective width as well as clearances that are required in different circumstances. The Width Calculator table provides details for determining the actual width required for cycle lanes and tracks. It comprises of three main factors, A, B and C, as well
as an additional factor, D, which is only relevant in certain circumstances. The width calculator table is illustrated in Figure 2.13.

![Figure 2.13: Cycle width calculator – National Cycle Manual (Source: NCM)](image)

2.7.4 Considering a cycle lane/track facility along a 50kph 3m street with cyclists single file, the width of facility required is 1.75m, ie, A=0.25m, B=0.75m and C= 0.75m.

2.7.5 In terms of the type of facility proposed, integrated or segregated, there are a number of factors considered for determining the type of facility most appropriate. Segregated facilities are recommended in the following circumstances:

- The traffic regime cannot be rendered suitable for integrated cycling;
- To preclude traffic from queuing or parking on the facility;
- To confer an advantage on cyclists.

2.7.6 A guidance graph is illustrated in Figure 2.14 that sets out relevant factors for determining the type of facility to provide.
2.7.7 The graph determines the type of facility necessary, whether the facility is shared, cycle lane or cycle track, based on vehicle speed and AADT of the road.

2.8 DESIGN MANUAL FOR URBAN ROADS AND STREETS – 2013

2.8.1 DMURS provides guidance relating to the design of urban roads and streets. It presents a series of principles, approaches and standards that are necessary to achieve balanced, best practice design outcomes with regard to street networks and individual streets.

2.8.2 The manual places a significant emphasis on car dominance in Ireland and the implications this has had regarding the pedestrian and cycle environment. The document encourages more sustainable travel patterns and safer streets by proposing a hierarchy for user priorities. This hierarchy places pedestrians at the top, indicating that walking is the most sustainable form of transport and that by prioritising pedestrians first, the number of short car journeys can be reduced and public transport made more accessible.
2.8.3 Second in the hierarchy are cyclists with public transport third in the hierarchy and private motor vehicles at the bottom. By placing private vehicles at the bottom of the hierarchy, the document indicates that there should be a balance on street networks and cars should no longer take priority over the needs of other users.

2.8.4 The manual emphasises that narrow carriageways are one of the most effective design measures that calm traffic. Standard width of an arterial and link street is 3.25m, however, this may be reduced to 3m where lower design speeds are being applied. Desirable footpath widths are between 2.5m – 4m. The 2.5m width should be implemented to allow for low to moderate pedestrian activity. A 3m – 4m footpath should be implemented to allow for moderate to high pedestrian activity.

2.8.5 The focus of the manual is to create a place – based sustainable street network that balances the pedestrian and vehicle movements. The manual references the different types of street networks, including arterial streets, link streets, local streets, and highlights the importance of movement.

2.8.6 The manual recognises that some roads are required to cater for the efficient movement of larger volumes of motorised traffic at faster speeds over longer distances. The route should be integrated within the urban fabric so that a sense of place is maintained. A solution for this is to design a boulevard type street with planted medians and verges that provide a buffer between traffic and the pedestrian environment. A typical cross section from DMURS highlighting the use of median islands to this effect is illustrated in Figure 2.15.
2.8.7 This chapter focused on identifying the various Policy documents that are relevant to the scheme. As highlighted previously, the current infrastructure within the study area does not conform with current guidance and policies in place.

2.8.8 The Policy Documents outlined above have been reviewed with the aim of providing guidance to the scheme to increase accessibility, promote active travel modes, seek to reduce car use and to better integrate land use and transport planning on a national, regional and local basis.
3.0 EXISTING CONDITIONS

3.1 EXISTING ROADS

Belmayne Avenue

3.1.1 Belmayne Avenue, shown in Figure 3.1, is a single carriageway road, varying from 6.5m to 14m width. The road is a local road that extends from the junction with Parkside Boulevard to the roundabout with the R139 and is approximately 560m in length. The road provides access for residents to the Belmayne residential areas.

Belmayne Main Street

3.1.2 Belmayne Main Street, shown in Figure 3.1, as currently constructed from Churchwell Crescent to Belmayne Avenue, is a dual carriageway road, approximately 210m in length, and is approximately 23m wide from kerb line to back of footpath. It is noted that the original planning application was approved for a 25m wide carriageway. The street is currently partially constructed between the junction of Belmayne Avenue and Churchwell Crescent and, as such, there is no through route to the Malahide Road. There is also currently no through route to New Priory travelling eastbound along Main Street as the street currently terminates at Belmayne Avenue. This is highlighted in Figure 3.1.

