

**Tallaght / Clondalkin  
to City Centre Core  
Bus Corridor Scheme**  
February 2023

**Preferred  
Route  
Option  
Report**

**BUS  
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

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## Glossary of Technical Terms

**Signal Controlled Priority** - Signal Controlled Priority (SCP) 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.

**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.

**Virtual Bus Priority** – This refers to cases where physical bus priority (i.e. bus lanes) is not provided, and instead, bus priority is provided within the general traffic lane through the use of signal-controlled bus priority or bus gates to control the movements of general traffic.

**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 for signalised junctions as part of the CBC Infrastructure Works where practicable

**Quiet Street Treatment** – Where Core Bus Corridor 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.

**Carbon** - The term Carbon is used to refer to carbon emissions or greenhouse gas emissions interchangeably.

# Executive Summary

## Introduction

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

The aim of delivering the Tallaght / Clondalkin 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 Tallaght/Clondalkin to City Centre Core Bus Corridor (herein after called the 'Proposed Scheme') consists of two sections, namely:

- The Tallaght to City Centre Section (previously Greenhills to City Centre Core Bus Corridor); and
- The Clondalkin to Drimnagh Section (previously Clondalkin to City Centre Core Bus Corridor).

The entire Proposed Scheme measures approximately 15.5 km along the CBC corridor with an additional offline cycling facility approximately 3.9 km in length.

The Tallaght to City Centre section, begins at the junction of Old Blessington Road/Cookstown Way and is routed along Belgard Square West, Belgard Square North, Belgard Square East, Blessington Road, Main Road, Old Greenhills Road to the junction of Greenhills Road and Bancroft Park. From here the Proposed Scheme is routed along the R819 Greenhills Road to Walkinstown Roundabout via new link roads; in the green area to the east of Birchview Avenue/Treepark Road; in the green area to the south of Ballymount Avenue, and in the green area to the east of Calmount Road. From Walkinstown Roundabout the main Core Bus Corridor is routed along the R819 Walkinstown Road to the junction with R110 Long Mile Road and Drimnagh Road. The Clondalkin to Drimnagh section commences at this junction and the Proposed Scheme is routed along the R110 to the junction of Dean Street and Patrick Street via Drimnagh Road, Crumlin Road, Dolphins Barn, Cork Street, St Luke's Avenue and Dean St. From here the Proposed Scheme is routed along the R137 via Patrick Street to the junction at Winetavern Street and Christchurch Place where the Proposed Scheme terminates within the City Centre.

The Clondalkin to Drimnagh section, begins at the junction of New Nangor Road and Woodford Walk and is routed along the R134 New Nangor Road, R810 Naas Road, R112 Walkinstown Avenue and the

R110 Long Mile Road to the junction of Walkinstown Road and Drimnagh Road, where it will join the Tallaght to City Centre section of the Proposed Scheme.

The Proposed Scheme includes an offline cycle facility between Walkinstown Roundabout and Parnell Road (Grand Canal) which provides a more direct route towards the city via Bunting Road, Kildare Road and Clogher Road.

The start of the Tallaght to City Centre section has been identified to facilitate bus movements from Old Blessington Road and Cookstown Way to the proposed new Tallaght Bus Interchange along Belgard Square West which will allow for interchange with the red line Luas and serve as the terminus for several buses including the A3, F1, D5 spine routes, W2, W4, W6, S6 orbital routes and 71, 85, L44 local routes. This will also act as the focal point for other through bus routes in the area. The start of the Clondalkin to Drimnagh section has been identified to coincide with the location where three high frequency branch routes (D1, D3, G1) converge at the junction of Woodford Walk and New Nangor Road. The end of the Proposed Scheme, within the city centre, has been identified to tie into the Dublin City Council (DCC) proposal for a contraflow bus lane on Winetavern St where outbound bus services from the Quays can continue along the corridor.

Priority for buses will be provided along the entire route, consisting primarily of dedicated bus lanes in each direction, with alternative measures proposed at particularly constrained locations. On the Tallaght to City Centre section, bus gates have been proposed along Belgard Square West, Belgard Square East, Blessington Road, Old Greenhills Road (opposite Bancroft Park) and Clogher Road (at Sundrive Road Junction), which will be restricted to buses, pedestrians, cyclists, and other authorised vehicles.

Bus Priority Signalling has been proposed along Crumlin Road between Raphoe Road and Brickfield Drive wherein general traffic will be managed by signals to facilitate bus priority along this constrained section of the Proposed Scheme. Clonard Road and Bangor Drive will be restricted to one way access only as part of this proposal. Bus Priority Signalling will also be provided along Dean Street within the City Centre where buses will be given priority over general traffic. On the Clondalkin to Drimnagh section, Bus Priority Signalling is provided at the M50 overbridge where outbound buses will be given priority over general traffic for the short section of road under the bridge. At the R810 Naas Road Walkinstown Avenue junction, Bus Priority Signalling will be utilised for right turning inbound buses along the D spine. As part of this proposal eastbound left turning general traffic from the R810 Naas Road to Kylemore Road will be facilitated via John F Kennedy Drive. Similarly, Bus Priority Signalling will be utilised to prioritise right turning outbound buses at the junction of R110 Long Mile Road and Walkinstown Avenue.

Cycle facilities are provided along the length of the corridor where practicable to do so. Where this could not be achieved between Walkinstown Roundabout and Parnell Road (Grand Canal), a parallel alternative cycle route is provided along Bunting Road, Kildare Road and Clogher Road to link into the Grand Canal cycle route at Parnell Road.

On the Tallaght route two new cycle/pedestrian bridges are proposed adjacent to the existing M50 overbridge to improve the pedestrian and cycling facilities and to allow for dedicated bus lanes on the existing bridge. On the Clondalkin route a new pedestrian and cycle bridge is proposed at the junction of R134 New Nangor Road and R810 Naas Road to improve pedestrian and cycling permeability and safety.

The Proposed Scheme also entails the construction of new sustainable transport links along the Tallaght route which generally follow the alignments of the previously approved Part 8 schemes proposed by South Dublin County Council (SDCC) with a revised cross section to provide for sustainable transport corridors and minimise impacts on the surrounding environment. A new 620m (approx.) long bus/cycling/pedestrian link road will be constructed within the green area to the east of Birchview Avenue/Treepark Road with landscaping proposals provided and new two-way cycling links to facilitate access to Tymon Park and surrounding amenities. Two sustainable link roads will be constructed in the Ballymount area due to the existing width constraints within the existing Greenhills Road to the east of the M50. The existing Ballymount Road Upper connection will be closed to vehicular traffic and a new 220m (approx.) long link road to the south of Ballymount Avenue will provide a connection to Greenhills Road. The existing R819 Greenhills Road will be retained for local access and cycling facilitates with a cul-de-sac treatment to the northern end where a new 250m (approx.) sustainable transport link in the green area to the east of Calmount Road will be constructed. To maintain access for local businesses

along the R819 Greenhills Road in this area a new roundabout will be constructed and 90m (approx.) link road to connect R819 Greenhills Road with Calmount Avenue which generally aligns to the previous SDCC Part 8 proposals for the area.

Where key changes have been made to the design, since the publication of the Emerging Preferred Route (EPR) Option in January 2019, options have been assessed using a Multi-Criteria Analysis (MCA) to determine the Preferred Route Option (PRO). 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 non-statutory 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 material scheme changes between the published EPR Option and the PRO:

- A bus interchange is proposed on Belgard Square West to facilitate interchange between bus, Luas and the town centre;
- On Belgard Square North, it is proposed to provide a segregated cycle lane in each direction. This will provide improved cycle access to the hospital from Belgard Road;
- The route of the CBC has been altered and now passes through Tallaght Village rather than the Technological University Dublin (TUD), Tallaght. This will require the reopening of Old Greenhills Road to form a new bus-only junction with R819 Greenhills Road;
- At Park View, the proposed alignment has been altered to allow general traffic to remain on the existing R819 Greenhills Road with a sustainable bus/cycle link road proposed in the green area parallel to Birchview Avenue and Treepark Road for both inbound and outbound bus services;
- Over the M50, two new single span pedestrian/cycle bridges are proposed to provide continuous bus lanes and higher quality cycle lanes on R819 Greenhills Road;
- At Ballymount, the new link road connecting Ballymount Avenue and R819 Greenhills Road will be provided with a junction on the southern end of Ballymount Avenue which will allow direct access to eastern section of R819 Greenhills Road from Ballymount Avenue;
- The proposals for Walkinstown Roundabout have been altered to include a segregated two-way cycle track around the junction. This will reduce conflicts with pedestrians and allow the cyclists to take the shortest route around;
- A three-lane carriageway with signal-controlled priority is proposed along R110 Crumlin Road between Raphoe Road and the Old County Road Health Centre, to reduce the impact on properties. To facilitate this arrangement, it is proposed to restrict access at the Crumlin Road junctions with both Clonard Road and Bangor Drive to one-way only southbound. Urban Realm improvements will be provided along this section;
- On R137 Patrick Street, the design has been altered to retain the tree-lined median. In addition, the junction of R137 Nicholas Street and R810 High Street is to be remodelled to provide improved facilities for buses, cyclists and pedestrians;
- The EPR alternative cycle route on Kildare Road is now redirected towards the Grand Canal via Clogher Road along which cycle tracks are to be provided;
- Provision of a grade-separated pedestrian and cyclist crossing at the R134 New Nangor Road/R110 Long Mile Road/R810 Naas Road junction in order to reduce conflicts with vehicular traffic;
- 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; and
- Pedestrian and cycle facilities at all junctions have been updated to reflect the latest design guidance with a view to providing improved cycle provision and safety.

The Preferred Route drawings are located in Appendix A of this report.

The Public Consultation Submission documents are presented in Appendix B and Appendix C of this report.

# 1 Introduction and Background

## 1.1 Introduction

This report presents the Preferred Route Option (PRO) for the Tallaght/Clondalkin to City Centre Core Bus Corridor (CBC) Scheme (hereinafter referred to as the **Proposed Scheme**).

The Proposed Scheme consists of two sections, namely:

- The Tallaght to City Centre Section (previously Greenhills to City Centre Core Bus Corridor); and
- The Clondalkin to Drimnagh Section (previously Clondalkin to City Centre Core Bus Corridor)

During the Non-Statutory public consultations and route selection process (up to the choice of the PRO), these two sections had been considered separately. These sections have now been combined as the Proposed Scheme. The principal reasons for combining the Tallaght to City Centre section and Clondalkin to Drimnagh section into the Proposed Scheme include their geographical association and functional interdependence and the fact that the Clondalkin to Drimnagh Section joins the Tallaght to City Centre Section at the junction of R110 Long Mile Road/Drimnagh Road and R819 Walkinstown Road.

The entire Proposed Scheme measures approximately 15.5 km along the CBC corridor with an additional offline cycling facility approximately 3.9 km in length between Walkinstown Roundabout and R111 Parnell Road (Grand Canal) along Bunting Road, Kildare Road and Clogher Road, all in the County of Dublin, within the South Dublin County Council (SDCC) and Dublin City Council (DCC) administrative areas.

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 proposed route sections 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 a modal shift from car dependency contributing to an efficient, low carbon and climate resilient City. Refer to Figure 1-1 for routing of proposed scheme.

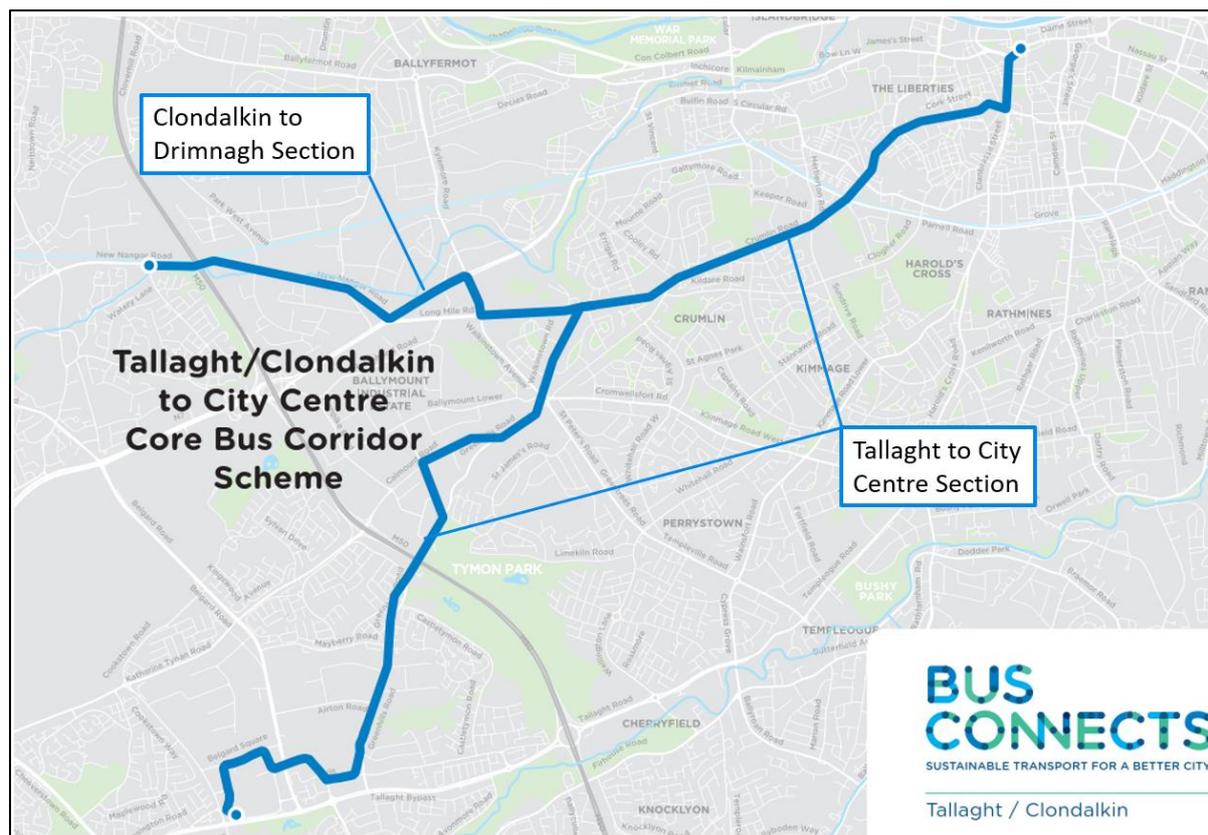


Figure 1-1: Tallaght/Clondalkin to City Centre Core Bus Corridor Scheme

## 1.2 The Core Bus Corridor Infrastructure Works

The Proposed Scheme is one of 12 stand-alone CBC 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 230 km of dedicated bus lanes and 200 km of cycle tracks along 12 stand-alone CBC Schemes.

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

- The Clongriffin to City Centre CBC Scheme;
- The Swords to City Centre Core CBC Scheme;
- The Ballymun / Finglas to City Centre CBC Scheme;
- The Blanchardstown to City Centre CBC Scheme;
- The Lucan to City Centre CBC Scheme;

- The Liffey Valley to City Centre CBC Scheme;
- **The Tallaght / Clondalkin to City Centre CBC Scheme;**
- The Kimmage to City Centre CBC Scheme;
- The Templeogue / Rathfarnham to City Centre CBC Scheme;
- The Bray to City Centre CBC Scheme;
- The Belfield / Blackrock to City Centre CBC Scheme; and
- The Ringsend to City Centre CBC Scheme.

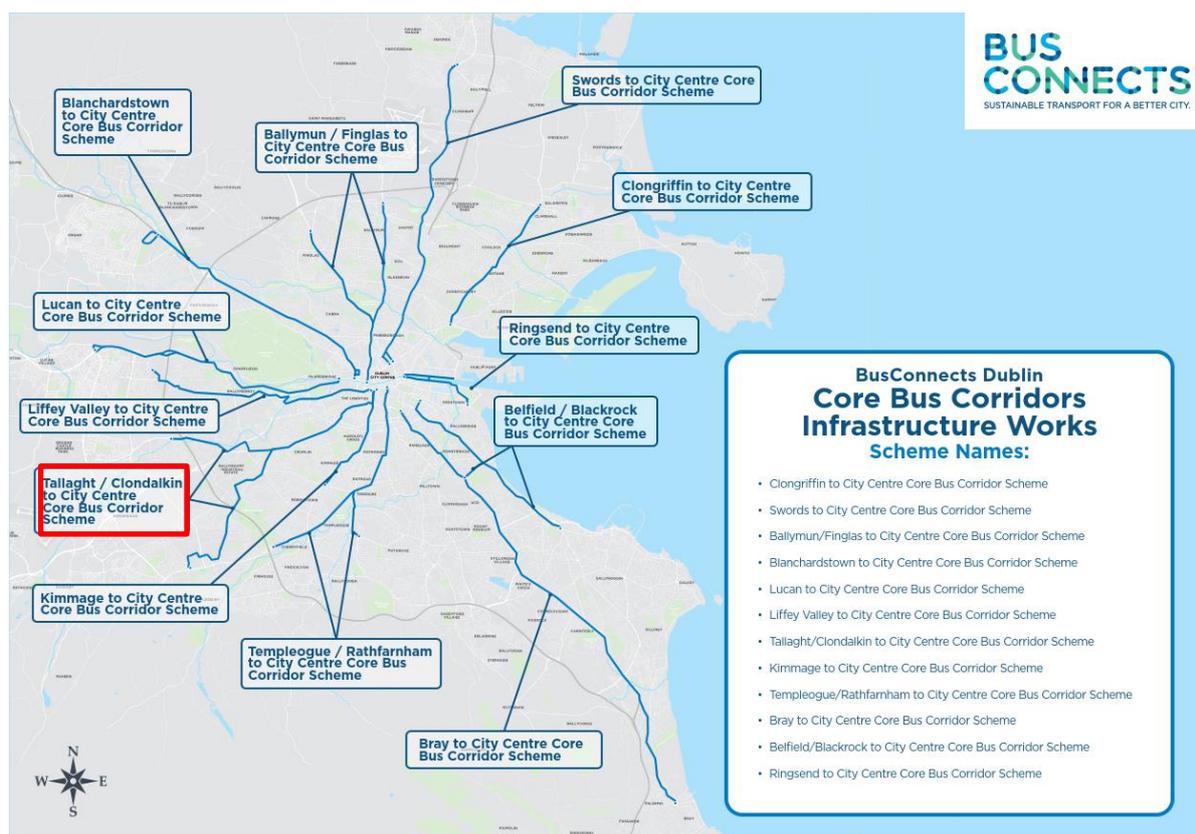


Figure 1-2: CBC Infrastructure Works

### 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 'Tallaght/Clondalkin to City Centre' (Clondalkin to Drimnagh CBC and Tallaght (formerly Greenhills) to City Centre CBC) is identified in this document as forming part of the radial Core Bus Network.

As part of this process, the 'Greenhills to City Centre Core Bus Corridor Options Study - Feasibility and Options Assessment Report' and the 'Clondalkin to City Centre Core Bus Corridor Feasibility Study and Options Assessment Report' was published, which identified feasible options along each corridor, assessed these options and arrived at an EPR Option for each 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 Feasibility Reports.

These Feasibility and Options Assessment Reports referenced above, along with associated appendices as published, are included in Appendix I of this report.

The Study Area Analysis and Multi-Criteria Analysis (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 published Draft PRO proposals;
- Clarifications to the previous assessment in the 'Greenhills to City Centre Core Bus Corridor Options Study - Feasibility and Options Assessment Report' and the 'Clondalkin to City Centre Core Bus Corridor Feasibility Study and Options Assessment Report';
- Further design development and options assessment; and
- Change in the extent of the Proposed Scheme.

## 1.4 Report Structure

This report combines the option assessment studies carried out for both the Greenhills to City Centre CBC (herein referred to as **Tallaght to City Centre Section**) and the Clondalkin to Drimnagh CBC (herein referred to as the **Clondalkin to Drimnagh Section**). The structure for the remainder of this report is set out as follows:

- **Chapter 2: Planning and Policy Context** – This chapter summarises a review of transport and planning policy which is relevant to the route selection process for the Proposed Scheme.
- **Chapter 3: Tallaght to City Centre Section**
  - Chapter 3.1: Background and Non-Statutory Consultation for the Tallaght to City Centre Section – This chapter outlines the summary of the Non-Statutory Public Consultation process.
  - Chapter 3.2: Study Area for the Tallaght to City Centre Section – 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 3.3 Review of the Greenhills to City Centre CBC Feasibility and Options Assessment Study – Feasibility Study and Options Assessment' Report. This chapter is a summary of the options assessment that was previously carried out in each section of the 'Greenhills to City Centre Core Bus Corridor Options Study 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 3.4: Options Assessment for the Tallaght to City Centre Section – This chapter reviews the scheme preferred route options at two sections within the overall study area; Section 1 (Tallaght to Ballymount) and Section 3 (Crumlin to Grand Canal)
  - Chapter 3.5: Preferred Route Option for the Tallaght to City Centre Section – This chapter gives the overall conclusions of the options assessment process and describes the PRO proposal for the Tallaght to City Centre section.
  - Chapter 3.6: Main Scheme Changes (Tallaght to City Centre) – This Chapter highlights the main scheme changes between the published EPR Option and the PRO
  - Chapter 3.7: Scheme Benefits (Tallaght to City Centre) – This chapter outlines the benefits this section will bring
- **Chapter 4: Clondalkin to Drimnagh Section**
  - Chapter 4.1: Background and Non-Statutory Consultation for the Clondalkin to Drimnagh Section – This chapter outlines the summary of the Non-Statutory Public Consultation process.
  - Chapter 4.2: Study Area for the Clondalkin to Drimnagh Section – 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 4.3: Review of Clondalkin to City Centre CBC Feasibility Study and Options Assessment Report – This chapter is a summary of the options assessment that was previously carried out in each section of the ‘Clondalkin to City Centre CBC Feasibility Study and Options Assessment 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 4.4: Options Assessment for the Clondalkin to Drimnagh Section – This chapter reviews the scheme preferred route options at two sections within the overall study area; Section 3 routing and New Nangor Road/Long Mile Road/Naas Road junction
- Chapter 4.5: Preferred Route Option for the Clondalkin to Drimnagh Section– This chapter gives the overall conclusions of the options assessment process and describes the PRO proposal for the Clondalkin to Drimnagh section
- Chapter 4.6: Main Scheme Changes (Clondalkin to Drimnagh) – This Chapter highlights the main scheme changes between the published EPR Option and the PRO
- Chapter 4.7: Scheme Benefits (Clondalkin to Drimnagh) – This chapter outlines the benefits this section will bring

## 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 Bus Rapid Transit 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 Greater Dublin Area (GDA).

There are five primary (Routes 7B, 8, 8B, 9A and SO5) and six secondary (Routes 7D,8A, 8C, 8C2, S04 and 9B) cycle routes identified along the Proposed Scheme. The Proposed Scheme also interchanges with the N10 Greenway.

During the course of the analysis carried out to identify the preferred CBC, 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 Plans, Local Area Plans and Strategic Development Zones

### 2.3.1 South Dublin County Council Development Plan 2016 – 2022

The South Dublin County Council (SDCC) Development Plan 2016 – 2022 (SDCCDP 2016-2022) includes transport and mobility policies and objectives to promote the sustainable development of the County. By supporting and guiding national agencies in delivering major improvements to the public transport network, it can ensure that existing and planned public transport services provide an attractive and convenient alternative to the car.

The Development Plan recognises that one of the major challenges facing the County during the life of this Plan is the need to promote and provide for sustainable transport options, whilst maintaining the effectiveness of the County's road network.

In terms of transport infrastructure, the Policies and Objectives shown in Table 2-1 and Table 2-2 are extracts from the County Development Plan which support the Proposed Scheme. Figure 2-1 to Figure 2-3 show extracts of Maps 9, 2 and 5 of the Plan of which a number of future proposed road links interface with the Proposed Scheme.

**Table 2-1: SDCC Development Plan 2016-2022 Overarching Objectives aligned with the Proposed Scheme**

<b>Transport and Mobility Policy 1 Overarching</b>	
TM1 Objective 1:	To support and guide national agencies in delivering major improvements to the transport network.
TM1 Objective 2:	To spatially arrange activities around, and improve access to, existing and planned public transport infrastructure and services.
TM1 Objective 3:	To focus on improvements to the local road and street network that will better utilise existing road space and encourage a transition towards more sustainable modes of transport, while also ensuring sufficient road capacity exists for the residual proportion of the trips which will continue to be taken by private vehicle.
TM1 Objective 5:	To balance the needs of road users and the local community with the need to support the development of a sustainable transportation network.
TM1 Objective 6:	To support the delivery of sufficient public transport and road capacity to facilitate sustainable new development in the County.

**Table 2-2: SDCC Development Plan 2016-2022 Objectives for Public Transport aligned with the Proposed Scheme**

<b>Transport and Mobility Policy 2 Public Transport</b>	
TM2 Objective 1:	To secure the implementation of major public transport projects as identified within the relevant public transport strategies and plans for the Greater Dublin Area.
TM2 Objective 2:	To establish future public transport routes that will support the County's medium to long term development, in particular orbital routes
TM2 Objective 3:	To generate additional demand for public transport services through integrated land use planning and maximising access to existing and planned public transport services throughout the network
TM2 Objective 4:	To create an interlinked network that maximises the efficiency of existing services, reduces overall journey times and facilitates easy exchanges between modes and/or routes

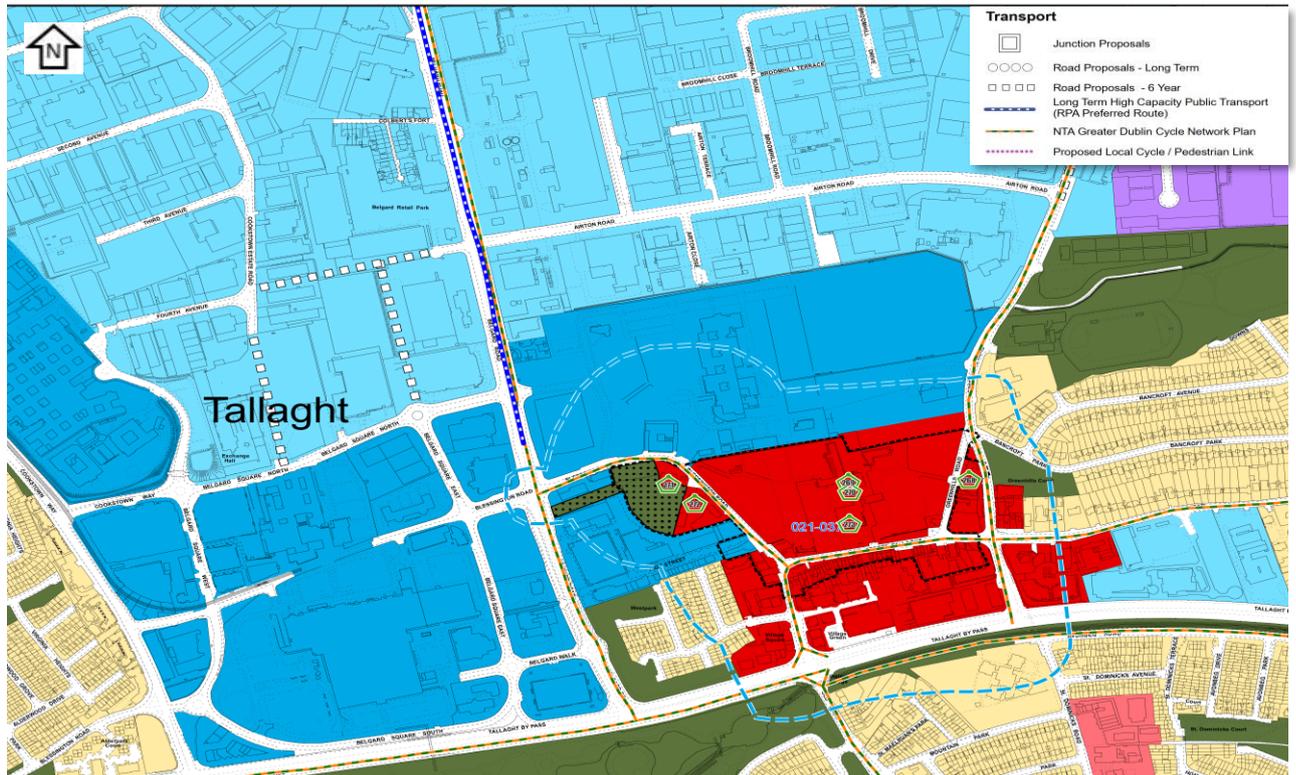


Figure 2-1: SDCC Development Plan 2016-2022– Extract of Map 9 Transport & New Roads Proposals



Figure 2-2: SDCC Development Plan 2016-2022 – Extract of Map 2 Transport & New Road Proposals



**Figure 2-3: SDCC Development Plan 2016-2022 – Extract of Map 5 Transport & New Road Proposals**

These objectives result in SDCC identifying a number of actions. The two most relevant to the Proposed Scheme are outlined below:

- *Work with the NTA to secure the extension and expansion of the Core Bus Network and other bus services to serve new areas of employment, housing and tourism potential, whilst also improving the efficiency and frequency of services within more established areas.*
- *Identify opportunities for multi-modal interchange and transport hubs at key locations (such as Centres, cross cutting infrastructure) to increase the efficiency and flow of public transport services.*

The Development Plan also outlines the policy of SDCC to encourage walking and cycling. It recognises that there are opportunities to make walking and cycling more attractive. In order to encourage these active modes for travel, it focuses on the delivery of:

- *A permeable pedestrian and cycling network that allows for multiple direct connections between key destinations; and*

*An attractive pedestrian and cycling environment where high quality facilities are provided.*

Table 2-3, below, identifies the relevant Plan Objectives.

