

**Clongriffin to  
City Centre Core  
Bus Corridor Scheme**  
November 2021

**Preferred  
Route  
Option  
Report**

**BUS  
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

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National Transport Authority

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## Glossary of Technical Terms

**Bus Gate** – A Bus Gate is a sign-posted short length of stand-alone bus lane. This short length of road is restricted exclusively to buses, taxis and cyclists plus emergency vehicles. It facilitates bus priority by removing general through traffic along the overall road where the bus gate is located. General traffic will be directed by signage to divert away to other roads before they arrive at the Bus Gate.

**Carbon** - The term Carbon is used to refer to carbon emissions or green house gas emissions interchangeably

**Cycle Lane** – A cycle lane is a lane on the carriageway that is reserved either exclusively or primarily for cycling and is separated from general traffic or bus lanes by road markings.

**Cycle Track** – A cycle track is a separate section of the road dedicated for cycling only. This space will generally be isolated from other vehicular traffic by a physical kerb.

**Greenway** – A greenway is a recreational corridor for non-motorised journeys, developed in an integrated manner which enhances both the environment and quality of life of the surrounding area. These routes should meet satisfactory standards of width, gradient and surface condition to ensure that they are both user-friendly and low-risk for users of all abilities.

**Protected Junctions** - Refers to junctions, which provide physical kerb buildouts to protect cyclists through the junction. Due to the inherently complex nature of mixed mode movements at junctions, the provision for cyclists at junctions is a critical factor in managing conflict and providing safe junctions for all road users. As such, this is the preferred layout, where practicable, for signalised junctions as part of the CBC Infrastructure Works.

**Quiet Street Treatment** – Where Core Bus Corridor (CBC) roadway widths cannot facilitate cyclists without significant impact on bus priority, alternative cycle routes are explored for short distances away from the CBC bus route. Such offline options may include directing cyclists along streets with minimal general traffic other than car users who live on the street. They are called Quiet Streets due to the low amount of general traffic and are deemed suitable for cyclists sharing the roadway with the general traffic without the need to construct segregated cycle tracks or painted cycle lanes. The Quiet Street Treatment will involve appropriate advisory signage for both the general road users and cyclists.

**Signal Controlled Priority** - Signal Control Priority uses traffic signals to enable buses to get priority ahead of other traffic on single lane road sections, but it is only effective for short distances. This typically arises where the bus lane cannot continue due to obstructions on the roadway. An example might be where a road has pinch-points where it narrows due to existing buildings or structures that cannot be demolished to widen the road to make space for a bus lane. It works through the use of traffic signal controls (typically at junctions) where the bus lane and general traffic lane must merge ahead and share the road space for a short distance until the bus lane recommences downstream. The general traffic will be stopped at the signal to allow the bus pass through the narrow section first and when the bus has passed, the general traffic will then be allowed through the lights

# Executive Summary

## Introduction

The purpose of this report is to present an overview of the Preferred Route Option (PRO) for the Clongriffin to City Centre Core Bus Corridor (CBC) as well as describing the options assessed, and changes made to the Proposed Scheme since the first Non-Statutory Public Consultation in November 2018.

The aim of delivering the Clongriffin to City Centre CBC is to provide enhanced walking, cycling and bus infrastructure on this key access corridor in the Dublin region, which will enable and deliver efficient, safe, and integrated sustainable transport movement along the corridor.

The objectives are to:

- Enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements;
- Enhance the potential for cycling by providing safe infrastructure for cycling, segregated from general traffic wherever practicable;
- Support the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets;
- Enable compact growth, regeneration opportunities and more effective use of land in Dublin, for present and future generations, through the provision of safe and efficient sustainable transport networks;
- Improve accessibility to jobs, education and other social and economic opportunities through the provision of improved sustainable connectivity and integration with other public transport services; and
- Ensure that the public realm is carefully considered in the design and development of the transport infrastructure and seek to enhance key urban focal points where appropriate and feasible.

## Scheme Overview & Assessment Process

The Clongriffin to City Centre CBC commences at the Mayne River Avenue / Malahide Road junction to the north of the Northern Cross (Malahide Road/ Clarehall Avenue) Junction. The CBC is routed via Malahide Road to the junction with Marino Mart/Fairview. At Marino Mart/Fairview the CBC ties into a separate project, Clontarf to City Centre Cycle and Bus Priority Project currently proposed by Dublin City Council and is not considered as part of this report.

Where key changes have been made to the design since the publication of the Emerging Preferred Route (EPR) Option in November 2018, options have been assessed using a Multi-Criteria Assessment (MCA) to determine the draft preferred option. The methodology used is consistent with that carried out during the initial route optioneering work which informed the EPR Option. This additional assessment does not supersede work done during earlier stages but rather complements it and is a direct response to issues raised by the public during the public consultation process and further design development. This assessment has also been carried out in the context of more detailed information now available, including topographical survey.

The following list highlights the main scheme changes between the published EPR Option and the PRO:

- The Proposed Scheme commences at the Mayne River Avenue / Malahide Road junction whereas previously it commenced at Clongriffin Dart Station. This change was made as there is already a dedicated bus lane and cycling facilities along this section between Clongriffin Dart Station and Hole in the Wall Junction on Main Street, Clongriffin. Between Hole in the Wall Junction and Malahide Road DCC is progressing the Belmayne Main Street and Belmayne Avenue Scheme which includes dedicated bus lane and cycling facilities;

- Between Kilmore Road junction and Killester Avenue, it is proposed to move the western cycle track and footpath inside the green area to minimise any impact on the existing wall and trees;
- Between Killester Avenue junction and Collins Avenue the road alignment has been changed which will allow the retention of the mature trees and stone wall;
- Between Griffith Avenue junction and Clontarf Road junction it is proposed to close Haverty Road to general traffic at St Aidan's Park which will prevent through traffic from using the road and create quieter street for cyclists diverted from Malahide Road;
- The layout of all bus stops along the route have been enhanced to the latest design guidance;
- Some bus stop locations have been optimised to allow better connectivity for bus passengers;
- Cycle facilities have been updated to the latest design guidance; and
- Northern Cross junction updated to allow cycle crossings on all arms.

The Preferred Route drawings are located in [Appendix A](#): of this report.

# 1. Introduction and Background

## 1.1 Introduction

This report presents the PRO for the Clongriffin to City Centre CBC Scheme (herein after called the Proposed Scheme).

The Proposed Scheme has an overall length of approximately 5.7km, and is routed along the R107 Malahide Road from Mayne River Avenue – R107 Malahide Road Junction to the junction with Marino Mart - Fairview and also routed for cyclists via the junction with Malahide Road-Brian Road along Carleton Road, St Aidan's Park, Haverty Road and Marglann Marino, all in the County of Dublin and within the Dublin City Council (DCC) administrative area. The Clongriffin DART Station to Malahide Road via Clongriffin Main Street section is no longer proposed to be included as part of this project. It is noted that Clongriffin Main Street already has dedicated bus lanes and the scheme proposed by Dublin City Council, Belmayne Main Street and Belmayne Avenue Scheme, also incorporates dedicated bus lane and cycle infrastructure. From Marino Mart/Fairview the CBC ties into a separate project, Clontarf to City Centre Cycle and Bus Priority Project currently proposed by Dublin City Council and is not considered as part of this report. The Clontarf to City Centre Cycle & Bus Priority Project will provide segregated cycling facilities and bus priority infrastructure along a 2.7km route that extends from Clontarf Road at the junction with Alfie Byrne Road, to Amiens Street at the junction with Talbot Street in the City Centre.

The Proposed Scheme will significantly enhance travel by public transport by providing continuous bus priority as well as improved pedestrian and cycling infrastructure on the Malahide Road to/from the City Centre. Currently these key access corridors are characterised by traffic congestion and discontinuous inadequate bus and cycling infrastructure, meaning that for most of the journey, buses and cyclists are competing for space with the general traffic, impacting on the attractiveness of these sustainable modes. The objectives of the Proposed Scheme include provision of necessary bus, cycle, and walking infrastructure enhancements that will facilitate modal shift from car dependency contributing to an efficient, low carbon and climate resilient City. Refer to Figure 1-1.



Figure 1-1: Clongriffin to City Centre Core Bus Corridor Scheme

## 1.2 The Core Bus Corridor Infrastructure Works

The Proposed Scheme is one of twelve stand-alone core bus corridor schemes to be delivered under the BusConnects Dublin - Core Bus Corridors Infrastructure Works (herein after called the CBC Infrastructure Works). The CBC Infrastructure Works, once completed, will deliver the radial core corridors identified in the Transport Strategy for the Greater Dublin Area 2016 – 2035 (herein after called the GDA Transport Strategy) Core Bus Network which is discussed below.

The BusConnects Dublin Programme is the National Transport Authority’s (NTA) programme to greatly improve bus services in the Greater Dublin Area and the CBC Infrastructure Works is one element of that Programme, itself containing 12 stand-alone CBC schemes. It is a key part of the Government’s policies to improve public transport and address climate change in Dublin and other cities.

The NTA established a dedicated BusConnects Infrastructure team to advance the planning and construction of the CBC Infrastructure Works. It comprises an inhouse team including technical and communications resources and external service providers procured from time-to-time to assist the internal team in the planning and design of the 12 CBC Schemes.

The CBC Infrastructure Works will deliver a major component of the overall Core Bus Network as identified in the GDA Transport Strategy, encompassing the delivery of approximately 230km of dedicated bus lanes and 200kms of cycle tracks along 12 stand-alone CBC Schemes.

The 12 stand-alone Core Bus Corridor Schemes to be delivered under the CBC Infrastructure Works are (see Figure 1-2):

- **The Clongriffin to City Centre Core Bus Corridor Scheme;**
- The Swords to City Centre Core Bus Corridor Scheme;

- The Ballymun / Finglas to City Centre Core Bus Corridor Scheme;
- The Blanchardstown to City Centre Core Bus Corridor Scheme;
- The Lucan to City Centre Core Bus Corridor Scheme;
- The Liffey Valley to City Centre Core Bus Corridor Scheme;
- The Tallaght / Clondalkin to City Centre Core Bus Corridor Scheme;
- The Kimmage to City Centre Core Bus Corridor Scheme;
- The Templeogue / Rathfarnham to City Centre Core Bus Corridor Scheme;
- The Bray to City Centre Core Bus Corridor Scheme;
- The Belfield / Blackrock to City Centre Core Bus Corridor Scheme; and
- The Ringsend to City Centre Core Bus Corridor Scheme.

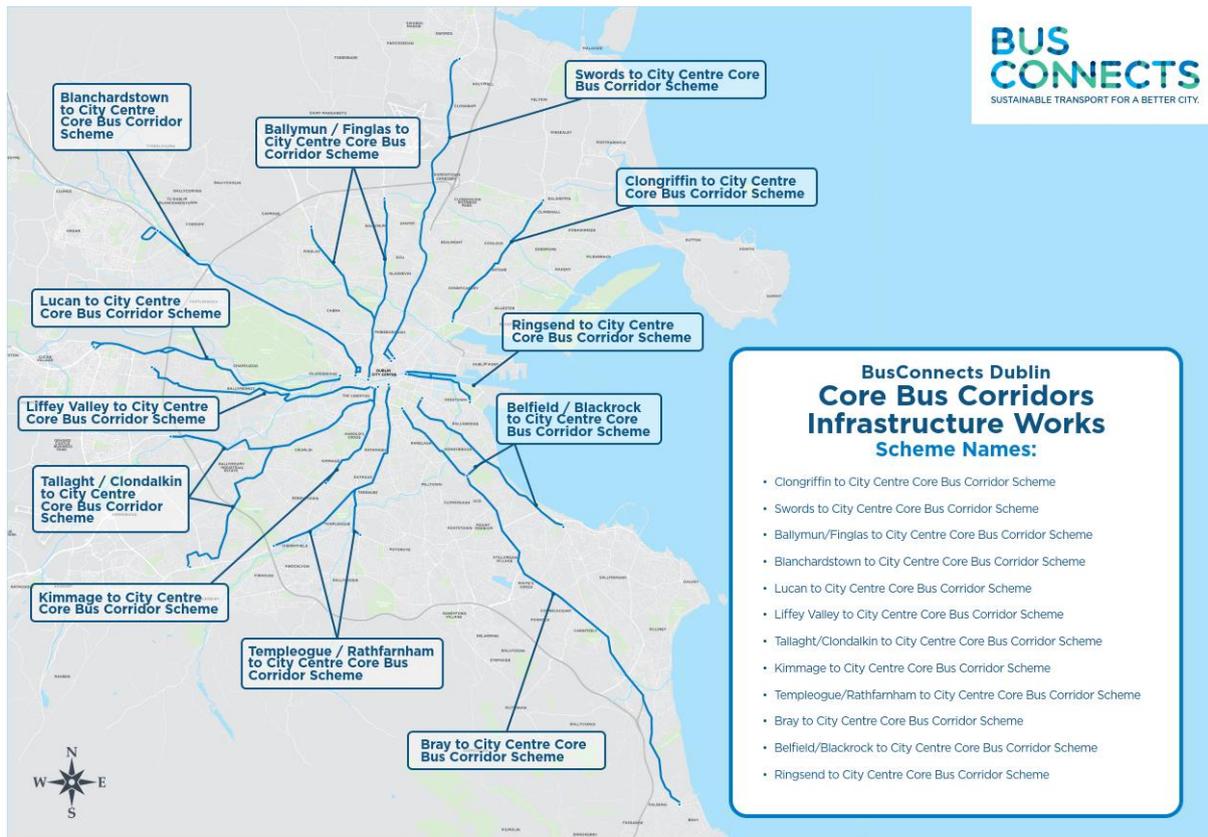


Figure 1-2: Core Bus Corridor Infrastructure Works.

### 1.3 Approach for this Report

In June 2018, the NTA published the 'Core Bus Corridors Project Report'. The report was a discussion document outlining proposals for the delivery of a CBC network across Dublin. The 'Clongriffin to City Centre' is identified in this document as forming part of the radial Core Bus Network.

As part of this process, the 'Clongriffin to City Centre CBC Route Selection Report' was published, which identified feasible options along the corridor, assessed these options and arrived at an EPR Option for the CBC. Submissions were invited from the public to provide comment on the EPR Option proposals and to inform subsequent design stages.

This 'Preferred Route Option Report' has been prepared for the Proposed Scheme, which will build on the assessment carried out in the 'Clongriffin to City Centre CBC Route Selection Report' .

The Route Selection Report referenced above, along with their associated appendices as published, are included in Appendix F: of this report.

The Study Area Analysis and MCA for the previously proposed feasible route options is considered to still be valid unless otherwise detailed and updated in this PRO Report. Any additional design work or optioneering has been assessed against the previously identified EPR Option and draft PRO in order to determine the PRO. Additional design development has been detailed in this report, and the resulting PRO referenced in this report has been based on:

- Updated topographical survey information;
- Output from public engagement and consultation activities on the EPR Option and Draft PRO proposals;
- Clarifications to the previous assessment in the 'Clongriffin to City Centre CBC Route Selection Report';
- Further design development and options assessment; and
- Change in the extent of the Proposed Scheme.