3.1.3 Main Street consists of a footpath of varying width, between 1.5m-2m, on the northern side of the street. Car parking is evident both sides of the street, both numbered parking and non-dedicated parking. A median island of 3m runs the length of the street. The area south of the median does not carry vehicular traffic and is predominantly used for local parking.
3.2 EXISTING TRAFFIC CONDITIONS

3.2.1 Traffic surveys were undertaken within Belmayne as part of this scheme in order to determine the traffic levels within the area. Surveys were carried out on the 20/04/18 over a 12 hour time period from 07:00 – 19:00. The following surveys were commissioned and undertaken by TRACSIS:

- Junction Turning Counts (JTC);
- Queue Length Surveys;
- Origin – Destination Surveys; and
- Car Parking Surveys.

Junction Turning Counts

3.2.2 A total of 9 junctions were surveyed for the junction turning counts. These junctions are detailed as follows and are shown in the map in Figure 3.2:

- Site 1: Malahide Road/R139 junction;
- Site 2: Malahide Road/Local Road junction;
- Site 3: Malahide Road/Mayn River Street junction;
- Site 4: R139/Local Road junction;
- Site 5: Malahide Road/Parkside Boulevard junction;
- Site 6: Parkside Boulevard/Belmayne Avenue junction;
- Site 7: Belmayne Avenue/Main Street junction;
- Site 8: Belmayne Avenue/R139/Clarehall Roundabout;
3.2.3 A traffic model was developed for these turning counts for the AM (07:45 – 08:45) and PM (16:15 – 17:15) peak hours. This model is shown in Appendix E of this report. The junction turning counts show that the busiest junction within the study area for both peak hours is Junction 1: Malahide Road/R139. This junction shows 4,616 vehicles through the junction during the AM peak hour and 4,825 vehicles through the junction during the PM peak hour. The junction is located on a busy commuter route into and out of Dublin City Centre, therefore, vehicular traffic is high within both peak hours.

3.2.4 Junction 8 also shows a high level of traffic during both peak hours. The AM peak hour has a total volume of 2,853 vehicles through the roundabout; the PM peak hour has a total volume of 2,439 vehicles through the junction. The main flow through the roundabout is the East – West flow along the R139.

3.2.5 Existing traffic volumes along Belmayne Avenue are low during both peak hours.

Queue Length Surveys

3.2.6 Queue length surveys were also undertaken as part of this assessment. Queues were surveyed at Junction 1, Malahide Road/R139 junction, illustrated in Figure 3.3.
Results show that traffic does queue at the junction during peak hours, in particular, at Arm D where survey results show a 155m average queue length over the hour and a 200m max queue. This equates to a queue length of approximately 34 vehicles within both middle lanes of the arm. The nearside and offside arms show relatively reasonable queue lengths on the arm.

**Origin – Destination Surveys**

Automated Number Plate Recognition (ANPR) surveys were carried out at the Malahide Road, R107 and Mayne River local streets. These were undertaken over one day on the 20/04/18 for a 12 hour period from 07:00 – 19:00.

The surveys were undertaken in order to determine whether vehicles from the heavily trafficked routes along the Malahide Road and the R107 were avoiding queuing at the Malahide Road/R107 junction and travelling within the Mayne River residential area. The cordons, numbered 1 – 6 inclusive, are outlined in **Figure 3.4**.
3.2.10 The survey was undertaken to record first – seen, last – seen through each cordon. The resulting capture rate for the survey was high, between 90% - 100%. The matched rate, however, showed a lower percentage, between 50% - 70%. This is due to the fact that the routes through the residential streets were not cordoned off; this resulted in traffic being lost to these streets.