**Table 2-3: SDCC Development Plan 2016-2022 Objectives for walking and cycling aligned with the Proposed Scheme**

<b>Transport and Mobility Policy 3 Walking and Cycling</b>	
TM3 Objective 1:	To create a comprehensive and legible County-wide network of cycling and walking routes that link communities to key destinations, amenities and leisure activities with reference to the policies and objectives contained in Chapter 9 (Heritage, Conservation and Landscape) particularly those that relate to Public Rights of Way and Permissive Access Routes
TM3 Objective 2:	To ensure that connectivity for pedestrians and cyclists is maximised in new communities and improved within existing areas in order to maximise access to local shops, schools, public transport services and other amenities, while seeking to minimise opportunities for anti-social behaviour and respecting the wishes of local communities.
TM3 Objective 3:	To ensure that all streets and street networks are designed to prioritise the movement of pedestrians and cyclists within a safe and comfortable environment for a wide range of ages, abilities and journey types.

### 2.3.2 South Dublin County Council Development Plan 2022 - 2028

The South Dublin County Council Development Plan 2022-2028 (SDCCDP 2022- 2028) sets the strategy for the proper planning and sustainable development of South Dublin County. A SEA, AA, FRA and NIS were produced as part of the plan. All aspects of the development plan were adopted on the 3<sup>rd</sup> August 2022 with the exception of two sections which are subject to a Ministerial Direction by the Minister of State at the Department of Housing, Local Government and Heritage, the sections are as follows;

*‘Omit the Enterprise and Employment zoning and the specific local objective which requires site-specific flood alleviation measures introduced as Material Amendments 2.20 and 9.4 from the lands to the 2 north and east of the existing Greenogue Business Park and retain the Rural RU zoning objective.’*

*‘Amend the land use zoning objectives in tables 13.4, 13.8 and 13.10 to reinstate data centre use class as an ‘open for consideration’ use class in the REGEN, Enterprise & Employment (EE) and Major Retail Centre (MRC) zoning objectives.’*

At the time of writing, the above parts of the Plan have not come into effect. Observations in respect of the Draft Ministerial Direction were made to the council for a period of 2 weeks from 10th August 2022 to 23rd August 2022. Observations submitted during this time will be considered by the Office of the Planning Regulator before it makes its recommendation to the Minister. At the time of writing, the minister’s decision is expected by the end of 2022.

Those parts of the SDCCDP 2022-2028 (as outlined above) which are due to be amended do not materially have an impact on the Proposed Scheme. The plan includes ‘a vision for the County’s growing communities, places, housing, jobs, sustainable transport and the delivery of services in a manner which promotes climate action and efficient patterns of land use, paying particular attention to the physical, cultural, environmental and social identities that define areas within the County and support their ongoing evolution and integration with each other’. The transport element of the Strategy sets out that it seeks to:

*‘Rebalance transport and mobility within the County by promoting ease of movement by sustainable modes (including walking, cycling and public transport). This will provide for the freeing up of road space for essential functions such as, public transport and emergency vehicles. It will also allow for commercial transport which is essential to economic growth. In doing so, the Council will continue to provide for all elements of the transportation network that are within its remit and will engage with external agencies including the National Transport Authority (NTA) and Transport Infrastructure Ireland (TII) to assist the delivery of sustainable transport projects that are provided at a regional or national level’.*

In addition to the above, it is clear that SDCC has recognised the importance of BusConnects to improving transport and movement within SDCC, as outlined under the heading ‘Travel Mode Share’

*'Transition to public transport will be aided by improvements in the pipeline including the roll-out of BusConnects which will include proposals for six new dedicated bus routes through the County. BusConnects will provide a redesigned more efficient bus network with high frequency spines, new orbital routes and increased bus services.'*

Furthermore, the SDCCDP 2022-2028 identifies BusConnects as a strategic project 'that will have the potential over the coming years to have a transformative impact on travel by shifting the dominance of car-based transport towards public transport'. The SDCCDP 2022-2028 sets out an extensive number of other policies and objectives relevant to the Proposed Scheme as shown in Table 2-4.

**Table 2-4: SDCC Development Plan 2022-2028 Key Policies and Objectives**

Transport Policies and Objectives	
Policy SM1: Overarching – Transport and Movement:	Promote ease of movement within, and access to South Dublin County, by integrating sustainable land-use planning with a high-quality sustainable transport and movement network for people and goods
SM1 Objective 1	To achieve and monitor a transition to more sustainable travel modes including walking, cycling and public transport over the lifetime of the County Development Plan, in line with the County mode share targets of 15% Walk; 10% Cycle; 20% Bus; 5% Rail; and 50% Private (Car/Van/HGV/Motorcycle)
SM1 Objective 2:	To ensure consistency with the NTA's Transport Strategy for the Greater Dublin Area (2016-2035) and any superseding document, as required by RPO 8.4 of the RSES
SM1 Objective 3:	To support the delivery of key sustainable transport projects including DART and Luas expansion programmes, BusConnects and the Greater Dublin Metropolitan Cycle Network in accordance with RPO 5.2 of the RSES/MASP.
SM1 Objective 4	To ensure that future development is planned and designed in a manner that facilitates sustainable travel patterns, with a particular focus on increasing the share of active modes (walking and cycling) and public transport use and creating a safe and attractive street environment for pedestrians and cyclists, in accordance with RPO 5.3 of the RSES/MASP.
SM1 Objective 5:	To ensure that future development is planned and designed in a manner that maximises the efficiency and protects the strategic capacity of the metropolitan area transport network, both existing and planned, and to protect and maintain regional accessibility, in accordance with RPO 8.3 of the RSES.
SM1 Objective 6:	To safeguard the County's strategic road network and to improve the local road and street network in a manner that will better utilise existing road space and encourage a transition towards more sustainable modes of transport.
SM1 Objective 7	To engage with relevant agencies including the National Transport Authority (NTA) and Transport Infrastructure Ireland (TII) in relation to strategic and local transportation issues including delivery of transport projects and to encourage consultation with local communities.
Policy SM2: Walking and Cycling	Re-balance movement priorities towards sustainable modes of travel by prioritising the development of walking and cycling facilities and encouraging a shift to active travel for people of all ages and abilities, in line with the County targets.
Policy SM3: Public Transport – General	Promote a significant shift from car-based travel to public transport in line with County targets and facilitate the sustainable development of the County by supporting and guiding national agencies in delivering major improvements to the public transport network
SM3 Objective 2:	To facilitate and secure the implementation of major public transport projects as identified within the NTA Transport Strategy for the Greater Dublin Area (2016-2035), or any superseding document, including BusConnects, the DART expansion programme along the Kildare route, the opening of the new rail station at Kishogue and the Luas to Lucan'.
Policy SM3: Public Transport – Bus SM3 Objective 11:	To facilitate the delivery of the BusConnects Core Bus Corridors and seek additional bus corridor and orbital routes to serve the County by securing and maintaining any required route reservations and to ensure the BusConnects Corridors do not adversely affect the village life and livelihoods of any of our County Villages'.
SM3 Objective 12:	To work with the NTA to secure the expansion of the bus network to serve new development and regeneration areas within the South Dublin County area including Tallaght, Naas Road, Adamstown, Clonburris, Fortunestown, Ballycullen and Newcastle'.

In addition to the above, it further comments under the heading 'Transport Interchanges' that:

*'Multi-modal transport interchanges increase the efficiency and flow of public transport services. A public square and transport interchange is proposed for Tallaght Town Centre, that would provide a first-class interchange between the Luas, BusConnects, taxi, cycling and walking'.*

### 2.3.3 Dublin City Development Plan 2016 - 2022

The Dublin City Development Plan 2016-2022 (DCDP 2016) 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; and*
- *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, (Table 2-5) and Public Transport, (Table 2-6) which are aligned with the Proposed Scheme.

**Table 2-5: DCDP 2016 Objectives for Modal Change and Active Travel aligned with the Proposed Scheme**

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 2-6: DCDP 2016 Objectives for Public Transport aligned with the Proposed Scheme**

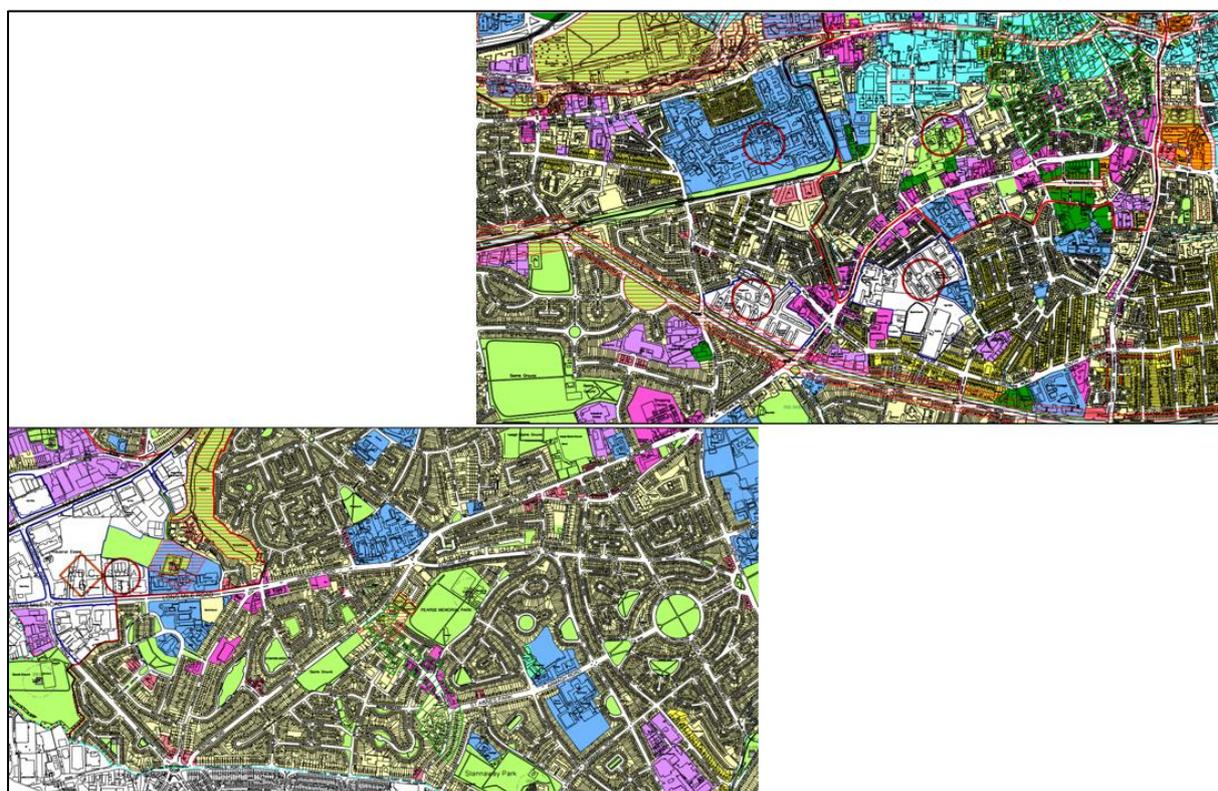
Movement and Transport: Public Transport	
MT3:	To support and facilitate the development of an integrated public transport network with efficient interchange between transport modes, serving the existing and future needs of the city in association with relevant transport providers, agencies and stakeholders.
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.

Movement and Transport: Public Transport	
MT6: (i)	To work with Iarnród Éireann, the NTA, Transport Infrastructure Ireland (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.

The Dublin City Development Plan (2016-2022) sets out policies and objectives to guide how and where development will take place in Dublin over its noted lifetime. Although the plan looks at Dublin City as a whole, for the basis of this report, only sections that pertain to the Proposed Scheme have been further detailed below.

Due to Dublin City sitting within the metropolitan area, the Regional Planning Guidelines Settlement Strategy (chapter 4) which includes a strong emphasis on the need to gain maximum benefits from existing assets. Within this plan the inner city, key district centres and Strategic Development and Regeneration Areas (SDRAs) are areas which seeks the social, economic, physical development or rejuvenation of an area with residential, employment and mixed-uses.

Volume 3 of the Dublin City Development Plan (2016-2022) provides maps of the Dublin Metropolitan area indicating the proposed zoning. It has been identified that the eastern section of the Proposed Scheme falls across Maps G and E as shown in Figure 2-4 below.



**Figure 2-4: DCDP 2016 – Extract of Maps E & G**

From these maps it has been identified that the proposed route interacts with the following items of note:

- Strategic Development and Regeneration Areas (SDRA) – from Dolphins Barn Road the route borders SDRAs 12 and 16. Further along the route Cork Street passes through SDRAs 12 and 16.
- Map G – Walkinstown Roundabout, Walkinstown Road, Drimnagh Road, Crumlin Road, to junction with Sundrive Road. Primarily the mapping indicates that the area is zoned for residential development with some neighbourhood and mixed-use developments.
- Map E – Crumlin Road, Dolphins Barn, Cork Street, Dean Street, Patrick Street and Nicholas Street. The mapping identifies various zones over this section of the Preferred Route. In addition to the variety of zoning areas located along this section of the route the key features include the

improvement of mixed-service facilities, improved recreational amenity areas, consolidation of facilities to provide mixed use residential in the suburban areas, and retail/office facilities within the inner city. In addition to this a conservation area is located around the Grand Canal where the Preferred Route crosses at Dolphins Barn, additionally the area along Dolphins Barn and Cork Street falls within a zone of archaeological interest. There are several listed structures also identified along Cork Street, Patrick Street and Nicholas Street.

### 2.3.4 Dublin City Development Plan 2022 – 2028

The Dublin City Development Plan 2022-2028 (DCDP 2022) was adopted on 2 November 2022 and came into effect on the 14 December 2022. It guides how the city will develop to meet the needs of its residents, visitors and workers. A SEA, AA and SFRA were produced as part of the DCDP 2022.

Dublin City Council (DCC) aims to establish the city as one of Europe's most sustainable, dynamic, and resourceful city regions. The DCDP 2022 places sustainable transport as a core principle in the future development of the city and its 'vision' sets out the following:

*'Within the next 10 years, Dublin will have an established international reputation as one of Europe's most sustainable, dynamic and resourceful city regions. Dublin, through the shared vision of its citizens and civic leaders, will be a beautiful, compact city, with a distinct character, a vibrant culture and a diverse, smart, green, innovation-based economy. It will be a socially inclusive city of urban neighbourhoods with excellent community and civic infrastructure based on the principles of the 15 minute city, all connected by an exemplary public transport, cycling and walking system and interwoven with a high quality bio-diverse, green space network. In short, the vision is for a capital city where people will seek to live, work, experience, invest and socialise, as a matter of choice.'*

In 'Translating the Core Strategy into Development Plan Policies and Objectives', the core strategy has the following supports:

*'The Core Strategy will promote development and appropriate intensification along the routes of the three key public transport projects to be developed over the development plan period comprising (inter alia) Bus Connects (2021 – 2023)'*

The DCDP 2022 recognises that increasing capacity on public transport including the infrastructure that supports it, such as bus corridors, cycle and pedestrian networks is a means to promoting modal change and active travel. Chapter 8: 'Sustainable Movement and Transport' sets out the following:

*'Sustainable and efficient movement of people and goods is crucial for the success and vitality of the city. It is important that we transition away from the private car and fossil fuel based mobility to mitigate against the negative impacts of transport and climate change. A considerable shift towards sustainable modes has been achieved over the last 15 years and this must be accelerated over the next decade with an emphasis on increased active travel and public transport use and decarbonisation of transport. A focus on local travel patterns, promotion of active mobility within communities and connectivity by walking and cycling are key themes in this plan.'*

Chapter 8 also comments in regard to creating greater accessibility to transport options and notes the role transport has to play in achieving climate change targets. It continues to set out:

*'This policy approach promotes the integration of land use and transportation, improved public transport and active travel infrastructure, an increased shift towards sustainable modes of travel and an increased focus on public realm and healthy placemaking, while tackling congestion and reducing transport related CO2 emissions. This plan also looks to the future of mobility in the city including the increasing role of shared mobility schemes, micro mobility options, electric vehicles (EV) and the application of technology in the mobility sector.'*

DCC commits to 'optimising the interconnection between land use and transport planning' and advocates for initiatives such as the 15-minute city to improve transport and active travel infrastructure.

Under the heading 'Challenges' it includes among others: 'Addressing Climate Change through Sustainable Mobility', effective integration of land use and transportation, regional connectivity and approach to mobility, city centre and urban villages – access and functional needs and 'embracing new

*forms of mobility*'. The Plan seeks to create a '*modal shift*' that will underpin sustainable transport provision and unlock new forms of mobility.

Chapter 8 Table 8-1 'Current and Target Mode Share' outlines that in the period 2019 – 2028 DCC will seek to increase walking by 2%, cycling and micro mobility by 7%, public transport by 3% and private vehicle reduction by 12%. It noted that the relatively modest level of public transport increase is due to the impact major public transport infrastructure works is likely to have over the lifetime of the plan and that the benefits of the various public transport infrastructure works including BusConnects will be felt in the following plan period.

Under the section 8.5.2 'Effective Integration of Land use and Transportation' it states '*This plan encourages higher density development along public transport routes, (i.e. Transit Orientated Development), a method of planning development around a main transport link. Adopting this approach recognises the opportunities presenting by (among others), the existing and planned bus improvements under BusConnects.*' The DCDP 2022 therefore recognises the key link between high capacity sustainable transport and what can be achieved in terms of density.

BusConnects is also highlighted in regard to public realm, place making and healthy streets as it is recognised by the plan as providing an opportunity to improve same.

Figure 8-3 'BusConnects' outlines each of the '*Radial Core Bus Corridors*' comprising BusConnects, including the subject Scheme, number 11 Tallaght to City Centre.

BusConnects is referred to as a '*Key strategic transport project*' that forms part of the '*expansion of an integrated public transport system for the Dublin region.*' It goes on to say '*Dublin City Council actively supports all measures being implemented or proposed by other transport agencies to enhance capacity on existing lines/services and provide new infrastructure.*'

The DCDP 2022 sets out an extensive number of other policies and objectives relevant to the Proposed Scheme as shown in Table 2-4.

**Table 2-7: DCDP 2022 Key Policies and Objectives**

Transport Policies and Objectives	
SC1 Consolidation of the Inner City	To consolidate and enhance the inner city, promote compact growth and maximise opportunities provided by existing and proposed public transport by linking the critical mass of existing and emerging communities such as Docklands, Heuston Quarter, Grangegorman, Stoneybatter, Smithfield, the Liberties, the North East Inner City and the south and north Georgian cores with each other, and to other regeneration areas.
SC8 Development of the Inner Suburbs	To support the development of the inner suburbs and outer city in accordance with the strategic development areas and corridors set out under the Dublin Metropolitan Area Strategic Plan and fully maximise opportunities for intensification of infill, brownfield and underutilised land where it aligns with existing and pipeline public transport services and enhanced walking and cycling infrastructure
QHSN11 15-Minute City	To promote the realisation of the 15-minute city which provides for liveable, sustainable urban neighbourhoods and villages throughout the city that deliver healthy placemaking, high quality housing and well designed, intergenerational and accessible, safe and inclusive public spaces served by local services, amenities, sports facilities and sustainable modes of public and accessible transport where feasible.
CEE12 Transition to a Low Carbon, Climate Resilient City Economy	To support the transition to a low carbon, climate resilient city economy, as part of, and in tandem with, increased climate action mitigation and adaptation measures.
SMT1 Modal Shift and Compact Growth	To continue to promote modal shift from private car use towards increased use of more sustainable forms of transport such as active mobility and public transport, and to work with the National Transport Authority (NTA), Transport Infrastructure Ireland (TII) and other transport agencies in progressing an integrated set of transport objectives to achieve compact growth.
SMT2 Decarbonising Transport	To support the decarbonising of motorised transport and facilitate the rollout of alternative low emission fuel infrastructure, prioritising electric vehicle (EV) infrastructure.

Transport Policies and Objectives	
SMT3 Integrated Transport Network	To support and promote the sustainability principles set out in National and Regional documents to ensure the creation of an integrated transport network that services the needs of communities and businesses of Dublin City and the region.
SMT4 Integration of Public Transport Services and Development	To support and encourage intensification and mixed-use development along public transport corridors and to ensure the integration of high quality permeability links and public realm in tandem with the delivery of public transport services, to create attractive, liveable and high quality urban places.
SMT8 Public Realm Enhancements	To support public realm enhancements that contribute to place making and liveability and which prioritise pedestrians in accordance with Dublin City Council's Public Realm Strategy ('Your City – Your Space'), the Public Realm Masterplan for the City Core (The Heart of the City), the Grafton Street Quarter Public Realm Plan and forthcoming public realm plans such as those for the Parnell Square Cultural Quarter Development and the City Markets Area.
SMT02 Improving the Pedestrian Network	To improve the pedestrian network and prioritise the introduction of tactile paving, ramps and kerb dishing at appropriate locations, including pedestrian crossings, taxi ranks, bus stops and rail platforms in order to optimise accessibility for all users.
SMT12 Pedestrians and Public Realm	To enhance the attractiveness and liveability of the city through the continued reallocation of space to pedestrians and public realm to provide a safe and comfortable street environment for pedestrians of all ages and abilities.
SMT14 City Centre Road Space	To manage city centre road-space to best address the needs of pedestrians and cyclists, public transport, shared modes and the private car, in particular, where there are intersections between DART, Luas and Metrolink and with the existing and proposed bus network.
SMT16 Walking, Cycling and Active Travel	To prioritise the development of safe and connected walking and cycling facilities and prioritise a shift to active travel for people of all ages and abilities, in line with the city's mode share targets.
SMT18 The Pedestrian Environment	To continue to maintain and improve the pedestrian environment and strengthen permeability by promoting the development of a network of pedestrian routes including laneway connections which link residential areas with recreational, educational and employment destinations to create a pedestrian environment that is safe, accessible to all in accordance with best accessibility practice.
SMT19 Integration of Active Travel with Public Transport	To work with the relevant transport providers, agencies and stakeholders to facilitate the integration of active travel (walking/cycling etc.) with public transport, ensuring ease of access for all.
SMT22 Key Sustainable Transport Projects	To support the expeditious delivery of key sustainable transport projects so as to provide an integrated public transport network with efficient interchange between transport modes, serving the existing and future needs of the city and region and to support the integration of existing public transport infrastructure with other transport modes. In particular the following projects subject to environmental requirements and appropriate planning consents being obtained: <ul style="list-style-type: none"> <li>• DART +</li> <li>• Metrolink from Charlemount to Swords</li> <li>• BusConnects Core Bus Corridor projects</li> <li>• Delivery of Luas to Finglas</li> <li>• Progress and delivery of Luas to Poolbeg and Lucan</li> </ul>

### 2.3.5 Variation No.3 Zoning Objective Amendment on Lands at Ballymount/Naas Road

South Dublin County Council proposed revisions to the zoning in the Ballymount/Naas Road area in 2018 and it was adopted as a variation to the Development Plan in May 2019 (

Figure 2-5 below). The Proposed Variation No.3 is required to align the Development Plan with the National Planning Framework and the Draft Regional Spatial and Economic Strategy to create the conditions for redevelopment of the area in partnership with DCC. Given the complexity of the challenges to regenerating this area, Proposed Variation No 3 to the Development Plan was required to provide an amended Development Plan policy framework for SDCC to proceed with the regeneration of the area. The proposed zoning for the subject lands is Regeneration (REGEN) with an objective 'To facilitate enterprise and/or residential-led regeneration'.

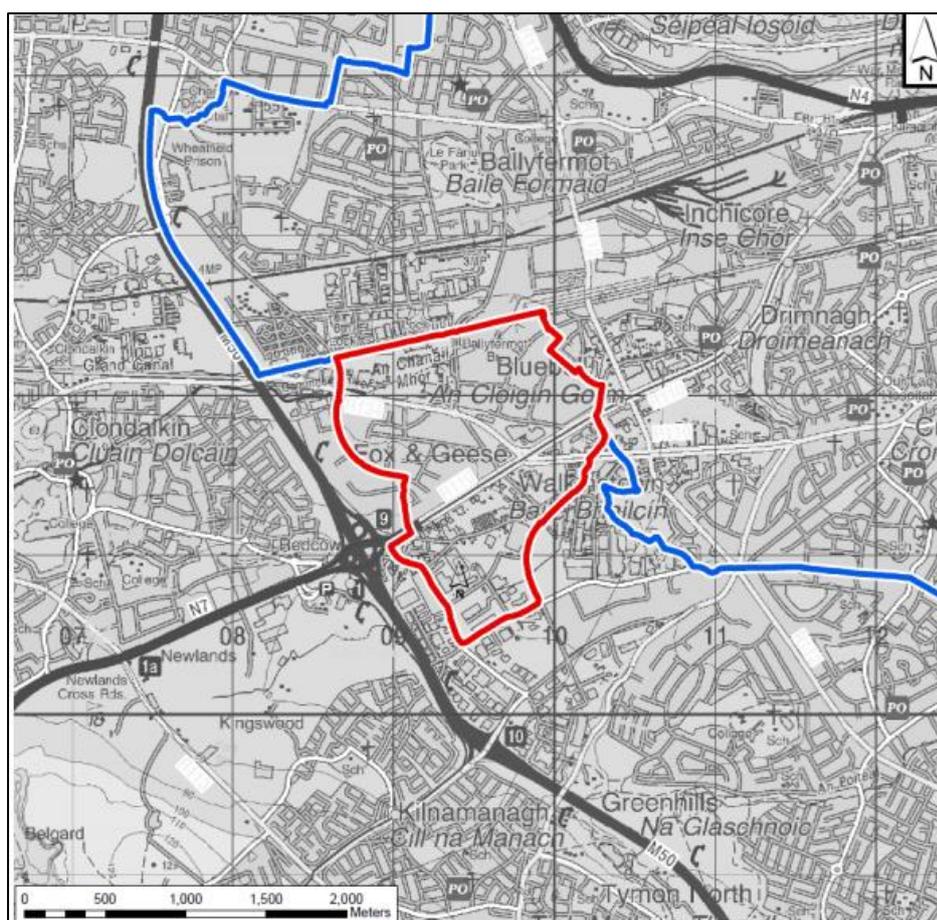


Figure 2-5: Area Considered for Revised Zoning (Source: SDCC Variation No 3 Rezoning Report)

The subject lands have significant locational advantages, including:

- Located inside the M50, within 6km of Dublin City Centre;
- Occupy a pivotal location along a gateway corridor to Dublin City Centre;
- Serviced by the Luas Red Line, connecting the area with the city centre, Heuston Station, St. James's Hospital and other key destinations;
- In close proximity to the Kildare rail line, providing regional and national connectivity;
- Access to a range of existing and proposed bus services, both Dublin Bus and regional / national services; and
- High quality regional road connections, traversed by the R810 Naas Road, R110 Long Mile Road and Ballymount Road.

Overall, the subject lands at Ballymount / R810 Naas Road have significant locational and infrastructural advantages over other lands in Dublin. The potential of the area is widely recognised, including in the Draft Regional Spatial and Economic Strategy and the Naas Road Framework Plan 2010.

The proposed Clondalkin to Drimnagh Section runs through the middle of this area and will be essential to facilitate this regeneration programme.

### 2.3.6 Naas Roads Lands Local Area Plan (extended to 2023)

This Local Area Plan was adopted by the elected members of Dublin City Council in 2013 and subsequently extended to 2023. The Local Area Plan was prepared in order to manage the future development of this area in an integrated manner. The Clondalkin to Drimnagh Section runs through a Key Developing Area as defined in the Dublin City Council Development Plan, in which the local plan area was zoned as Z14. The Naas Road Lands Key District Centre (KDC), which is located on R810 Naas Road, R112 Walkinstown Avenue and R110 Long Mile Road was designated to act as a strong social and commercial hub for the surrounding area (Figure 2-6, below).

The Local Area Plan sets out a number of land use objectives which support the proposed development:

- In support of the KDC, to encourage a core of mixed uses including higher order retailing in the specified KDC core positioned between R810 Naas Road and R110 Long Mile Road incorporating quality public realm along new access routes;
- To promote investment, economic and employment growth in the area through the attraction of commercial office development within the KDC along the main transport routes, whilst supporting existing industrial enterprise and employment uses on Z6 lands; and
- To develop a new sustainable neighbourhood inclusive of residential development at sustainable densities, underpinned by quality social infrastructure all within a high-quality public domain.