## 1.4 Report Structure

This report is structured as follows:

- Chapter 2: Planning and Policy Context – This chapter outlines the general background information to the CBC Infrastructure Works. It also outlines the policy context in which the CBC was developed and presents the concept of the CBC network as outlined in the Transport Strategy for the Greater Dublin Area 2016-2035 (NTA 2015) and the CBC Infrastructure Works.
- Chapter 3: Background and Public Consultation – This chapter outlines the summary of the Non-Statutory Public Consultation process.
- Chapter 4: Study Area – In this chapter, the study area for the CBC is detailed. The integration of the scheme with existing and planned transport networks is considered, along with considerations of the scheme for other road users.
- Chapter 5: Review of Previous Options and Feasibility Report - Clongriffin to City Centre CBC Route Selection Report. This chapter is a summary of the options assessment that was previously carried out in each section of the 'Clongriffin to City Centre CBC Route Selection Report'. An assessment has been made on the validity of the previous options assessment in the context of additional information collected, including through more detailed survey work undertaken and feedback from the public consultation process. Issues arising and key changes resulting from the design development are detailed.
- Chapter 6: Options Assessment – This chapter subsequently updates the previous options assessment work undertaken in light of the additional considerations set out in Chapter 5.
- Chapter 7: Preferred Route Option – This chapter gives the overall conclusions of the options assessment process and describes the PRO proposal.

## 2. Planning and Policy Context

### 2.1 Transport Strategy for the Greater Dublin Area, 2016 – 2035

#### 2.1.1 Introduction

The GDA Transport Strategy, which was published by the NTA in 2016, provides a statutory planning basis and framework for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (GDA).

The GDA Transport Strategy has been prepared in accordance with Section 12 of the Dublin Transport Authority Act, 2008 (as amended) and was approved in 2016 by the then Minister for Transport, Tourism and Sport (now the Department of Transport). The GDA Transport Strategy, along with supporting Government investment programmes, is an essential component for the orderly development of the GDA over the next 20 years. The purpose of the GDA Transport Strategy is stated as being “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”.

#### 2.1.2 The Core Bus Network as identified in the GDA Transport Strategy

The delivery of an efficient reliable bus service is an essential component of the GDA Transport Strategy as it will provide a viable and readily accessible alternative to private general traffic that is causing congestion problems in the GDA. As Dublin is a low density city there are few areas with the size and concentration of population for rail based public transport. This means that for most corridors in Dublin, bus travel represents the optimum form of public transport. Dublin City Bus Services carried 153 million passengers in 2019. In percentage terms, the bus system accounts for over 65% of public transport passenger journeys in the GDA; the Luas carries 20%, and DART and commuter rail services deliver the remaining 15%.

In terms of geographical reach and coverage, bus operations extend across every corridor in the Dublin region. Luas operates two fixed lines - Red and Green and heavy rail operates four railway services – Kildare, Maynooth, Northern and South-eastern lines. While the GDA Transport Strategy identified key rail-based enhancements it is underpinned by the bus-based city-wide public transport system. The GDA Transport Strategy identified a “Core Bus Network”, representing the most important bus routes within the GDA, generally characterised by high passenger volumes, frequent services and significant trip attractors along the routes. The Core Bus Network forms part of an overall integrated transport system planned for the GDA. In developing the GDA Transport Strategy, alternatives were considered by the NTA at both a corridor and overall network level.

The identified core bus network comprised radial bus corridors, orbital bus corridors and regional bus corridors. These corridors are generally characterised by discontinuity, whereby the corridors currently have dedicated bus lanes along only less than one third of their lengths which means that for most of the journey, buses and cyclists are competing for space with general traffic and are negatively affected by the increasing levels of congestion. This results in delayed buses and unreliable journey times for passengers.

The GDA Transport Strategy states that it is intended to provide continuous bus priority, as far as is practicable, along the core bus routes, with the objective of supporting a more efficient and reliable bus service with lower journey times, increasing the attractiveness of public transport in these areas and facilitating a shift to more sustainable modes of transport.

In Section 5.5.4 of the GDA Transport Strategy it states that "A number of the Core Radial Bus Corridors are proposed to be developed as Bus Rapid Transit routes, where the passenger numbers forecast on the routes are approaching the limits of conventional bus route capacity."

As design and planning work was progressed by the BusConnects Infrastructure team, it became clear that the level of differentiation between the BRT corridors and the CBCs would, ultimately, be limited, and that all of the radial CBCs should be developed to provide a similarly high level of priority service provision (i.e. to provide a consistency in terms of bus priority and infrastructure to support the bus services).

## 2.2 Greater Dublin Area Cycle Network Plan

The Greater Dublin Area Cycle Network Plan was adopted by the NTA in early 2014 following a period of consultation with the public and various stakeholders. This plan forms the strategy for the implementation of a high quality, integrated cycle network for the GDA.

There are a three primary (Routes 1C, NO4 and 1B) and secondary (Routes 1A, 1F, NO3, NO4 and NO5) cycle routes identified along the Propose Scheme. The Santry Greenway also crosses the Proposed Scheme. During the course of the analysis carried out to identify the preferred core bus corridor, the provision of these cycle routes was considered at all stages. Therefore, as part of the options assessment process, any upgrading of infrastructure to provide bus priority also needs to consider and provide for the required cycling infrastructure, where practicable, to the appropriate level and quality of service (as defined by the NTA National Cycle Manual) required for primary and secondary cycle routes.

## 2.3 Development Plan, Local Area Plans and Strategic Development Zones

### 2.3.1 Dublin City Council Development Plan 2016-2022

The Dublin City Council (DCC) Development Plan recognises the challenge that transport has in making an important contribution to make towards achieving a sustainable city. These key challenges for the City are outlined as follows:

- *Effective integration of land-use and transportation, and the management of access and mobility.*
- *Pro-active engagement and collaboration with communities to bring about further modal shift and effective mobility management.*
- *The expansion of the strategic cycle network along all major water bodies including the River Liffey and the canals.*
- *Improving the city centre environment for pedestrians through public realm enhancements and through improvement of the strategic pedestrian network.*
- *Ensuring maximum benefits are achieved from public transport improvements including Luas cross-city and the anticipated Bus Rapid Transit network.*
- *Managing city centre road-space to best address the competing needs of public transport, pedestrians, cyclists, and the private car.*
- *Increasing significantly the existing mode share for active modes, i.e. walking and cycling, and supporting the forthcoming National Policy Framework for Alternative Fuels Infrastructure.*

Therefore, sustainable forms of transport such as public transport, walking, and cycling are strongly promoted in this plan, which takes a pro-active approach to influencing travel behaviour and effective traffic management.

In the following tables are an extract of the development plan objectives for Modal Change and Active Travel, see Table 2-1 and Public Transport, see Table 2-2 which are aligned with the Proposed Development.

**Table 2-1: DCC Development Plan Objectives for Modal Change and Active Travel aligned with the Proposed Development**

Movement and Transport: Promoting Modal Change and Active Travel	
MT2:	Whilst having regard to the necessity for private car usage and the economic benefit to the city centre retail core as well as the city and national economy, 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, and to co-operate with the NTA, Transport Infrastructure Ireland (TII) and other transport agencies in progressing an integrated set of transport objectives. Initiatives contained in the government's 'Smarter Travel' document and in the NTA's draft transport strategy are key elements of this approach.

**Table 2-2: DCC Development Plan Objectives for Public Transport aligned with the Proposed Development**

Movement and Transport: Public Transport	
MT3:	To support and facilitate the development of an integrated public transport network with efficient interchange between transport modes, serving the existing and future needs of the city in association with relevant transport providers, agencies and stakeholders.
MT4:	To promote and facilitate the provision of Metro, all heavy elements of the DART Expansion Programme including DART Underground (rail interconnector), the electrification of existing lines, the expansion of Luas, and improvements to the bus network in order to achieve strategic transport objectives.
MT5:	To work with the relevant transport providers, agencies and stakeholders to facilitate the integration of active travel (walking, cycling etc.) with public transport, thereby making it easier for people to access and use the public transport system.
MT6: (i)	To work with Iarnród Eireann, the NTA, TII and other operators to progress a coordinated approach to improving the rail network, integrated with other public transport modes to ensure maximum public benefit and promoting sustainable transport and improved connectivity.

### 2.3.2 The Clongriffin-Belmayne (North Fringe) Local Area Plan 2012-2018

The Clongriffin – Belmayne (North Fringe) Local Area Plan (LAP) 2012 was extended for to December 2022 by resolution of DCC.

The Clongriffin – Belmayne (North Fringe) LAP 2012 seeks the preparation of an integrated masterplan for the area. The development of the masterplan is to supplement and underpin the growth of the new housing areas at Belmayne and Clongriffin in Dublin 13. The development of the wider area, known as Clongriffin – Belmayne (North Fringe), has been on-going since 2000 and the areas' strategic importance for providing housing for the City is reflected in Regional and National planning policy.

The Clongriffin - Belmayne (North Fringe) LAP 2012 Plan Key Movement and Transport Policies are listed in Table 2-3 which are aligned with the Proposed Development. The Clongriffin - Belmayne (North Fringe) LAP 2012 Plan Key Movement and Transport Objectives are listed in Table 2-4 which are aligned with the Proposed Development.

**Table 2-3: Clongriffin - Belmayne (North Fringe) LAP 2012 Plan Key Movement and Transport Policies**

Key Movement and Transport Policies	
MTP1:	To facilitate the completion of the existing road infrastructure network as identified in the movement and transport strategy.
MTP2	To promote co-ordination with Fingal County Council in the implementation of the trans-boundary road projects including completion of the Main Street into the Baldoyle/Stapolin LAP for public transport, walking and cycling priority, works to the junction of the R107/R139 and Drumnigh Cross re-alignment.
MTP3	To promote increased cycling and pedestrian activity by the development of cycle and pedestrian network of routes that connect with local parks, community facilities, employment areas, retail areas and public transport facilities.

**Table 2-4: Clongriffin - Belmayne (North Fringe) LAP 2012 Plan Key Movement and Transport Objectives**

Movement and Transport Objectives	
MTO1:	To develop routes through sites that are likely to remain vacant in the long term, as pedestrian/cyclists routes, eliminate barriers to movement and provide significantly enhanced permeability and through access to adjoining streets that are safe and pleasant to use by all.
MTO2:	To provide new patterns of pedestrian and cycle movement in both the east-west and north-south directions throughout the area that is coherent, direct, safe and convenient
MTO4	To facilitate enhanced patronage and efficient utilisation of public transport and promote walking and cycling, through a range of means including a reduced provision of car parking for commercial development
MTO6	To undertake an area wide traffic management plan including a review of the traffic operations of the R139/R107 Junction and Grange Road/Kilbarrack Road/Raheny Road Junctions
MTO10	That the design of all streets fully comply with the design standards and requirements of the Roads and Traffic Department of Dublin City Council to facilitate the orderly taking in charge process for all public roads. Requirements of Dublin City Council for street design including public lighting, traffic and pedestrian control signalling, street signage and traffic calming shall be ascertained at the design stages and completed if requested before taking in charge.
MTO12:	To liaise with Dublin Bus and the NTA on the operation of bus services and alignment of bus routes through the area having regard to the location of new housing, community facilities and other services and new street completions (offering the potential for new route options) as they occur in the LAP area.

### 2.3.3 Belmayne – Belcamp Masterplan 2020

DCC has prepared a draft masterplan for lands at Belmayne and Belcamp Lane in Dublin 13 and 17. The purpose of the masterplan is to demonstrate proposals for buildings, spaces, movement and land use for Belmayne and Belcamp Lane, including three dimensional drawings, in accordance with the vision, spatial framework, policies and objectives and the development framework as set out in the Clongriffin – Belmayne LAP 2012. Figure 2-1 indicates the proposed layout of the study area.



Figure 2-1 Belcamp Lane Study Area

The masterplan sets out plans for the following quantum of development:

Residential units	c. 2,200 – 2,600 units
Retail/café/commercial	c. 12,000 sq. m
Community/ educational	c. 25,500 sq. m

The masterplan has been developed to encourage residents and workers to walk and cycle to their destinations (schools, local facilities, parks) and to easily access public transport. To support a sustainable approach to travel, proactive integrated Mobility Strategies and Residential Travel Plans will be required to be developed and implemented for residential and mixed use development. Mobility Strategies would include car and bike share, high quality bike parking, mobility management and car parking provision. Residential Travel Plans will contain measures and initiatives designed to encourage a sustainable approach to travel.

## 2.4 The Aim and Objectives of delivering the Clongriffin to City Centre Core Bus Corridor Scheme

The aim of the CBC Infrastructure Works is to provide enhanced walking, cycling and bus infrastructure on this key access corridor in the Dublin region, which will enable and deliver efficient, safe, and integrated sustainable transport movement along the corridor.

The objectives are to:

- Enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements;
- Enhance the potential for cycling by providing safe infrastructure for cycling, segregated from general traffic wherever practicable;
- Support the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland’s emission reduction targets;
- Enable compact growth, regeneration opportunities and more effective use of land in Dublin, for present and future generations, through the provision of safe and efficient sustainable transport networks;

- Improve accessibility to jobs, education and other social and economic opportunities through the provision of improved sustainable connectivity and integration with other public transport services; and
- Ensure that the public realm is carefully considered in the design and development of the transport infrastructure and seek to enhance key urban focal points where appropriate and feasible.

## 3. Background and Public Consultation

### 3.1 Clongriffin to City Centre CBC Route Selection Report and Emerging Preferred Route

In early 2016, the NTA initiated plans to develop the network of CBCs identified in the GDA Transport Strategy. As part of this body of work, the 'Clongriffin to City Centre CBC Route Selection Report' (April 2018) was prepared which identified feasible options along the corridor, assessed these options and arrived at an EPR Option. These proposals formed the basis for the first Non-Statutory Public Consultation on this CBC.

### 3.2 First Non-Statutory Public Consultation – Emerging Preferred Route Option

The first Non-Statutory Public Consultation on the BusConnects CBCs took place on a phased basis. The first phase of consultation occurred from 14th November 2018 to 29th March 2019. The second phase ran from 23rd January 2019 to the 30th April 2019 and the final phase ran from 26th February 2019 until the 31st May 2019. The Clongriffin to City Centre CBC EPR Option formed part of the first phase of consultation, which closed on the 29th March 2019. The Information Brochure published as part of this consultation is included in [Appendix G](#): of this report .

There were 91 submissions received relating to the Clongriffin to City Centre CBC. These submissions ranged from individual submissions by residents, commuters and local representatives, to detailed proposals from public bodies, various associations and private sector businesses.

A brief summary of the feedback received on the Proposed Scheme during the public consultation is presented in this section of the report.

While a variety of matters were raised in the submissions, the key issues emerging from the consultation were as follows:

- Disability access;
- Noncompliance with Design Standards;
- Cyclist Safety;
- Pedestrian Safety;
- Driver Safety;
- Environmental Issues;
- Local Heritage Concerns;
- Malahide Road Access;
- Marino/ Fairview Diversion;
- Loss (property value, revenue, loss of function / parking, future planning gain etc.); and
- Suggestions and New Ideas.

Further detail on these issues can be found in the Public Consultation Submission Report – 1st Non-Statutory Public Consultation contained in [Appendix B](#): of this report.

### 3.3 Development of Draft Preferred Route Option

Following the first Non-Statutory Public Consultation, a review was undertaken of the scheme proposals along the route based on the following new information which was available for consideration:

- Detailed topographical survey along the route corridor;
- Submissions received during the first Non-Statutory Public Consultation; and

- Issues raised during meetings with community forum, resident groups and one-on-one meetings with directly impacted landowners.

As part of this review, several new design options were developed for consideration in specific areas where issues were identified. These new design options were subject to further options assessment as detailed in Section 6 of this report. The key route developments between the first round of Non-Statutory Public Consultation and the second round of Non-Statutory Public Consultation are summarised below:

- Between Kilmore Road junction and Killester Avenue, it is proposed to move the northbound cycle track and footpath inside the green area to minimise any impact on the existing walls and trees;
- Between Killester Avenue junction and Collins Avenue the road alignment has been altered to allow the retention of the mature trees and stone wall; and
- Between Griffith Avenue junction and Clontarf Road junction it is proposed to close Haverty Road to general traffic at St Aidan's Park Road to create a quiet street for cyclists.