3.2.11 Shown below in Table 3.1 are the number of vehicles matched between cordons for the AM peak hour (07:45 – 08:45). Shown in Table 3.2 is the average duration of these vehicle movements between cordons.
### Table 3.1: ANPR results between cordons for the AM peak

<table>
<thead>
<tr>
<th>From Cordon</th>
<th>To Cordon</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
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<td>167</td>
<td>10</td>
<td>0</td>
<td>8</td>
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<td>185</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
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<td>73</td>
<td>8</td>
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<td>11</td>
<td>335</td>
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### Table 3.2: Average duration of vehicles between cordons for the AM peak

<table>
<thead>
<tr>
<th>From Cordon</th>
<th>To Cordon</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>2</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2.12 Results show that, during the AM peak, some vehicles do turn off the main streets on approach to the R139/R107 junction to avoid queuing and route through the residential streets. This is particularly evident for the movement from Cordon 4 to Cordon 2, i.e., from the R107 to the R139, where 167 vehicles were recorded. There is an average duration for this movement of 1 minute 53 seconds, which indicates that these vehicles are not stopping within the residential area.

3.2.13 In the opposite direction, from Cordon 1 to Cordon 3 and Cordon 5, i.e., from R139 to R107, 57 vehicles and 45 vehicles undertake this movement respectively. The average duration for both of these movements is low, at approximately 1 minute.

3.2.14 Shown below in Table 3.3 are the number of vehicles matched between cordons for the PM peak hour (16:15 – 17:15). Shown in Table 3.4 is the average duration of these vehicle movements between cordons.
Table 3.3: ANPR results between cordons for the PM peak

<table>
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<th>To Cordon</th>
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<th>2</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
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<td>6</td>
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<td>99</td>
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<td>102</td>
<td>6</td>
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<td>309</td>
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</table>

Table 3.4: Average duration of vehicles between cordons for the PM peak

<table>
<thead>
<tr>
<th>From Cordon</th>
<th>To Cordon</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
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<td></td>
<td></td>
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</tr>
<tr>
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<td>00:16:49</td>
<td>00:07:46</td>
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<td></td>
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</tr>
<tr>
<td>4</td>
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<td>6</td>
<td>00:16:18</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2.15 Results show that, during the PM peak, some vehicles do turn off the main streets on approach to the R139/R107 junction to avoid queuing and route through the residential streets. This is particularly evident for the movement from Cordon 1 to Cordon 3 and Cordon 5, i.e., from the R139 to the R107, where 84 vehicles were recorded exiting from Cordon 3 and 90 vehicles were recorded exiting from Cordon 5. There is an average duration for this movement of between 1 - 2 minutes, which indicates that these vehicles are not stopping within the residential area. In the opposite direction, from Cordon 4 to Cordon 2, 84 vehicles were recorded.

**Car Parking Surveys**

3.2.16 Parking surveys were undertaken along Main Street and Belmayne Avenue as part of this scheme. The location of these surveys are outlined in **Figure 3.5.** Surveys were carried out over one day, 20\textsuperscript{th} February 2018, for a 12 hour period from 07:00 – 19:00.

3.2.17 These surveys were undertaken in order to determine the levels of parking within Belmayne over a 12 hour period and to determine whether commuters use these parking areas in order to park and ride.
3.2.18 Results of the survey showed that occupancy levels along Main Street are low, in particular on the southern side of the street where occupancy peaks at 31%. On the northern side of the street, occupancy levels are on average 50% throughout the day.

3.2.19 Along Belmayne Avenue, survey results showed that throughout the day, parking is low towards the northern and southern end of the street. Parking within the centre of Belmayne Avenue is, on average, between 55% - 60% occupancy, with parking levels peaking to 65%-75% occupancy during the evening period.

3.2.20 The surveys also highlighted that long term parking in terms of commuter parking within Main Street and Belmayne Avenue is not apparent, with the majority of vehicles staying between 0 – 2 hours. There are a small number of vehicles that are parked for longer than 9 hours, however, these are presumed to be residential.
3.3 **OBJECTIVES OF THE SCHEME**

3.3.1 The overall objectives of the proposed scheme for Belmayne include the following:

- Align with relevant Policy Documents such as the Belmayne – Clongriffin LAP;
- Improve the pedestrian and cycling environment in Belmayne;
- Provide a safer environment for all road users;
- Promote sustainable transport;
- Provide enhanced bus priority through Belmayne;
- Provide for a balance of car movement and sustainable travel modes;

3.4 **PRE-PLANNING CONSULTATION**

3.4.1 Pre-Planning consultation was undertaken internally within the various relevant sections of Dublin City Council as well as the National Transport Authority.