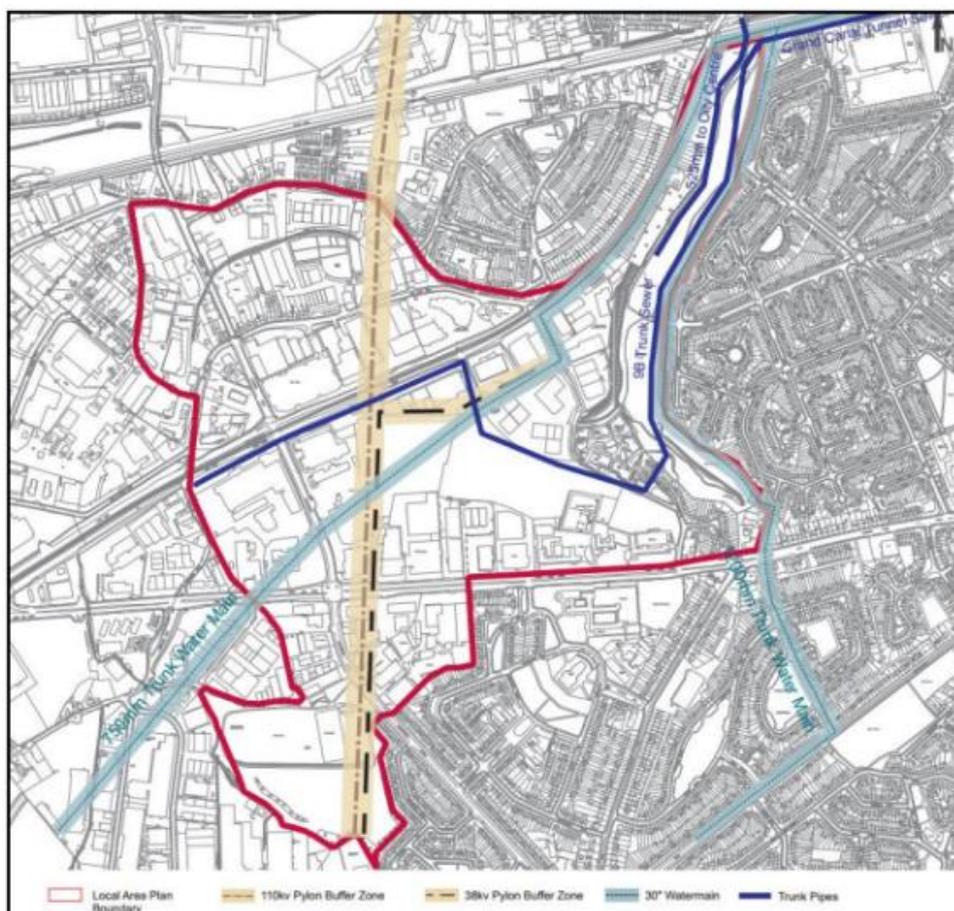


Figure 2-6: Naas Road LAP Lands (Source: DCC LAP)

## 2.4 The Aim and Objectives of delivering the Proposed Scheme

The aim of the Tallaght / Clondalkin to City Centre CBC Scheme 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 Tallaght to City Centre Section

### 3.1 Background and Non-Statutory Consultation for the Tallaght to City Centre Section

#### 3.1.1 Greenhills to City Centre CBC Options Study Report & 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 'Greenhills to City Centre Core Bus Corridor Options Study Report' (January 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.

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

The first Non-Statutory Public Consultation on the EPR Options took place on a phased basis. The first phase of consultation occurred from 14<sup>th</sup> November 2018 to 29<sup>th</sup> March 2019. The second phase ran from 23<sup>rd</sup> January 2019 to the 30<sup>th</sup> April 2019 and the final phase ran from 26<sup>th</sup> February 2019 until the 31<sup>st</sup> May 2019. The Proposed Scheme was part of the final phase of consultation. The Information Brochure published as part of this consultation is included in Appendix J of this report.

There were 87 submissions received relating to the Tallaght to City Centre Section containing 424 comments. The submissions received ranged from personal submissions from resident, 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:

- Rerouting of Existing Bus Services;
- Environmental Issues;
- Issues during Construction;
- Cyclist Safety;
- Pedestrian Safety;
- Security;
- Impact on Local Businesses;
- Integration;
- Non-Compliance with Design Standards and Planning Documents;
- Walkinstown Cross Design Issues;
- Loss of Parking Facilities;
- Route and Design Issues;
- Loss (property value, revenue, loss of function, privacy etc.);
- Traffic Calming Issues;
- Disability Issues;
- Financing the Scheme; and
- Suggestions and New Ideas.

Further detail on these issues can be found in the Greenhills to City Centre CBC Emerging Preferred Route Public Consultation Report contained in Appendix B of this report.

### 3.1.3 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 3.4 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:

- Route amended to exclude use of Technological University of Dublin (Tallaght) campus roads;
- Continued use of R819 Greenhills Road for southbound buses at Park View;
- The addition of a second bridge over the M50 at R819 Greenhills Road to maintain continuity of bus priority;
- The use of bus priority signals and a bus lane in one direction only on R110 Crumlin Road; and
- Extension of cycle facilities along Clogher Road and join into the Grand Canal Way Cycle Route (rather than using Sundrive Road).

### 3.1.4 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. The Information Brochure published as part of this consultation is included in Appendix K 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 5 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 Second and Third Non-Statutory Public Consultation Submissions Report.

A brief summary of the feedback received on the Tallaght to City Centre Section during this second round of Non-Statutory Public Consultation is presented below. In general, the comments were similar to those received in the first round of Non-Statutory Public Consultation:

- Cyclist Issues;
- Bus Stop Conflicts;
- Pedestrian Crossings;
- Impact on Businesses;
- Reduced Road Capacity; and
- Suggestions and New Ideas.

### 3.1.5 Development of 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.

### 3.1.6 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 L 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 349 submissions received relating to the Tallaght to City Centre Section as part of the third Non-Statutory Public Consultation which included 1,545 comments. 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:

- Quietway operation issues on Kildare Road/Clogher Road particularly with regard to local access;
- Cycle safety and cycle infrastructure provision;
- Junction layout;
- Public realm concerns and suggestions;
- Air and Noise, particularly around Park View new road alignment of R819 Greenhills Road; and
- Cumulative traffic modelling of adjoining corridors.

The issues raised during the third Non-Statutory Public Consultation have been considered in the further development of the PRO. Refer to Appendix C of this report for the Second and Third Non-Statutory Public Consultation Submissions Report.

## 3.2 Study Area for the Tallaght to City Centre Section

### 3.2.1 Introduction

This section commences at Tallaght which is a significant origin / destination location and serves as an existing transportation hub for bus routes and the Luas Red Line light rail.

For the Greenhills to City Centre Core Bus Corridor Options Study, the study area was generally taken to consider roads within 500m of the existing bus corridor. The study area ran from Tallaght to the City Centre at Christchurch. The study area was generally developed to consider the presence of other existing transport infrastructure services such as other adjacent CBCs and the Luas Red Line.

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 the following four sections as shown in Figure 3-1.

- Section 1 takes in the Tallaght to Ballymount area; the main arterial route of this CBC is the R819 Greenhills Road. The route crosses the M50 where it will diverge from the R819 Greenhills Road towards Ballymount Industrial Estate;
- Section 2 starts at where the CBC diverges away from the R819 Greenhills Road towards Ballymount Industrial Estate. The route continues to take in the area of R819 Walkinstown Road up to its intersection with the R110 Crumlin Road;
- Section 3 starts where R819 Walkinstown Road and R110 Crumlin Road intersect, this area covers the entire Crumlin Road area up to R110 Dolphins Barn Street where the CBC crosses the Grand Canal; and
- Section 4 finally covers the area from where the route crosses the Grand Canal at R110 Dolphins Barn Street, along R110 Cork Street and onto R137 Patrick Street where it concludes on R137 Nicholas Street at the intersection with R137 Christchurch Place.

Following the first Non-Statutory Public Consultation it was determined that the study area for the scheme does not need to be amended and therefore remains as shown and described in the Greenhills to City Centre Core Bus Corridor Options Study - Feasibility and Options Assessment Report.

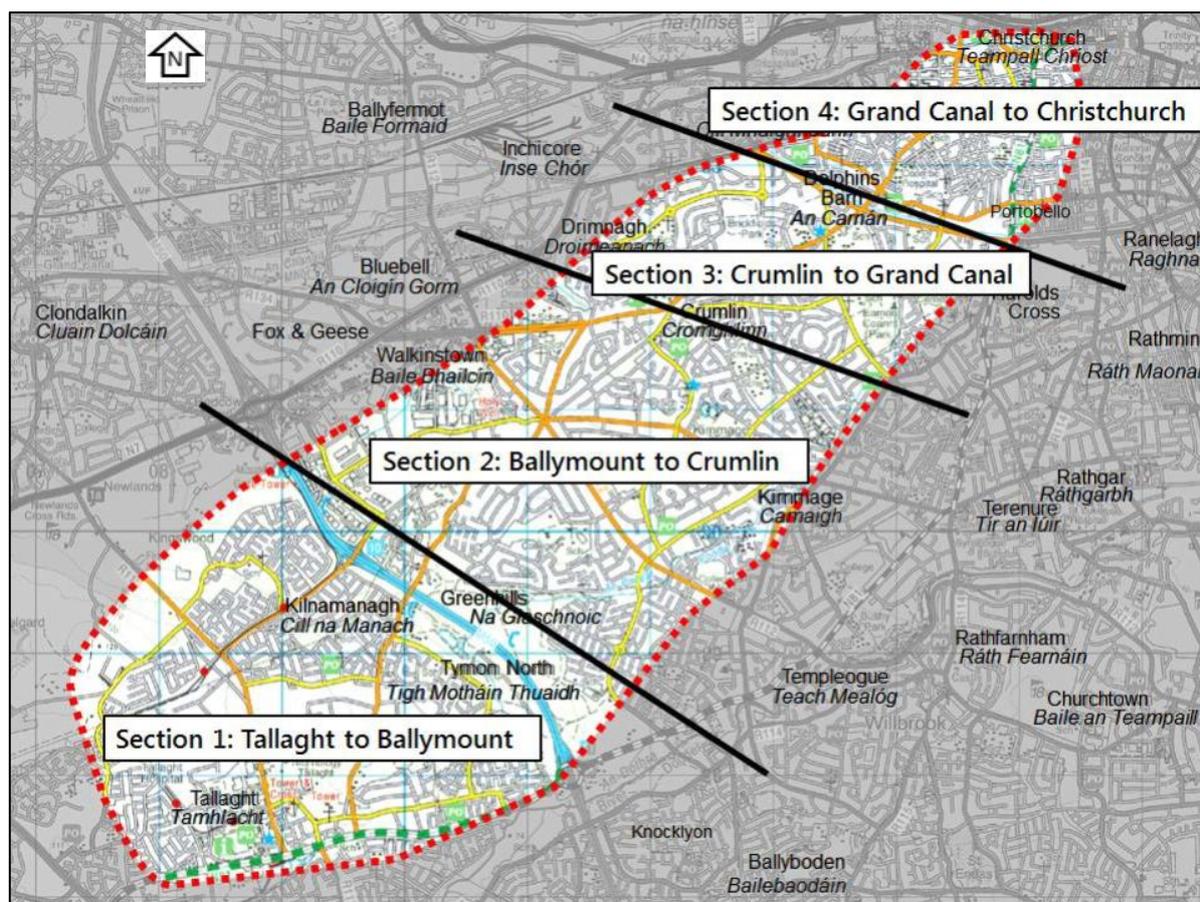


Figure 3-1: Tallaght to City Centre Study Area

### 3.2.2 Physical Constraints and Opportunities

The Greenhills to City Centre Core Bus Corridor Options Study - Feasibility and Options Assessment Report noted potential constraints and opportunities within the study area. The potential constraints identified include;

- The M50 motorway, with existing overpasses located at Ballymount (R819 Greenhills Road);
- Grand Canal (including protected structures);
- Luas Red Line at The Square Tallaght;
- Availability of space between existing building lines in some locations;
- Existing and committed future development along the route such as:
  - Belgard to Cookstown Link Road (SDCC)
  - TUD Tallaght access junction at Greenhills Road
  - Dolphins Barn Public Realm Improvement Plan
  - South Grand Canal Safety Improvement Scheme
  - COVID-19 Interim Mobility Framework, Winetavern Street Contra-Flow Bus Lane;
- Existing protected monuments within the study area such as:
  - St. Maelruain's Church, Blessington Road
  - St. Basil's Training Centre, Greenhills Road
  - Milestone at 152 Walkinstown Road
  - St. Patrick's Cathedral, Patrick Street;
- Significant numbers of street trees and other natural features along the potential route options within the study area;

- The existing urban and sub-urban roads and street network, including parking and servicing of business at some locations;
- Limited availability of land in urban and suburban areas; and
- Public parks including Tymon Park and Bancroft Park; and
- Opportunity to develop land set aside for the previously approved (SDCC Part 8 Approval 2007) road alignment upgrade of R819 Greenhills Road, from Mayberry Road through to M50 overbridge.

### 3.2.3 Integration with Existing and Proposed Public Transport Network

#### 3.2.3.1 Introduction

One of the key objectives of the CBC Infrastructure Works 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:

- Interface with other CBC schemes:
  - the Kimmage to City Centre Core Bus Corridor Schemes at and New Street South/ Patrick Street;
  - the Liffey Valley to City Centre Core Bus Corridor Schemes at High Street;
- The Luas Red Line at the Square Tallaght;
- Existing bus services at numerous locations along the route;
- Greater Dublin Area (GDA) Cycle Network Plan;
- Interface with proposed BusConnects Network Redesign including orbital, radial and local services; and
- Future plans for a DART Underground Station at Christchurch.

#### 3.2.3.2 Existing Bus Services

The Tallaght to City Centre Corridor is made up of two distinct sections, the inner section from the City Centre to R819 Walkinstown Road, via R110 Cork Street and R110 Crumlin Road, and an outer section south of R819 Walkinstown Road. The primary bus routes along the Tallaght Corridor are indicated in Figure 3-2 and listed below:

- Route 27 – Clarehall to Jobstown;
- Route 77a – City West to Ringsend; and
- Route 151 – Docklands to Foxborough.

The following routes also cross/interface with the scheme at various points:

- Route 13 – Grange Castle to Harristown;
- Route 17 – Blackrock to Rialto;
- Route 18 - Sandymount to Palmerstown;
- Route 49 – Pearse Street to Tallaght;
- Route 54a – Pearse Street to Ellensborough/Kiltipper Way;
- Route 56a – Ringsend Road to Tallaght;
- Route 68 – Newcastle/Greenogue Business Park to Hawkins Street;
- Route 75 – Dun Laoghaire to Belgard Square South;
- Route 76 - Glenaulin to Belgard Square South;
- Route 77x – Citywest to UCD Belfield;
- Route 123 – Griffith Avenue to Kilnarnagh Road; and
- Route 150 – Hawkin’s Street to Orwell Road.



- S6 Tallaght – Dundrum – UCD – Blackrock;
  - S8 Tallaght – Sandyford – Dún Laoghaire;
  - W2 Liffey Valley – Clondalkin – Tallaght;
  - W4 Blanch. SC – Liffey Valley – Grange Castle Rd. – Tallaght; and
  - W6 Maynooth – Celbridge – Citywest - Tallaght.
- Radial Routes
    - 71 Tallaght – Ballymount – Warrenmount – East Wall;
    - 72 Drimnagh – Warrenmount – East Wall;
    - 73 Marino – City Centre – Walkinstown;
    - 74 Dundrum – Whitechurch – Crumlin – City Centre;
    - 80 Liffey Valley – City Centre - Ballinteer
    - 82 Killinarden – Crumlin – Ringsend; and
    - 85 Tallaght – Ballyboden – Harold’s Cross – Parnell Square.
  - Local Routes
    - L44 Ballymore Eustace – Blessington - Tallaght
    - X47 Kiltipper – Seskin View – Tymon North – City Centre; and
    - P43 Ballynockan – Blessington – City Centre.

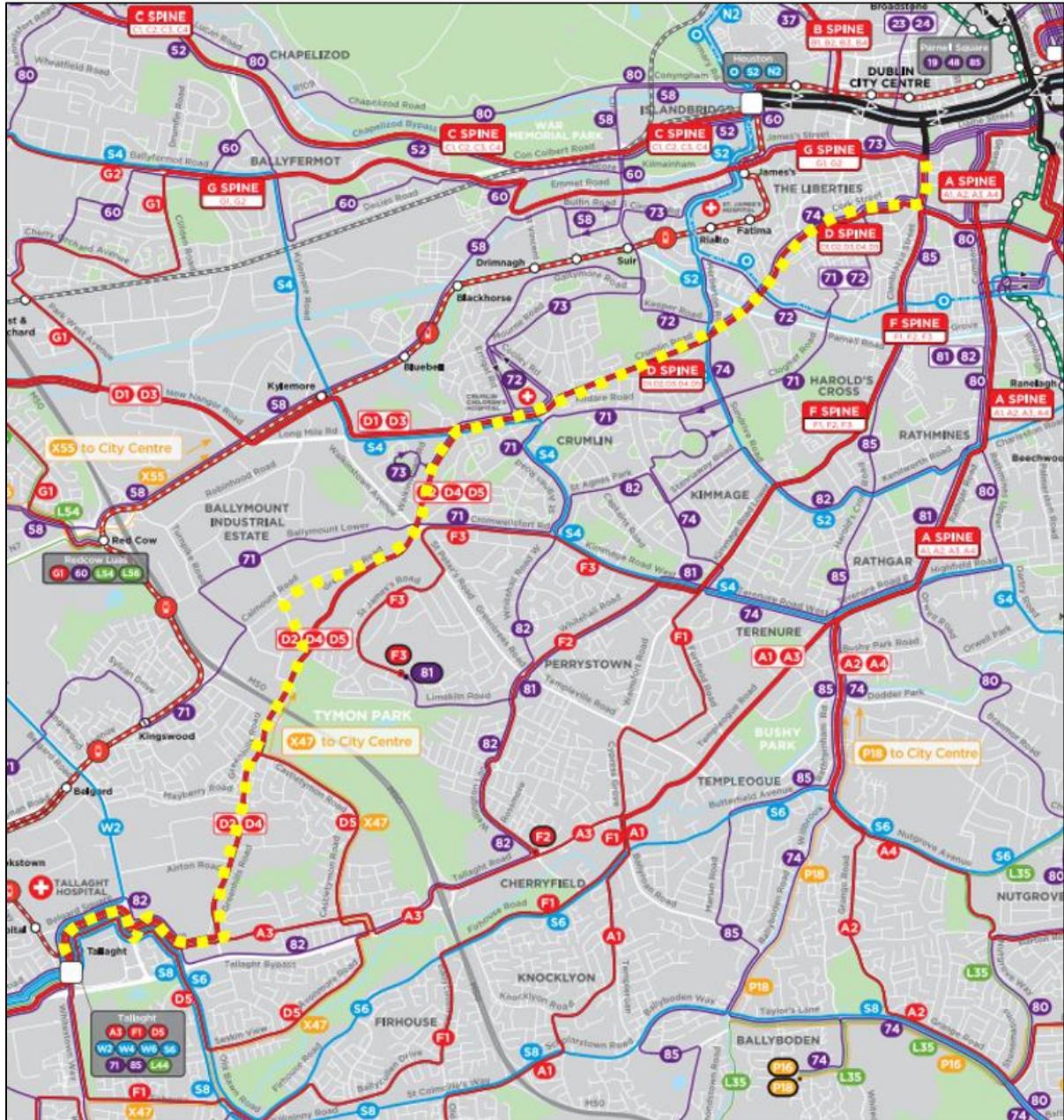


Figure 3-3: Revised Bus Network – South West Quadrant

### 3.2.3.4 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 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 the Tallaght/Clondalkin to City Centre CBC priority and cycle tracks and the introduction of turning movement restrictions.

Figure 3-4 below is an extract from GDA Cycle Network Plan and shows the different interfaces along the corridor between Tallaght to City Centre. Stub cycle tracks have been provided at all interfaces that adjoin the Proposed Scheme.



**Figure 3-4: Extract from GDA Cycle Network Plan – South West Quadrant**

The Primary Routes SO5, 9A, 8B and 8 follow Blessington Road, Main Road, R819 Greenhills Road, R110 Crumlin Road, Dolphin's Barn, R110 Cork Street, R110 St Luke's Avenue and Dean Street along the Proposed Scheme.

The Secondary Routes 8A and 8C follows R819 Greenhills Road, Bunting Road, Drimnagh Road, St. Mary's Road and R110 Crumlin Road along the Proposed Scheme, the Secondary Route 9B follows R137 Patrick Street and R137 Nicholas Street between Dean Street and Christchurch Place.

- The Primary Routes
  - 9A intersect with the Proposed Scheme at Belgard Square West, Belgard Square East and Main Road/Old Greenhills Road;
  - SO5 intersect with the Proposed Scheme at Blessington Road and Main Road;
  - 8B intersect with the Proposed Scheme at Tymon Park and Windmill Road;
  - SO1/N10 intersect with the Proposed Scheme at R111 Parnell Road;
  - 8 intersect with the Proposed Scheme at Newmarket Street and Bull Alley Street; and

- 7 intersect with the Proposed Scheme at R137 Christchurch Place and R108 High Street.
- The Secondary Routes
  - 9C/9D intersect with the Proposed Scheme at Belgard Square West and Belgard Road;
  - 8A intersect with the Proposed Scheme at Ballymount Avenue/Calmount Road;
  - SO3 intersect with the Proposed Scheme at Walkinstown Roundabout;
  - SO4 intersect with the Proposed Scheme at Walkinstown Roundabout;
  - 7E intersect with the Proposed Scheme at Walkinstown Roundabout;
  - SO2 intersect with the Proposed Scheme at R110 Crumlin Road/Sundrive Road;
  - SO1 intersect with the Proposed Scheme at Dolphin’s Barn / R111 Parnell Road;
  - C7 intersect with the Proposed Scheme at Dolphin’s Barn / R811 South Circular Road;
  - 8C intersect with the Proposed Scheme at R110 Cork Street/Donore Avenue; and
  - Long Lane intersect with the Proposed Scheme at R110 Cork Street/Ardee Street.
- Greenways
  - Western Parkway Greenway intersect with the proposed Scheme at Tymon Park;
  - River Camac Greenway intersect with the Proposed Scheme at Slievebloom Road / R110 Drimnagh Road; and
  - N10 Grand Canal Greenway intersect with the Proposed Scheme at R111 Parnell Road.

### 3.3 Review of the Greenhills to City Centre CBC Feasibility and Options Assessment Study

#### 2.3.1 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 the 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 chapters.

#### 3.3.1 Assessment Methodology

##### 3.3.1.1 Route Option Assessment Methodology

The first step in the assessment process was to review the Greenhills to City Centre Core Bus Corridor Options Study - Feasibility and Options Assessment 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 of ‘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 an MCA to determine the EPR option.

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

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

A 'spider's web' of route options was produced that could accommodate the objectives of the CBC for each study area as shown in Figure 3-5. For the purposes of the assessment the route was split in to four sections listed below and shown in Figure 3-5:

- Section 1 - Tallaght to Ballymount;
- Section 2 - Ballymount to Crumlin;
- Section 3 - Crumlin to Grand Canal; and
- Section 4 - Grand Canal to Christchurch.

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.

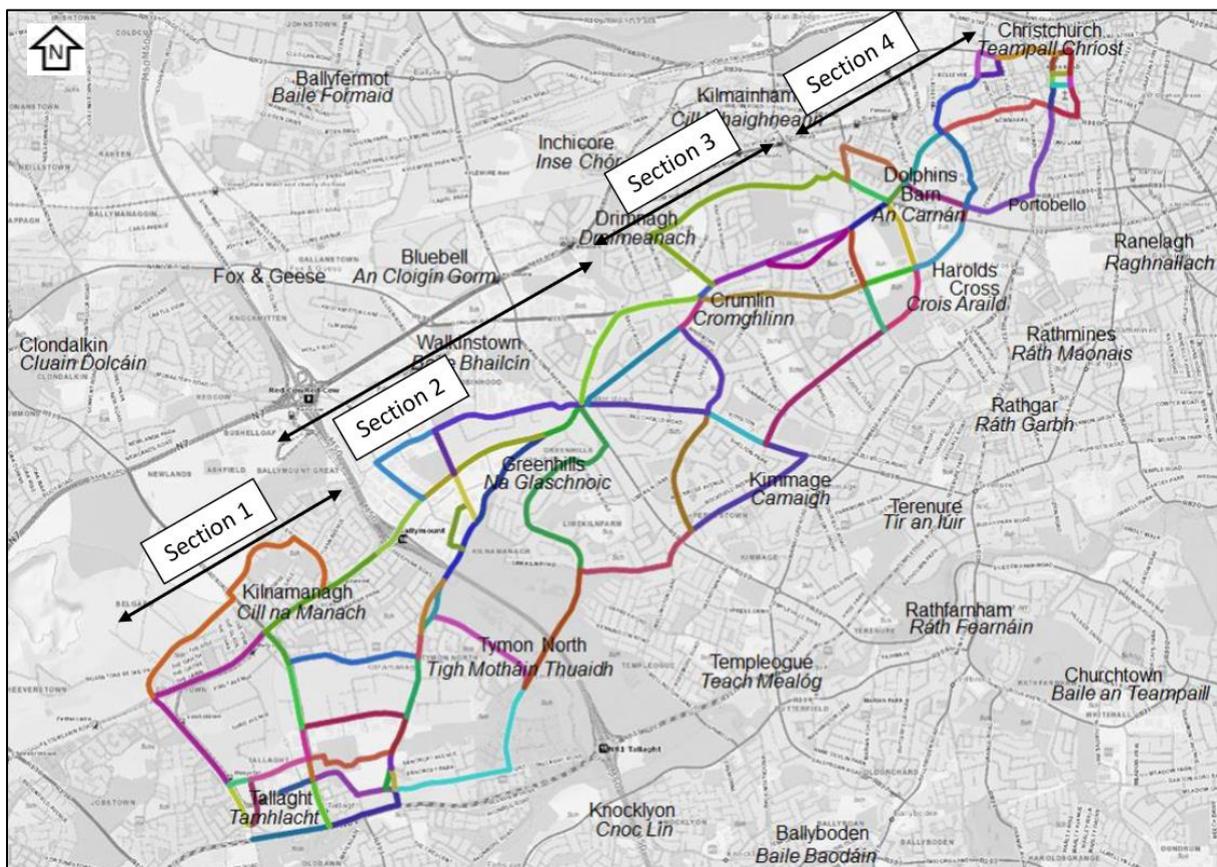


Figure 3-5: Spiders Web of Route Options

### 3.3.1.3 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 an 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 an 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 3-1 presents a summary of the Proposed Scheme assessment criteria and sub criteria used as part of the Stage 2 detailed route options assessment process. Options were compared based on a five-point scale, ranging from having significant disadvantages over other route options. Table 3-2 shows the colour coding of the five-point scale, with advantageous routes graded “dark green” and disadvantageous routes graded “red”.

**Table 3-1: Assessment Criteria**

Assessment Criteria	Assessment Sub-Criteria
Economy	1.a. Capital Cost
	1.b. Transport Reliability and Quality (Journey Time)
Integration	2.a. Land Use Integration
	2.b. Residential Population and Employment Catchments
	2.c. Transport Network Integration
	2.d. Cycle Network Integration
Accessibility & Social Inclusion	3.a. Key Trip Attractors (Education/Health/Commercial/Employment)
	3.b. Deprived Geographic Areas
Safety	4.a. Road User Safety
Environment	5.a. Archaeology and Cultural Heritage
	5.b. Architectural Heritage
	5.c. Flora & Fauna
	5.d. Soils and Geology
	5.e. Hydrology
	5.f. Landscape and Visual
	5.g Air Quality
	5.h. Noise & Vibration
	5.i. Land Use Character

**Table 3-2: Assessment Ranking**

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

### 3.3.2 Section 1 – Tallaght to Ballymount

#### 3.3.2.1 Section 1 Emerging Preferred Route

Following assessments undertaken as part of the Feasibility Study and Options Assessment Report it was determined that the optimum route from Tallaght to Ballymount is as follows:

- The EPR Option runs from Belgard Square West to R819 Greenhills Road. It was determined that the optimum option was the route through the Technological University Dublin (TUD), Tallaght Campus. This was primarily on the basis that there is potentially a journey time advantage by passing through the Campus.
- From R819 Greenhills Road there were various options proposed for the route around the Parkview area and across the M50. Using the two-stage assessment it was determined that it would be best suited to provide a new alignment around Parkview for the corridor in line with the South Dublin County Council County Development Plan Roads Objectives for this area.