### 3.4 Second Non-Statutory Public Consultation – Draft Preferred Route Option

In March 2020 the Draft PRO was published with the second round of Non-Statutory Public Consultation running from the 4<sup>th</sup> March 2020 through to the 17<sup>th</sup> April 2020. A public consultation open day was held on the 11<sup>th</sup> March 2020 in the Bonnington Hotel. The Information Brochure published as part of this consultation is included in [Appendix H](#): of this report.

While this Non-Statutory Public Consultation was completed, due to Covid-19 restrictions being imposed by Government in mid-March the planned Public Information Events were impacted. Consequently, there were just 30 submissions received relating to the Proposed Scheme. These submissions ranged from individual submissions by residents, commuters and local representatives, to detailed proposals from various associations and private sector businesses. A community forum, meetings with resident associations, and one-to-one meetings were held as part of the process. Refer to [Appendix C](#): of this report for the Public Consultation Submission Report – 2nd and 3rd Non-Statutory Public Consultation.

A brief summary of the feedback received on the Proposed Scheme during this second round of Non-Statutory Public Consultation are presented below, in general the comments were similar to those received in the first round of Non-Statutory Public Consultation:

- Disability access;
- Noncompliance with standards;
- Pedestrian safety;
- Driver safety;
- Cyclist safety;
- Environmental issues;
- Local Heritage concerns;
- Malahide road access;
- Marino/ Fairview diversion; and
- Loss (property value, revenue, loss of function / parking, future planning gain etc.).

### 3.5 Development of the Updated Draft Preferred Route Option

Following the second Non-Statutory Public Consultation, a review was undertaken of the scheme proposals along the route based on the following new information which was available for consideration:

- Updated topographical survey along the route corridor;

- Submissions received during the second Non-Statutory Public Consultation; and
- Issues raised during meetings with community forum, resident groups and one-on-one meetings with directly impacted landowners.

No material changes have resulted from the second round of Non-Statutory Public Consultation. The selected updated draft PRO identified formed the basis for the third Non-Statutory Public Consultation in November/December 2020.

### 3.6 Third Non-Statutory Public Consultation – Updated Draft Preferred Route Option

The third round of Non-Statutory Public Consultation for the CBC Infrastructure Works took place from 4<sup>th</sup> November 2020 until 16<sup>th</sup> December 2020 on the updated Draft PRO. The Information Brochure published as part of this consultation is included in Appendix I: of this report.

With the continuing effect of the Covid-19 pandemic and associated Government restrictions, the third Non-Statutory Public Consultation was held largely virtually. Virtual consultation rooms for each CBC were developed and the Information Brochure was published.

Along with offering a call back facility, the virtual consultation rooms provided a description of each Preferred Route from start to finish with supporting maps and included information of all revisions made, if any, since the previous rounds of Non-Statutory Public Consultation as well as other supporting documents.

The consultation period remained open until 16<sup>th</sup> December 2020 and submissions could be made by email, through the virtual consultation room or by post. All relevant information including the updated Information Brochures and the EPR Non-Statutory Public Consultation reports were made available on the BusConnects website (<https://busconnects.ie>) to view and download as part of the third Non-Statutory Public Consultation. In addition, landowner meetings were held over the phone and/or online, and minutes were recorded as part of the consultation process.

There were 150 submissions received as part of the Clongriffin to City Centre CBC third Non-Statutory Public Consultation. These submissions ranged from individual submissions by residents, commuters and local representatives, to detailed proposals from various associations and private sector businesses. While a variety of matters were raised in the submissions, the key issues emerging from the consultation were as follows:

- Disability access;
- Pedestrian safety;
- Driver safety;
- Cyclist safety;
- Environmental issues;
- Local Heritage concerns;
- Social impact;
- Haverly Road design;
- Loss (property value, revenue, loss of function / parking, future planning gain etc.); and
- Suggestions and new ideas.

The issues raised during the third Non-Statutory Public Consultation have been considered in the further development of the PRO.

## 4. Study Area

### 4.1 Introduction

In the previously completed Clongriffin to City Centre CBC Route Selection Report, the study area was taken to consider roads within 500m of the existing bus corridor. The study area ran from Clongriffin to the City Centre at Custom House Quay. The study area was generally developed to include the main trip generators between the City Centre and Clongriffin either side of the central spine formed by the existing Malahide Road (R107)

Due to the size of the study area and the vast quantity of information that would need to be reviewed the area was divided into two sections as shown in Figure 4-1.

Following the first Non-Statutory Public Consultation it was determined that the study area for Section 1 – North City, from Belmayne to Fairview, did not need to be amended and therefore remains as shown and described in the Clongriffin to City Centre Route Selection Report.

It is noted that Section 2 - City Centre, from Fairview to City Centre, is currently being progressed as part of the DCC Clontarf to City Centre Cycle and Bus Priority Project and is no longer part of this assessment.

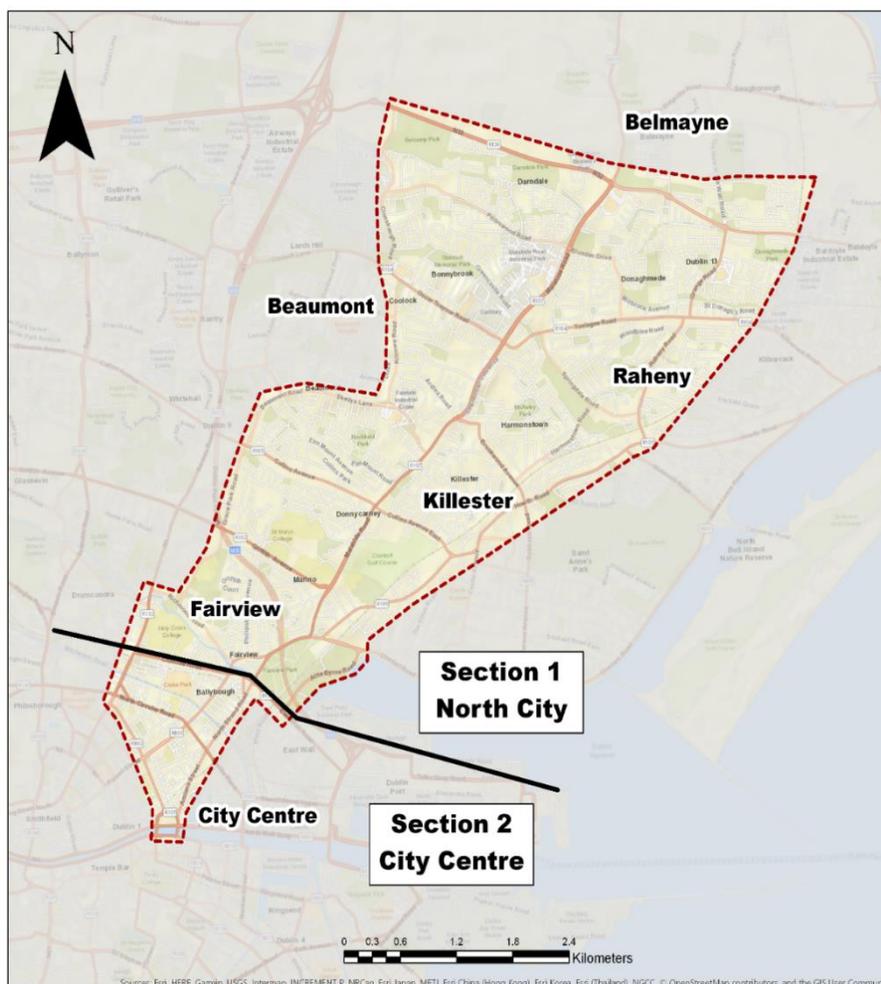


Figure 4-1: Clongriffin to City Centre Study Area

## 4.2 Physical Constraints and Opportunities

As the study area has not altered from the previously published Clongriffin to City Centre CBC Route Selection Report the noted potential physical constraints and opportunities remain valid. These are considered within the scheme assessment process and include the following

- Public transport infrastructure such as DART, LUAS, Dublin Bus and Irish Rail;
- Planned and committed developments including Belmayne/Clongriffin LAP;
- Trees and other natural and ecological features including rivers and streams;
- Architectural, archaeological and heritage sites and features;
- Protected structures adjacent to the route;
- Existing urban and sub-urban roads and street networks;
- Limited availability of land in urban and suburban areas;
- Large blocks of land, such as Clontarf Golf Club and Ardscoil Rís;
- Opportunity to link Belmayne Mainstreet and Belmayne Avenue to the Clontarf to City Centre Cycle and Bus Priority Project. This will create an end to end bus corridor and cycling facility; and
- Opportunity to provide better cycling infrastructure to aid access to educational facilities, shops, businesses and churches in alignment to GDA Cycle Network Plan route 1C.

## 4.3 Integration with Public Transport Network

### 4.3.1 Introduction

One of the key objectives of the Proposed Scheme is to enhance interchange between the various modes of public transport operating in the city and wider metropolitan area, both now and in the future. The EPR Option was developed to provide improved existing or new interchange opportunities with other transport services, including:

- Clongriffin DART station;
- Existing Dublin Bus services at numerous locations along the route;
- LUAS;
- Greater Dublin Area (GDA) Cycle Network Plan;
- Future public transport proposals such as DART Interconnector and Metro North; and
- Interface with proposed BusConnects Network Redesign including orbital, radial and local services.

Figure 4-2 and Figure 4-3 below show Dublin Bus Existing Services and an extract from BusConnects Network Redesign maps which shows the different interfaces along the corridor between Clongriffin to Marino Mart/ Fairview which is primarily along the proposed D Spine.

### 4.3.2 Existing Bus Services

The Clongriffin Corridor is the busiest, non-interurban, bus route corridor in Dublin carrying over 8,400 passengers in the peak periods (2017 Quality Bus Corridor Monitoring Report, NTA). The primary bus routes along the Clongriffin Corridor are indicated in Figure 4-2 and listed below:

- Route 14 - Beaumont (Ardlea Rd.) to Dundrum Luas Station;
- Route 15 - Clongriffin to Ballycullen Rd;
- Route 27 - Clare Hall to Jobstown;
- Route 27a - Eden Quay to Blunden Drive;
- Route 27b - Eden Quay to Harristown;
- Route 27x - UCD Belfield towards Clare Hall;
- Route 42 - Talbot St. towards Sand's Hotel (Portmarnock); and
- Route 43 - Talbot St. to Swords Business Park.

The following routes also cross the Malahide Road

- Route 17a - Blanchardstown to Naomh Barróg GAA; and
- Route 104 - Clontarf DART Station to Dublin City University (DCU).



Figure 4-2: Dublin Bus Existing Services –

### 4.3.3 Dublin Area Revised Bus Network

BusConnects Dublin will introduce a redesigned, higher capacity bus network which is more coherently planned and more understandable, delivering a better overall bus system for Dublin and the surrounding areas. Figure 4-3 indicates the final output from this study and illustrates that the D-Spine (D1,D2,D3,D4,D5) runs from the City Centre to the North East, serving areas along the Clongriffin Corridor.

The following is a list of the different Spines & Branches, Orbital Routes, Radial Routes and Local Routes that interact with the Proposed Scheme

- Spines & Branches
  - D-SPINE Malahide Rd - City Centre – Crumlin;
  - D1 Clongriffin - City Centre - Grange Castle;
  - D2 Clare Hall - City Centre – Citywest;
  - D3 Clongriffin - City Centre – Clondalkin;
  - D4 Swords Road - City Centre – Killinarden; and
  - D5 Edenmore - City Centre – Tallaght.
- Orbital Routes

- N4 Blanch. SC - Finglas - DCU - Collins Ave – Docklands;
- N6 Finglas - Santry - Coolock – Donaghmede; and
- N8 Blanch SC - Dublin Airport – Clongriffin.
- Radial Routes
  - 8 Beaumont Hospital - Clontarf - Abbey Street;
  - 20 Malahide - Kinsealy - City Centre;
  - 21 Swords Business Park - Kinsealy - City Centre; and
  - 73 Marino - City Centre – Walkinstown.
- Local Routes
  - L80 Clongriffin - Beaumont Hospital – DCU; and
  - D2 Clare Hall - City Centre – Citywest.

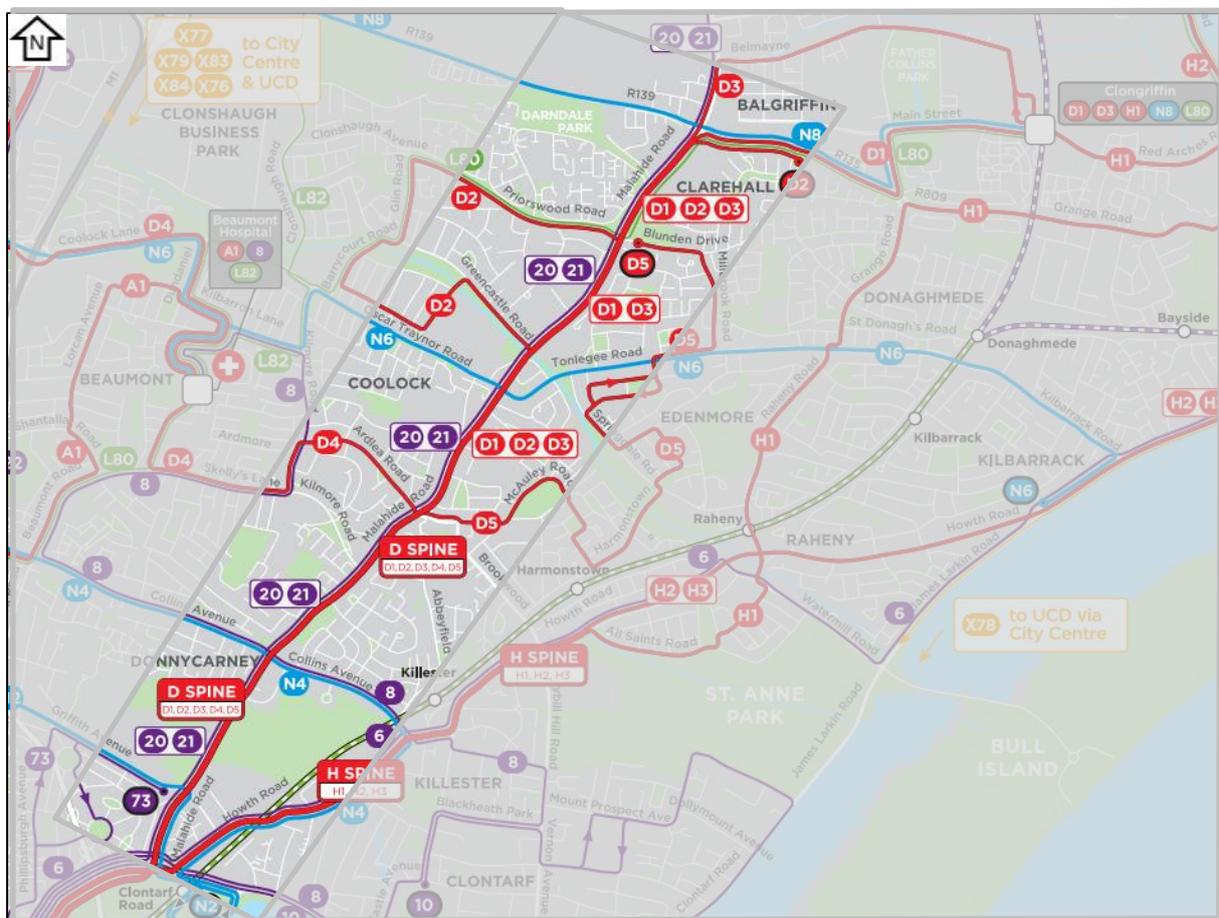


Figure 4-3: Revised Bus Network – North East Quadrant

#### 4.4 Compatibility with Other Road Users

A key objective of the Proposed Scheme is to improve pedestrian and cyclist facilities along the route. In general, segregated facilities, where practical, should be proposed for these modes.