3.5 **STRUCTURE OF THE REPORT**

3.5.1 The following outlines the structure of the remainder of this report:

- Section 4 – Preliminary Design
- Section 5 – Environmental Constraints
- Section 6 – Environmental Impact Assessments Screening
- Section 7 – Summary
4.0 PRELIMINARY DESIGN

4.1 THE PROPOSED SCHEME

4.1.1 The scheme proposes an improvement for access and movement for road users through Belmayne, including improved pedestrian and cycle facilities as well as providing improved bus lane facilities and a bus gate along Main Street to the Malahide Road.

4.1.2 For the purposes of this report, the study area is divided into four sections, as illustrated in Figure 4.1 with the upgraded facilities detailed below for each section. Preliminary Design Layout Drawings for the scheme are outlined in the sections below and are further detailed in Appendix A of this report.

Figure 4.1: Road Sections 1 – 4 within Study Area

4.1.3 As shown in Figure 4.1, Section 1 details design proposals along Belmayne Avenue, Section 2 details design proposals along Main Street from Belmayne Avenue to New Priory, Section 3 details design proposals along Main Street from Belmayne Avenue to Churchwell Crescent and Section 4 details design proposals along Main Street from Churchwell Crescent to Malahide Road.
Section 1: Belmayne Avenue

4.1.4 This section of the scheme proposes to retain the existing parking on both sides of the street with the exception of parking on the eastern side of the road adjacent to the proposed school campus. At the junction of Belmayne Avenue/Parkside Boulevard, it is proposed to retain the junction as priority controlled and to provide a signalised toucan crossing on the western arm of Parkside Boulevard to accommodate pedestrians from Belmayne into the existing park.

4.1.5 Belmayne Avenue is retained as per its existing facilities, therefore no bus or cycle facilities are proposed along this section. Cycle facilities can be provided and are sought under the LAP Smarter Travel Plan, however, they do not form part of this scheme and may be provided in the future.

4.1.6 A new signal controlled pedestrian crossing is located along Belmayne Avenue to serve access to the proposed schools; the location of this crossing is outlined in Figure 4.2.

4.1.7 The existing 3 arm priority junction of Belmayne Avenue/Belmayne Main Street is proposed to be upgraded to a 4 arm signalised junction to incorporate the extension of Main Street to New Priory.

4.1.8 A proposed drawing layout detailing the proposed facilities within Section 1 is shown below in Figure 4.2, and shown in further detail in Appendix A.
Section 2: Main Street from Belmayne Avenue to New Priory

4.1.9 This section of the scheme proposes a bus lane in both directions and one traffic lane in both directions. Cyclists will be accommodated within a dedicated cycle track facility both sides of the road. A central median island is proposed along its length with landscaping proposed, subject to detailed design. Parking is not proposed along this section of the street. This section proposes 3.25m wide footpaths on both sides of the street.

4.1.10 Section 2 adjoins the junction with Belmayne Avenue.

4.1.11 A proposed drawing layout and cross section detailing the proposed facilities within Section 2 is shown below in Figure 4.3, and shown in further detail in Appendix A.
Section 3: Main Street from Belmayne Avenue to Churchwell Crescent

4.1.12 Section 3 of the scheme, which is currently in use as a single carriageway road, was subject to a separate options assessment and multi-criteria analysis (MCA) report, appended to this report in Appendix B, that determined the optimal facilities along this section of the route.

4.1.13 The options report concluded that the optimal layout of the street was Option 3. This option provides a 2m footpath on the southern side of the street and a 3m footpath on the northern side of the street, 2.4m parking bays both sides of the street, 1.75m cycle tracks both sides of the street, 3m bus lanes as well as 3m traffic lanes. There is a 2m median island proposed within the carriageway with landscaping proposed, subject to detailed design.

4.1.14 A proposed drawing layout and cross section detailing the proposed facilities within Section 3 is shown below in Figure 4.4, and shown in further detail in Appendix A.
Section 4: Main Street from Churchwell Crescent to Malahide Road

4.1.15 This section of the scheme is proposed within the Masterplan for Belmayne as the 'Town Centre Square'. It is envisaged that the surrounding area will be dedicated as a civic space with a mix of retail, commercial and residential developments. As such, it is proposed to provide 3m footpath on the southern side of the street and 4m wide footpaths along the northern side of the street in this location. Parking is continued on both sides of the street and cycle lane facilities are proposed on both sides of the street as per Section 3 outlined above. A 2m median island is proposed along the length of the street.