#### 3.3.2.2 Section 1 Areas Identified for Re-Examination

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

- The route option through TUD, is considered unsuitable in the context of the restrictions on vehicle movements through the campus at certain times of the day and the significant realignment of the existing roads within the campus that would be required to facilitate high frequency bus movements. As part of the Preferred Route design all previously discounted options were reviewed and the outcomes of such are presented in Section 3.4.
- At the proposed Parkview/Castletymon Road junction the absence of a right turn lane for traffic accessing Castletymon Road from the Tallaght direction may result in delays to traffic that may also impact on bus operations at this location. For this reason, the layout was re-examined to ascertain how a right turn lane can be incorporated into the scheme; this is presented in Section 3.4. In addition, following the 3rd round public consultation a revised proposal which maximised use of the existing R819 Greenhills Road has been suggested by observers and will also be assessed in Section 3.4.

### 3.3.3 Section 2 – Ballymount to Crumlin

#### 3.3.3.1 Section 2 Emerging Preferred Route

Following assessments undertaken as part of the Feasibility Study and Options Assessment Report it was determined that the optimum route from Ballymount to Crumlin is as follows:

- The EPR option runs from Ballymount to Walkinstown via Ballymount Avenue and Calmount Road, which is in line with the South Dublin County Council County Development Plan Objectives for the area.
- At Walkinstown Roundabout, an in-depth assessment of various junction options, taking into consideration multiple factors such as traffic movement counts, traffic management and junction operations and subsequent MCA, determined that the modified dual lane roundabout was the optimum solution for this location.
- Between Walkinstown and Crumlin, 3 route options were assessed with variations of cycling and priority bus infrastructure applications resulting in 10 options for assessment. The MCA determined that the optimum option was the provision of bus lanes in each direction with existing cycling infrastructure along R110 Drimnagh Road being utilised. No cycling provisions are proposed for R819 Walkinstown Road, with an alternative cycle route via Bunting Road proposed.

### **3.3.3.2 Section 2 Areas Identified for Re-Examination**

Following the Non-Statutory Public Consultations feedback and design updates no parts of the route in this section were identified for re-examination as part of this report.

### **3.3.4 Section 3 – Crumlin to Grand Canal**

#### **3.3.4.1 Section 3 Emerging Preferred Route**

Following assessments undertaken as part of the Feasibility Study and Options Assessment Report it was determined that the optimum route from Ballymount to Crumlin is as follows:

- The EPR option runs from R110 Crumlin Road to the Grand Canal. It was determined from the MCA that the EPR would have bus lanes in each direction along R110 Crumlin Road with the provision of cycle facilities along Kildare Road, Clogher Road and returning to R110 Crumlin Road via Sundrive Road. At the junction of Sundrive Road and R110 Crumlin Road, cyclists re-join the R110 Crumlin Road and utilise the existing bus and cycling infrastructure.

#### **3.3.4.2 Section 3 Areas Identified for Re-Examination**

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

- A review of the proposed widening along this section of the corridor as the impact on the residents and the engineering challenges associated with maintaining access-for-all to each building (due to gradients of driveways), it is no longer considered a viable option. In addition, consideration was given to continuing the cycle facilities along Clogher Road to the Grand Canal rather than returning to R110 Crumlin Road at Sundrive Road. This is presented in Section 3.4.

### **3.3.5 Section 4 – Grand Canal to Christchurch**

#### **3.3.5.1 Section 4 Emerging Preferred Route**

Following the Stage 1 sifting process only one route emerged as a viable option between the Grand Canal and Patrick Street, as such Cork Street was identified as the optimum route for this corridor. Cycle facilities are upgraded and the existing bus priority lanes are maintained along this section of the corridor.

- The EPR Option includes bus and cycle lanes, in each direction, along R137 Patrick Street and R137 Nicholas Street. To accommodate this, the central median was to be removed or the bus lane shared with cyclists.

### 3.3.5.2 Section 4 Areas identified for re-assessment

Following the Non-Statutory Public Consultation feedback and design updates no parts of the route in this section were identified for re-examination as part of this report.

### 3.3.6 Summary

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

#### Section 1 Tallaght to Ballymount

- Route options – Belgard Square West to R819 Greenhills Road
- Route options – Parkview / Treepark Road

#### Section 3 Crumlin to Grand Canal

Extent of widening along this section and consideration of the potential for the cycle facilities along Clogher Road to the Grand Canal Carbon Considerations for the Route Options

Carbon for the Tallaght to City Centre Section will arise from the three potential sources namely User Carbon, Capital Carbon and Operational Carbon. These are as follows:

- The majority is the road **User Carbon** from 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 Tallaght to City Centre Section 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 of the Proposed Scheme, 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 Tallaght to City Centre Section during construction and operation. Many of the changes made to the Tallaght to City Centre Section design since the EPR proposal have resulted in minor changes in the construction carbon generated by the Tallaght to City Centre Section 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.

## 3.4 Options Assessment for the Tallaght to City Centre Section

A review of the scheme preferred route options was required at two sections within the overall study area as shown in Figure 3-1 in conjunction with public consultation feedback and additional design/survey information. Additional route options considered for Section 1 (Tallaght to Ballymount) and Section 3 (Crumlin to Grand Canal) are further detailed below.

### 3.4.1 Section 1 - Tallaght to Ballymount

#### 3.4.1.1 Route Options Considered – Belgard Square West to Greenhills Road

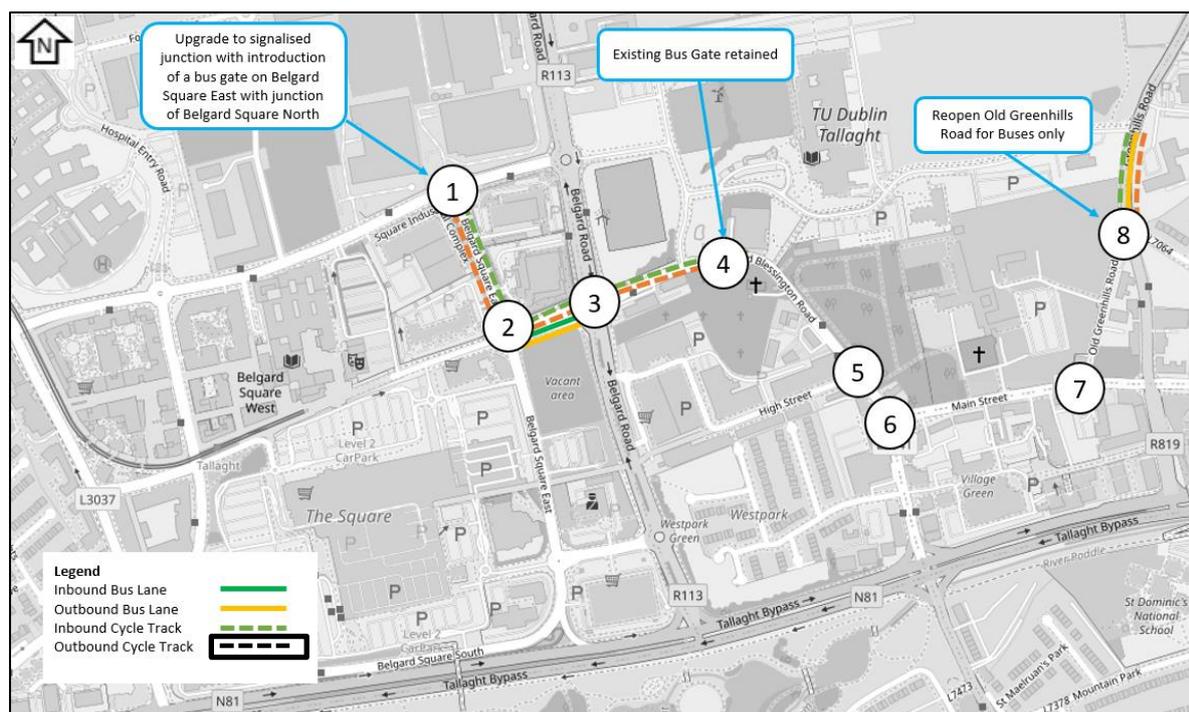
In the Greenhills to City Centre Feasibility and Options Assessment Report the EPR Option (BG2) made use of the existing through road the TUD campus. Following public consultation feedback, review of more detailed topographical information, and the required agreements for permanent access through the campus it was concluded that this part of the route required review. It was concluded that the extensive work that would be required within the campus, which had not been considered previously, and the requirement to have 24 hour/365 day access would make this route option difficult to deliver. Therefore, it was determined that a more favourable route was required to be taken forward as the Preferred Route Option.

As the scheme study area and extents had remained valid from the previous options study, the other three options considered previously were re-assessed as potential Preferred Route Options. All four route options are described below for the Belgard Square West to Greenhills Road sub section:

- BG1 (Via Town Centre): Route option BG1 utilises R113 Belgard Road, Blessington Road, and Main Road/Street towards Tallaght village, the route would see the introduction of a priority bus junction at the junction of R819 Greenhills Road and Old Greenhills Road. The CBC would then continue along R819 Greenhills Road towards Ballymount.
- BG2 (Via TUD): Route option BG2, was the EPR routing for the 1st public consultation stage. It follows a similar routing to BG1 but passes through the TUD Campus rather the Main Road/Street. However the extensive work that would be required within the campus (not previously considered) and the requirement to have 24 hour/365 day access makes this route option difficult to deliver.
- BG3 (via Airton Road): Route Option BG3 routes the buses to the north, to bypass both the Town Centre and TUD utilising the Airton Road to gain access to the R819 Greenhills Road.
- BG4 (Via Mayberry Lane): Route Option BG4 utilises Belgard Road through to Mayberry Road and onto R819 Greenhills Road towards Ballymount. This route serves the employments zones on R113 Belgard Road, however bypasses Tallaght Town Centre.

##### 3.4.1.1.1 Alternative Options Considered

Further assessments carried out on the above previously considered options also highlighted a new alternative route option to be considered for the Belgard Square to Greenhills Road sub section. For the purposes of assessment continuity, it has been called Route Option BG5 and is described below. Figure 3-6 illustrates the route for option BG5. The location of each junction included in the description below is also indicated through numbers 1-8.



**Figure 3-6: Route Option BG5 Indicative Scheme Design**

**Inbound:** BG5 route would commence on Belgard Square North where buses would turn right (junction 1) onto Belgard Square East and progress onto Blessington Road where the route will follow that of BG1. The proposed route travels along Blessington Road (junctions 2, 3 and 4) and through the existing bus gate where it continues along Blessington Road (junction 5) to Main Road/Street. The route turns onto Main Road/Street (junction 6) and follows Main Road/Street until it turns onto Old Greenhills Road (junction 7), which is currently a cul-de-sac with local access. A bus gate would be provided to restrict access between R819 Greenhills Road and Old Greenhills Road to buses only (junction 8). The remainder of this route travels along R819 Greenhills Road. This route is generally characterised as having low general traffic flows, avoiding the most congested roads and thereby reducing the bus journey time.

**Outbound:** The outbound routing would follow the same roads as the inbound routing, again avoiding the most congested routes in the area.

As an alternative to BG1 in this option the route uses Belgard Square East rather than the congested R113 Belgard Road to gain access to Blessington Road. Traffic congestion will be avoided by installing a bus gate on the north end of Belgard Square East, making this road a cul-de-sac for general traffic with local access to the existing businesses only. On the initial section of Blessington Road bus lanes will be provided to avoid any congestion at the Belgard Road junction. This route would allow buses access Tallaght Town Centre with limited interference from general traffic.

The remainder of the route from Blessington Road to R819 Greenhills Road is similar to that described in option BG1 provided in the previously published Greenhills to City Centre Options and Feasibility Report. In general, this route option uses the existing road cross-section apart from the section between Belgard Square East and R113 Belgard Road, which is indicated in the cross section in Figure 3-7.

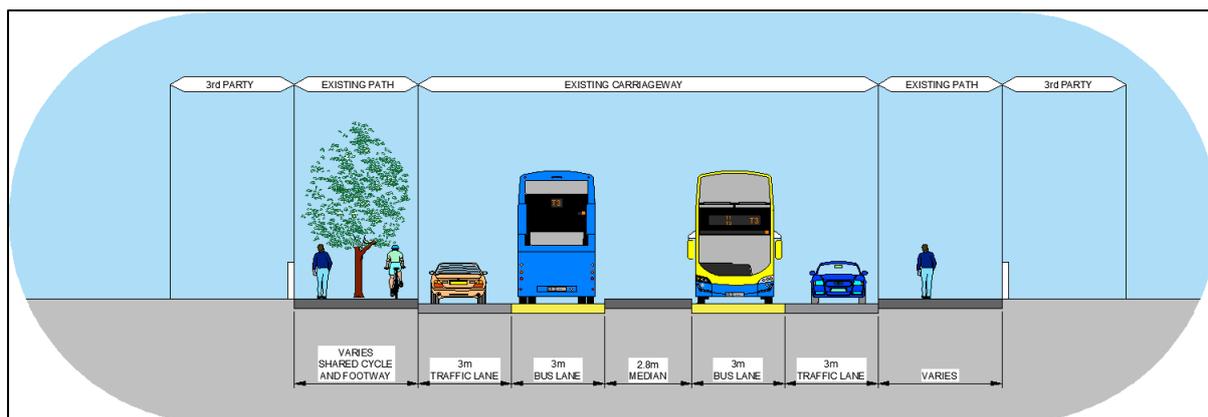


Figure 3-7: BG5 Cross Section Blessington Road (between Junctions 2 and 3).

### 3.4.1.1.2 Options Assessment – Belgard Square West to R819 Greenhills Road

Details of the revised Stage 2 route options assessment undertaken for the Belgard Square North to R819 Greenhills Road Section is summarised in Table 3-3, using the criteria as set out in Table 3-1. The detailed MCA Tables are provided in Appendix D, Table A1.

Table 3-3: Revised Options Assessment Section 1

Assessment Criteria	BG1	BG2	BG3	BG4	BG5
Economy	Red	Green	Green	Green	Red
Integration	Green	Yellow	Red	Red	Green
Accessibility & Social Inclusion	Green	Green	Red	Yellow	Green
Safety	Yellow	Yellow	Yellow	Yellow	Yellow
Environment	Yellow	Green	Green	Red	Green
Overall Rating	Green	Green	Yellow	Red	Green

Following reassessment of the various route options it is concluded that BG5 has sufficient advantages over the other route options, particularly in the context that BG2 is challenging to deliver. While the other routes are less expensive, they serve relatively low-density employment areas and as a result have a lower effective catchment areas. The additional priority provided for buses on the approach to Blessington Road with option BG5, and the realignment of the route away from mature trees on R819 Greenhills Road gives this route option an advantage over BG1 and is therefore the optimum routing in this area.

### 3.4.1.2 Route Options Considered – Parkview and Treepark Road

The EPR proposal to the north of Mayberry Road was to provide a new road alignment, with bus and cycle lanes in each direction, through the green area between Parkview and Treepark Road. This route is identified as a Road Objective in the South Dublin County Council County Development Plan and has a previously approved alignment (SDCC Part 8, 2007). The existing R819 Greenhills Road, passing Parkview, was identified to be converted to a cul-de-sac on each side of Castletymon Road.

However, at the proposed Parkview/Castletymon Road junction on the EPR alignment, no right turn lane was provided for traffic accessing Castletymon Road from Tallaght. It was identified that this would impact on bus operations at this location as Castletymon Road is an important local distributor road,

servicing a number of schools and other local services the option of prohibiting this right turn movement was not considered appropriate. Therefore, it was determined that alternative options that facilitate this right turning movement are required and have been reassessed with broader traffic routing proposals for the area. Figure 3-8 indicates the alignment and cross-section of the EPR route for PV2.

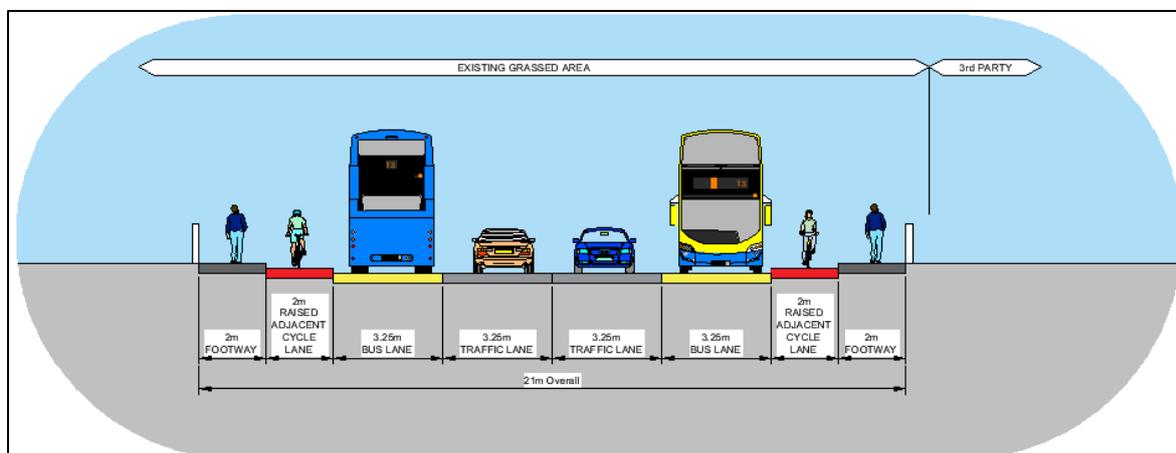


Figure 3-8: Existing EPR Routing at Parkview and Typical Cross-Section (PV2).

### 3.4.1.2.1 Alternative Options Considered

Three new options emerged over the course of the development of the Preferred Route Option in conjunction with public consultation, a review of more detailed topographical information, initial environmental assessment work and design development which are further described in the sections below as PV3, PV4 and PV5. The PV3 option was presented for the 2<sup>nd</sup> and 3<sup>rd</sup> round of Public Consultation of the draft preferred route option. Following a review of public consultation feedback and design development PV4 and PV5 options were considered as further alternative solutions. The following sections describe the key characteristics of each of the alternative route options.

### 3.4.1.2.2 PV3 Optimised New Road Cross Section

Figure 3-9 illustrates the indicative scheme arrangement for this route option. The new road alignment is narrower than that of the emerging preferred route corridor over much of its length with the outbound bus and cycle movements reallocated to the existing Greenhills Road (which was proposed as a cul de sac under the EPR option). At the new junction the space made available by this change is used to provide a dedicated right turn lane to Castletymon Road. The outbound bus and cycle lane follow the existing road alignment and use the existing road cross-section and would require no road widening. This proposal would also provide an outbound bus gate at Tymon Lane and through general traffic movements in each direction would be catered for by the new link road.

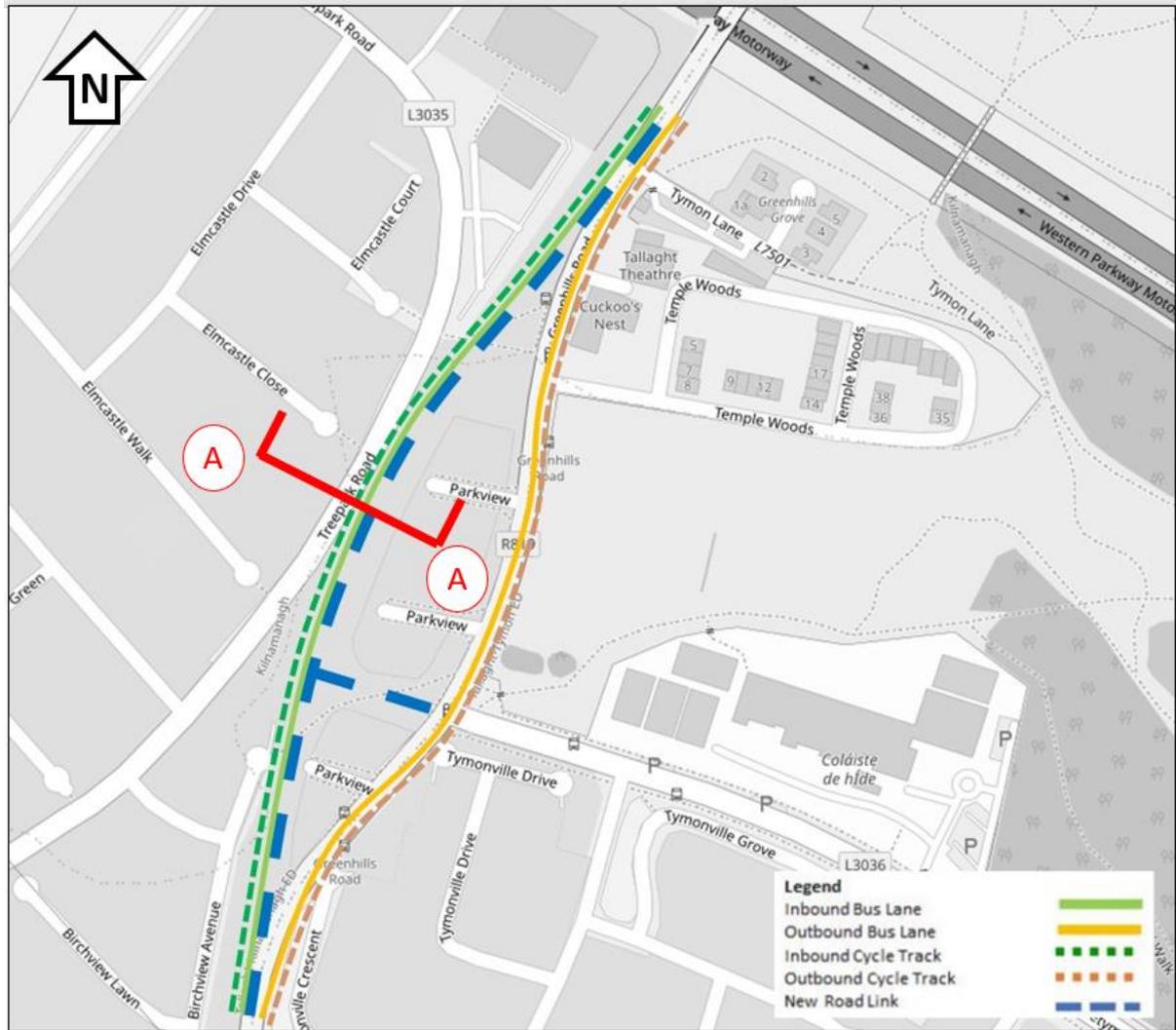


Figure 3-9: Route Option PV3 Indicative Scheme Design

This option would require less overall construction compared to the EPR Option and would provide a higher capacity junction, with a marginal, if any, decrease in quality of bus and cycle priority facilities. Figure 3-10 indicates the proposed layout of the new link through the green area.

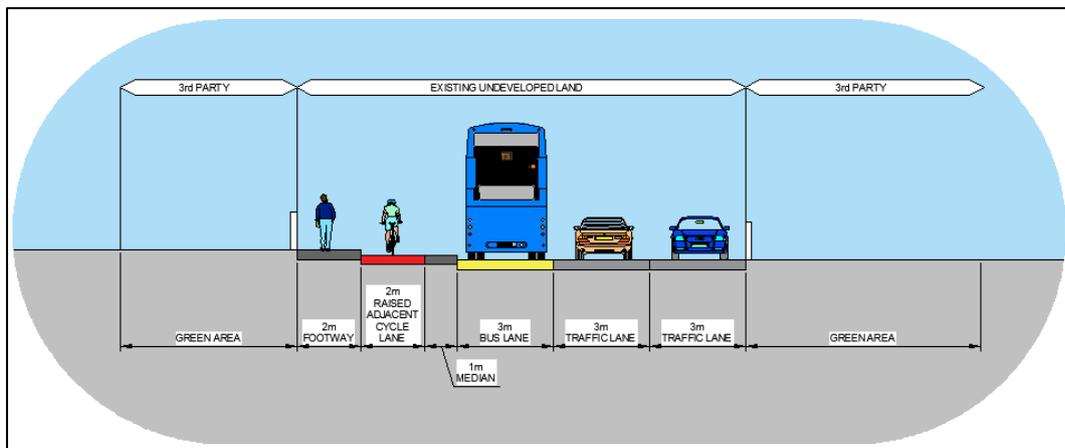


Figure 3-10: PV3 Cross Section A-A of new link in green area between Parkview and Treepark Road.

### 3.4.1.2.3 PV4 Reallocation of existing R819 Greenhills Road for CBC

As part of the third round of public consultation another option was proposed by local residents with the intention of reallocating road space on the existing R819 Greenhills Road for buses and general traffic. The aim of this proposal was to provide a reduced impact on local residents for the road alignment and cross section provided through the green area between Treepark Road and Parkview as outlined in the PV3 option. Bus and general traffic lanes in both directions were suggested to be allocated on the existing R819 Greenhills Road by removing the existing footway and cycle lanes along the existing road. The footway and cycle track were proposed to be provided offline to the existing road.

This proposal was examined and while it was deemed to be unfeasible to accommodate bus and general traffic lanes along the full section of the route due to existing constraints to the south of Castletymon Road a modified version of the suggestion was developed as alternative Option PV4. Figure 3-11 provides an outline of the PV4 option which explores retaining bus and traffic movements on Greenhills Road with the outbound bus lane curtailed at Tymon Road. Cycle and pedestrian movements are catered for offline via the green area between Treepark Road and Parkview to the west of the existing road and similarly via the green area to the east of the existing road at Tymonville Crescent.

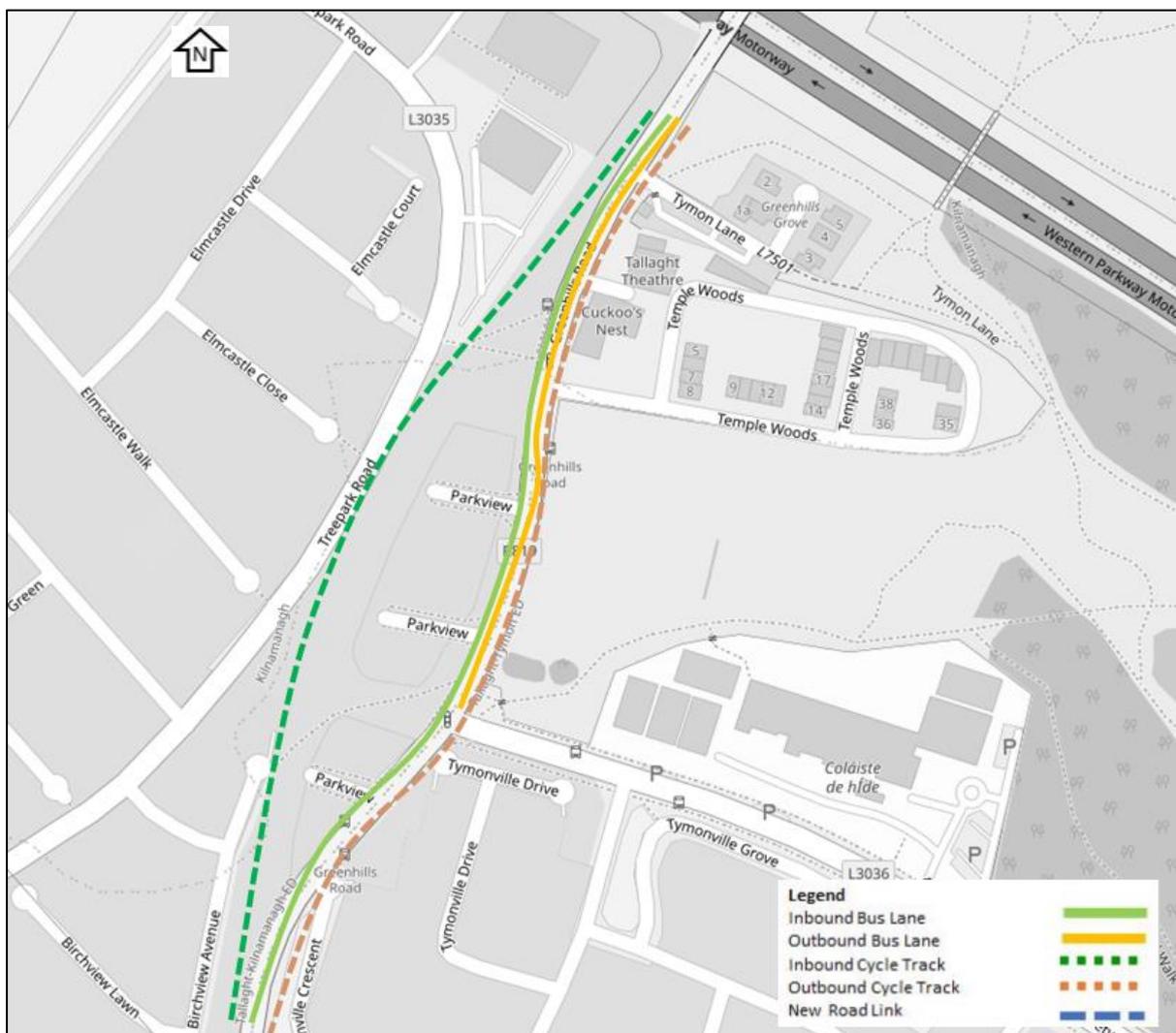


Figure 3-11: Route Option PV4 Indicative Scheme Design

### 3.4.1.2.4 PV5 New Sustainable Transport Link Road

In addition to the PV4 option development, a further alternative to the PV3 proposal was developed following updated traffic modelling and resulting noise assessment modelling which indicated that modification to the existing boundary walls at Parkview and new boundary walls on the Birchview

Avenue and Treepark Road side of the new road may be required to mitigate the noise impacts from general traffic on the new link road. This consequentially indicated a potential unfavourable outcome from a landscape and visual impact perspective. As such the aim of this further alternative PV5 proposal was to provide a solution which would achieve the scheme objectives while providing a reduced cross section, reduced traffic volumes, reduced noise levels, improved visual and landscape aspects and improved pedestrian permeability and accessibility to public transport as well as serving local attractions including Tymon Park, Tallaght Theatre and nearby schools.