During the course of the analysis carried out to identify the Proposed Scheme, the provision of these cycle routes was considered at all stages. Where it is considered impractical to construct pedestrian or cycle facilities along a particular section of the Proposed Scheme, such facilities will need to be provided along a suitable alternative route.

General traffic flow and local access will generally be maintained along the Proposed Scheme although it is inevitable that there will be impacts on traffic capacity along the route associated with

the reallocation of road space to Clongriffin to City Centre CBC priority and cycle tracks and the introduction of turning movement restrictions.

Figure 4-4 below is an extract from GDA Cycle Network Plan and shows the different interfaces along the corridor between Clongriffin to Marino Mart/ Fairview. Stub cycle tracks have been provided at all interfaces that adjoin the Proposed Scheme.

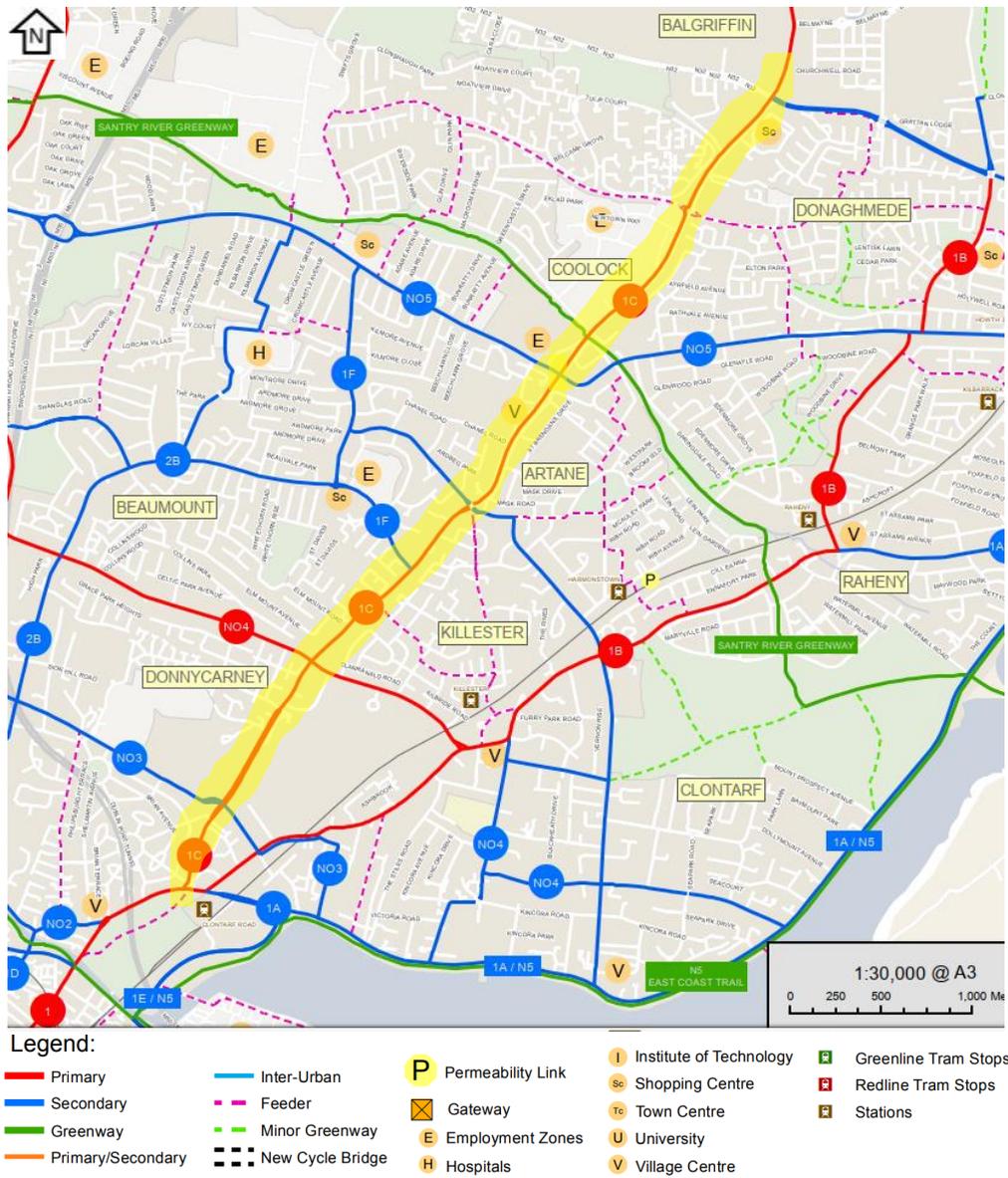


Figure 4-4: Extract from GDA Cycle Network Plan Maps

The Primary Route 1C follows the Malahide Road along the Proposed Scheme.

- The Primary Routes;
  - NO4 intersect with the Proposed Scheme at Collins Avenue Junction
  - 1B intersect with the Proposed Scheme at Clontarf Road Junction
- The Secondary Routes;
  - 1A intersect with the Proposed Scheme at Northern Cross Junction
  - 1F intersect with the Proposed Scheme at Kilmore Road Junction and Ardlee Road Junction

- NO3 intersect with the Proposed Scheme at Griffith Avenue Junction
- NO4 intersect with the Proposed Scheme at Gracefield Road Junction
- NO5 intersect with the Proposed Scheme at Tonlegee Road Junction.
- The Santry Greenway also crosses the Proposed Scheme near Greencastle Road Junction.

## 5. Review of Previous Route Selection Report

### 5.1 Introduction

Following a comprehensive review of the potential route options within the study area a two stage assessment process was used to narrow down the number of routes available to one optimal route per study area. These routes then converged to form the overall EPR Option which was presented at the non-statutory EPR Public Consultation for information and feedback.

As part of the EPR Public Consultation process the preparation of the Route Selection Report served to give the public a greater insight into how the process took place in addition to providing a transparency into the process of elimination used to determine the optimal route, given the information available and best engineering judgement.

From a review of submissions received as part of the EPR Public Consultation process, as well as a review of the topographical survey carried out since the publication of the EPR Option, a number of issues have been identified which may be overcome through the implementation of alternative design solutions. These issues are described in the following sections.

### 5.2 Assessment Methodology

#### 5.2.1 Methodology

##### 5.2.1.1 Methodology Introduction

The first step in the assessment process was to review the Route Selection Report. The development of the EPR Option during the Route Selection stage was carried out in two stages. The first stage was a high-level route options assessment or 'sifting' process which appraised several potentially viable route options in terms of their ability to achieve the project objectives. The second stage of the option assessment is a comparison of each viable scheme option for each of the study area sections using a MCA to determine the EPR Option.

This additional assessment does not supersede work undertaken during earlier stages.

##### 5.2.1.2 Stage 1 – Route Options Assessment – Sifting Stage

A 'spider's web' of route options was produced that accommodated the objectives of the scheme for each study area as shown in Figure 5-1.

As part of the sifting stage each of the route options were assessed using a high level qualitative method, based on professional judgement and general appreciation for existing constraints and conditions within the study area that could be ascertained from available surveys and site visits.

This exercise screened and assessed technically feasible route options, based on distinct, project specific objectives. In addition to being assessed on their individual merits, routes were also screened relative to each other allowing some routes to be ruled out if more suitable alternatives existed.

This assessment stage focused on engineering constraints together with a desktop study, identifying high level environmental constraints and population catchment analysis.

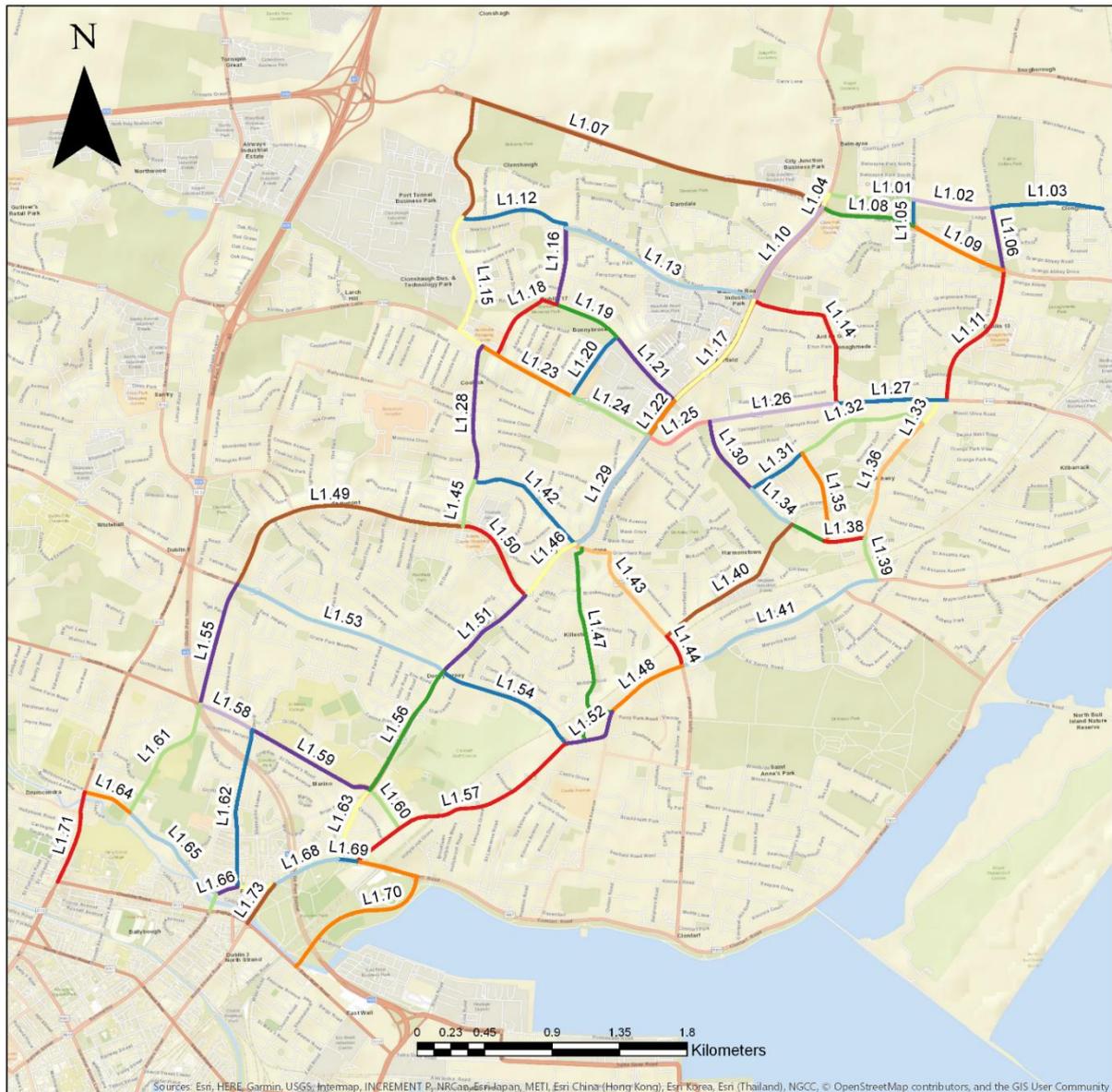


Figure 5-1: Spiders Web of Route Options

### 5.2.1.3 Stage 2 – Route Options Assessment – Detailed Assessment

Following completion of Stage 1, the remaining potentially viable options were progressed to Stage 2 of the assessment process. This process involved a more detailed qualitative and quantitative assessment using criteria established to compare the route options.

The indicative scheme for each route option was then progressed to a MCA. The ‘Common Appraisal Framework for Transport Projects and Programmes’ published by the Department of Transport, Tourism and Sport (DTTAS), March 2016, requires schemes to undergo a MCA under the following criteria;

- Economy;
- Integration;
- Accessibility and Social Inclusion;
- Safety;
- Environment; and
- Physical Activity.

Physical Activity was scoped out of the MCA at this stage as all route options carried forward, promote physical activity equally, physical activity is not considered to be a key differentiator between route options.

Table 5-1 presents a summary of the Proposed Scheme assessment criteria and sub criteria used as part of the Stage 2 detailed route options assessment process. With options compared and ranked against each other based as per Table 5-2. Options were compared based on a five-point scale, ranging from having significant advantages to having significant disadvantages over other route options. Table 5-2 shows the colour coding of the five-point scale, with advantageous routes graded “dark green” and disadvantageous routes graded “red”.

**Table 5-1: Assessment Criteria**

Assessment Criteria	Assessment Sub-Criteria
Economy	1.a. Capital Cost
	1.b. Journey-time Reliability and Consistency
Integration	2.a. Land Use Integration
	2.b. Residential Population and Employment Catchments
	2.c. Public Transport Network Integration
	2.d. Traffic Network Integration
	2.e. Cyclists and Pedestrian Integration
Accessibility and Social Inclusion	3.a. High Volume Trip Attractors
	3.b. Deprived Geographic Areas
Safety	4. Road Safety
Environment	5.a. Archaeological, Architectural and Cultural Heritage
	5.b. Flora and Fauna
	5.c. Soils and Geology
	5.d. Hydrology
	5.e. Landscape and Visual
	5.f. Noise, Vibration and Air
	5.g. Land Use and the Built Environment

**Table 5-2: Assessment Ranking**

Assessment Ranking	Description
	Significant advantages over the other options
	Some advantages over the other options
	Neutral compared to other options
	Some disadvantages over other options
	Significant disadvantages compared to other options

Following the application of the MCA the EPR Option was carried forward to first round of public consultation.

## 5.3 Emerging Preferred Route Option Summary

### 5.3.1 Emerging Preferred Route Option

#### 5.3.2 Clongriffin Train Station to Artane (Kilmore Road):

Following assessments undertaken as part of the Route Selection Report it was determined that the optimum route from Clongriffin to Artane (Kilmore Road) section is as follows:

- The EPR Option commences at Clongriffin DART Station and is routed via Clongriffin Main Street which will be extended to join the Malahide Road at Mayne River junction to the north of Northern Cross Junction. As mentioned in Section 1.1 the Proposed Scheme commences at Mayne River junction due to Clongriffin Main Street already has dedicated bus lanes and the scheme proposed by Dublin City Council, Belmayne Main Street and Belmayne Avenue Scheme, also incorporates dedicated bus lane and cycle infrastructure. From Mayne River junction the Proposed Scheme follows the EPR Option as it is routed via Malahide Road to the junction with Griffith Avenue. A new bus only junction will be constructed where Clongriffin Main Street meets Malahide Road as part of the Belmayne Main Street and Belmayne Avenue scheme proposed by DCC and signals will provide priority for buses using the Proposed Scheme route. The Northern Cross Junction, Malahide Road junction with the R139, will allow for bus priority to be provided at the signals and enhance facilities for cyclists and pedestrians.
- Further south along the Malahide Road existing bus lanes will be provided and segregated cycle tracks will be provided by using existing verge space or by reducing the width of the median where appropriate. All signalised junctions along this route will be upgraded to provide enhanced bus priority and pedestrian/cycle facilities. The existing roundabouts at Artane and at Priorswood Road junctions will be upgraded to signalised junctions. Some commercial parking north of the junction with Kilmore Road will be affected, along with land take from gardens which will result in a reduction in off-street parking capacity. Although parking will still be possible in all of these properties.