4.1.16 A bus gate is also proposed along this section out on to the Malahide Road with vehicular traffic having to divert north or south off Main Street before this via local roads to be constructed at a future date when the town centre proposals are developed. This proposed bus gate will tie in with future proposals along the Malahide Road regarding the NTA’s Core Bus Corridor along here. The bus gate along Main Street requires the conversion of the existing 3 arm priority junction of the Malahide Road/Mayne River Street to a 4 arm signalised junction. A proposed drawing layout and cross section detailing the proposed facilities within Section 4 is shown below in Figure.
4.5, and shown in further detail in Appendix A. It should be noted that cycle facilities will be provided on Malahide Road as part of the future NTA BusConnects scheme and do not form part of the subject scheme proposals.

Figure 4.5: Proposed Cross Section for Belmayne Main Street (Section 4)

4.2 HORIZONTAL & VERTICAL ALIGNMENT

4.2.1 The horizontal and vertical alignment of the road generally matches that of existing roads in this location such as Belmayne Avenue and Belmayne Main Street. For the new section of road from Churchwell Avenue to Malahide Road, the horizontal alignment for the proposed bus route has been designed as per DMURS guidance appropriate for anticipated levels of traffic including buses.

4.3 JUNCTION LAYOUTS & UPGRADES

4.3.1 Junction layouts have been designed in accordance with the Design Manual for Urban Roads and Streets, National Cycle Manual and existing road constraints. The proposed scheme includes upgrades to 3 no. junctions as well as proposals for a junction along Main Street that accommodates pedestrians and cyclists through north and south of Main Street. The three upgraded junctions are as follows:
• Belmayne Avenue/Parkside Boulevard Priority Junction;
• Belmayne Avenue/Belmayne Main Street Signalised Junction; and
• Belmayne Main Street/Malahide Road Signalised Junction.

4.3.2 Belmayne Avenue/Parkside Boulevard priority junction is being upgraded to include a signalised pedestrian crossing on the west arm of the junction to accommodate pedestrians to the existing park.

4.3.3 Belmayne Avenue/Belmayne Main Street priority junction is being upgraded to a signalised junction to incorporate the additional 4th arm for Main Street at the junction.

4.3.4 Belmayne Main Street/Malahide Road junction is being upgraded from a 3 arm priority junction to a 4 arm signalised junction to incorporate Main Street arm which will comprise of a bus gate onto the Malahide Road.

4.3.5 Junction layouts are shown in the Preliminary Design Drawings in Appendix A of this report.

4.4 ROAD LIGHTING

4.4.1 For the safety and convenience of vehicular road users, pedestrians and cyclists, road lighting will be upgraded along the proposed route. The standard of lighting proposed is to be in accordance with Dublin City Council’s design specifications for Road Lighting of British Standards BS5489 and BS EN 13201.

4.5 SURFACE WATER DRAINAGE

4.5.1 The surface water drainage and attenuation has been substantially constructed within the overall Belmayne Lands under planning permissions DCC Reg. Ref. 0354/02, 4315/03 and 2941/14. All works completed to date have been agreed with Dublin City Council Drainage Division as part of the normal compliance procedures and were designed and constructed in accordance with the Greater Dublin Regional Code of Practice for Drainage Works. Attenuated surface water from the Belmayne Lands outfall to the Mayne River to the north of the proposed road infrastructure. Some new drainage works are required in the proposed western section of Belmayne Main Street (Section 4) to complete the drainage network. Surface water drainage will be designed and constructed in accordance with the Greater
Dublin Regional Code of Practice for Drainage Works with spurs incorporated for future development to the north and south.

4.5.2 Similar to the surface water drainage network, the foul sewer network has been substantially constructed within the overall Belmayne Lands. The foul sewer network will be extended along Section 4 of Belmayne Main Street to serve future development land to the north and south.

4.6 **BOUNDARY TREATMENT**

4.6.1 Temporary boundary treatment is to be provided in sections along the new street layouts where development has not yet commenced. Boundary treatment works are envisaged to be required along Main Street from Churchwell Crescent to Malahide Road, where the proposed town centre will be developed after the road scheme.

4.6.2 Main Street, on the southern side of the street between Churchwell Crescent and Belmayne Avenue, is also required to provide a boundary treatment.