Figure 3-12 provides an outline of the scheme design principles of option PV5. This option would provide a sustainable transport link road within the green area between Treepark Road and Parkview to cater for pedestrians, cyclists, bus movements and other authorised vehicles in both directions. General traffic movements would remain on the existing Greenhills Road. Two bus gates would be provided at either end for outbound bus priority to allow buses to navigate between the new sustainable link road and the existing R819 Greenhills Road. Inbound buses from Castletymon Road would be provided with a short bus only link road opposite the Tallaght Theatre to mitigate against potential congestion from the northern outbound bus gate. Two-way cycle tracks and footpaths would be provided to enhance the permeability and accessibility formalising existing desire lines between Birchview Avenue and Treepark Road to local amenities including Tymon Park, Tallaght Theatre and Castletymon Road where a number of schools exist.

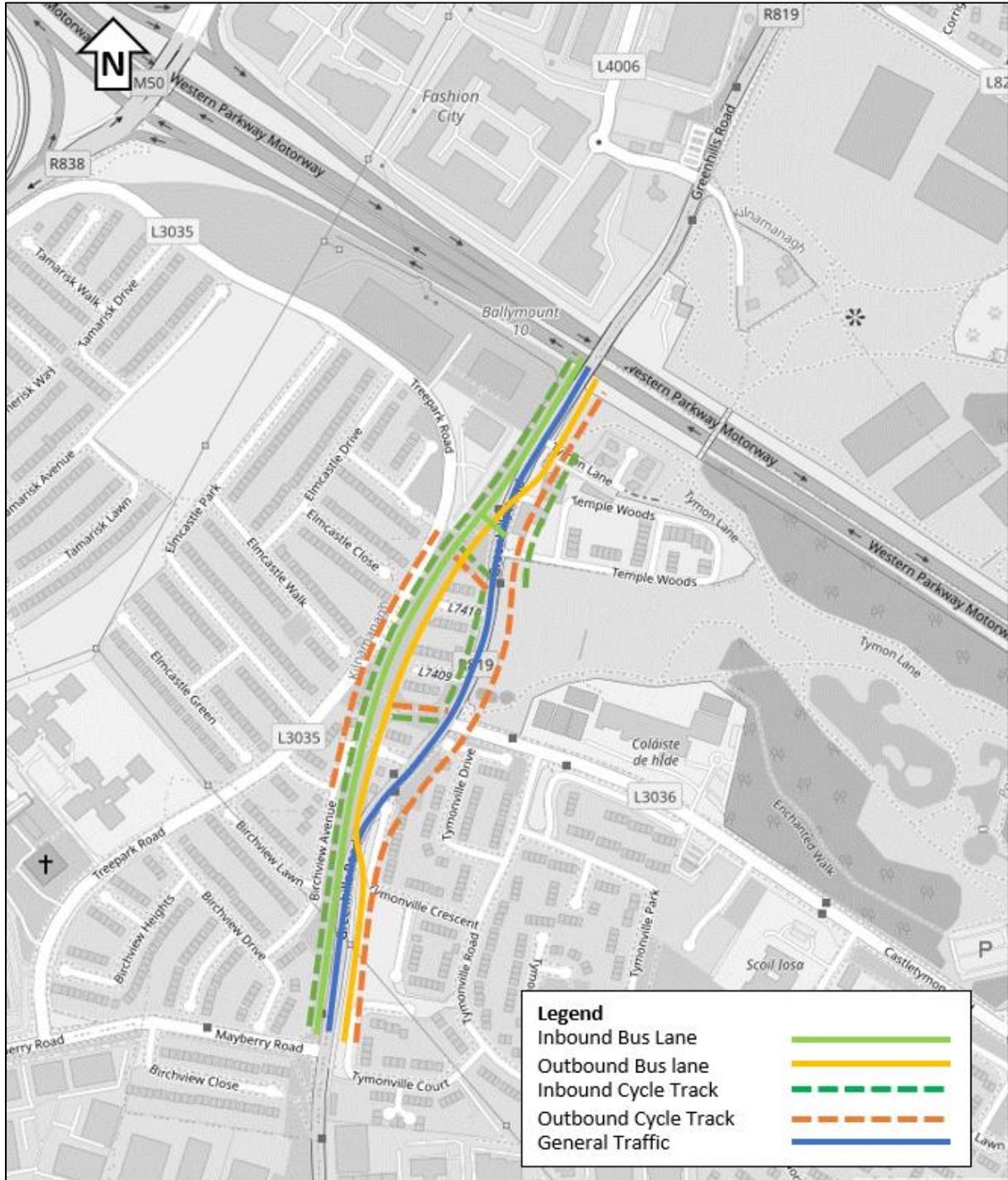


Figure 3-12 : Route Option PV5 Indicative Scheme Design

### 3.4.1.2.5 Options Assessment – Parkview and Treepark Road

Details of the Stage 3 route options assessment undertaken for the Parkview Area is summarised in Table 3-4. The detailed MCA tables are provided in Appendix E, Table A2. The four options being compared are the EPR (PV2), a revised layout which uses both the new road alignment and the existing roadway (PV3), an option that makes use of the existing roadway (PV4) and an option that provides a new sustainable transport link road (PV5).

Table 3-4 : Revised Options Assessment Section 1

Assessment Criteria	Sub-Criteria	PV2	PV3	PV4	PV5
Economy	Capital Cost	Orange	Orange	Green	Light Green
	Transport Quality and Reliability	Orange	Light Green	Red	Green
Integration	Land Use Integration	Orange	Light Green	Orange	Green
	Residential Population and Employment Catchments	Yellow	Yellow	Orange	Yellow
	Transport Network Integration	Light Green	Green	Orange	Light Green
	Cycling Integration	Orange	Light Green	Orange	Green
Accessibility & Social Inclusion	Key Trip Attractors	Orange	Light Green	Orange	Green
	Deprived Geographic Areas	Yellow	Yellow	Yellow	Yellow
Safety	Road and Pedestrian Safety	Orange	Light Green	Red	Green
Environment	Archaeology and Cultural Heritage	Yellow	Yellow	Yellow	Yellow
	Architectural Heritage	Yellow	Yellow	Yellow	Yellow
	Flora and Fauna	Orange	Orange	Green	Light Green
	Soils and Geology	Yellow	Yellow	Yellow	Yellow
	Hydrology	Yellow	Yellow	Yellow	Yellow
	Landscape and Visual	Red	Red	Green	Light Green
	Air Quality	Orange	Orange	Light Green	Light Green
	Noise & Vibration	Orange	Orange	Light Green	Light Green
	Land Use Character	Red	Orange	Green	Light Green

Based on the assessment undertaken Option PV5 provides the best overall solution. Option PV2 performed the lowest on an overall assessment basis with Options PV3 and PV4 performing similar on an overall basis with different performance on various sub-criteria further discussed below.

In terms of Economy, Option PV5 was the most favourable overall with Option PV 4 providing the lowest capital cost and PV5 providing the second least capital cost. Option PV4 will have added costs for diverting/protecting existing utilities in the footpath as part of the full depth pavement reconstruction.

Option PV5 scored marginally behind PV4 in terms of capital cost and will also provide flexibility during construction for diverting traffic onto the new road if necessary, resulting in lower traffic management costs and construction durations. Due to the missing section of bus lane on Option PV 4 bus reliability was lowest scoring here by comparison to other options. Option PV5 scored the highest with full bus priority measures proposed and marginally better than Option PV3 due to reduced potential for delays from competing general traffic green time at the Castletymon Road junction.

Option PV3 and PV5 scored the highest in relation to Integration with both of these options providing new bus link road alignment in line with the South Dublin County Council Development Plan 2016-2022, 6-year road proposal. Option PV5 also provides the best cycling integration and accessibility to nearby trip attractors including Tymon Park, Tallaght Theatre, and local schools on Castletymon Road improving cycling and pedestrian permeability to and from Birchview Avenue, Treepark Road, Tymonville Drive and Tymonville Crescent with the use of two-way cycle links for additional directness.

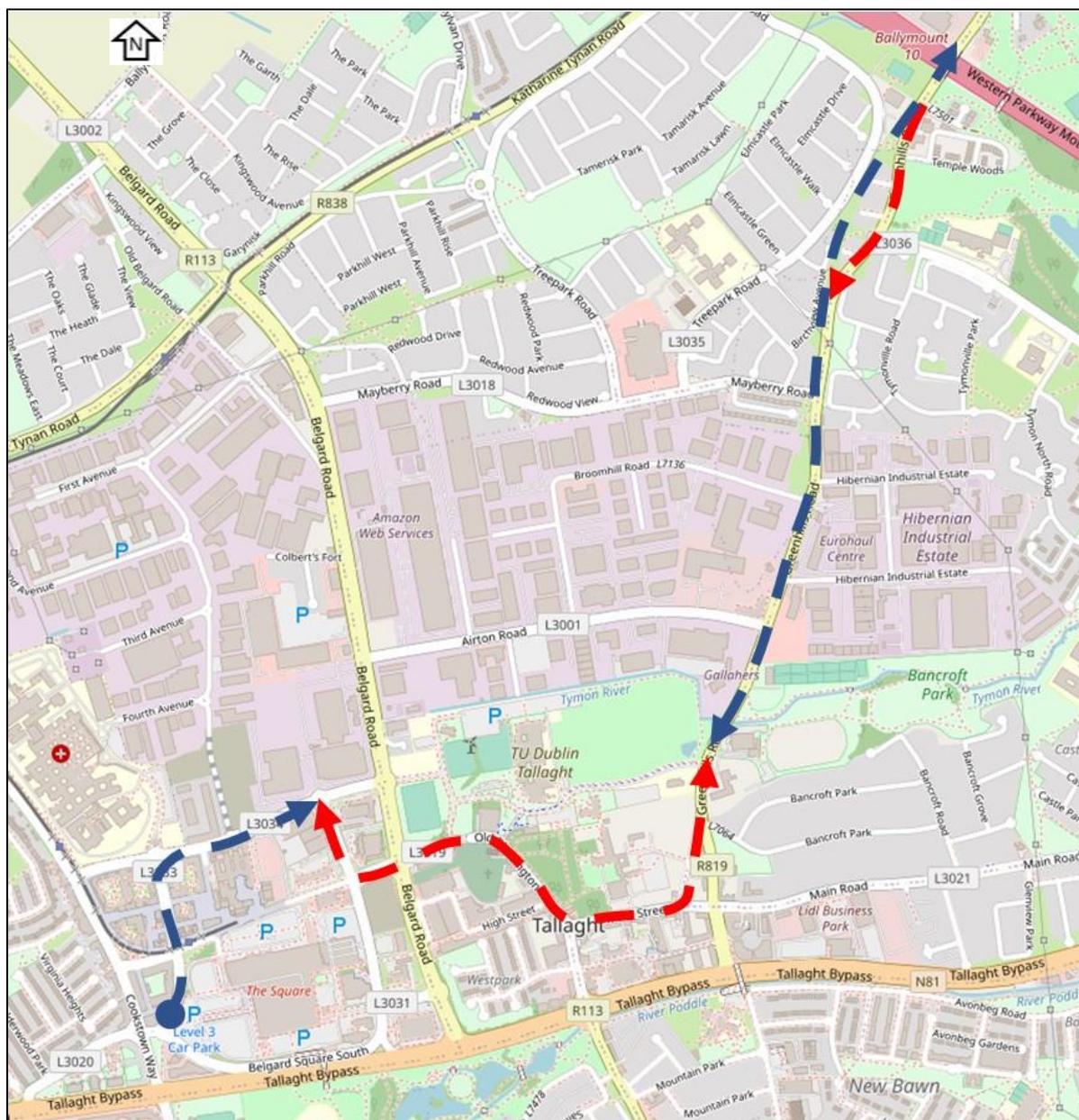
Option PV4 ranked the lowest in terms of safety performance as this proposal looks to retain the existing R819 Greenhills Road where a serious incident was recorded on the RSA incident data to the south of Castletymon Road. Retaining the existing dense vegetation also limits the sight distance envelope by comparison to other options. Similarly, this option looks to provide offline footpaths and cycle tracks that reduce the ability for passive surveillance and personal safety. Option PV5 ranked the highest in this category as these issues are intrinsic to the design layout with additional pedestrian crossings and segregated cycle and pedestrian links for the most part (some shared areas at crossing locations).

In terms of Environment, there was a lot of commonality between options with Option PV4 and PV5 performing the most favourable. Options PV2 and PV3 ranked lowest in air and noise, and landscape criteria stemming from air and noise modelling assessments which indicated that noise mitigation measures would be required through extension of existing boundary walls and new noise barriers which would have a consequential unfavourable visual impact. Options PV4 and PV5 retain general traffic movements on the existing R819 Greenhills Road, thus air and noise impacts on adjacent houses would be far less under these proposals.

### 3.4.1.3 Section 1 Conclusion and Preferred Option

Following reassessment of the various route options it is concluded that the Preferred Route Option for Section 1 is as follows and as indicated in Figure 3-13:

- Belgard Square West to R819 Greenhills Road, via Belgard Square North, Blessington Road, Main Road and Old Greenhills Road.
- R819 Greenhills Road; and
- New road alignment in the green area between Treepark Road and Parkview. General traffic will be routed along the existing R819 Greenhills Road in both directions with buses/cyclists and other authorised vehicles routed along the new sustainable transport link road.



**Figure 3-13 : Preferred Route Option for Section 1 (Source: © OpenStreetMap Contributors)**

The following design changes have also been identified for this section and summarised below and further detailed within the PDR report:

- A bus interchange is proposed on Belgard Square West to facilitate interchange between Spine, Orbital and Local bus routes. This proposal is additional to the original concept design.
- On Belgard Square North it is proposed to provide a segregated cycle lane in each direction by setting back the existing wide footpaths and some limited additional land take. This will provide improved cycle access to the Hospital from R113 Belgard Road.
- At Airton Road and all other junctions along the route, the cycle lane on the outside of a left turn slip lanes have been removed and replaced with a segregated route through the junction.
- Over the M50, two new single span pedestrian/cycle bridges are now proposed to provide continuous bus lanes and higher quality cycle lanes on R819 Greenhills Road.

### 3.4.2 Section 3 – Crumlin to Grand Canal

#### 3.4.2.1 Route Options - Crumlin to Grand Canal

Following the first round of public consultation, where concerns were raised by residents and having examined a more detailed topographical survey that was now available, it was concluded that the EPR proposals for the R110 Crumlin Road would have a significantly negative impact on the residential properties along the length of the street with driveways being reduced to below the desirable minimum lengths for the vehicles using them, as well as potentially challenging gradients from the driveway to the front doors that would be formed by reducing the driveway length. As a result, a review of the options for this section was undertaken which included revisiting options that had been discounted previously.

Feedback received also suggested that the cycle route could be extended to the Grand Canal, via Clogher Road, rather than returning to R110 Crumlin Road via Sundrive Road. The primary rationale provided was that the suggested routing (via Clogher Road) is on cyclists' desire lines and that more cyclists would be attracted to the alternative route (Kildare/Clogher Road) if a higher quality facility to the Grand Canal was provided.

In the Greenhills to City Centre Feasibility and Options Assessment Report ten route options were assessed in detail using the MCA process used throughout this study. This concluded that the optimum routing of the Greenhills Corridor was along R110 Crumlin Road rather than any other route option. This assessment concluded that the following three routes offer the most benefits over other seven options:

- **CG1b** - Option CG1b included a bus and traffic lane in each direction and would require widening and land take along R110 Crumlin Road. This was the EPR that was taken forward to Public Consultation. Figure 3-14 indicates a typical cross section for this option.

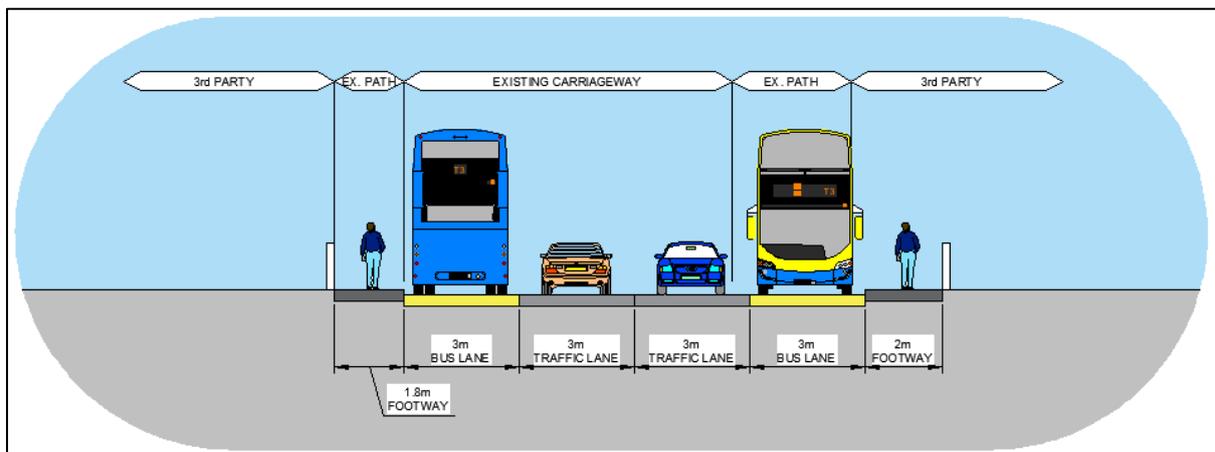


Figure 3-14 : CG1b Typical Cross Section for Crumlin Road

- **CG1c** – Option CG1c uses the existing carriageway width to provide an additional bus lane in one direction only (by removing the advisory cycle lanes). This option uses bus priority signals and queue management to provide buses with priority through this 1.4km section. The bus would share traffic lanes for approximately 1km of this section. Figure 3-15 indicates the scheme design for this option.

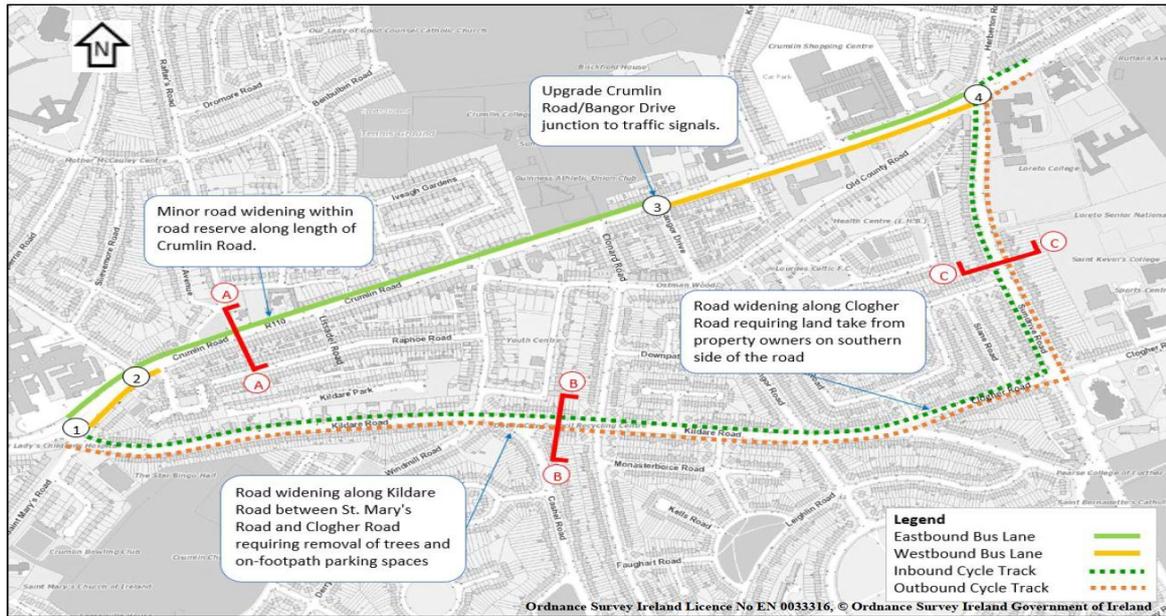


Figure 3-15 Route Option CG1c Indicative Scheme Design

- CG1d** – Option CG1d is a combination of the two previous options with extensive road widening proposed, but the section with the most challenging cross-section in terms of impacts on residents removed. This results in bus lanes over 80% of the corridor, and 100% in the inbound direction. Figure 3-16 indicates the scheme design for this option.

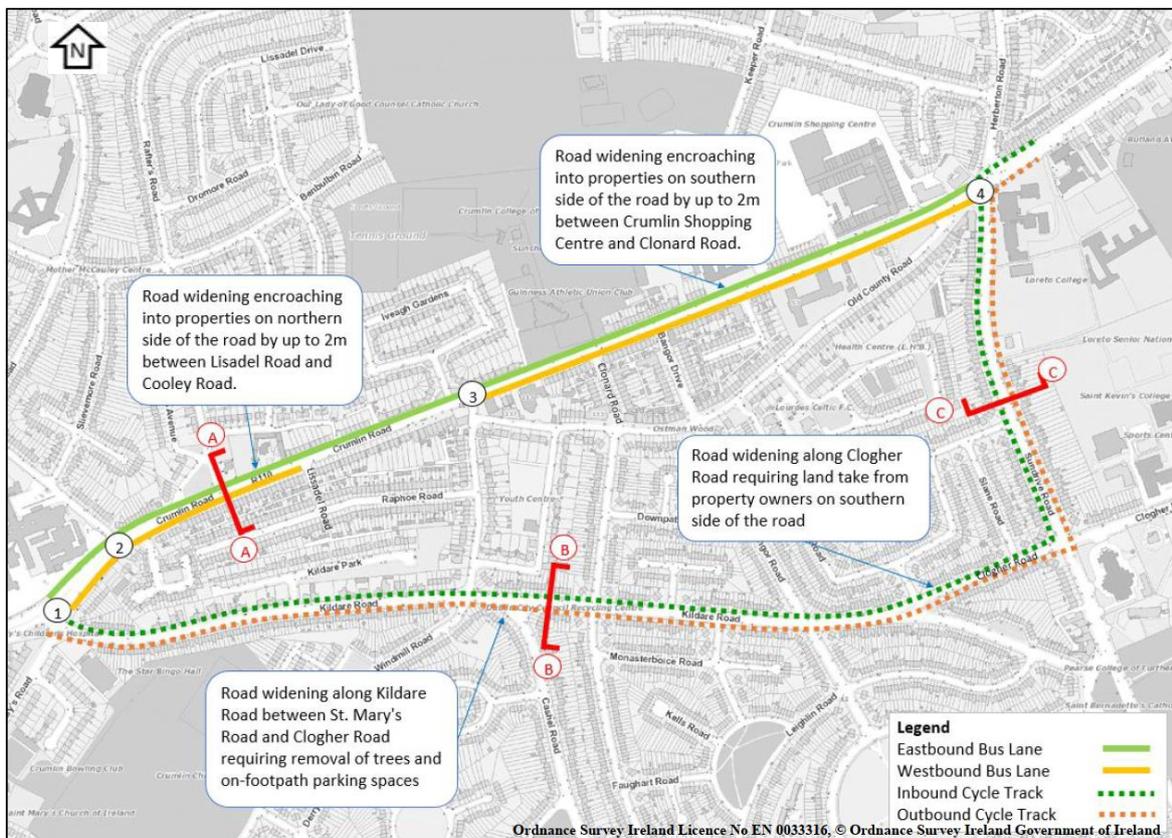


Figure 3-16 Route Option CG1d Indicative Scheme Design

All three of these options proposed an alternative cycle route via Kildare Road, Clogher Road and Sundrive Road.

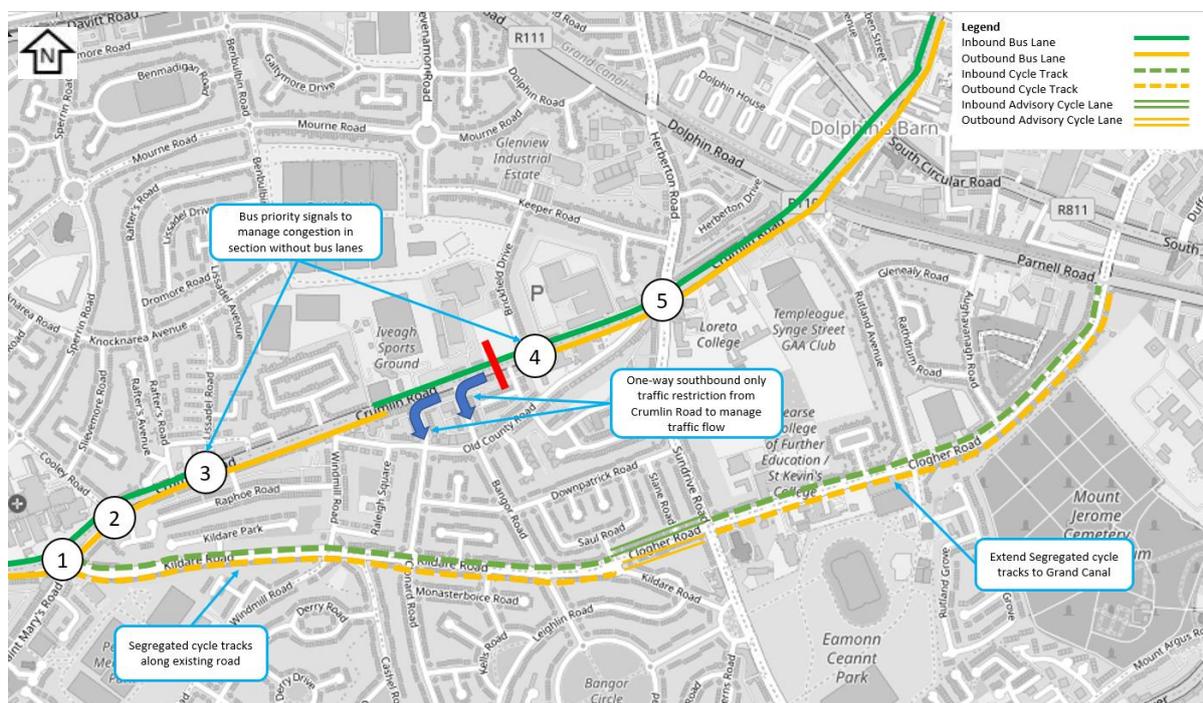
### 3.4.2.2 Alternative Options Considered

CG1b emerged as the preferred option with both CG1c and CG1d being rated lower, but offered significant benefits over the other seven options. Taking cognisance of the feedback during the initial public consultation and new information available CG1c and CG1d were reevaluated and a further variation on these was developed and is presented as CG1e below.

#### 3.4.2.2.1 Alternative Option CG1e

This option provides partial Bus Lanes in Each Direction, alternative cycle lanes along Kildare Road/Clogher Road

Figure 3-17 illustrates the indicative scheme design for this route option. The location of cross-section (red bar) and junctions referenced in subsequent sections describing this route option are also presented in Figure 3-18



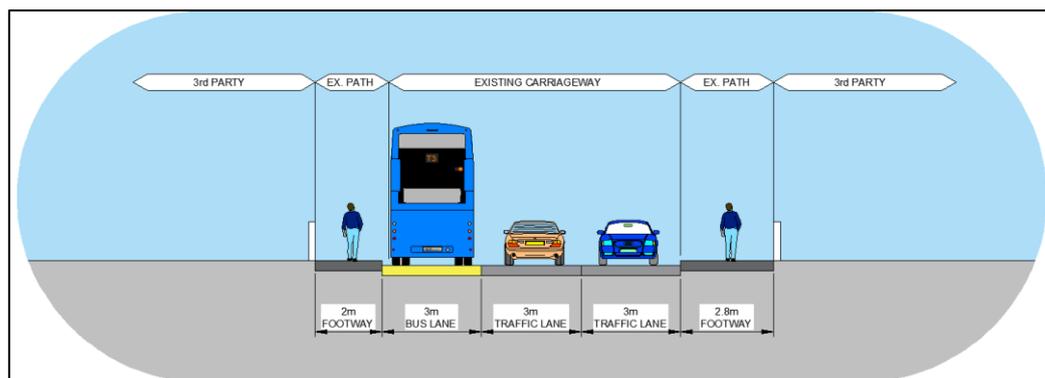
**Figure 3-17: Route Option CG1e Indicative Scheme Design using Signal Controlled Priority**

As was illustrated with CG1c it is possible to provide one additional lane along R110 Crumlin Road without the need for land acquisition by removing the existing on-road cycle lanes and narrowing all lanes to 3m in width. The third lane could be allocated to buses in one direction. For CG1e this space was utilised by splitting the bus lane in each direction in shorter sections, with the result that the bus is sharing with general traffic for no more than 400m. This allows the traffic entering these sections to be managed more efficiently using bus priority signals. While the same effective design as CG1c, the shorter lengths of shared lane, and a small amount of widening of non-residential properties, results in bus lanes over approximately 80% of this section with virtual bus priority implemented for the remaining 20%.