The proposed section of the route from Mayne River junction to Artane (Kilmore Road) meets the Proposed Scheme objectives and is the PRO for this corridor.

### 5.3.3 Kilmore Road to Griffith Avenue:

Following assessments undertaken as part of the Route Selection Report it was determined that the optimum route from Kilmore Road to Griffith Avenue section is as follows:

For the section south of Kilmore Road it is considered that there is only one viable route along the Malahide Road for the remainder of this corridor. This is primarily due to the lack of suitable road network through this area and significant constraints such as Clontarf Golf Club. The proposed section of the route from Kilmore Road to Griffith Avenue meets the Proposed Scheme objectives and is the PRO for this corridor.

- Some additional land take from portions of front gardens will be required in the vicinity of Collins Avenue (both sides). In this section, the cross section will be reduced to minimise land take. Parking capacity to the front of these residences will be reduced but parking will still be available.

### 5.3.4 Griffith Avenue to Marino Mart/Fairview:

Following assessments undertaken as part of the Route Selection Report it was determined that the optimum route from Griffith Avenue to Marino Mart/Fairview section is as follows:

As Malahide Road is constrained for the section between Griffith Avenue and Marino Mart/Fairview junctions, it is proposed that cyclists will be routed along Haverty Road and Brian Road to the west of the Malahide Road in order to reduce the required land take. Southbound cyclists will be required to cross the road twice, with cycle signals provided to facilitate these crossing movements. Along the Malahide Road it is proposed to widen into some residential properties on both sides of the road to provide an inbound and outbound bus lane on this section of the route. From the end of Malahide Road, at Fairview, the EPR Option ties into a separate project, Clontarf to City Centre Cycle and Bus Priority Project currently at advance stage of development by Dublin City Council.

### 5.3.5 Areas Identified for Re-Examination

Following the Non-Statutory Public Consultation feedback and design updates the following areas were identified for re-examination as part of this report:

- A review was undertaken of the impacts on the properties by Mornington Park on the Malahide Road. Consideration was given on the possibility of reducing the number of bus lanes from two to one thereby reducing the amount of land required by 3m. This is presented in Section 6.1;

- Consideration was given on the possibility of reducing the number of bus lanes from two to one in the section between Griffith Avenue and Marino Mart/Fairview. This is presented in Section 6.4; and
- In addition, a new further option was identified in section between Griffith Avenue and Marino Mart/Fairview. As part of the Preferred Route design all options, between Griffith Avenue and Marino Mart/Fairview, were reviewed inline with the received comments and suggestions and the outcomes of such are presented in Section 6.5.

For the remaining corridor the EPR Option is considered the optimum routing and should be taken forward as the PRO. Figure 5-2 indicates the section of the EPR Option in blue which is now confirmed as the PRO for the Proposed Scheme between Mayne River Junction and Clontarf Road/Fairview.

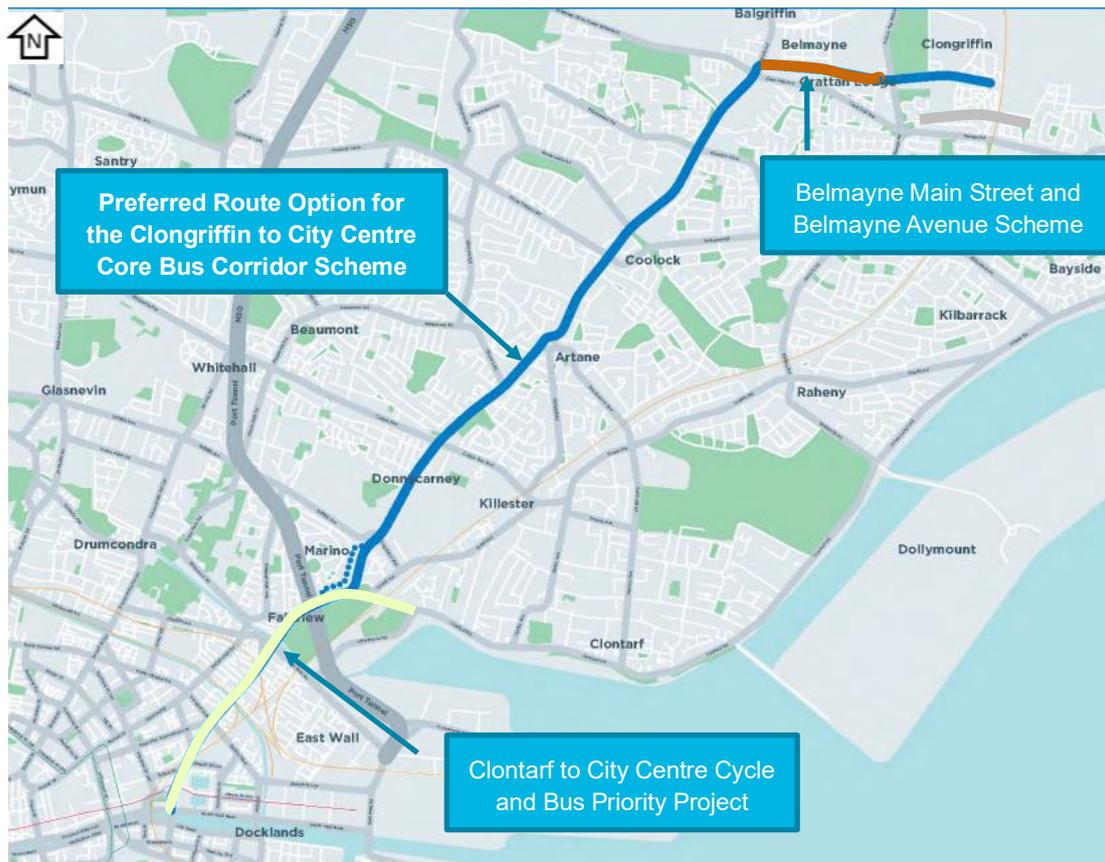


Figure 5-2: Preferred Route Option for the Clongriffin CBC

## 5.4 Summary

A summary of the EPR Option review areas discussed in this chapter and taken forward for detailed option assessment is presented below:

- Ardlea Junction to Kilmore Road Junction;
- Bus priority between Griffith Avenue and Marino Mart/Fairview; and
- Review of previous Route Options between Griffith Avenue and Marino Mart/Fairview.

While not impacting on the selection of the route option the following design options were considered as part of the development of the PRO:

- Kilester Avenue to Kilmore Road (Outbound) – separated footway to retain trees;
- Kilester Avenue Junction to Collins Avenue (Inbound) – Realign road into May Park to retain existing Mature Trees; and
- Closure of Haverty Road to general traffic which will prevent through traffic from using the road and create quieter street for cyclists diverted from Malahide Road;

These three design changes do not impact on the route selection; however, they have been outlined in more detail in Section 6 as they are key changes to the EPR design.

## 5.5 Carbon Considerations for the Route Options

In the case of the Proposed Scheme, carbon arises from the three potential sources namely User Carbon, Capital Carbon and Operational Carbon.

- User Carbon is produced by cars, light and heavy goods vehicles and buses. The majority of the current bus fleet is combustion engine based but a programme to transition the fleet to electric vehicles is in place. The Climate Action Plan 2021 outlines a range of targets for the electrification of private and public service vehicles in the medium term;
- Capital Carbon is produced by road construction and is a necessary investment to reconfigure the roadway infrastructure to facilitate a shift to sustainable modes for the safe, efficient and reliable movement of people. The Proposed Scheme is designed to put the infrastructure in place to facilitate a long-term User Carbon footprint reduction; and
- The Operational Carbon arises from the operations along the route such as junction signals, street lighting and routine maintenance.

The Proposed Scheme will start with an increase in carbon (capital carbon) from the construction activities: a necessary investment to achieve the long-term decarbonisation outcomes by facilitating the following Proposed Scheme objectives:

- Enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements; and
- Support the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets.

The impacts of construction capital carbon was initially considered as part of the route options assessment process. Ultimately the capital carbon elements for the Proposed Scheme will be less than that of the user carbon footprint and as such it was not considered to be a reasonable differentiator for the purposes of route options assessment. Although carbon was not directly assessed for the route options, each route option was assessed using a range of environmental factors including Noise and Air Quality which reflect similar contributory elements (i.e. construction and operational stage impacts) to that for carbon emissions.

Furthermore, the development of the preferred route option supports enhanced bus capacity and public transport potential in line with the objectives, which would contribute to reductions in user carbon and contribute towards the 500,000 additional trips by public transport by 2030 outlined as a target in the Climate Action Plan 2021.

In developing the PRO, consideration was given to the carbon generated by the Proposed Scheme during construction and operation. Many of the changes made to the Proposed Scheme design since the EPR proposal have resulted in minor changes in the construction carbon generated by the Proposed Scheme such as reducing lane widths to 3m, the altering of junction layouts, cycle tracks and footpaths. Additionally, significant design iterations were undertaken to mitigate against traffic re-distribution impacts and consequent impacts on greenhouse gas (GHG) emissions.

The preferred route proposals will improve bus journey times and reliability, which will contribute to achieving reductions in user carbon through an efficient public transport service. This would in turn make the existing bus services more attractive to existing road users and thereby encourage mode change from private car-based transport to more sustainable public transport commuting.

Construction carbon has been considered and assessed as part of the evolving Proposed Scheme design and the preparation of the supporting Environmental Impact Assessment Report (EIAR) documentation.

## 6. Options Assessment

### 6.1 Ardlea Junction to Kilmore Road Junction

Following on from the Public Consultations there were requests to review the impacts on the properties on Mornington Park, between Danieli Road and Kilmore Road on the Malahide Road. It was suggested that reducing the number of bus lanes from two to one would reduce the amount of land required by 3m. The location of the affected properties is shown in Figure 6-1 below.

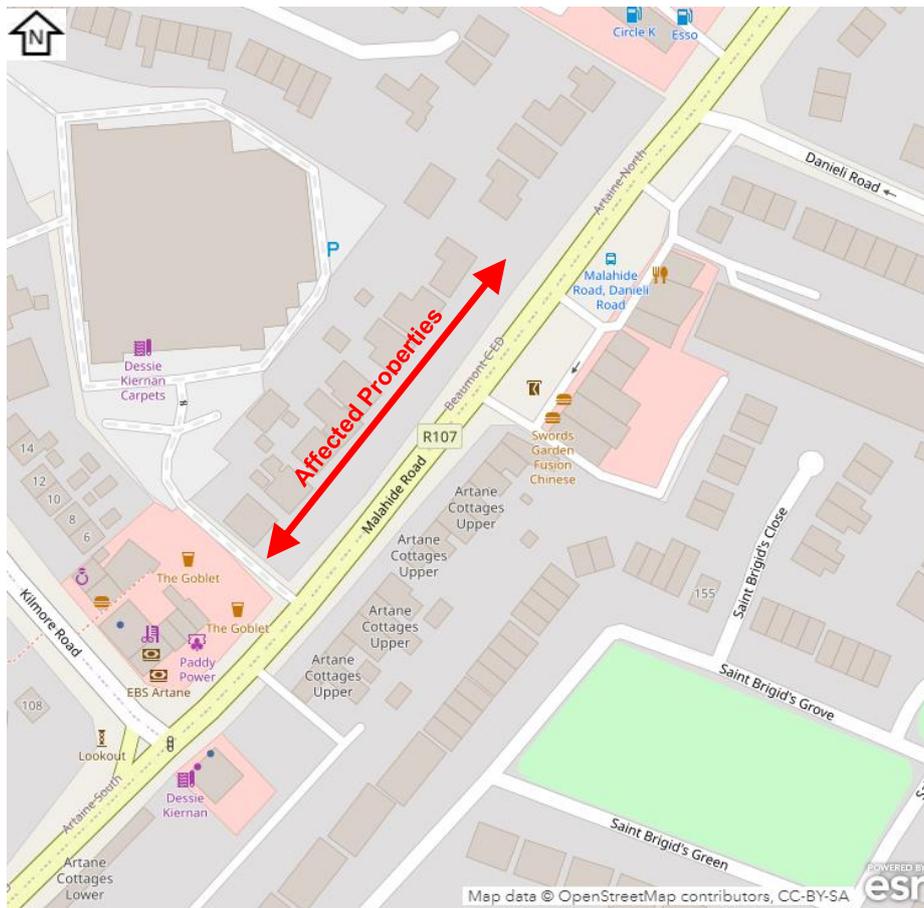


Figure 6-1: Ardlea Junction to Kilmore Road Junction Location Plan

The EPR proposed cross section at 8 Upper Artane Cottages is shown in Figure 6-2 below.

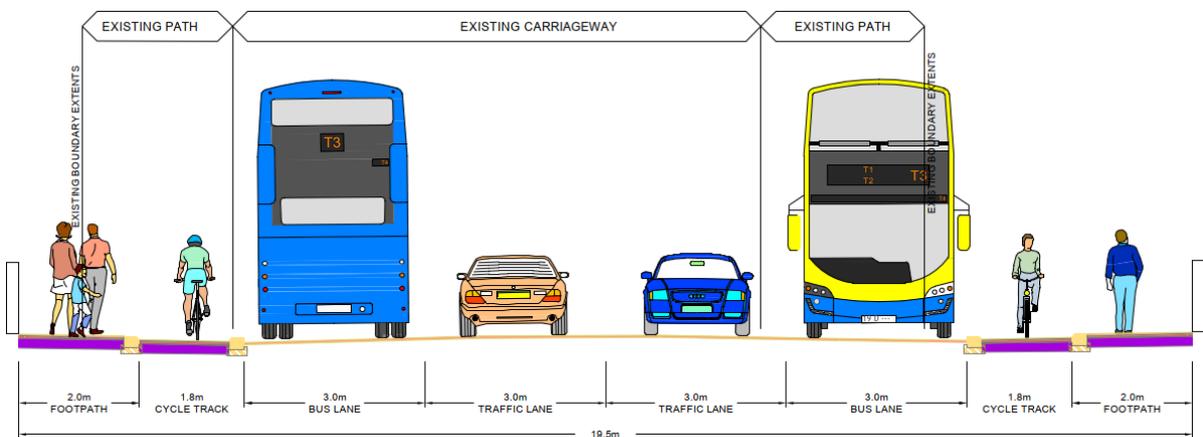


Figure 6-2: Proposed EPR Cross Section

Two options were considered utilising Bus Priority signals.

Option 1 was to utilise Bus Priority signals on the inbound carriageway between Danieli Road and Kilmore Road. Option 2 was to utilise Bus Priority signal in the opposite direction on the outbound carriageway between Kilmore Road and Danieli Road.

In reviewing the options, it is apparent that while there is benefit in both options in the reduction of land take and disturbance to residences, they do however have a significant disbenefit in regard to ensuring Bus Priority and maintaining the flow of traffic.

In considering Signal Controlled Priority it is necessary to look at the traffic implications both upstream and downstream of the area under consideration. For the Signal Controlled Priority to operate successfully queues or tailbacks on the single lane portion of the Signal Controlled Priority cannot be allowed to develop as this will result in delays on the bus service.

Currently on the Malahide Road north of Kilmore Road there are 17 buses operating inbound along this section of the Malahide Road during the morning peak, this is expected to increase to 21 by 2028. There are 7 inbound and 6 outbound buses operating along Kilmore Road during the morning peak, this is expected to increase to 9 inbound and 7 outbound by 2028.