4.6.3 Main Street, from Belmayne Avenue to New Priory, will require boundary treatment also.

4.6.4 Boundary treatment provided in these locations will likely be a temporary fence and will be positioned at the back of footpath. Following full development of the lands it is not envisaged that any boundary treatment will be required as active frontages will be created along the street.
5.0 ENVIRONMENTAL CONSTRAINTS

5.1 EIA REQUIREMENTS

5.1.1 Screening is the process of assessing the requirement of a project to be subject to Environment Impact Assessment Report (EIAR), based on the project type, scale and on the significance or environmental sensitivity of receiving environment.

5.1.2 The overriding consideration in determining whether a road scheme should be subject to EIAR is the likelihood of significant environmental effects. Significant effects may arise by virtue of the type of road scheme, the scale or extent of the road scheme and the location of the road scheme in relation to sensitive environments.

5.1.3 In interpreting which projects are likely to have significant environment effects, the EIAR Directive lists those projects for which EIA is mandatory and those projects for which EIAR may be required.

5.1.4 The legal requirements for EIA of a road development are defined in the Roads Act (1993) as amended by the Planning and Development Act (2000 – 2017) and Regulations made under the Roads Acts & Planning Acts. The proposed scheme falls under the requirements of the Road Act as “Road” is defined within the Act to include:

- any street, lane, footpath, square, court alley or passage,
- any bridge, viaduct, underpass, subway, tunnel, overpass, overbridge flyover, carriageway whether single or multiple, pavement or footway,
- any weighbridge or other facility for the weighting or inspection of vehicle, toll plaza or other facility for the collection of tolls, services area, emergence, telephone, first aid post, culvert, arch, gulley, railing, fence, wall, barrier, guardrail, margin, kerb, lay-by, hard shoulder, island, pedestrian refuge, median, central reserve.

5.1.5 An EIAR Screening report, appended to this report in Appendix F, was carried out by Future Analytics in order to determine whether this scheme required a full EIA assessment. A Summary of the report is presented below in Section 5.2.
5.2 SUMMARY OF EIA SCREENING REPORT

5.2.1 This document provides for a screening of a proposed development by Dublin City Council in Belmayne, Dublin 13 in order to establish the correct procedural path for the road proposal having regard to the Environmental Impact Assessment regulations.

5.2.2 This application is for the completion of road developments along Main Street and Belmayne Avenue, including changes to the existing layout. It is also proposed to construct a new route to provide a link between New Priory and the Malahide Road. The new road will provide for vehicular traffic, bus lanes, cycle lanes and pedestrians. It will include artificial lighting and provision of drainage works. The road infrastructure supports the implementation of the policies and objectives of the Balgriffin – Belmayne Local Area Plan 2012 – 2018.


5.2.4 In the case of a road development, Section 50 of the Roads Act 1993, as amended, sets out the requirements and provisions for the preparation of an EIS. All roads projects can be placed into one of the following categories:

- Those that exceed the thresholds laid down and therefore have a mandatory requirement to prepare an EIS; and

- Those projects that are sub-threshold and must be assessed on a case-by-case basis to determine whether or not they are likely to have significant effects on the environment;

- Projects that fall under Annex II (13) (a) of the Directive for Any change or extension of projects listed in Annex I or Annex II, already authorised, executed in the process of being executed.

5.2.5 The proposed road scheme does not exceed any of the thresholds outlined in the Roads Act 1993 – 2007 as it is considered an amendment to an authorised development under Annex II, Class 13 of the Directive as transposed into the
Planning Regulations. There is therefore no mandatory requirement to prepare an EIAR.

5.2.6 The proposed development is sub-threshold and therefore is assessed in accordance with the criteria in Article 27 of the European Communities (EIA) Regulations, 1989.

5.2.7 Dublin City Council considers that the proposed development as an amendment to an authorised development under Annex II Class 13 of the directive is sub-threshold for the purposes of Environmental Impact Assessment. The development of the road has been comprehensively assessed as part of the EIS for the ‘parent’ planning permission to the authorised development would give rise to any potential significant effects on the environment.