Signalled Controlled Priority would be complemented with additional traffic management measures to restrict the amount of traffic entering from side roads, which would have potential to contribute to queuing in the area managed by bus priority signals on R110 Crumlin Road. This would encompass the following measures:

- Southbound only one-way at Clonard Road/R110 Crumlin Road junction with shared surface hardscaping and
- Southbound only one-way at Bangor Drive/R110 Crumlin Road junction with shared surface hardscaping.

Alternative routes are available for all traffic currently making the manoeuvres listed above.



**Figure 3-18: CG1e Typical Cross Section for Crumlin Road**

Unlike the previous options the cycle route is now proposed to be extended along Clogher Road to the Grand Canal, where it will join the Grand Canal Cycleway which is under development. This route will consist of segregated cycle lanes on the existing carriageway except for Clogher Road section between Kildare Road and Sundrive Road junction where a Quietway will be provided. It is proposed to minimize impacts on existing trees on this section where practicable.

There are five signalised junctions along this route option, three of which would require upgrading to facilitate bus priority, and two new signalised bus priority gates to allow the bus to leave the bus lanes and to control the amount of traffic in the shared section. The location of these junctions is presented in Figure 3-17 and discussed below.

- Crumlin Road/Kildare Road: Bus lanes are already provided to the stop line on R110 Crumlin Road in each direction. There may also be a possible requirement to relocate/provide new signal equipment.
- R110 Crumlin Road/Cooley Road: Adjustments to the junction layout may be required to facilitate bus lanes on approach to the junction. There may also be a possible requirement to relocate/provide new signal equipment.
- R110 Crumlin Road (at Ardscoil Éanna) eastbound bus gate: traffic flow into the following shared section of R110 Crumlin Road will be managed by these signals.
- R110 Crumlin Road (at HSE) westbound bus gate: traffic flow into the following shared section of R110 Crumlin Road will be managed by these signals.
- R110 Crumlin Road/Sundrive Road: Adjustments to the junction layout may be required to facilitate bus lanes on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

It is noted that the proposed bus only link in both directions at the junction of Kildare Road/Clonard Road has been reconsidered and following a review of the traffic modelling it has been decided to remove this measure as its implementation results in significant dispersion of local traffic while not acting as a deterrent to through traffic. As a result, it has also been decided to include segregated cycle lanes over the full length of Kildare Road by widening into the existing northern verge area but retaining parking on the southern side where off-street parking is not available. The MCA's for CG1e has been updated in this regard.

### 3.4.2.3 Route Options Assessment – Crumlin to Grand Canal

Details of the Stage 2 route options assessment undertaken for the Crumlin to Grand Canal study area is presented in Table A3. The resulting relative ranking of route options against the scheme assessment sub-criteria is summarised in Table 3-5.

**Table 3-5: Revised Options Assessment Section 1**

Assessment Criteria	CG1b	CG1c	CG1d	CG1e
Economy	Green	Orange	Orange	Green
Integration	Green	Orange	Orange	Orange
Accessibility & Social Inclusion	Yellow	Yellow	Yellow	Yellow
Safety	Yellow	Yellow	Yellow	Yellow
Environment	Red	Green	Red	Green

This indicates that the options are relatively similar overall with the only significant differentiator being the amount of land take required and the resulting impact on the environmental ratings. Where CG1e is a noticeable improvement to the other three options is in regard to the extension of the cycle facilities along Clogher Road to Grand Canal, which reduces environmental impacts associated with the other routes. Option CG1e therefore better meets the scheme objectives and is the Preferred Route Option for the Crumlin area for the following reasons:

- It delivers high proportion of bus lanes over this 1.4km section (with lower levels of land take), providing improved journey time reliability;
- It integrates better with existing bus routes;
- It delivers cycle facilities along a parallel route; and
- Is cost effective in comparison to other options.

#### 3.4.2.4 Section 3 Conclusion

Following reassessment of the various route options it is concluded that the Preferred Route Option for Section 3 is as follows and indicated in Figure 3-19:

- R110 Crumlin Road from R110 Drimnagh Road to R111 Parnell Road using Signal Controlled Priority measures; and
- An alternative offline cycle route along Kildare Road and Clogher Road to R111 Parnell Road.

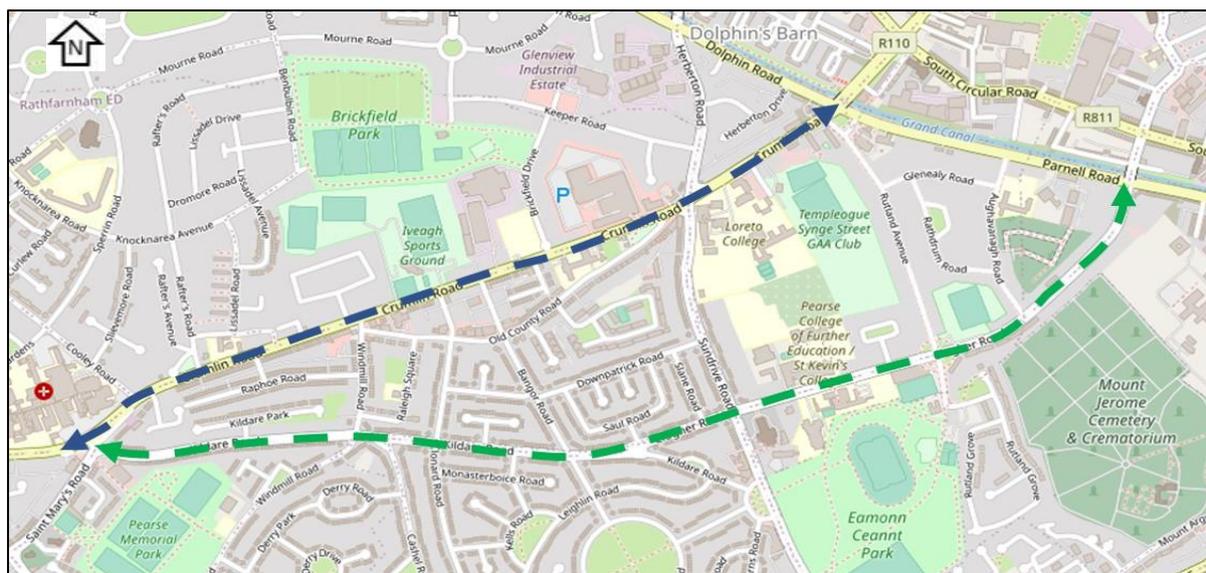


Figure 3-19: Preferred Drive Route Option for Study Area 1 (Source: © OpenStreetMap Contributors)

## 3.5 Preferred Road Route Option for the Tallaght to City Centre Section

### 3.5.1 Introduction

This chapter of the report presents and describes the PRO identified and the PRO scheme design for the Tallaght to City Centre section of the Proposed Scheme. The updated concept scheme design drawings are included in Appendix A of the report.

### 3.5.2 Scheme Design Description Overview

The Proposed Scheme between Tallaght and the City Centre is 11.5 km as shown below in Figure 3-20. The Proposed Scheme begins on Belgard Square South junction with Cookstown Way with a new bus interchange at the Square Shopping Centre and continues to the City Centre via Tallaght Town Centre, Ballymount, Walkinstown Cross, Drimnagh, Crumlin, Dolphins Barn and the Coombe. In addition to the primary corridor a 3.9 km alternative cycle route is provided between Walkinstown and the Grand Canal along Bunting Road, Kildare Road and Clogher Road.



**Figure 3-20: Tallaght to City Centre CBC**

The following section outlines a more detailed description of the Preferred Route Option design, which has four distinct sections as follows:

- Tallaght to Ballymount
- Ballymount to Crumlin
- Crumlin to Grand Canal
- Grand Canal to Christchurch

### 3.5.3 Section 1: Tallaght to Ballymount

The Preferred Route Option commences at the junction of the Old Blessington Road / Cookstown Way facilitating access to the proposed bus interchange on Belgard Square West that will act as the focus for all bus routes in the area. It is proposed to change the existing Belgard Square South roundabout to a fully signalised junction with improved pedestrian facilities and providing an alternative access route to the Square Shopping Centre. The section of Belgard Square West from Belgard Square South to Old Blessington Road and immediately north of Old Blessington Road is proposed to be a bus only route and will no longer be a through route for general traffic. Access to Tallaght Cross West / Broadfield Hall and neighbouring developments will still be permitted from via Belgard Square North and the northern section of Belgard Square West.

It is proposed to change the roundabout junction on Belgard Square North at the Tallaght Hospital Entrance to a fully signalised junction to accommodate new bus, cycle and pedestrian facilities. The roundabout junctions at Belgard Square East will also be replaced with new signalised junction arrangements. However, the revised scheme no longer includes the change of the Belgard Road roundabout that was included in the EPR as the Preferred Route Option now follows Belgard Square East. The roundabout junction at Belgard Square East will also be replaced with a new signalised junction arrangement. It is proposed to upgrade the existing cycle facilities and associated junctions on Belgard Square North to provide segregated cycle tracks to and from Tallaght Hospital. This proposed amendment may impact on the existing trees and shrubs along Belgard Square North and require localised land acquisition on a currently undeveloped site. The recently constructed signalised junction

at the Cookstown Link Road and right-turn filter lane on Belgard Square North will be accommodated in the Proposed Scheme.

From Belgard Square East the Preferred Route Option differs from the EPR Option and diverts around TUD Tallaght via Blessington Road and Main Street to R819 Greenhills Road. This route largely aligns with the existing bus route for the area and minimises impacts on the existing TUD campus infrastructure and operational procedures. A change from the EPR Option to avoid traffic congestion on R819 Greenhills Road is for buses to use the Old Greenhills Road alignment and create a new junction with signal-controlled priority at the location of the existing cul-de-sac, to facilitate bus only turn movements at the R819 Greenhills Road. This will aid the bus in avoiding congestion at the Main Street/Greenhills Road junction. Stone paving will be used in the area and localised planting will be implemented to retain the character of the existing cul-de-sac treatment.

Between the Old Greenhills Road and the junction with Mayberry Road, along the R819 Greenhills Road, it is intended to provide one bus lane, one traffic lane and a cycle track in each direction. To accommodate this road cross section, it is proposed to acquire additional land on both the west and east side of the existing R819 Greenhills Road. This proposed realignment has been altered from the EPR Option to minimise impacts to the existing mature trees and the stone wall on the western verge north of the TUD entrance on R819 Greenhills Road. The Airton Road/Greenhills Road (R819) junction has been upgraded to provide improved facilities for buses, cyclists and pedestrians.

To improve the operation of the existing junction and minimise land take, it is proposed to introduce a southbound right turn ban from R819 Greenhills Road to the entrance to Harvey Norman/Costa car park and a northbound right turn ban from the R819 Greenhills Road to Hibernian Industrial Estate. Southbound access to Harvey Norman/Costa car park via Greenhills Road (R819) will be maintained via the entrance off Airton Road. Northbound access to Hibernian Industrial Estate will be achieved via the entrance opposite Broomhill Road.

A low height retaining wall will be required to the south of Broomhill Road to accommodate the proposed road boundary cross section.

Between Mayberry Road and Tymon Lane, the EPR Option has been altered to reconfigure the local road network. South Dublin County Council had previously identified this section of R819 Greenhills Road for upgrade through the provision of new roads under their current County Development Plan and received Part 8 Planning Approval in 2007. The Preferred Route Option seeks to align with the principles of the Part 8 scheme with a significantly reduced cross section that caters for sustainable modes only (i.e. bus/cycling/pedestrian) to minimise impacts on the adjacent properties and surrounding environment. General traffic will remain on the existing Greenhills Road. Bus Priority signalling will be used to prioritise bus movements in the outbound direction via the new approximately 620m long sustainable link road that will run parallel to Birchview Avenue and Treepark Road. Inbound D5 spine services and X47 services from Castletymon Road will also be provided with a priority bus only link that joins the new link road. As part of the proposal improved cycling facilities including new two-way cycling and pedestrian links will be incorporated to improve access to Tymon Park and surrounding amenities. Significant new landscaping and SUDs enhancements will also be provided in these areas.

The existing M50 bridge crossing will be retained, however, the cross-section constraints limits the priority that can be provided for both bus and cyclists. that the Preferred Route Option includes two additional pedestrian/cycle bridges to maintain priority for buses on the existing bridge and to provide high quality cycle facilities over the M50 in both directions. The pedestrian/cycle bridges will be single span warren truss type structures and will be positioned either side of, and immediately parallel to the existing structure. Additional land acquisition on both sides of the M50 will be required to facilitate the construction of the pedestrian/cycle bridges. This represents a change from the EPR Option.

### **3.5.4 Section 2: Ballymount to Crumlin**

As per the EPR Option, two sustainable link roads will be constructed in the Ballymount area due to the existing width constraints within the existing R819 Greenhills Road to the east of the M50. The existing Ballymount Road Upper connection to Greenhills Road will be closed to vehicular traffic and a new 220m long link road to the south of Ballymount Avenue will provide a connection to R819 Greenhills Road. New retaining walls and earth embankments will be required at this location to facilitate the new

road construction. It is proposed to widen the existing Ballymount Avenue and Calmount Road for dedicated bus and cycle tracks and connect Calmount Road to Greenhills Road. The existing R819 Greenhills Road will be retained for local access and cycling facilities with a cul-de-sac treatment to the northern end where a new approximately 250m long sustainable transport link road will be constructed in the green area to the east of Calmount Road. New retaining walls and earth embankments will be required at this location to facilitate the new road construction. To maintain access for local businesses along the R819 Greenhills Road in this area a small roundabout will be constructed with a new approximately 90m long link road to connect Greenhills Road with Calmount Avenue which generally aligns to the principles of the SDCC Part 8 schemes for the area. Accessible ramps and stairs will be provided to mitigate against the steep gradient on Calmount Avenue where it joins to R819 Greenhills Road. While this was the only connection to the R819 Greenhills Road in the EPR it is now proposed to maintain access at the Tymon Park end of Greenhills Road as well to facilitate easier access to this road from Tallaght.

Between Calmount Road and Walkinstown Roundabout, it is proposed to maintain one traffic lane and a cycle track in each direction with an inbound bus lane. The EPR design for Walkinstown Roundabout has been revised to improve cycle and pedestrian connectivity around this busy junction. A two-way segregated cycle track has been proposed around the junction to adopt the most direct route around the roundabout (i.e both directions) and to reduce interactions with motor vehicles. Parallel pedestrian/cyclist raised table crossings have been implemented on all arms to improve pedestrian and cyclist safety. City bound cyclists will be directed to the offline cycle route along Bunting Road and St. Mary's Road providing a more direct route linking Walkinstown Roundabout with Kildare Road.

### 3.5.5 Section 3: Crumlin to Grand Canal

On R819 Walkinstown Road between Walkinstown Roundabout and the R110 Long Mile Road / Drimnagh, it is proposed to provide one bus lane and one general traffic lane in each direction. There is insufficient space to accommodate dedicated cycle lanes on this section of road. To accommodate this cross section, it is proposed to utilise land take to the western side of R819 Walkinstown Road between Walkinstown Roundabout and Kilnamanagh Road. Between Kilnamanagh Road and R110 Long Mile Road / Drimnagh Road the land acquisition will be on the eastern side of R819 Walkinstown Road. It is proposed to introduce a southbound right turn ban for general traffic from R819 Walkinstown Road to Kilnamanagh Road to improve the efficiency of the junction and minimise bus delays. Kilnamanagh Road will remain accessible from R819 Walkinstown Road via Walkinstown Drive. It is also proposed to introduce a right turn ban for northbound right turning traffic from R819 Walkinstown Road to the southern entrance of the SuperValu supermarket (Walkinstown Shopping Centre) during peak hours to improve the operation of the junction and reduce bus delays. Entry to the shopping centre will be possible via the alternative car park entrance.

It is proposed to upgrade the junction at R110 Drimnagh Road/R819 Walkinstown Road to enhance pedestrian and cycling facilities. To improve the safety of cycle facilities and reduce vehicle speeds the existing left turn slip lane to R819 Walkinstown Road has been removed and additional planting and urban realm enhancements have been proposed. Proposals for parking adjacent to shop frontage on R110 Long Mile Road has been revised, with the existing perpendicular parking converted to a parallel parking layout. To accommodate the proposed revised grading arrangements for the junction a retaining wall structure has been proposed to the northern side of the R110 Drimnagh Road at the interface with Slievebloom Park cul-de-sac.

On the R110 Drimnagh Road it is proposed to maintain one bus lane, one general traffic lane and one cycle track in each direction. The junction at Kildare Road, Saint Mary's Road and R110 Drimnagh Road has been revised to provide improved cycle and pedestrian facilities. This will provide improved cycle connectivity between R110 Drimnagh Road and the proposed offline cycle route via Kildare Road.

On R110 Crumlin Road it is proposed to amend the EPR Option from four lanes (2 bus and 2 traffic lanes) to three lanes (2 traffic lanes and 1 bus lane). Bus priority will be maintained by incorporating Signal Controlled Priority and managing the flow of traffic in both directions along R110 Crumlin Road. This revision is required due to the size of the front gardens and gradient constraints between the road level and front doors of some of the residents which may have resulted in some houses not being *Accessible to All* should the road have been widened. As a result, less land acquisition is required on this section of the corridor. The proposed arrangement requires the closure of Clonard Road and Bangor Drive for direct access onto R110 Crumlin Road to facilitate traffic management within this

portion of the Crumlin Road (R110) such that bus priority can be maintained. One-way access from the R110 Crumlin Road onto Clonard Road and Bangor Drive will be possible. Full egress and access for Bangor Drive and Clonard Road can be achieved via Windmill Road and Old County Road.

Due to width restrictions in the area of R110 Crumlin Road there is insufficient space to provide dedicated cycle facilities. Therefore, it is proposed to provide an alternative parallel cycle route along Kildare Road and Clogher Road. The proposed cycle route along Clogher Road represents a change from the EPR Option which provided the route along Slane Road and Sundrive Road instead.

The alternative cycle route will include segregated cycle tracks over most of its length either through the addition of kerbs to the existing cycle lanes or the construction of new kerbed cycle tracks. On Clogher Road, between Sundrive Road and Kildare Road, the narrow cross-section prevents the provision of dedicated cycle facilities, therefore it is proposed to provide a bus/cycle gate at the junction of Clogher Road/Sundrive Road to reduce the amount of traffic on this road and making it suitable for designation as a Quiet Street.

At the Crumlin Road/Herberton Road/Sundrive Road junction, it is proposed to modify the existing layout and kerb alignments to provide improved pedestrian crossing facilities. On R110 Crumlin Road between Herberton Road and R111 Dolphin Road it is proposed to maintain one bus lane and one general traffic lane in each direction. There is insufficient road width on this section to provide dedicated cycle tracks, with the proposed cycle route along Clogher Road providing an alternative route.

Finally, on the section of the R110 Crumlin Road between Cooley Road and R111 Dolphin Road / Parnell Road the posted speed limit will be reduced to 30 kph from 50 kph with raised tables installed at side road junctions to improve pedestrian accessibility. This represents a change from the EPR Option. At the R110 Crumlin Road junction with R111 Dolphin Road/Parnell Road on-road cycle lanes will be provided within the fully signalised junction, existing right turn bans will be maintained.

### **3.5.6 Section 4: Grand Canal to Christchurch**

Between R111 Dolphin Road and R811 South Circular Road, it is intended to provide one bus lane, one general traffic lane and one cycle track in each direction. The left turn ban at the South Circular Road junction that was included in the EPR Option has been reviewed and removed as it would detrimentally impact on local access. The proposed South Circular Road junction design takes into account the Dolphins Barn Public Realm improvement plan that is being implemented by DCC.

Between R811 South Circular Road and Ardee Street it is proposed to have one bus lane, one general traffic lane and one cycle track in each direction. It is also proposed to upgrade the Ardee Street junction with improved pedestrian facilities. It is proposed to modify the Kevin Street / Dean Street junction to facilitate improved cycle facilities. Bus priority from St. Luke's Avenue will be maintained with through Signal Controlled Priority as there is insufficient road corridor width on Dean Street to provide continuous bus lanes.

The Dean Street/R137 Patrick Street junction will be upgraded to provide enhanced cycling and pedestrian facilities with the conversion of the existing left turn slip lane on the north western corner of the junction to a cycle bypass facility to provide efficiencies for left turning cyclists on the corridor. A controlled crossing will be implemented to manage the pedestrian and cyclist interaction at the cycle bypass.

The future proposed Kimmage to City Centre Core Bus Corridor scheme will also join the route here on the southern arm via New Street. The design proposals allow for connection to both the existing arrangement and the future proposed arrangement under the Kimmage Scheme.

Between Dean Street and Bride Road it is proposed to have one bus lane, one general traffic lane and one cycle track in each direction, between Bride Road and R137 Christchurch Place it is proposed to have one bus lane and one cycle track in each direction with two traffic lanes inbound and one traffic lane outbound.

The Proposed Scheme terminates at the junction of R137 Christchurch Place and Winetavern Street where the Proposed Scheme ties into the DCC contra flow bus lane arrangement, providing connectivity to and from the Quays.

The future proposed Liffey Valley to City Centre Core Bus Corridor scheme will also join the route here on the western arm via R108 High Street. The design proposals allow for connection to both the existing arrangement and the future proposed arrangement under the Liffey Valley Scheme.

## 3.6 Main Scheme Changes (Tallaght to City Centre)

The following list highlights the main scheme changes between the published EPR Option and the PRO as a result of feedback from the public consultations, environmental assessment and design development:

- A bus interchange is proposed on Belgard Square West to facilitate interchange between bus, Luas and the town centre;
- On Belgard Square North, it is proposed to provide a segregated cycle track in each direction. This will provide improved cycle access to Tallaght hospital from Belgard Road;
- The Preferred Route Option now passes through Tallaght Village rather than the Technological University Dublin (TUD), Tallaght. This will require the reopening of Old Greenhills Road to form a new bus-only junction with R819 Greenhills Road;
- At Parkview / Treepark Road, the Preferred Route Option allows general traffic to remain on the existing R819 Greenhills Road with a dedicated sustainable transport link road proposed in the green area parallel to Birchview Avenue and Treepark Road for inbound and outbound bus services, as well as cyclists and pedestrians;
- Over the M50, two new single span pedestrian/cycle bridges are proposed to provide continuous bus lanes and higher quality cycle facilities on R819 Greenhills Road;
- At Ballymount, the new link road connecting Ballymount Avenue and R819 Greenhills Road will be provided with a junction on the southern end of Ballymount Avenue which will allow direct access to eastern section of R819 Greenhills Road from Ballymount Avenue;
- The proposals for Walkinstown Roundabout include a segregated two-way cycle track around the junction. This will reduce conflicts with pedestrians and allow the cyclists to take the shortest route around;
- A three-lane option with signal-controlled priority is proposed along R110 Crumlin Road between Raphoe Road and the Health Centre, to reduce the impact on properties. To facilitate this arrangement, it is proposed to restrict access at the Crumlin Road junctions with both Clonard Road and Bangor Drive to one-way only southbound. Urban Realm improvements will be provided along this section;
- On R137 Patrick Street, the design retains the tree-lined median. In addition, the junction of R137 Nicholas Street and R810 High Street is to be remodelled to provide improved facilities for buses, cyclists and pedestrians;
- The proposed alternative cycle route on Kildare Road continues towards the Grand Canal via Clogher Road along which cycle tracks are to be provided; and
- At all other junctions along the route, the cycle lane on the outside of a left turn slip lanes have been removed and replaced with a segregated route through the junction.

## 3.7 Scheme Benefits (Tallaght to City Centre)

### 3.7.1 Bus Journey Times

Through the provision of increased bus priority infrastructure, the Tallaght to City Centre section of 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 objectives of the Proposed Scheme as set out in Section 2.4 of this report.

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

### 3.7.2 Walking and Cycling

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

The provision of dedicated cycling infrastructure along the Tallaght to City Centre section of 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 Tallaght to City Centre section of the Proposed Scheme will deliver substantial elements of the GDA Cycle Network Plan as outlined in Section 2, as well as linking with other proposed cycling schemes, contributing towards the development of a comprehensive cycling network for Dublin.

A number of public realm upgrades, including 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 of pedestrians. The Tallaght to City Centre section of the Proposed Scheme will also provide improved pedestrian crossing facilities along the route.

## 3.8 Summary of Infrastructure Provision

The PRO runs to approximately 11.5 km long from end to end. The Preferred Route drawings, shown in Appendix A, show the extent of the infrastructure proposed to deliver the Tallaght to City Centre section of the Proposed Scheme and the length of the primary interventions are summarised in Table 3-6 and Table 3-7, below:

**Table 3-6 Bus Priority Comparison**

Bus Priority	Existing (km)	Proposed (km)
<b>Bus Lanes</b>		
Inbound	3.0	8.5
Outbound	2.1	7.9
<b>Total Bus Priority (both directions)</b>	<b>5.1</b>	<b>16.4 (+221%)</b>

**Table 3-7 Cycle Facility Comparison**

Cycle Facilities	Existing (km)	Proposed (km) Incl. offline cycle track
<b>Cycle Tracks – Segregated</b>		
Inbound	1.1	11.3
Outbound	1.1	11.2
<b>Cycle Tracks – Non – segregated</b>		
Inbound	8.0	1.7
Outbound	7.8	2.0
<b>Total Cycle Facilities (both directions)</b>	<b>18.0</b>	<b>26.2 (+46%)</b>

## 4 Clondalkin to Drimnagh Section

### 4.1 Background and Non-Statutory Consultation for the Clondalkin to Drimnagh Section

#### 4.1.1 Clondalkin to City Centre CBC Feasibility Study and Options Assessment Report & Emerging Preferred Route

In early 2016, the NTA initiated planned to develop the network of CBCs identified in the GDA Transport Strategy. As part of this body of work, the 'Clondalkin to City Centre Core Bus Corridor Feasibility Study and Options Assessment Report' (December 2017) 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.

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

The first Non-Statutory Public Consultation on the EPR Options took place on a phased basis. The first phase of consultation occurred from 14<sup>th</sup> November 2018 to 29<sup>th</sup> March 2019. The second phase ran from 23<sup>rd</sup> January 2019 to the 30<sup>th</sup> April 2019 and the final phase ran from 26<sup>th</sup> February 2019 until the 31<sup>st</sup> May 2019. The Proposed Scheme was part of the second phase of consultation. The Information Brochure published as part of this consultation is included in Appendix J of this report.

There were 13 submissions received relating to the Clondalkin to Drimnagh containing 59 comments. The submissions received ranged from individual submissions from 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:

- Cyclist Safety;
- Left Turn Slip Lanes;
- Accessibility and Disability Requirements;
- Pedestrian Safety;
- Bus Route Issues;
- Predominance of Heavy Goods Vehicles (HGV's);
- Environmental Impacts; and
- Suggestions and New Ideas.

Further detail on these issues can be found in the Clondalkin to Drimnagh CBC Non-Statutory Public Consultation contained in Appendix B of this report

#### 4.1.3 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 4.4 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:

- Provision of a pedestrian/cyclist overbridge at the R110 Long Mile Road/R810 Naas Road/R134 New Nangor Road junction, greatly reducing conflicts with traffic;
- Modification of the bus stop facilities on the eastbound carriageway at the junction of R112 Kylemore Road/R810 Naas Road to improve the interchange between bus and the Luas Red Line at this location. This will require the diversion of left-turning traffic to John F Kennedy Drive; and
- Confirmation of the route selection between the R134 New Nangor Road and R110 Long Mile Road which was not identified as the EPR Option in the Options and Feasibility Study but was added later to improve interchange between buses and the Luas Red Line and also to pass through one of the key development zones in this Regeneration Area.

#### 4.1.4 Second Non-Statutory Public Consultation – Draft PRO

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. The Information Brochure published as part of this consultation is included in Appendix J 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 seven submissions received relating to the Proposed Scheme. These submissions received ranged from individual submissions from residents, commuters and local representatives to detailed proposals from public bodies, specialists, 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 this report for the Public Consultation Submission Report – Second and Third Non-Statutory Public Consultation Submissions Report.

A brief summary of the feedback received on the Clondalkin to Drimnagh Section 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:

- Cyclist safety;
- Pedestrian safety;
- Bus stop conflicts;
- Disability access;
- Pedestrian priority zones; and
- Suggestions and New Ideas.

#### 4.1.5 Development of 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.

### 4.1.5 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 L 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 141 submissions received relating to the Clondalkin to Drimnagh Section as part of the third Non-Statutory Public Consultation which included 161 comments. 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:

- Woodford Walk congestion;
- South West quadrant traffic;
- Cyclist/pedestrian facilities;
- Positive feedback;
- Cyclist/pedestrian bridge;
- Pedestrian crossings;
- Bus Stops;
- Land Take;
- Future development;
- Trees; 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.