For Option 1 the signalised junction at Kilmore Road would only allow 3 or 4 cars to queue before impacting on the shared lane section. Effectively the traffic signal controls, that would be located at Danieli Road would control all inbound traffic, including buses and signalling at Kilmore Road. This would significantly increase the delay to all inbound traffic including traffic from Kilmore Road. The proposed cross section at 8 Upper Artane Cottages for Option 1 is shown in Figure 6-3.

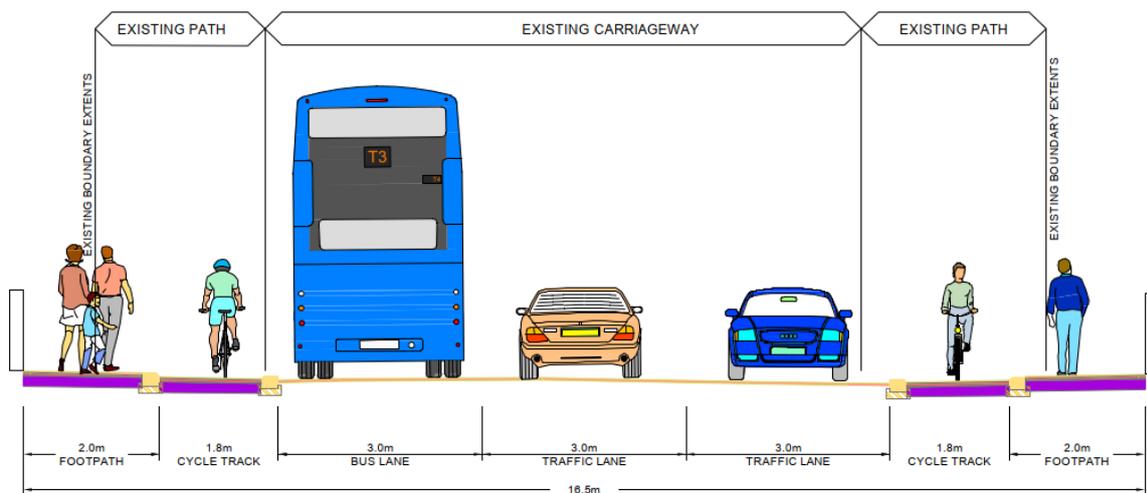
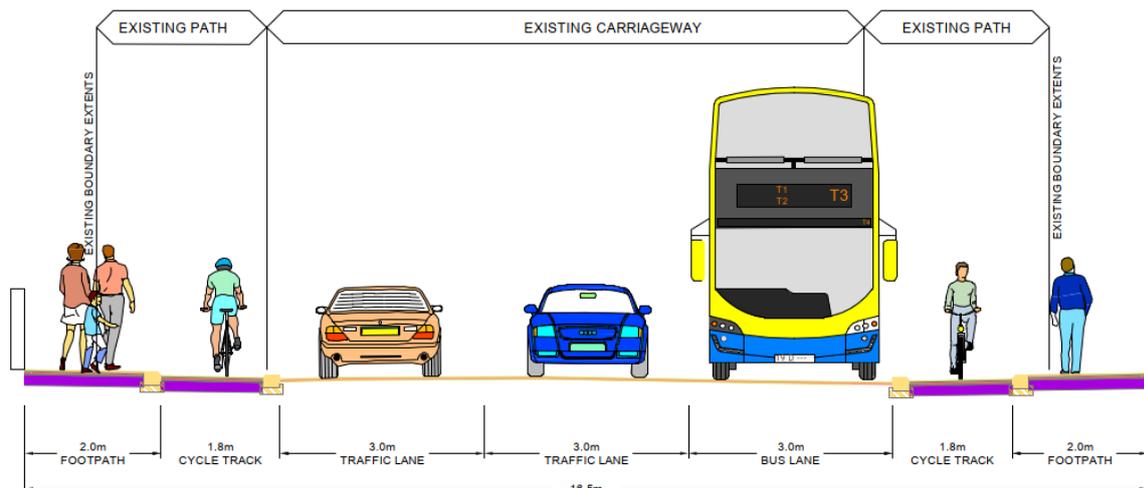


Figure 6-3: Proposed Cross Section Option 1

For Option 2 the signalised junction at Kilmore Road would need to hold general traffic outbound to give priority to the buses. Currently there are 13 buses operating outbound along this section of the Malahide Road during the morning peak, this is expected to increase to 20 by 2028. Effectively the Bus Priority signal located at Kilmore Road would control all outbound traffic but would have to synchronise with the Ardlea Junction to ensure no tailbacks develop to such an extent that they prevent operation of the Bus Priority. There would be additional delays on the Kilmore Road during the operation of the Signal Controlled Priority including on the buses that utilises Kilmore Road. There is also the potential for increase in delay to all inbound traffic including traffic from Kilmore Road. The proposed cross section at 8 Upper Artane Cottages for Option 2 is shown in Figure 6-4.



**Figure 6-4: Proposed Cross Section Option 2**

In terms of “Economy” all options are considered similar, with the higher capital cost of the EPR Proposal being balanced by the better “Journey-time Reliability and Consistency” when compared with Option 1 and Option 2.

In terms of Integration the EPR Proposal comes out stronger on both “Public Transport Network Integration” and “Traffic Network Integration” with Option 2 performing poorly on “Traffic Network Integration”.

In terms of “Accessibility and Social Inclusion” and “Safety” all options were considered similar.

In terms of “Environment” Option 1 and Option 2 perform better than the EPR Proposal due to the reduced impact on the residential gardens and the Proposed Scheme being further from the residential properties.

For this reason, Option 1 has been discounted as in terms of “Integration” as the option will lead to a reduced enhancement to the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements compared to the EPR Proposal. It is also considered that the balance of benefits when compared to the level of environmental impact is acceptable.

For this reason, Option 2 has been discounted as in terms of “Integration” as the option will not enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements. It is noted that it has environmental benefits, but it is felt that the Integration advantages of the EPR Proposal is preferable.

**Table 6-1: Ardlea Junction to Kilmore Road Junction Assessment**

Assessment Criteria	Assessment Sub-Criteria	EPR Proposal	Option 1	Option 2
1. Economy	1.a. Capital Cost			
	1.b. Journey-time Reliability and Consistency			
2. Integration	2.a. Land Use Integration			
	2.b. Residential Population and Employment Catchments			
	2.c. Public Transport Network Integration			
	2.d. Traffic Network Integration			

Assessment Criteria	Assessment Sub-Criteria	EPR Proposal	Option 1	Option 2
	2.e. Cyclists and Pedestrian Integration			
3. Accessibility and Social Inclusion	3.a. High Volume Trip Attractors			
	3.b. Deprived Geographic Areas			
4. Safety	4. Road Safety			
5. Environment	5.a. Archaeological, Architectural and Cultural Heritage			
	5.b. Flora and Fauna			
	5.c. Soils and Geology			
	5.d. Hydrology			
	5.e. Landscape and visual			
	5.f. Noise, Vibration and Air			
	5.g. Land Use and the Built Environment			

**Table 6-2: Summary of the MCA assessment for Ardlea Junction to Kilmore Road Junction**

Assessment Criteria	EPR Proposal	Option 1	Option 2
Economy			
Integration			
Accessibility and Social Inclusion			
Safety			
Environment			

## 6.2 Kilmore Road Junction to Killester Avenue

As previously noted the EPR Option routing is being carried forward as the PRO, although the following design change has been identified:

- Between Kilmore Road junction and Killester Avenue, it is proposed to move the western cycle track and footpath inside the green area to minimise any impact on the existing wall and trees.

An overview of the change is outlined below.

The EPR Option as outlined in the Route Selection Report indicated that there was a Cycle track and Footpath alongside the northbound carriageway in the northbound direction, towards Clongriffin.

On review of this EPR Option it became apparent that this proposal would have had a severe impact on the existing boundary wall and approximately 20 mature trees. To minimise the impact on both the wall and the trees an alternative proposal was reviewed to move both the cycle track and footpath away from the carriageway and into the adjacent green area. In looking at this proposal we considered the following criteria Economy, Integration, Accessibility and Social Inclusion, Safety and Environment.

From an Economy, Integration and Accessibility and Social Inclusion perspectives it was concluded that this proposal was neutral compared to the original proposal.

Regarding safety it was noted that it was a slightly positive compared to the original proposal. It is noted that there was a potential personal security risk for users being slightly isolated from the main

road though this is felt to be offset by having both cyclists and pedestrians being further away from the vehicular traffic and reducing the height of the wall between the green area and the paths so as pedestrians and cyclists are visible from the road at all times. In this regard it is also proposed to place lighting for the Cycle track and Footpath. This will allow better visibility to and from the road to the Cycle track and Footpath.

From an environmental perspective it was concluded that this proposal was advantageous in comparison to the original proposal in particular due to the retention of the existing trees, milestone and wall.

The detailed MCA Tables are provided in Appendix E: of this report.

**Table 6-3:Kilmore Road Junction to Killester Avenue Assessment**

Assessment Criteria	Assessment Sub-Criteria	EPR Proposal	Revised Proposal
1. Economy	1.a. Capital Cost		
	1.b. Journey-time Reliability and Consistency		
2. Integration	2.a. Land Use Integration		
	2.b. Residential Population and Employment Catchments		
	2.c. Public Transport Network Integration		
	2.d. Traffic Network Integration		
	2.e. Cyclists and Pedestrian Integration		
3. Accessibility and Social Inclusion	3.a. High Volume Trip Attractors		
	3.b. Deprived Geographic Areas		
4. Safety	4. Road Safety		
5. Environment	5.a. Archaeological, Architectural and Cultural Heritage		
	5.b. Flora and Fauna		
	5.c. Soils and Geology		
	5.d. Hydrology		
	5.e. Landscape and visual		
	5.f. Noise, Vibration and Air		
	5.g. Land Use and the Built Environment		

Therefore, the revised proposal, of setting back the footpath within the green area, is to be taken forward for design development as part of the Preliminary Design Process.

## 6.3 Killester Avenue Junction to Collins Avenue

As previously noted the EPR Option routing is being carried forward as the PRO, although the following design change has been identified:

- Between Killester Avenue junction and Collins Avenue the road alignment has been changed which will allow the retention of the mature trees and heritage wall.

An overview of the change is outlined below.

The EPR Option as outlined in the Route Selection Report indicated the setting back of a stone wall to the front of Thorndale. On review of this EPR Option it became apparent that this proposal would have had a severe impact on the existing stone wall and approximately 22 mature and significant trees to the back of this wall.

To minimise the impact on both the wall and the trees an alternative proposal was looked at to retain the existing stone wall and relocate the road eastwards into May Park as an alternative. The effect of doing this is that the existing southbound footpath would be converted to a cycle track and to minimise the impact on the semi-mature trees within the park it is proposed to utilise the existing footpath within the park. This will require the existing park fence to be removed and a new footpath and railing to be constructed within the Park.

In looking at this proposal relative to the existing proposal we considered the following criteria Economy, Integration, Accessibility and Social Inclusion, Safety and Environment.

From an Economy, Integration and Accessibility and Social Inclusion, and Safety perspectives it was concluded that this proposal was neutral compared to the original proposal.

From an environmental perspective it was concluded that this proposal was preferable to the original proposal in particular due to the minimising the effects on the existing mature trees and the retention of the semi-mature trees within May Park (Donnycarney Park) by setting back the boundary further.

**Table 6-4: Kilmore Road Junction to Killester Avenue Assessment**

Assessment Criteria	Assessment Sub-Criteria	EPR Proposal	Revised Proposal
1. Economy	1.a. Capital Cost		
	1.b. Journey-time Reliability and Consistency		
2. Integration	2.a. Land Use Integration		
	2.b. Residential Population and Employment Catchments		
	2.c. Public Transport Network Integration		
	2.d. Traffic Network Integration		
	2.e. Cyclists and Pedestrian Integration		
3. Accessibility and Social Inclusion	3.a. High Volume Trip Attractors		
	3.b. Deprived Geographic Areas		
4. Safety	4. Road Safety		

Assessment Criteria	Assessment Sub-Criteria	EPR Proposal	Revised Proposal
5. Environment	5.a. Archaeological, Architectural and Cultural Heritage		
	5.b. Flora and Fauna		
	5.c. Soils and Geology		
	5.d. Hydrology		
	5.e. Landscape and visual		
	5.f. Noise, Vibration and Air		
	5.g. Land Use and the Built Environment		

Therefore, the revised proposal, of realigning the Malahide Road towards May Park, is to be taken forward for design development as part of the Preliminary Design Process.

## 6.4 Bus Priority between Griffith Avenue to Marino Mart/Fairview

In the Route Selection Report the EPR Option, from Griffith Avenue to Marino Mart/Fairview along the Malahide Road, was identified as the preferred route for buses, while cyclists were rerouted through Marino. Following public consultation feedback and review of more detailed topographical information, it was concluded that this part of the route required consideration of Bus Priority signals on the inbound carriageway between Charlemont Road and Crescent Place to ensure the correct routing is chosen to be taken forward as the Preferred Route Option.

In reviewing this proposal, it is apparent that while there is benefit in the reduction of land take and disturbance to residences they do however have a significant disadvantage in regard to ensuring Bus Priority and maintaining the flow of traffic.

In considering Signal Controlled Priority it is necessary to look at the traffic implications both upstream and downstream of the area under consideration. For the Signal Controlled Priority to operate successfully queues or tailbacks on the single lane portion of the Signal Controlled Priority cannot be allowed to develop as this will prevent the signals from giving the Bus the priority.

Currently on this section of the Malahide Road there are 28 buses operating during the morning peak, this is expected to increase to 30 by 2028.

At the Marino Mart/Fairview Junction the H-spine and other city bound routes (8,10,20,21,6) are also present at the junction whereby due cognisance of impacts on bus priority for these route needs to also be considered. Significant signalling modifications to the Malahide Road arm of the Marino Mart/Fairview junction would be required to minimise traffic queuing within the shared section on approach to the Marino Mart/Fairview junction along the Malahide Road by providing enhanced green times in addition to upstream queue management (throttling of flow), as such this would have a negative impact on these other traffic movements, including buses, also traversing the junction and deemed to not be a viable option for people movement.

The junction between Clontarf Road and the Malahide Road is currently operating at capacity and it is considered that there is a high possibility of vehicles queuing back to Crescent Place and thus preventing inbound buses re-joining the Bus Lane. This would impact the reliability and punctuality of the inbound buses.

For these reasons Signal Controlled Priority has been discounted as it does not sufficiently meet the objective to enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements. It is also considered that the balance of benefits when compared to the level of environmental impact is acceptable.

## 6.5 Review of Previous Route Options between Griffith Avenue to Marino Mart/Fairview

In the Route Selection Report the EPR Option, from Griffith Avenue to Marino Mart/Fairview along the Malahide Road, was identified as the preferred route for buses, while cyclists were rerouted through Marino. A new further option was identified in section between Griffith Avenue and Marino Mart/Fairview. As part of the Preferred Route design all options, between Griffith Avenue and Marino Mart/Fairview, were reviewed inline with the received comments and suggestions and the outcomes of such are presented below.

Between Griffith Avenue and Marino Mart/Fairview, four route options were developed in the Route Selection Report and taken forward for detailed analysis as described in Section 5.6 of the Clongriffin to City Centre CBC Route Selection Report. Figure 6-5 and Figure 6-6 below indicates the schematic layout and cross sections of the four scheme options. It is noted that the layouts as described in Section 5.6 of the Clongriffin to City Centre CBC Route Selection Report extend beyond the extents of the Proposed Scheme.