5.2.8 Having regard to the foregoing analysis, it is considered that the provisions of Class 13 of Annex II of the EIA Directive (No. 97/11/EC) would only be relevant where the nature and scale of any proposed variations to an approved scheme would be such as to constitute substantial material change which would give rise to significant adverse environmental effects. The scheme falls under Annex II (13) (a) as it is classified as ‘any change or extension of projects listed in Annex I or Annex II, already authorised, executed in the process of being executed’. It is therefore considered that the road development would not be likely to have significant effects on the environment and a sub-threshold EIA is not required. It considered that the modifications being proposed by the subject Scheme would not entail significant adverse effects and that the changes concerned are modest in nature in the context of the scale of the overall scheme.
5.4 APPROPRIATE ASSESSMENT SCREENING

5.4.1 Openfield Ecological Services was commissioned to carry out the Ecological Impact for the proposed scheme in April 2018. A full technical report by Openfield Ecological Services is appended to this report in Appendix C. A summary of the report is outlined below.

5.4.2 The AA screening report provided for a screening within the extents of the development scheme. The document assessed whether effects to the Natura 2000 network were likely to occur as a result of the construction or operation phases of this project. The report determined whether these effects were likely to be significant, and if so, recommended appropriate mitigation measures.

5.4.3 The report was undertaken with regard to the following steps:
1. Analysis of the SAC/SPA;
2. Analysis of the Proposed Development;
3. Analysis of other plans and projects; and
4. Determination of significance.

5.4.4 With regard to Step 1, the report outlined that the site is not located within or directly adjacent to any area designated for nature conservation. It did note that the Baldoyle Bay SAC and SPA is located approximately 2km from the site. The report outlined that the site is situated within the catchment of the Mayne River, which flows approximately 100m to the north of Belmayne Road.

5.4.5 With regard to Step 2, the report outlined that construction works would involve the use of standard construction materials. This would involve the loss of the existing low, or negligible, biodiversity value habitats, to be replaced with buildings and artificial surfaces which will be of negligible biodiversity value.

5.4.6 With regard to Step 3, the report outlined that the area of Dublin 13 has been substantially transformed in the past 15 – 20 years from farmland to built development. The cumulative impacts of this type of urban growth can arise from replacing permeable ground with hard surfaces. This can result in increased risk of flooding and deterioration of water quality. The report specifies that to combat this, the Greater Dublin Strategic Drainage Study (2005) aims to ensure that new developments integrate sustainable drainage
systems (SUDS) to maintain natural, or ‘green field’ rates of surface water run-off while also improving water quality in rivers.

5.4.7 With regard to Step 4, the report clarifies that the development will not result in direct impacts to habitats within any designated area, either through habitat removal or disturbance, due to the separation distances involved.

5.4.8 The report concludes that the proposed development is not located within or directly adjacent to any SAC or SPA but pathways do exist to a number of these areas. An assessment of the aspects of this project has shown that significant negative effects are not likely to occur to these areas either alone or in combination with other plans and projects.

5.5 ARCHAEOLOGICAL & BUILT HERITAGE CONSTRAINTS

5.5.1 A desktop Archaeological and Built Heritage Assessment of the study area was undertaken.

5.5.2 The assessment noted that there are no recorded archaeological sites within the extents of the proposed scheme. The closest Record of Monuments and Places sites to the proposed scheme are located within Balgriffin Park. This recorded monument is recorded as a 12th century castle (Record Number DU015-062002/3) that was reputed to have been located on lands associated with Balgriffin Park.

5.5.3 It is not envisaged that the scheme proposed will have an impact on the archaeological & built heritage environment within the area.

5.6 FLOODING CONSTRAINTS

5.6.1 In order to ascertain whether flooding and drainage is a critical issue within the study area, DBFL undertook a Site Specific Flood Risk Assessment (SSFRA) in April 2018. The full report is appended in Appendix D of this report with a summary of findings outlined below.

5.6.2 The scope of the SSFRA related only to the proposed road infrastructure and its immediate surroundings. The report follows the requirements of ‘The Planning System & Flood Risk Management – Guidelines for Planning Authorities’.

5.6.3 Following the flood risk assessment stages undertaken within the report, it was determined that the Site is within Flood Zone Category C as defined by the Guidelines.
5.6.4 The report concluded that the road infrastructure is appropriate for the Site’s flood zone category and that the Planning System and Flood Risk Management Guidelines Sequential Approach is met and the ‘Avoid’ principle achieved.

5.6.5 The development was concluded as having a good level of flood protection up to the 100 year return event. For pluvial floods exceeding the 100 year capacity of the drainage system then proposed flood routing mitigation measures are recommended.

5.7 PROPOSED TRAFFIC ASSESSMENT

5.7.1 The proposed scheme provides for the upgrade of existing roads as well as a new road that links the Malahide Road to New Priory.