## 4.2 Study Area for the Clondalkin to Drimnagh Section

### 4.2.1 Introduction

In the previously completed Clondalkin to City Centre Core Bus Corridor Feasibility Study and Options Assessment Report, the study area was taken to extend beyond the immediate alignment of existing bus corridors. The study area ran from Clondalkin to the City Centre at Christchurch. The study area was generally developed to include the main trip generators between the City Centre and Clondalkin either side of the central spine formed by the existing R134 New Nangor Road / R810 Naas Road / R110 Long Mile Road.

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 three sections as shown in Figure 4-1.

- Section 1: R136 Outer Ring Road to R113 Fonthill Road South;
- Section 2: R113 Fonthill Road South to R110 Long Mile Road/R810 Naas Road/R134 New Nangor Road junction; and
- Section 3: R110 Long Mile Road/R810 Naas Road/R134 New Nangor Road junction to Christchurch.

For Section 1 it was determined that the high quality of bus infrastructure within the area, as well as modest potential for development leading to increased demand for public transport, meant that there was limited benefit to be had in starting the route in this area. Therefore, it was decided to omit Section 1 of the route between R136 Outer Ring and Woodford Walk. This also considered the emerging bus routing in the area, and where the primary Spine Route (D) was to finish. No further analysis was carried out in this Section.

For Section 2 the corridor starts at Woodford Walk / R134 New Nangor Road, with the D spine starting at this location. West of this location, there is a two-way split of future services, with branch route D1 running along R134 New Nangor Road and D3 joining from Woodford Walk, serving Clondalkin village.

In Section 3 it was concluded that the optimum routing to the City Centre is to link this corridor to the Tallaght to City Centre CBC at Drimmagh Road.

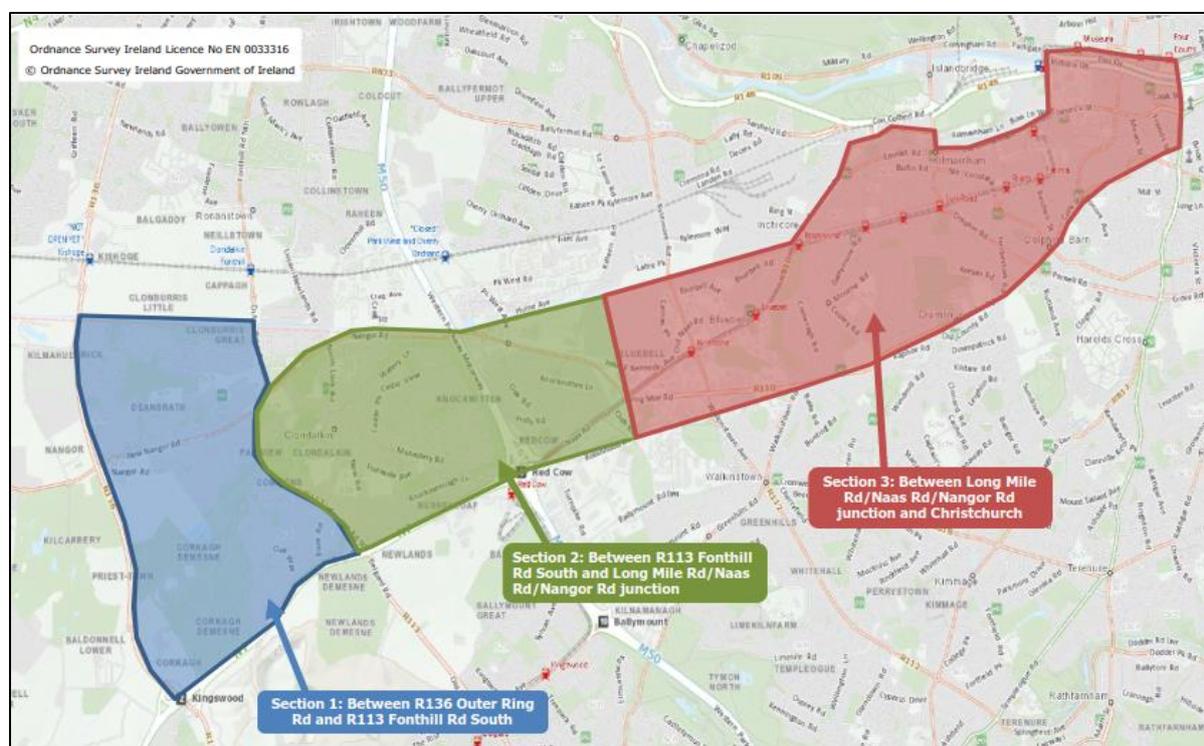


Figure 4-1: Clondalkin to City Centre Study Area

## 4.2.2 Physical Constraints and Opportunities

Although the study area has been reduced from the previously published Clondalkin to City Centre Core Bus Corridor Feasibility Study and Options Assessment 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 LUAS and Dublin Bus;
- Planned and committed developments;
- 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;
- The Grand Canal to the northern extents of the study area;
- The M50 overbridge;
- The complexity of the R110 Long Mile Road/R810 Naas Road signal-controlled junction;
- Opportunity to integrate modes of transport via the Kylemore Luas stop; and
- Opportunity to increase the catchment area population by regeneration of this area from low density employment to residential and other more intensive uses.

### 4.2.3 Integration with Public Transport Network

#### 4.2.3.1 Introduction

One of the key objectives of the CBC Infrastructure Works 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:

- LUAS, particularly the Red Line at Kylemore station;
- Existing bus services at numerous locations along the route;
- Greater Dublin Area (GDA) Cycle Network Plan; and
- Interface with proposed BusConnects Network Redesign including orbital, radial and local services.

#### 4.2.3.2 Existing Bus Services

The Clondalkin Corridor effectively follows the route of the South Clondalkin Quality Bus Corridor (QBC). Bus travelling along this route have an average speed of less than 15kph in the peak periods (2017 Quality Bus Corridor Monitoring Report, NTA), significantly below the desirable speed of 20kph. The primary bus routes along the Clondalkin Corridor are indicated in Figure 4-2 and listed below:

- Route 13 – Harristown to Grange Castle;
- Route 18 – Sandymount to Palmerstown;
- Route 68 – Hawkins Street to Greenogue Business Park;
- Route 69 – Hawkins Street to Rathcoole; and
- Route 151 – Docklands to Foxborough Estate.

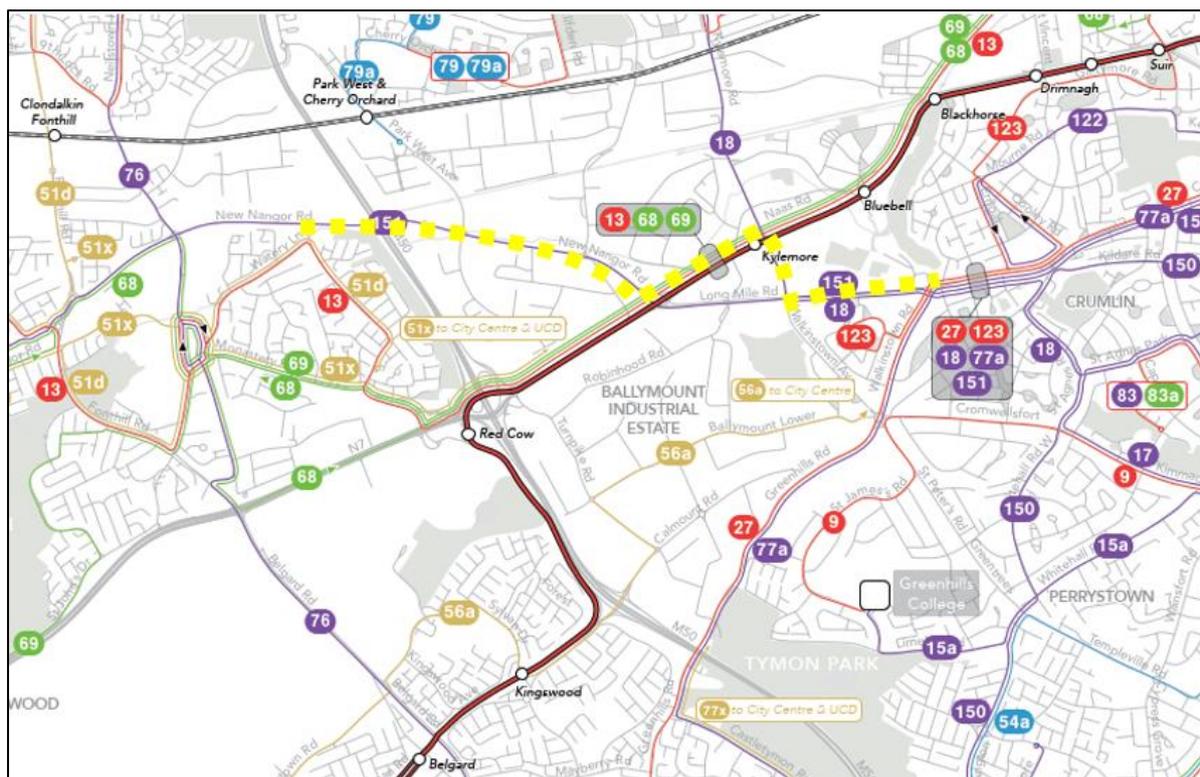


Figure 4-2: Bus Routes serving Clondalkin

#### 4.2.3.3 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 and D3) runs from the City Centre to the South East, serving areas along the Clondalkin 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 and Branches
  - D-SPINE Malahide Rd – City Centre – Crumlin;
  - D1 Clongriffin – City Centre – Grange Castle;
  - D3 Clongriffin – City Centre – Clondalkin; and
  - G1 Red Cow – City Centre Spencer Dock.
- Orbital Routes
  - S4 Liffey Valley – Ballyfermot – Crumlin – Milltown – UCD; and
- Radial Routes
  - 58 Rathcoole – City Centre – Dublin Port; and
  - X55 to City Centre.
- Local Routes
  - L54 River Forest – Lucan – Clondalkin – Red Cow

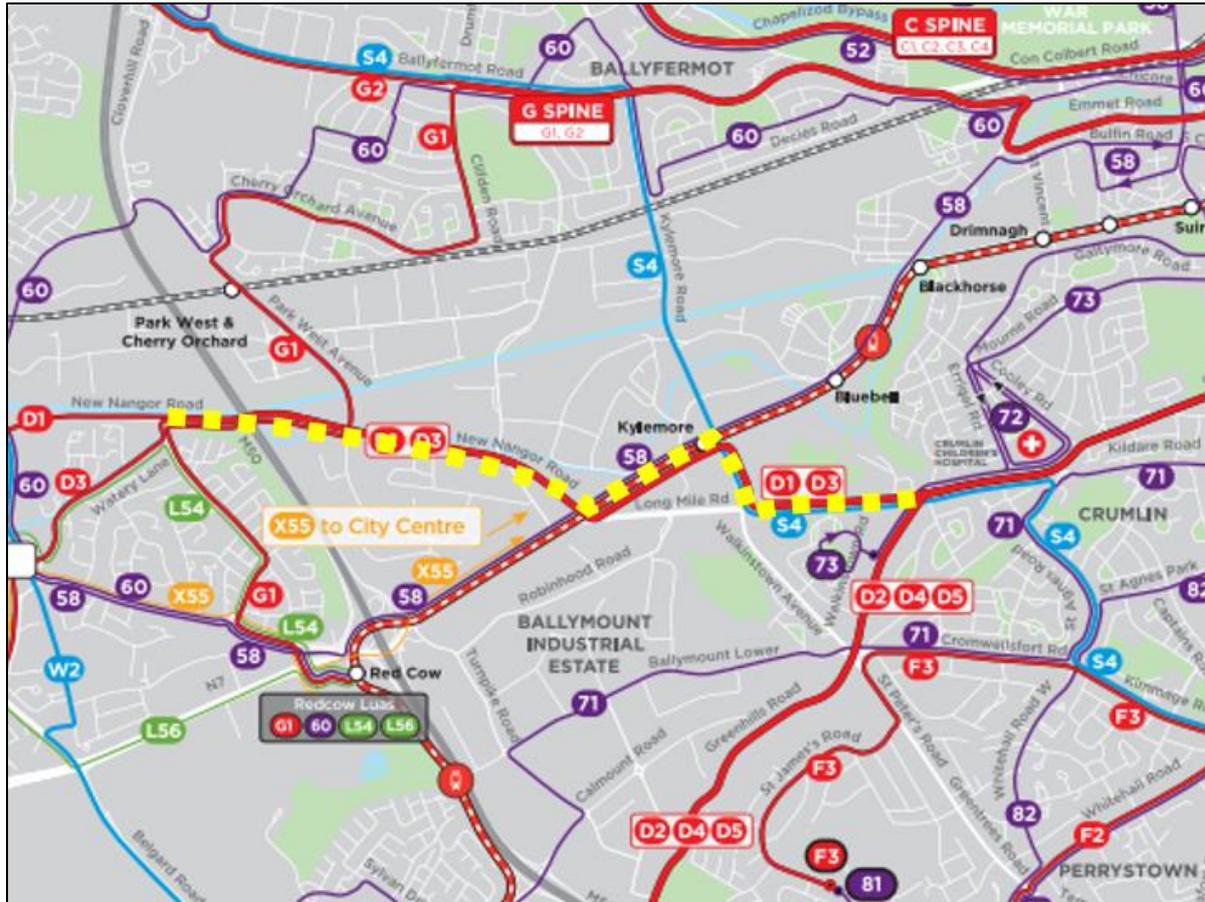


Figure 4-3: Revised Bus Network – West

#### 4.2.3.4 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 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 the Tallaght/Clondalkin 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 Clondalkin to City Centre. Stub cycle tracks have been provided at all interfaces that adjoin the Proposed Scheme.

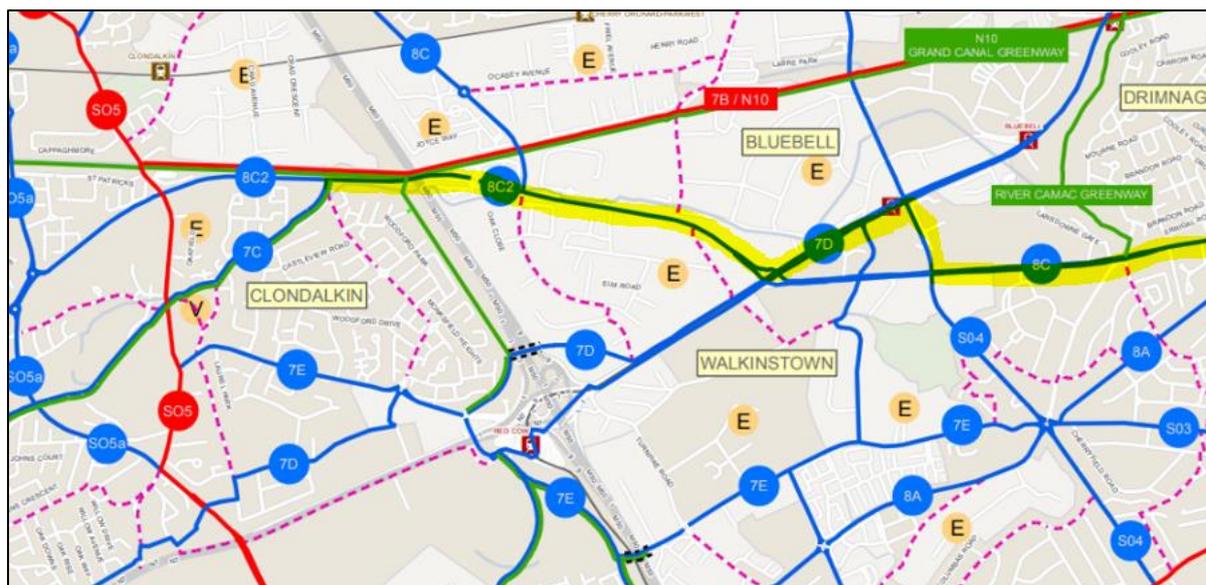


Figure 4-4: Extract for the GDA Cycle Network Plan Maps

The Primary Route 7B/N10 follow the Proposed Scheme for a distance along R134 New Nangor Road.

The Secondary Routes 8C2, 7D, SO4 and 8C follow the R134 New Nangor, R810 Naas Road, R112 Walkinstown Avenue and R110 Long Mile Road along the Proposed Scheme.

- The Secondary Routes;
  - 7C intersect with the Proposed Scheme at Woodford Walk; and
  - 8C intersect with the Proposed Scheme at Parkwest Avenue.
- Greenways;
  - N10 Grand Canal Greenway also runs parallel with the Proposed Scheme for a distance along R134 New Nangor Road.
  - River Camac Greenway intersect with the Proposed Scheme at Woodford Walk; and
  - Western Parkway Greenway intersect with the Proposed Scheme west of the M50.

## 4.3 Review of Clondalkin to City Centre CBC Feasibility Study and Options Assessment Report

### 4.3.1 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 Feasibility Study and Options Assessment 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 the 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.

### 4.3.2 Assessment Methodology

#### 4.3.2.1 Route Option Assessment Methodology

The first step in the assessment process was to review the Clondalkin to City Centre Core Bus Corridor Options Study - Feasibility and Options Assessment 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 of ‘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.

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

A ‘spider’s web’ of route options was produced that would accommodate the objectives of the scheme for the study area as shown in Figure 4-5.

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.

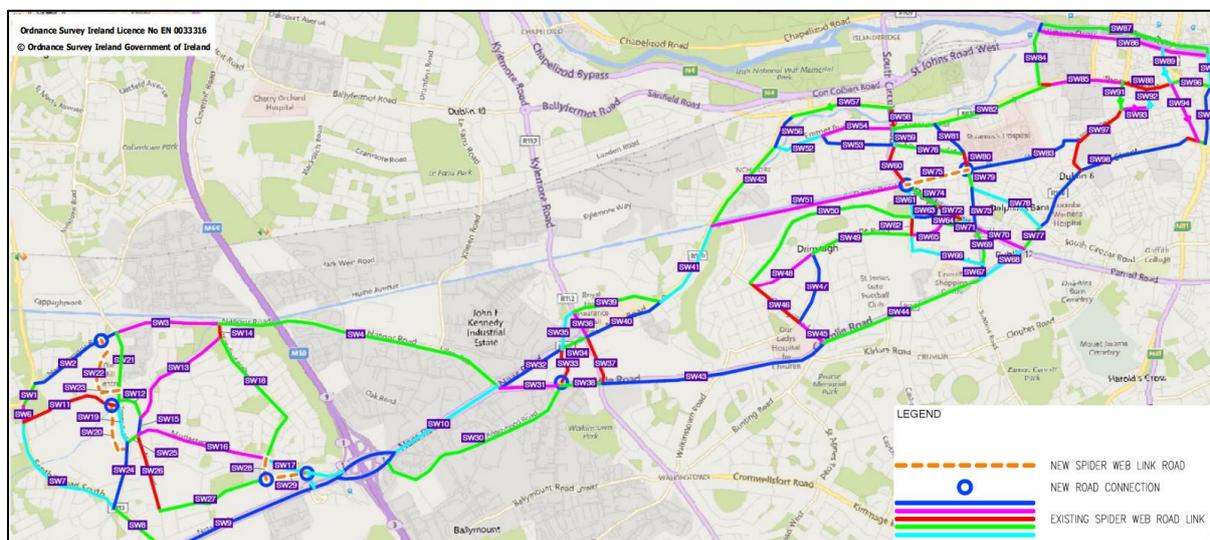


Figure 4-5: Spiders Web of Route Options

#### 4.3.2.3 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 an 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 4-1 presents a summary of the Proposed Scheme assessment criteria and sub criteria used as part of the Stage 2 detailed route options assessment process. Options were compared based on a five-point scale, ranging from having significant disadvantages over other route options. Table 4-2 shows the colour coding of the five-point scale, with advantageous routes graded “dark green” and disadvantageous routes graded “red”.

**Table 4-1: Assessment Criteria**

Assessment Criteria	Assessment Sub-Criteria
Economy	1.a. Capital Cost
	1.b. Transport Reliability and Quality (Journey Time)
	1.c. Level of Bus Priority Provision
Integration	2.a. Land Use Policy
	2.b. Residential Population and Employment Catchments
	2.c. Transport Network Integration
	2.d. Cycle Network Integration
	2.e. Traffic Network Integration
Accessibility & Social Inclusion	3.a. Key Trip Attractors (Education/Health/Commercial/Employment)
	3.b. Deprived Geographic Areas
Safety	4.a. Road User Safety
	4.b. Pedestrian Safety
Environment	5.a. Archaeology and Cultural Heritage
	5.b. Architectural Heritage
	5.c. Flora & Fauna
	5.d. Soils, Geology and Hydrology
	5.e. Landscape and Visual
	5.f. Air Quality
	5.h. Noise and Vibration
	5.g. Land Use Character

Table 4-2: 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.

### 4.3.3 Section 1 – R136 Outer Ring Road to R113 Fonthill Road South

#### 4.3.3.1 Section 1 Emerging Preferred Route

As described in Section 4.2.1, the Feasibility Report concluded that the existing high quality of bus infrastructure within the area, as well as modest potential for development leading to increased demand for public transport, meant that there was limited benefit to be had in starting the route within this area. Therefore, the Emerging Preferred Route (EPR) Option commenced at the start of Section 2.

### 4.3.4 Section 2 - R113 Fonthill Road South to R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road

#### 4.3.4.1 Section 2 Emerging Preferred Route

Following assessments undertaken as part of the Feasibility Study and Options Assessment Report it was determined that the optimum route from Fonthill Road South to Long Mile Road is as follows:

- The EPR option runs from the Woodford Walk/R134 New Nangor Road junction, continuing along R134 New Nangor Road until the R134 New Nangor Road/R110 Long Mile Road/R810 Naas Road junction. It is proposed to provide continuous bus along the length of R134 New Nangor Road, with cycle facilities provided on both sides of the road over its full length.
- It is proposed to upgrade the existing roundabout at Riverview Business Park to a signal-controlled junction with pedestrian crossing facilities. Other signalised junctions on R134 New Nangor Road are to be retained, with carriageway widening on approaches to these junctions. Cycle facilities, including lanes through the junction and pockets for right turning cyclists are to be provided.

#### 4.3.4.2 Section 2 Areas Identified for Re-examination

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

- A review of cyclist and pedestrian priority at junctions, notably where left turn slip lanes at signalised junctions were proposed; and
- A review of the headroom available under the M50 overbridge.

Both of these design reviews did not impact on the route selection and therefore had no impact on the outcome of this report.

## 4.3.5 Section 3 – R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road Junction to Drimnagh

### 4.3.5.1 Section 3 Emerging Preferred Route

Following assessments undertaken as part of the Feasibility Study and Options Assessment Report it was recommended that the preferred route from the R134 New Nangor Road / R110 Long Mile Road junction to Drimnagh was to follow the Long Mile Road. However, this recommendation was changed in the EPR Option in which from the R134 New Nangor Road / R110 Long Mile Road / R810 Naas Road junction the route turns left along the R810 Naas Road towards the Kylemore Luas Stop and returns to the R110 Long Mile Road via R112 Walkinstown Avenue. The route then continues along the R110 Long Mile Road to the Junction with Slievebloom Park at which point the route joins the Tallaght to City Centre CBC and uses this corridor to access the City Centre.

### 4.3.5.2 Section 3 Areas identified for Re-examination

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

- While the proposed EPR Option routing between the R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road junction and the R110 Long Mile Road / R112 Walkinstown Avenue junction did not raise any objections during public consultation, in fact the integration with the Luas Red Line at R112 Kylemore Road was welcomed, it is considered necessary to undertake a Stage 2 assessment of the variation from the recommended preferred route identified in the Feasibility Study and Options Assessment Report to confirm that EPR Option is the optimum routing along this section of the corridor. This is presented in Section 4.4.
- A review of the cycle and pedestrian facilities at the R134 New Nangor Road/R110 Long Mile Road / R810 Naas Road junction in order to reduce conflicts with vehicular traffic. Consideration has been given to the provision of a grade segregated pedestrian and cyclist crossing at this location. This is presented in Section 4.4.

### 4.3.6 Summary

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

- Routing of the part of Section 3 between the R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road junction and the R110 Long Mile Road / R112 Walkinstown Avenue junction; either direct along R110 Long Mile Road or via the Kylemore Luas Station (R810 Naas Road and R112 Walkinstown Avenue); and
- Provision of a grade segregated pedestrian and cyclist crossing at the R134 New Nangor Road/R110 Long Mile Road/R810 Naas Road junction in order to reduce conflicts with vehicular traffic.

### 4.3.7 Carbon Considerations for the Route Options

Carbon for the Clondalkin to Drimnagh Section will arise from the three potential sources namely User Carbon, Capital Carbon and Operational Carbon. These are as follows:

- The majority is the road **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 Clondalkin to Drimnagh Section 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 PRO supports enhanced bus capacity and public transport potential in line with the objectives of the Proposed Scheme, 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 Clondalkin to Drimnagh Section during construction and operation. Many of the changes made to the Clondalkin to Drimnagh Section design since the EPR proposal have resulted in minor changes in the construction carbon generated by the Clondalkin to Drimnagh Section 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.

## 4.4 Options Assessment for the Clondalkin to Drimnagh Section

### 4.4.1 Section 3: R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road Junction to Drimnagh

#### 4.4.1.1 Introduction

As described earlier, following the first public consultation and a review of the previous assessment, the route options to be assessed during the development of the PRO are:

- Routing of the part of Section 3 between the R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road junction and the R110 Long Mile Road / R112 Walkinstown Avenue junction; either direct along R110 Long Mile Road or via the Kylemore Luas Station (R810 Naas Road and R112 Walkinstown Avenue); and
- Provision of a grade segregated pedestrian and cyclist crossing at the R134 New Nangor Road/R110 Long Mile Road/R810 Naas Road junction in order to reduce conflicts with vehicular traffic.

#### 4.4.1.2 Route Options Considered R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road Junction to R110 Long Mile Road / R112 Walkinstown Avenue Junction

Within this part of Section 3 the Feasibility Study and Options Assessment Report recommended Route Option S3-1 as the Preferred Route Option which followed the R110 Long Mile Road from the R134 New Nangor Road to Drimnagh. This option was selected as it provided high quality bus priority that links with the Tallaght to City Centre CBC at Drimnagh Road and thus provided the most cost-effective solution for linking Clondalkin to the City Centre.

In the EPR Option a variation to Option S3-1 was presented with the route following the R810 Naas Road towards the Kylemore Luas Stop and then returning to R110 Long Mile Road via R112 Walkinstown Avenue. The EPR Option allows the CBC to interact directly with the Luas Line and provides for better integration between the modes by facilitating passenger interchange. While this option was presented as the EPR Option during the first round of public consultation a comparison with Option 3-1 was not undertaken previously.

Details of Option S3-1 are included in the Feasibility Study and Options Assessment Report. In summary it included an upgrade of the existing bus facilities on the R110 Long Mile Road between R810 Naas Road and R112 Walkinstown Avenue. In addition, cycle facilities were to be provided on both sides of the road and the junction of R112 Walkinstown Avenue/R110 Long Mile Road was to be upgraded.

The EPR Option, routed via R810 Naas Road and R112 Walkinstown Avenue to R110 Long Mile Road, will include an upgrade to the existing bus lanes on the R810 Naas Road and the provision of new bus lanes in each direction on R112 Walkinstown Avenue. Segregated cycle facilities are proposed along the length of this route, as well as significant upgrades to the R112 Kylemore Road/R810 Naas Road and R112 Walkinstown Avenue/R110 Long Mile Road junctions. Parallel to the Kylemore Luas Stop enhanced bus stops are to be provided to enable passengers to move easily between bus and Luas. This alternative routing is approximately 300m longer than the direct route on Long Mile Road.

Option S3-1 and the EPR Option are shown Figure 4-6 in below. Typical cross sections for the Naas Road and Walkinstown Avenue are shown in Figure 4-7 and Figure 4-8 below.