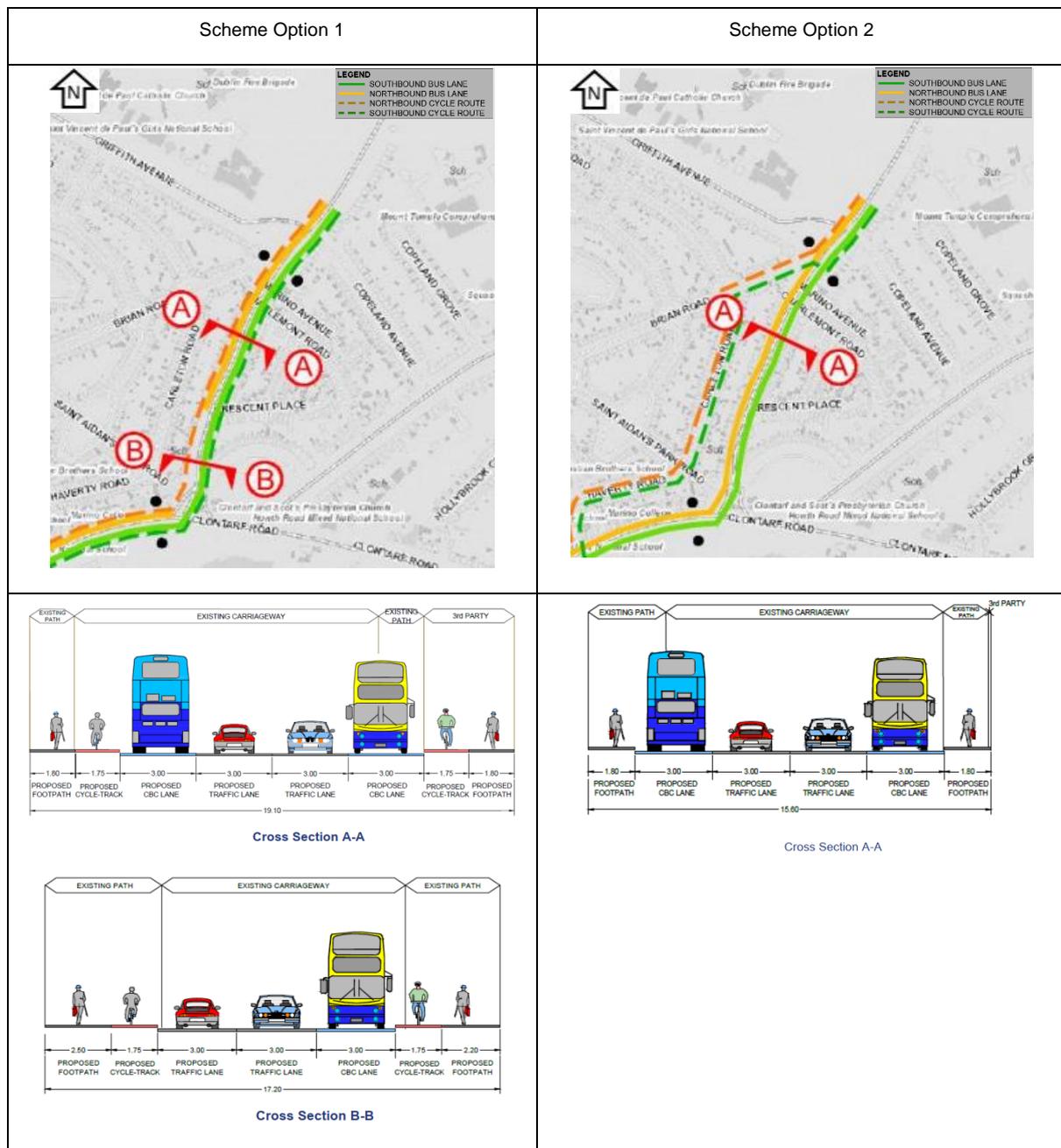


Figure 6-5: Scheme Options 1 and 2 for the Section between Griffith Avenue and Marino Mart/Fairview.

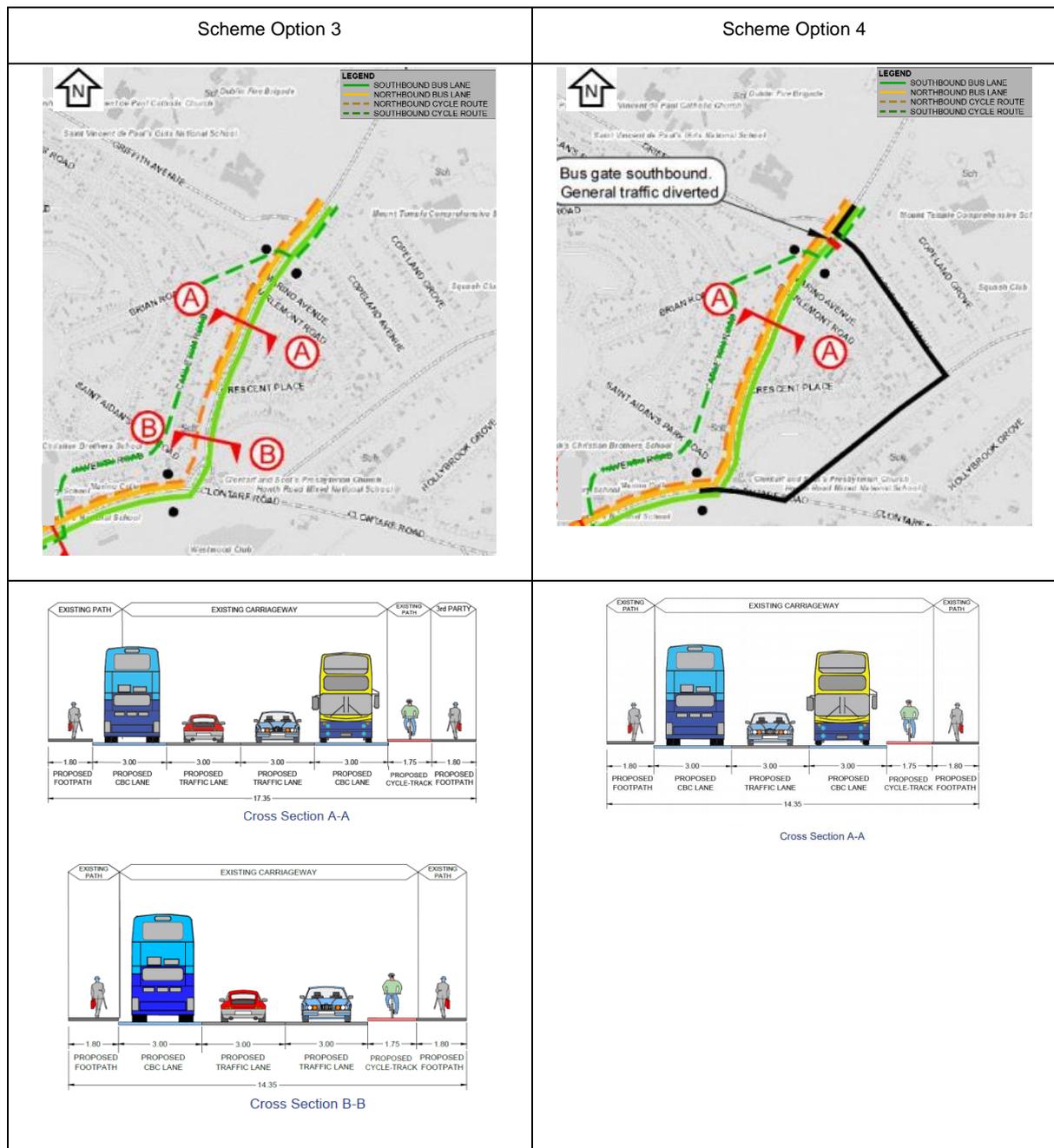


Figure 6-6: Scheme Options 3 and 4 for the Section between Griffith Avenue and Marino Mart/Fairview.

In addition to these four options a further option, a variation of Scheme Option 3, was identified for evaluation. In this option the layout on the Malahide Road remains the same however the cycle direction is changed to southbound (inbound), adjacent to the bus lane, with the northbound (outbound) cyclists using Haverty Road and Brian Road. With this revised layout the southbound cyclists do not have to cross the Malahide Road as they do with the Scheme Option 3. This option will be referred to as Scheme Option 3A and is illustrated in Figure 6-7 below, with the typical cross-sections shown in Figure 6-8 and Figure 6-9. It is noted that Scheme Option 3A illustrated in Figure 6-7 extends beyond the Proposed Scheme onto Marino Mart/Fairview.

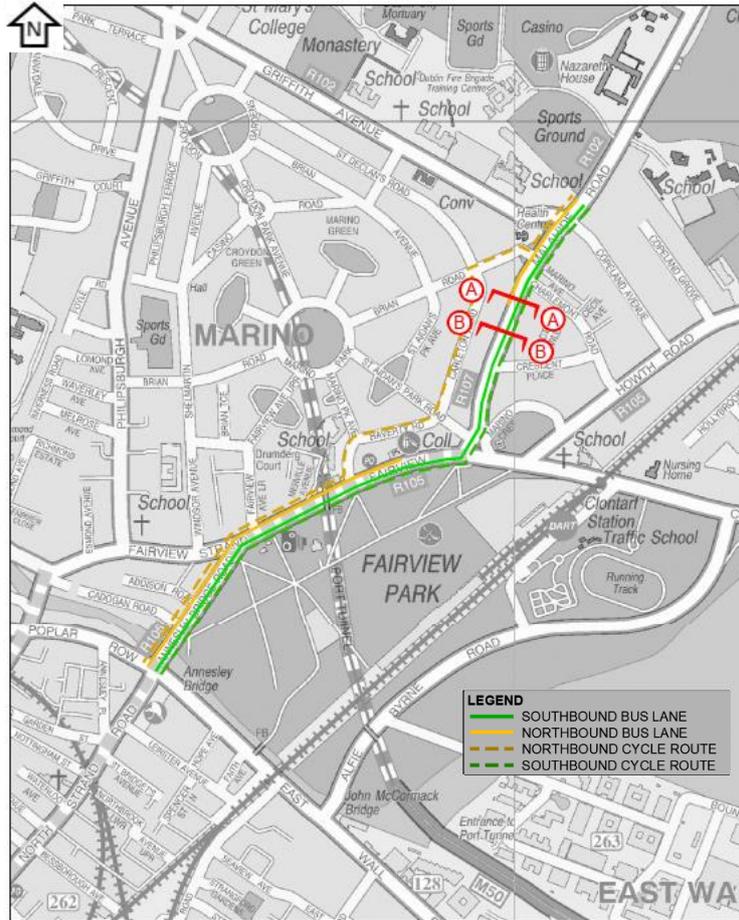
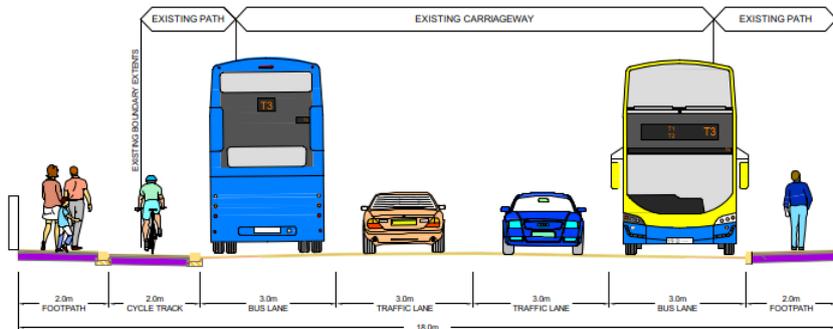
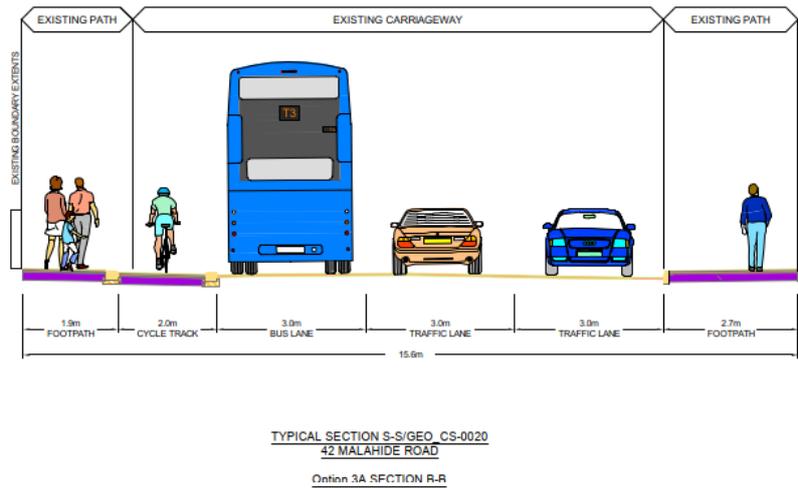


Figure 6-7: Route Option 3A Indicative Design



TYPICAL SECTION S-S/GEO\_CS-0020  
82 MALAHIDE ROAD  
Option 3A SECTION A-A

Figure 6-8: Route Option 3A Cross Section A-A



**Figure 6-9: Route Option 3A Cross Section B-B**

This Scheme Option 3 A is similar to Scheme Option 3 except that northbound cyclists would be diverted along Haverty Road and Brian Road. Southbound cyclists would be provided a cycle track inside the southbound bus lane and will continue through to Clontarf Road. Again, no northbound bus lane is provided until after the most constrained section at the southern end of Malahide Road has been passed. This will have a reduced Journey-time Reliability and Consistency assessment criteria when compared to the scheme options with continuous bus lanes. This scheme has cross sections of up to 18m, with land take required from the eastern side of the road only, although it is more significant than other options, i.e. while less properties are impacted the actual amount of land to be taken is similar. Parking capacity to the front of these residences will be reduced but parking will still be available.

### 6.5.1 Options Assessment – Griffith Avenue to Marino Mart/Fairview

Details of the revised Stage 2 route options assessment undertaken for the Griffith Avenue to Marino Mart/Fairview are summarised in Table 6-5 and Table 6-6, using the criteria as set out in Table 5-1: Assessment Criteria. The detailed MCA Tables are provided in Appendix D: of this report.

**Table 6-5: Revised Options Assessment (Sub-Criteria) - Scheme Options 1 to 4**

Assessment Criteria	Assessment Sub-Criteria	Scheme Option 1	Scheme Option 2	Scheme Option 3	Scheme Option 3A	Scheme Option 4
1. Economy	1.a. Capital Cost	Orange	Green	Green	Green	Green
	1.b. Journey-time Reliability and Consistency	Orange	Green	Orange	Orange	Green
2. Integration	2.a. Land Use Integration	Yellow	Yellow	Yellow	Yellow	Yellow
	2.b. Residential Population and Employment Catchments	Yellow	Yellow	Yellow	Yellow	Yellow
	2.c. Public Transport Network Integration	Yellow	Yellow	Yellow	Yellow	Yellow
	2.d. Traffic Network Integration	Green	Green	Green	Green	Red
	2.e. Cyclists and Pedestrian Integration	Green	Red	Red	Green	Red
3. Accessibility and Social Inclusion	3.a. High Volume Trip Attractors	Yellow	Yellow	Yellow	Yellow	Yellow
	3.b. Deprived Geographic Areas	Yellow	Yellow	Yellow	Yellow	Yellow
4. Safety	4.a Road Safety	Yellow	Yellow	Yellow	Yellow	Yellow
5. Environment	5.a. Archaeological, Architectural and Cultural Heritage	Red	Orange	Red	Red	Green
	5.b. Flora and Fauna	Orange	Orange	Orange	Orange	Green
	5.c. Soils and Geology	Yellow	Yellow	Yellow	Yellow	Yellow
	5.d. Hydrology	Yellow	Yellow	Yellow	Yellow	Yellow
	5.e. Landscape and visual	Orange	Green	Orange	Orange	Green
	5.f. Noise, Vibration and Air	Green	Green	Green	Green	Orange
	5.g. Land Use and the Built Environment	Orange	Green	Green	Green	Orange

In terms of “Economy” Scheme Option 1 has the greater Capital Cost as it requires the highest amount of infrastructure works and land acquisition in comparison to the others, as such it has received a less favourable ranking. The other schemes are likely to require a similar amount of infrastructure and land acquisition costs. Scheme Options 2, 3 and 3A have a smaller cross section in comparison to Scheme Option 1, although the amount of land each requires is very similar, the number of properties impacted is quite different, with Scheme Option 2 requiring smaller land take

from more properties. Scheme Option 4 requires no land take but has extra lengths of road and junction works associated with the diversion route.