5.7.2 In terms of proposed traffic movements through the scheme, Main Street will enter and exit onto the Malahide Road. This route will only be accessible for buses, and therefore, the traffic implications onto the Malahide Road are not envisaged to be significant. A detail of this is illustrated in Figure 5.1.

Figure 5.1: Bus Only Movements from Main St to Malahide Road

5.7.3 Vehicular traffic along Main Street will be mostly internal residential movements since there is no through route along this section to the Malahide Road.
5.7.4 In order to undertake an assessment with regard to the potential traffic implications from the proposed scheme, the NTA Eastern Regional Model was referenced.

5.7.5 A comparison was undertaken between two models, existing future model for 2035 GDA Strategy and a future model with the new link road provided. Difference plots were established between the two models with images of these represented in Figure 5.2 in both the AM and PM peak hour periods where green bandwidths on the road network represents a decrease in traffic and blue bandwidths on the road network represents an increase in traffic.
5.7.6 In terms on wider area impact from the scheme, the difference plots demonstrate evident changes to traffic on the road network. In the AM peak hour period the road network in Belmayne and Clongriffin has notable decreases in road traffic from the scheme. This is mainly as a consequence from a large modal shift from car to bus transportation from the core bus corridor on the Main Street scheme. The PM peak hour period shows a similar result but there are increases in through traffic on the completed route between from the Malahide Road to the R123 Moyne Road via Hole in the Wall Road. Road users find this route a more desirable route in time saved rather than through the R123 Balgriffin Road.

5.7.7 The future model with the new link road provided, shows a significant increase in bus movements along Main Street. It demonstrates a diversion of bus movements from existing routes to the new link road.

5.7.8 The model also shows a large increase in pedestrian and cyclist movements within the new link road.
6.0 SUMMARY

6.1.1 DBFL Consulting Engineers (DBFL) have been commissioned by Dublin City Council to provide consulting engineering services for the Design and Construction of Belmayne Main Street & Belmayne Avenue.

6.1.2 The overall scheme, which aims to extend and provide a new 'Main Street' in Belmayne that links the Malahide Road in the west to New Priory in the east, forms part of the Clongriffin – Belmayne Local Area Plan 2012.

6.1.3 The study area for the scheme includes Belmayne Avenue, Belmayne Main Street, as well as proposed new sections of Main Street that link the Malahide Road to New Priory.

6.1.4 This scheme aligns with the most relevant Guidance and Policy documents in its proposals to provide upgraded sustainable facilities for all road users, in particular pedestrians, cyclists and public transport users.

6.1.5 A number of traffic surveys were carried out as part of this assessment. These surveys detailed the existing conditions within the study area. They showed a high volume of traffic along the Malahide Road during peak hours. They also showed that car parking is not excessive within the area and commuter parking was not evident.

6.1.6 The proposed scheme aims to provide upgraded facilities for all road users within the extents of the study area. This includes facilities for cyclists, pedestrians as well as public transport.

6.1.7 An EIAR screening report was undertaken by Future Analytics. The report concluded that the road development would not be likely to have significant effects on the environment and that a sub-threshold EIA is not required.

6.1.8 An AA screening was undertaken by Openfield Ecological Services. The report concluded that the proposed development was not located within or directly adjacent to any SAC or SPA but pathways do exist to a number of these areas. An assessment of the aspects of this project has shown that significant negative effects are not likely to occur to these areas either alone or in combination with other plans and projects.
6.1.9 Desktop Environmental assessments have been undertaken in relation to Ecology, Archaeology & Built Heritage, Flooding Impact and Traffic Impact. These assessments have not identified significant environmental effects.

6.1.10 In terms of proposed traffic movements through the scheme, Main Street will enter and exit onto the Malahide Road. This route will only be accessible for buses, and therefore, the traffic implications onto the Malahide Road are not envisaged to be significant.

6.1.11 The AM and PM peak hour show notable decreases in vehicular traffic due to a large increase in modal shift from car to bus.

6.1.12 The PM peak notes that there are increases in through traffic on the completed route between from the Malahide Road to the R123 Moyne Road via Hole in the Wall Road.

6.1.13 The model also shows a large increase in pedestrian and cyclist movements within the new link road.
Appendix A
Appendix B
Appendix C
Appendix E
Appendix F