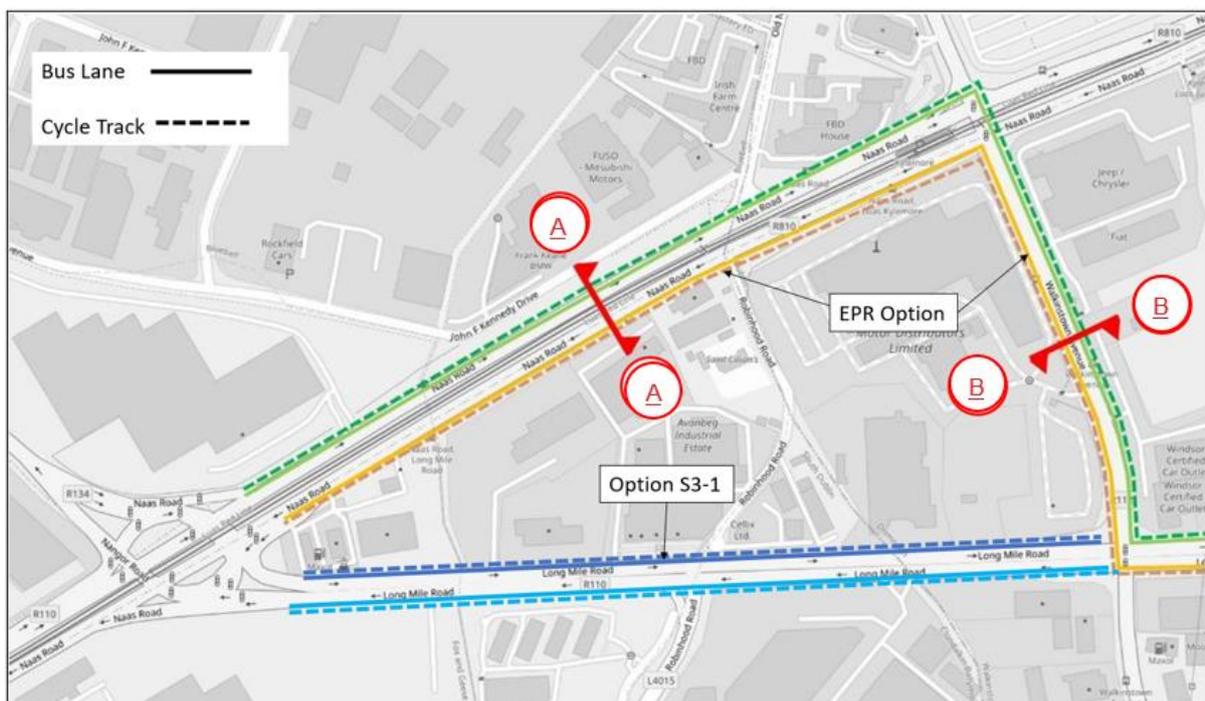


Figure 4-6: EPR Option and Option S3-1 Indicative Design

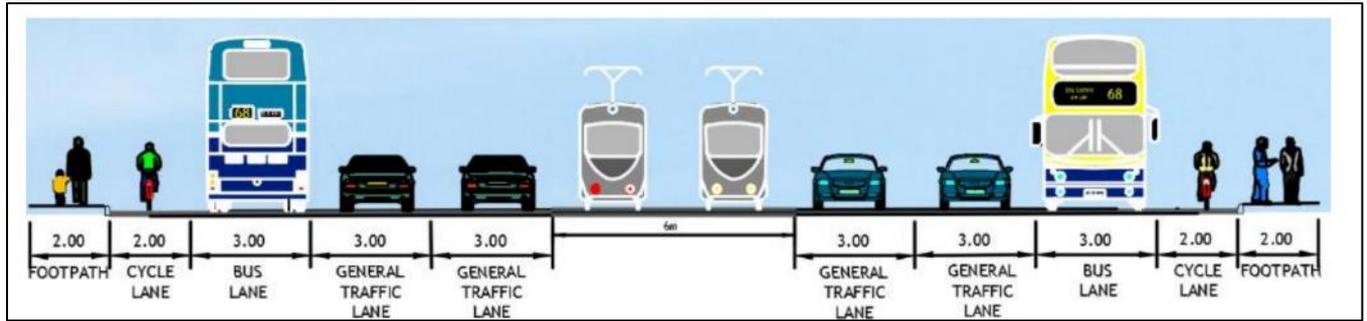


Figure 4-7: EPR Option Cross Section A – A on Naas Road

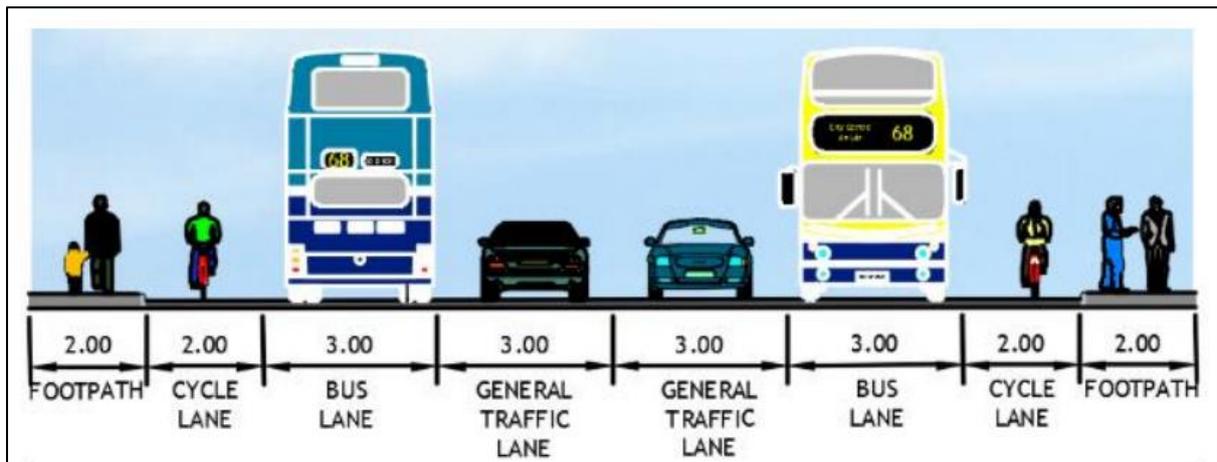


Figure 4-8: EPR Option Cross Section B – B on Walkinstown Avenue

#### 4.4.1.3 Options Assessment – R134 New Nangor Road to R112 Walkinstown Avenue

Details of the revised Stage 2 route options assessment undertaken for the start of Section 3, between R134 New Nangor Road / R110 Long Mile Road junction and R112 Walkinstown Avenue R110 Long Mile Road junction, is summarised in Table 4-3, using the criteria as set out in Table 4-1. The detailed MCA Tables are provided in Appendix G, Table A1.

Table 4-3: Additional Options Assessment for Long Mile Road Variation (Section 3)

Assessment Criteria	Route Option S3-1 (via R110 Long Mile Road)	EPR Option (via R810 Naas Road / R112 Walkinstown Avenue)
Economy		
Integration		
Accessibility & Social Inclusion		
Safety		
Environment		
Overall		

Following reassessment of the two route options it is clear there are relatively small differences and in general they have similar impacts, with the EPR option slightly longer resulting in marginally larger impacts. However, the EPR option via R810 Naas Road / R112 Walkinstown Avenue provides a significant advantage over the more direct routing via R110 Long Mile Road in that it integrates with the Luas Red Line at the Kylemore Stop and also provides better accessibility/social inclusion. This will allow passengers to easily transfer between modes and is likely to have a significant impact on the accessibility of the Clondalkin area. For this reason, it is recommended that the route option via R810 Naas Road and R112 Walkinstown Avenue (EPR Option) is taken forward as the PRO in this area.

#### 4.4.2 Section 3: Grade-Separated Pedestrian / Cyclist Crossing R134 New Nangor Road / R110 Long Mile Road / R810 Naas Road junction

##### 4.4.2.1 Alternative Option Considered

The R134 New Nangor Road/R110 Long Mile Road/R810 Naas Road junction is a very large and complex traffic signal-controlled intersection, catering for large traffic flows and has the LUAS red line running through the middle of it. For pedestrians to cross the road at present they must use signal-controlled crossing, crossing one link at a time. At present it can take between 4 and 5 minutes to cross the R110 Long Mile Road using these signals, and the EPR Option (Figure 4-9) did not propose any changes to the facilities for pedestrians or cyclists. While the pedestrian and cycle flows are low at present this is likely to change in the years to come as the regeneration of the lands around the intersection gets underway. For this reason, consideration has been given to how pedestrians and cyclists can be better catered for at this location. In considering alternative facilities, a concept scheme was developed for grade separated pedestrian and cyclist facilities as shown in Figure 4-10 below.

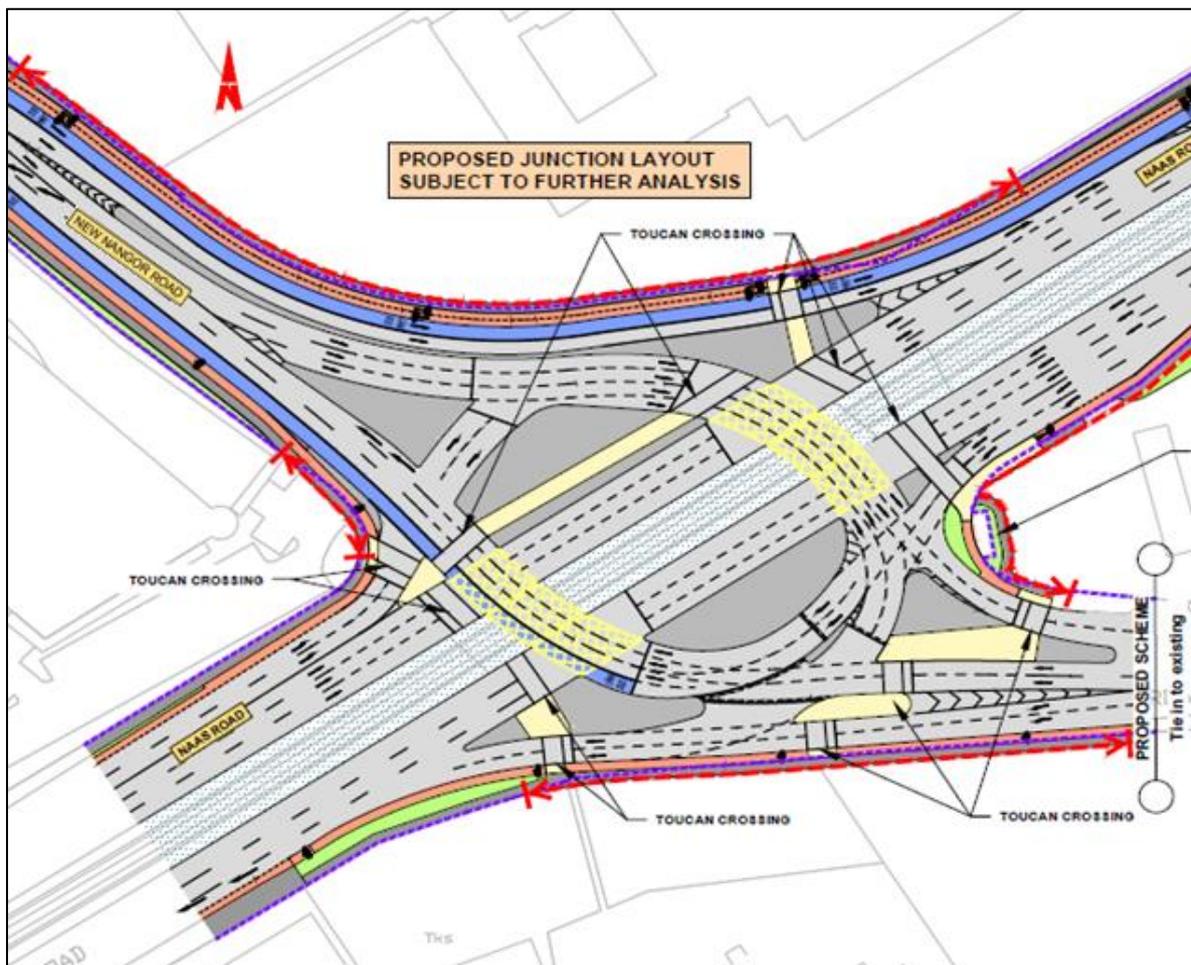
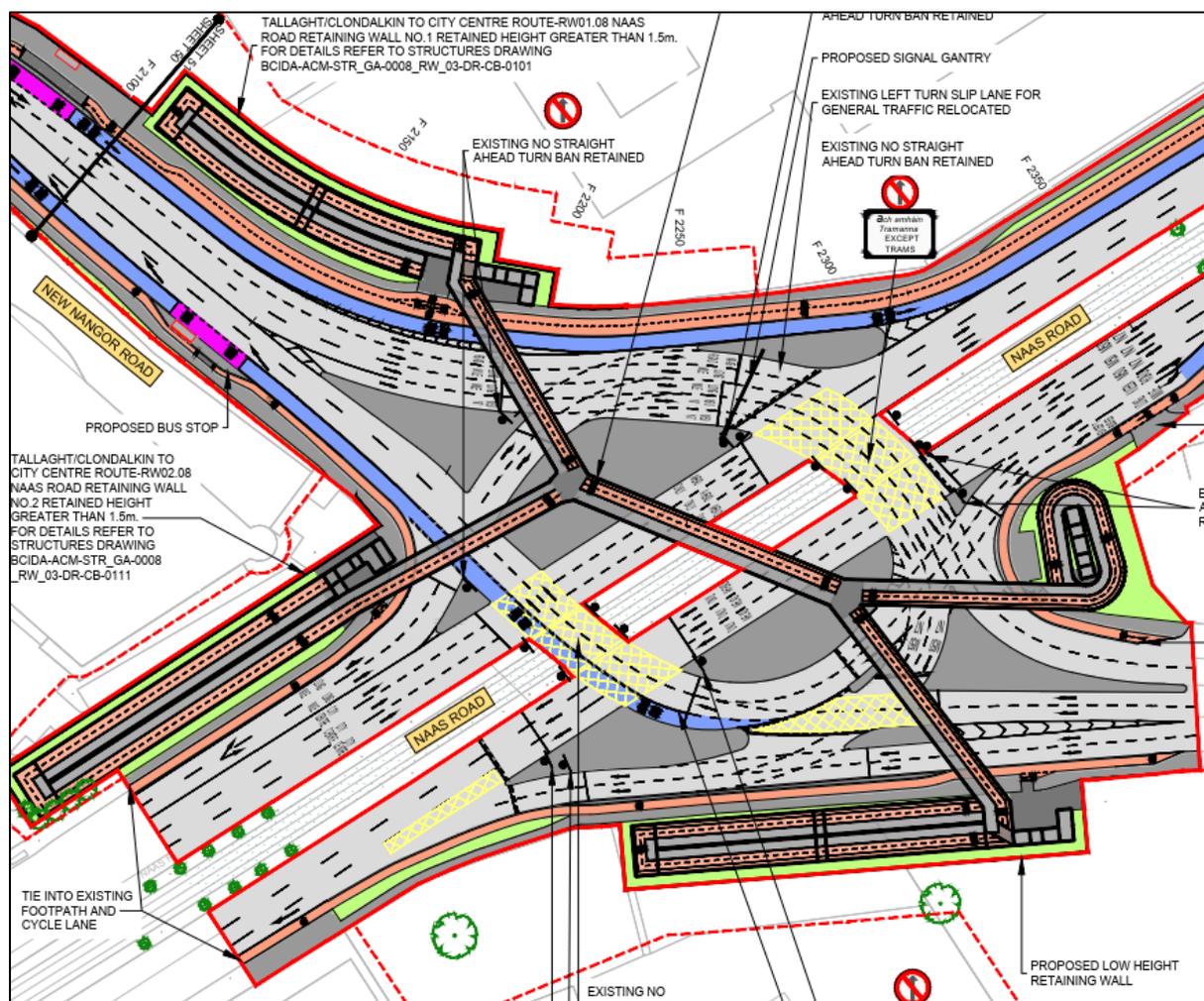


Figure 4-9: EPR Option - At-grade Crossing Facilities



**Figure 4-10: Alternative Grade Separated Pedestrian and Cyclist Facilities**

The EPR Option and Alternative Option are described below.

- EPR Option
  - The EPR Option layout retains the existing complex geometric arrangement, which comprise a series of linked traditional traffic signals in a gyratory arrangement with at-grade crossing facilities provided via a series of Toucan crossings around the outer limits of the junction.
- Alternative Concept Design Option
  - A grade-separated bridge for pedestrians and cyclists is proposed with steps and ramps provided at each of the four corners of the junction. Four bridge spans cross the entry and exit arms of R134 New Nangor Road and R110 Long Mile Road, connecting to form a single longer span of the R810 Naas Road and Luas Red Line, with up to two support columns located in the existing traffic islands.

#### 4.4.2.2 Options Assessment

Overall, the alternative arrangement provides a more reliable and direct crossing facility for pedestrians and cyclists compared to the multiple toucan crossings in the EPR Option, each with a delay for users while they wait at each crossing.

When compared to the EPR Option, the alternative option improves significantly the safety of pedestrian and cyclists by removing the conflict with vehicular traffic.

Furthermore, the proposed improvements will make for a significantly more pleasant journey for pedestrians and cyclists using the junction as they will no longer be interacting with vehicular traffic.

Also, the alternative arrangement will improve the junction performance for general traffic due to no longer having to incorporate phases for pedestrians and cyclists, which offsets the additional capital costs of the proposed structures.

Although the alternative option requires increased land take than the EPR Option, it is noted that the alternative offers improved connection with lands zoned “to facilitate enterprise and/or residential led regeneration”, as well as passing through an area designated a Key District Centre in the Naas Road Lands Local Area Plan. The alternative offers an improvement in encouraging/supporting planned development and in providing for economic opportunities. Thus, in terms of accessibility, social inclusion and integration the alternative proposal is considered to have some advantages over the EPR Option arrangement.

There is no significant difference between the two alternatives in terms of impact on the environment.

Details of the assessment are presented in Appendix H, Table A2, and summarised in Table 4-4 below.

**Table 4-4: Assessment Summary**

Assessment Criteria	Option 1 (EPR)	Option 2 (Alt)
Economy	Yellow	Yellow
Integration	Orange	Light Green
Accessibility & Social Inclusion	Orange	Light Green
Safety	Red	Dark Green
Environment	Yellow	Yellow
<b>Overall</b>	Orange	Light Green

In conclusion the Preferred Route Option for the pedestrian and cyclist facilities will be the provision of a grade separated bridge at the R134 New Nangor Road/R110 Long Mile Road/R810 Naas Road junction; as despite the high capital cost, there would be more advantages through improved traffic performance, integration, accessibility and particularly better safety in comparison to the at-grade crossings.

## 4.5 Preferred Route Option for the Clondalkin to Drimnagh Section

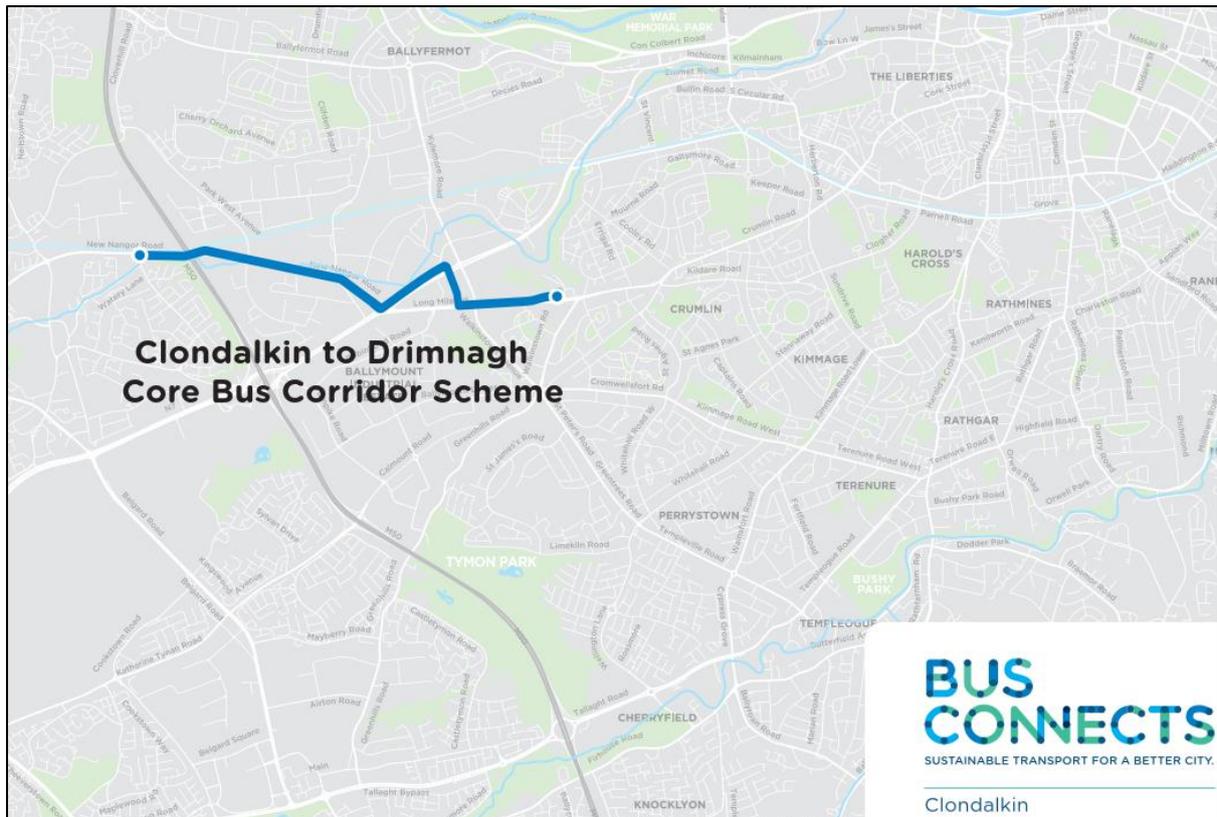
### 4.5.1 Introduction

This chapter of the report presents and describes the PRO identified and the PRO scheme design for the Clondalkin to Drimnagh section of the Proposed Scheme. The updated concept scheme design drawings are included in Appendix A of the report.

### 4.5.2 Scheme Design Description Overview

The Proposed Scheme between Clondalkin and Drimnagh is 4 km as shown in Figure 4-11. The Proposed Scheme begins at the Woodford Walk/R134 New Nangor Road junction. The CBC is routed via R134 New Nangor Road to the junction with R810 Naas Road. The route follows the R810 Naas Road to the junction with R112 Kylemore Road, before turning along R112 Walkinstown Avenue to the junction with the R110 Long Mile Road. At R112 Walkinstown Avenue/R110 Long Mile Road, the CBC

continues along the R110 Long Mile Road to the junction with Slievebloom Park at which point the CBC joins the Tallaght to City Centre CBC.



**Figure 4-11 Clondalkin to Drimmagh CBC**

The following section outlines a more detailed description of the Preferred Route Option design, which has two distinct sections as follows:

- R113 Fonthill Road South to R110 Long Mile Road/R810 Naas Road/R134 New Nangor Road junction
- R110 Long Mile Road/R810 Naas Road/R134 New Nangor Road junction to Drimmagh

#### 4.5.3 Section 2: R113 Fonthill Road South to R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road

The proposed route commences at the R134 New Nangor Road/Woodford Walk junction, where the proposed BusConnects Branches D1 and D3 meet the D Spine. The D Spine will provide radial services from Clondalkin to the City Centre along the high frequency corridor.

Continuous bus priority will be provided on R134 New Nangor Road in both directions from the R134 New Nangor Road/Woodford Walk junction to the R134 New Nangor Road/Riverview Business Centre junction, with the exception of under the M50 overbridge where space restrictions between the existing bridge abutment and piers mean that a bus lane can only be provided inbound. Outbound bus priority is facilitated by a bus gate on the east side of the M50 bridge.

From the R134 New Nangor Road/Riverview Business Park junction continuous bus priority, in both directions, is provided to the R134 New Nangor Road/R810 Naas Road/R110 Long Mile Road junction, which is an enhancement to the current provision. All signalised junctions have been reconfigured to provide bus lane continuity along R134 New Nangor Road, as well as enhanced crossing and through facilities for cyclists and pedestrians.

Cycle tracks will be provided on both sides of the carriageway the length of R134 New Nangor Road, with cyclists able to join the cycle track at Woodford Walk from either the carriageway or the N10 Grand Canal Greenway. Additional cyclist connections to the Greenway from the north of R134 New Nangor

Road are provided at the M50 overbridge. This route aligns with the proposed Primary Cycle Route 7B/N10 until cyclists re-join R134 New Nangor Road beyond the M50 overbridge. The route also aligns with Secondary Cycle Route 8C2 along its extents as outlined in the GDA Cycle Network Plan.

A continuous footway will be provided along the south side of R134 New Nangor Road. On the north side of the R134 New Nangor Road, no footway is proposed between the Woodford Walk bus stop and the proposed greenway connection to the east of the M50 overbridge, with pedestrians able to avail of the Greenway to the north of R134 New Nangor Road, or the pedestrian facilities provided on the south side of the road.

#### **4.5.4 Section 3: R110 Long Mile Road / R810 Naas Road / R134 New Nangor Road junction to Drimnagh**

The proposed route commences at the R134 New Nangor Road/R810 Naas Road/R110 Long Mile junction. A pedestrian and cyclist footbridge is proposed at this junction, which represents a change from the EPR Option.

The CBC is routed along R810 Naas Road until its junction with R112 Walkinstown Avenue, generally maintaining the existing lane arrangement of one bus lane and two traffic lanes in each direction. The existing left turn slip lane at R112 Kylemore Road is to be removed, with traffic diverted via Old Naas Road (a short distance upstream) in order to access R112 Kylemore Road. This arrangement allows for improved bus facilities and interchange with Kylemore Luas Stop. The junction of the R810 Naas Road and R112 Walkinstown Avenue will be reconfigured to provide enhanced pedestrian and cyclist facilities.

A two-way cycle track is provided on the north side of R810 Naas Road with a verge to segregate the cycle track from the carriageway provided where possible. A one-way westbound cycle track is provided along the south side of R810 Naas Road with a verge to segregate the cycle track from the carriageway provided where possible. This route aligns with the proposed Secondary Route 7D as outlined in the GDA Cycle Network Plan. Existing pedestrian routes are maintained along R810 Naas Road.

From R810 Naas Road the CBC is routed along R112 Walkinstown Avenue, with continuous bus priority provided both north and southbound. Cycle tracks and footways are provided both north and southbound, with a verge provided to segregate the cycle track from the carriageway along the northbound carriageway from the MDL site entrance to the R810 Naas Road junction. This route aligns with the proposed Secondary Route S04 as outlined in the GDA Cycle Network Plan.

The junction of R112 Walkinstown Avenue with the R110 Long Mile Road will be reconfigured to provide enhanced pedestrian and cyclist facilities. The westbound approach to the junction on R110 Long Mile Road is also being altered, with a bus gate being provided for improved priority for right turning buses into R112 Walkinstown Avenue.

Bus priority is maintained along R110 Long Mile Road until the junction with Slievebloom Park, at which point the CBC joins the Tallaght to City Centre CBC. Existing footways have largely been maintained, with raised tables proposed adjacent to schools in order to improve pedestrian accessibility. Cycle tracks are provided in both directions, aligning with proposed Secondary Route 8C as outlined in the GDA Cycle Network Plan.

### **4.6 Main Scheme Changes (Clondalkin to Drimnagh)**

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

- Provision of a grade-separated pedestrian and cyclist crossing at the R134 New Nangor Road/R110 Long Mile Road/R810 Naas Road junction in order to reduce conflicts with vehicular traffic;
- 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; and
- Cycle facilities have been updated to the latest design guidance.

## 4.7 Scheme Benefits (Clondalkin to Drimnagh)

### 4.7.1 Bus Journey Times

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

The facilitation of bus priority along the Clondalkin to Drimnagh section of the Proposed Scheme, through the delivery of dedicated bus lanes and bus priority traffic signals, is forecast to reduce bus journey times along the CBC. In addition to this, journey reliability is forecast to be improved, by largely removing interaction between bus traffic and general traffic.

### 4.7.2 Walking and Cycling

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

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

The Clondalkin to Drimnagh section of the Proposed Scheme would deliver substantial elements of the GDA Cycle Network Plan as outlined in Section 2, as well as linking with other proposed cycling schemes, contributing towards the development of a comprehensive cycling network for Dublin. A number of public realm upgrades, including widened footpaths, high quality hard and soft landscaping and street furniture would be provided in areas of high activity to contribute towards a safer, more attractive environment of pedestrians. The Clondalkin to Drimnagh section of the Proposed Scheme would also provide improved pedestrian crossing facilities along the route.

## 4.8 Summary of Infrastructure Provision

The PRO runs to approximately 4km long from end to end. The Preferred Route drawings, shown in Appendix A show the extent of the infrastructure proposed to deliver the Clondalkin to Drimnagh section of the Proposed Scheme and the length of the primary interventions are summarised in Table 4-5 and Table 4-6 below:

**Table 4-5 Bus Priority Comparison**

Bus Priority	Existing (km)	Proposed (km)
<b>Bus Lanes</b>		
Inbound	2.4	3.9
Outbound	2.4	3.5
<b>Total Bus Priority (both directions)</b>	<b>4.8</b>	<b>7.4 (+54%)</b>

**Table 4-6 Cycle Facility Comparison**

Cycle Facilities	Existing (km)	Proposed (km)
<b>Cycle Tracks - Segregated</b>		
Inbound	1.0	5.2
Outbound	0.6	6.2
<b>Cycle Tracks – Non - segregated</b>		
Inbound	0.8	0.4
Outbound	1.3	0.4
<b>Total Cycle Facilities (both directions)</b>	<b>3.7</b>	<b>12.2 (+230%)</b>



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