In terms of the Sub-Criteria “Journey-time reliability and Consistency” continuous bus lanes (northbound and southbound) are provided in Scheme Option 2 and Scheme Option 4 and have ranked higher, providing a more resilient approach to bus journey time and reliability of the network..

In terms of “Accessibility and Social Inclusion” and “Safety” all options are considered similar.

In terms of “Integration” Scheme Option 1 would provide dedicated cycle tracks on Malahide Road in both directions and so ranks highest on “Cyclist and Pedestrian Integration” due to the direct alignment. Scheme Option 3 and Scheme Option 4 would provide online cycle facilities in one direction, although it requires cyclists to cross the road twice similar to Scheme Option 2. The new Scheme Option 3A does provide a better layout to the other 3 options by providing an online inbound and offline outbound cycle regime so is rated a little higher. Scheme Option 4 is also less favourable to the other schemes due to the traffic being diverted on to the Swords road.

In terms of “Environment”, the main determining factor between Scheme Options 1, 2, 3 and 3A is the amount of private land take required on Malahide Road. Scheme Option 1 requires the most, followed by Scheme Option 3 and Scheme Option 3A and then Scheme Option 2 (although the difference between Options 3 and 2 is quite small). Of significance is the impact on the boundaries of two protected structures on Malahide Rd (62 & 64), while all options impact these boundaries (apart from Scheme Option 4), Scheme Option 2 has the least impact with a small setback of the boundary, whereas other options require a setback of approximately 2.0m.

### 6.5.2 Conclusion and Preferred Route Option - Griffith Avenue to Marino Mart/Fairview

Based on the assessments above it has been determined that Scheme Option 2 offers the most appropriate route for the following reasons:

- It provides dedicated bus lanes in both directions, providing a more resilient approach to bus journey time and reliability of the network as a whole; and
- It is more favourable under the Environmental criterion in comparison to other options as it requires a much smaller set back in comparison to other options.
- It is noted that Scheme Option 2 is less favourable in terms of “Integration” when looking at Cyclists and Pedestrian Integration due to cyclists being diverted off the main road. This is not deemed to be a critical negative and therefore assessed to be allowed to proceed to the next stage.

Scheme Option 2 is therefore identified as the optimum routing for this section and is therefore brought forward as the Preferred Route Option.

**Table 6-6: Summary of the MCA assessment for Griffith Avenue to Fairview**

Assessment Criteria	Scheme Option 1	Scheme Option 2	Scheme Option 3	Scheme Option 3A	Scheme Option 4
Economy	Red	Green	Light Green	Light Green	Green
Integration	Green	Orange	Orange	Light Green	Red
Accessibility and Social Inclusion	Yellow	Yellow	Yellow	Yellow	Yellow
Safety	Yellow	Yellow	Yellow	Yellow	Yellow
Environment	Orange	Light Green	Orange	Orange	Light Green

## 6.6 Closure of Haverty Road to General Traffic

As previously noted the EPR Option routing is being carried forward as the PRO, although the following design change has been identified:

- Between Griffith Avenue junction and Clontarf Road junction it is proposed to close Haverty Road to general traffic at St Aidan's Park to create a quiet street for cyclists

An overview of the change is outlined below.

The EPR Option as outlined in the Route Selection Report indicated that traffic movements on Haverty Road would remain as per the existing situation, which is a peak hour turn ban. This turning ban is ignored by a substantial number of drivers, an example can be seen in Figure 6-10 which was taken during the hours of operation of the right turn ban at this location.



**Figure 6-10:** Right Turn from Marino Park Avenue to Haverty Road

Following feedback from the community where a request was made to prevent through traffic using this road, an assessment of the option was carried out and it was determined that it is feasible to close Haverty Road to general traffic at St Aidan's Park Road end thereby creating a quiet street for residences and cyclists.

In looking at this proposal we considered the following criteria Economy, Integration, Accessibility and Social Inclusion, Safety and Environment.

From an Economy, Integration and Accessibility and Social Inclusion perspectives it was concluded that this proposal was neutral compared to the original proposal.

Regarding safety it was noted that it was a slightly positive compared to the original proposal as the quantity of traffic would be limited to local traffic, removing the drivers using the area for shortcuts. It is noted that that emergency and refuse vehicles could find this proposal restrictive; it is therefore proposed to use a form of flexible barriers which will allow these vehicles use the junction at St Aidan’s Park Road end if necessary.

From an environmental perspective it was concluded that this proposal was preferable to the original proposal due to the reduction of traffic on this narrow residential street.

**Table 6-7: Closure of Haverty Road to general traffic Assessment**

Assessment Criteria	Assessment Sub-Criteria	EPR Proposal	Revised Proposal
1. Economy	1.a. Capital Cost		
	1.b. Journey-time Reliability and Consistency		
2. Integration	2.a. Land Use Integration		
	2.b. Residential Population and Employment Catchments		
	2.c. Public Transport Network Integration		
	2.d. Traffic Network Integration		
	2.e. Cyclists and Pedestrian Integration		
3. Accessibility and Social Inclusion	3.a. High Volume Trip Attractors		
	3.b. Deprived Geographic Areas		
4. Safety	4. Road Safety		
5. Environment	5.a. Archaeological, Architectural and Cultural Heritage		
	5.b. Flora and Fauna		
	5.c. Soils and Geology		
	5.d. Hydrology		
	5.e. Landscape and visual		
	5.f. Noise, Vibration and Air		
	5.g. Land Use and the Built Environment		

Therefore, the revised proposal, of closing Haverty Road to through traffic, is to be taken forward for design development as part of the Preliminary Design Process.



- Malahide Road/Tonglegee Road/Brookville Crescent; and
- Malahide Road/Gracefield Road/ Ardlea Road.

At Clarehall Avenue, it is proposed to modify this junction by removing the existing left turn slip road on each approach. It is intended to replace these slips roads with dedicated left turn lanes. On the northbound approach on the Malahide Road, it is proposed to extend the bus lane to the stop line. The EPR Option published in November 2018 proposed to maintain the 60kph speed limit on the Malahide Road between Clarehall Avenue and the existing roundabout at Gracefield Road, it is now proposed that the speed limit is reduced to 50kph from Clarehall Avenue towards the City Centre.

Between Clarehall Avenue and Blunden Drive, a single bus lane and two general traffic lanes will be maintained. The left slip road into the Clarehall Shopping Centre is intended to be removed, however, a dedicated left turn lane will be provided to service this traffic movement.

The EPR Option published indicated the proposal to upgrade the existing roundabout on Blunden Drive to a fully signalised junction. This modification will involve the removal of some median hedging and trees, though compensatory planting will be placed at the junction. The layout of this junction has now been altered to provide more segregation for cyclists approaching and through the junction.

The proposed pedestrian and cycle track linking Ayrefield Drive and Malahide Road is still proposed, however the proposed Toucan crossing has been relocated to more directly align with this new access.

At the junction of Tonglegee Road/Brookville Crescent, it is intended to remove the existing left turn slip roads and modify the junction to include for left turn lanes. Accommodation will be made for the future provision of cycle facilities on Tonglegee Road and Brookville Crescent as part of these proposed junction modifications.

Between Tonglegee Road junction and Gracefield Road junction, it is intended to retain the single bus and general traffic lane in each direction. A northbound segregated cycle track will be provided between the Malahide Road and Brookville Park. Southbound cyclists are proposed to be redirected on to the adjoining quiet street, St. Brendan's Avenue. Cyclists can then re-join the Malahide Road at Gracefield Road.

The EPR Option indicated the proposal to upgrade the existing roundabout at Gracefield Road to a fully signalised junction. As with most other junctions in the revised scheme the cycle facilities have been enhanced as part of the current review process with more segregation provided.

### 7.2.3 Gracefield Road to Marino Mart/Fairview–Malahide Road

Between Gracefield Road and Marino Mart/Fairview junctions, it is proposed to upgrade the following junctions on the Malahide Road:

- Malahide Road/Collins Avenue;
- Malahide Road/Copeland Avenue/Griffith Avenue; and
- Malahide Road/Marino Mart/Fairview.

Between Gracefield Road junction and Killester Avenue, it is intended to provide a continuous bus lane with a single general traffic lane in each direction. Dedicated cycle tracks and footway facilities will be maintained through this section. To accommodate this, limited areas of land take from private properties between these junctions is proposed. The EPR Option indicated that between Kilmore Road junction and Killester Avenue the western cycle track and footpath impacted on the existing wall and trees. It is now proposed to move the northbound cycle track and footpath inside the green area to minimise any impact on the existing wall and trees. This proposal also allows for the footpath adjacent the southbound carriageway to maintain its current width.

Between Killester Avenue junction and Collins Avenue, it is proposed to maintain the road cross section as described in the previous section. The existing road between these junctions required widening to accommodate the desired lane widths and bus stop facilities. The EPR Option indicated that land take may be required from the surrounding green space in Thorndale Grove and Mayfield Park, which impacted a stone wall and mature trees. The current proposal now indicates that land take will only be required from May Park, so the mature trees and wall opposite can be retained.

Between Mayfield Park and Collins Avenue it is proposed to utilise land take from private properties to facilitate the provision of a cycle and bus lane in each direction.

Between Collins Avenue Junction and Griffith Avenue Junction, it is proposed to remove the existing left turn slip road from Collins Avenue East Road. Again, it is intended to provide a continuous bus lane with a single general traffic lane in each direction. Currently, there are no continuous dedicated cycle tracks in both directions on this section of the Malahide Road. This issue is proposed to be addressed by altering the carriageway and widening works. This widening will involve land take between Donnycarney Church and Clancarthy Road. The proposed works will also require the removal of existing trees currently located on traffic islands or between the existing road and footpath, although opportunities to enhance the streetscape have been identified as part of this review.

Between Griffith Avenue junction and Marino Mart/Fairview junction, it is proposed to provide a bus and general traffic lanes in each direction. There are currently only three traffic lanes on this section of road. To facilitate the new four lane arrangement, it is intended to utilise limited land take from adjacent properties at the following locations:

- Between Copeland Avenue and Marino Avenue;
- Between Charlemont Road and Crescent Place; and
- Between Brian Road and St. Aidan's Park.

Because of the significant additional impacts on private properties, if cycle tracks were to be included on this section of the Malahide Road, it is intended to provide an alternative cycle route through a parallel, less trafficked route along Brian Road, Carleton Road and Haverty Road. Cyclists will then re-join at Marino Mart and tie-in with the Clontarf to City Centre Cycle and Bus Priority Project, currently being developed DCC. The EPR Option indicated that Haverty Road would remain as a through route, after taking into account the safety and convenience of all road users, as well as the residents of the area, it is now proposed to close Haverty Road for vehicular traffic at St Aidan's Park Road end of the street. Provision will be made to allow emergency vehicles use this junction. This proposal will also help to further reduce traffic on Brian Road, Carleton Road and Haverty Road.

The proposed bus lane works will tie into the proposed bus and cycle facilities on Clontarf Road, which is being advanced by DCC and has received Part VIII planning approval in 2017.

## 7.3 Scheme Changes

The following list highlights the main scheme changes between the published EPR Option and the PRO:

- The Proposed Scheme commences at the Mayne River Avenue / Malahide Road junction whereas previously it commenced at Clongriffin Dart Station. This change was primarily done as there is already a dedicated bus lane and cycling facilities along this section between Clongriffin Dart Station and Hole in the Wall Junction on Main Street, Clongriffin. Between Hole in the Wall Junction and Malahide Road DCC is progressing the Belmayne Main Street and Belmayne Avenue Scheme which includes dedicated bus lane and cycling facilities;
- Between Kilmore Road junction and Killester Avenue, it is proposed to move the western cycle track and footpath inside the green area to minimise any impact on the existing wall and trees;
- Between Killester Avenue junction and Collins Avenue the road alignment has been changed which will allow the retention of the mature trees and stone wall;
- Between Griffith Avenue junction and Clontarf Road junction it is proposed to close Haverty Road to general traffic at St Aidan's Park which will prevent through traffic from using the road and create quieter street for cyclists diverted from Malahide Road;
- The layout of all bus stops along the route have been enhanced to the latest design guidance;
- Some bus stop locations have been optimised to allow better connectivity for bus passengers;
- Cycle facilities have been updated to the latest design guidance; and
- Northern Cross junction updated to allow cycle crossings on all arms.

## 7.4 Scheme Benefits

### 7.4.1 Bus Journey Times

Through the provision of increased bus priority infrastructure, the Proposed Scheme will improve both the overall journey times for buses along the route and their journey time reliability. This will help to realise the aims and objectives of the Proposed Scheme as set out in Section 2.4 of this report.

The facilitation of bus priority along the Clongriffin to City Centre CBC, through the delivery of dedicated bus lanes is forecast to reduce bus journey times along the Clongriffin to City Centre CBC. In addition to this, journey reliability is forecast to be improved, by largely removing interaction between bus traffic and general traffic.

### 7.4.2 Walking and Cycling

In addition to the improvements to bus journey time and journey time reliability, the Proposed Scheme will provide benefits for cyclists and pedestrians.

The provision of dedicated cycling infrastructure along the Proposed Scheme as well as on parallel routes in some cases, will improve the level of service provided for cyclists along the route, making cycling trips safer and more attractive.

The Proposed Scheme will deliver substantial elements of the GDA Cycle Network Plan as outlined in Section 4.4, as well as linking with other proposed cycling schemes including the Santry Greenway and cycle routes 1A, 1B, 1F, NO3, NO4, NO5, contributing towards the development of a comprehensive cycling network for Dublin.

A number of public realm upgrades, for example, Brookville Park and Donnycarney, which will include widened footpaths, high quality hard and soft landscaping and street furniture being provided, where practicable, in areas of high activity to contribute towards a safer, more attractive environment for pedestrians. The scheme will also provide improved pedestrian crossing facilities along the route.

## 7.5 Summary

The PRO runs to approximately 5.7km long from end to end. The Preferred Route drawings, see [Appendix A](#), show the extent of the infrastructure proposed to deliver this Proposed Scheme and the length of the primary interventions are summarised in the Table 7-1 and Table 7-2 below.

**Table 7-1: Bus Priority Comparison**

Bus Priority	Existing (km)	Proposed (km)
<b>Bus Lanes</b>		
Inbound	5.0	5.7
Outbound	4.4	5.7
<b>Total Bus Priority (both directions)</b>	<b>9.4</b>	<b>11.4 (+21%)</b>

**Table 7-2: Cycle Facility Comparison**

Cycle Facilities	Existing (km)	Proposed (km)
<b>Cycle Tracks – Segregated</b>		
Inbound	0.2	4.7
Outbound	0.2	5.3
<b>Cycle Lanes – Non-segregated</b>		
Inbound	3.5	1.2
Outbound	4.2	0.7
<b>Total Cycle Facilities (both directions)</b>	<b>8.1</b>	<b>11.9 (+47%)</b>



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