

**Liffey Valley
to City Centre Core
Bus Corridor Scheme**
April 2022

**Preferred
Route
Option
Report**

**BUS
CONNECTS**

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

Contents

Glossary of Technical Terms	1
Executive Summary	2
1. Introduction and Background	4
1.1 Introduction	4
1.2 The Core Bus Corridor Infrastructure Works.....	4
1.3 Approach for this Report	6
1.4 Report Structure.....	7
2. Planning and Policy Context	8
2.1 Transport Strategy for the Greater Dublin Area, 2016-2035	8
2.1.1 Introduction	8
2.1.2 The Core Bus Network as identified in the GDA Transport Strategy	8
2.2 Greater Dublin Area Cycle Network Plan.....	9
2.3 Development Plan, Local Area Plans and Strategic Development Zones.....	9
2.3.1 Dublin City Development Plan 2016-2022	9
2.3.2 South Dublin County Council Development Plan 2016 – 2022	10
2.3.3 Draft SDCC Development Plan 2022 – 2028.....	12
2.4 The Aim and Objectives of Delivering the Liffey Valley to City Centre Core Bus Corridor Scheme.....	12
3. Background and Public Consultation	14
3.1 Liffey Valley to Christchurch Core Bus Corridor Options Study and Emerging Preferred Route.....	14
3.2 First Non-Statutory Public Consultation – Emerging Preferred Route Option	14
3.3 Development of Draft Preferred Route Option.....	15
3.4 Second Non-Statutory Public Consultation – Draft Preferred Route Option	15
3.5 Development of the Updated Draft Preferred Route Option	16
3.6 Third Non-Statutory Public Consultation – Updated Draft Preferred Route Option.....	16
4. Study Area	18
4.1 Introduction	18
4.2 Study Area Sections	18
4.2.1 Section 1.....	18
4.2.2 Section 2.....	19
4.2.3 Section 3.....	19
4.3 Physical Constraints and Opportunities.....	19
4.4 Integration with Public Transport Network.....	20
4.4.1 Introduction	20
4.4.2 Existing Bus Services.....	20
4.4.3 Dublin Area Revised Bus Network.....	21
4.5 Compatibility with Other Road Users	22
5. Review of the Previous Options and Feasibility Report	25

5.1	Introduction	25
5.2	Assessment Methodology	25
5.2.1	Methodology	25
5.3	Emerging Preferred Route Option Summary	29
5.3.1	Emerging Preferred Route Option	29
5.3.2	Study Area Section 1 – Liffey Valley Shopping Centre to Le Fanu Road	29
5.3.3	Study Area Section 2 – Le Fanu Road to Sarsfield Road	30
5.3.4	Study Area Section 3 - Sarsfield Road to City Centre	31
5.3.5	Areas Identified for Re-Examination	31
5.4	Summary	31
5.5	Carbon Considerations for the Route Options.....	32
6.	Options Assessment.....	33
6.1	Section 1 – Liffey Valley Shopping Centre to Le Fanu Road.....	33
6.2	Section 2 - Le Fanu Road to Sarsfield Road	33
6.2.1	Introduction	33
6.2.2	Options Considered.....	33
6.2.3	Options Assessment	39
6.3	Section 3 - Sarsfield Road to City Centre	41
6.3.1	Introduction	41
6.3.2	Options Considered.....	41
6.3.3	Options Assessment	46
7.	Preferred Route Option	49
7.1	Introduction	49
7.2	Preferred Route Option Scheme Design Description	49
7.2.1	Section 1 – Liffey Valley to Le Fanu Road	49
7.2.2	Section 2 – Le Fanu Road to Sarsfield Road.....	50
7.2.3	Section 3 – Sarsfield Road to City Centre.....	51
7.3	Summary	52
7.3.1	Infrastructure Provision	52
7.3.2	Main Scheme Changes.....	53
7.4	Scheme Benefits.....	54
7.4.1	Bus Journey Times.....	54
7.4.2	Walking and Cycling	54
	Appendices.....	55
	Appendix A. Preferred Route Drawings	56
	Appendix B. Public Consultation Submission Report – 1 st Non-Statutory Public Consultation.....	57
	Appendix C. Public Consultation Submission Report – 2 nd and 3 rd Non-Statutory Public Consultation	58
	Appendix D. MCA Table - Section 2: Le Fanu Road to Sarsfield Road	59
	Appendix E. MCA Table - Section 3: Sarsfield Road to City Centre	70

Appendix F. Liffey Valley to Christchurch Core Bus Corridor Options Study Feasibility Report.....	80
Appendix G. Liffey Valley to City Centre Core Bus Corridor – Emerging Preferred Route Public Consultation January 2019	81
Appendix H. Liffey Valley to City Centre Core Bus Corridor – Preferred Route Public Consultation March 2020.....	82
Appendix I. Liffey Valley to City Centre Core Bus Corridor – Preferred Route Third Round of Public Consultation November 2020	83

List of Tables

Table 2.1: Dublin City Development Plan Policies for Modal Change and Active Travel Aligned with the Proposed Scheme	10
Table 2.2: Dublin City Development Plan Objectives for Public Transport Aligned with the Proposed Scheme.....	10
Table 2.3: SDCC Development Plan Overarching Objectives Aligned with the Proposed Scheme	11
Table 2.4: SDCC Development Plan Objectives for Public Transport Aligned with the Proposed Scheme	11
Table 2.5: SDCC Development Plan Objectives for Walking and Cycling Aligned with the Proposed Scheme	12
Table 5.1: MCA Assessment Criteria	28
Table 5.2: Route Options Colour-Coded Ranking Scale.....	28
Table 6.1: Section 2: Route Options Assessment Summary (Sub-Criteria).....	39
Table 6.2: Section 2: Final Summary of MCA	40
Table 6.3: Section 3: Route Options Assessment Summary (Sub-Criteria).....	46
Table 6.4: Section 3: Final Summary of MCA	47

List of Figures

Figure 1.1: Liffey Valley to City Centre Core Bus Corridor Scheme	4
Figure 1.2: CBC Infrastructure Works.....	6
Figure 4.1: Original Study Area with Sections	18
Figure 4.2: Dublin Bus Existing Services.....	21
Figure 4.3: Revised Bus Network – West Quadrant	22
Figure 4.4: Extract from GDA Cycle Network Plan Maps.....	23
Figure 5.1: Spiders Web of Route Options.....	26
Figure 5.2: EPR – Section 1	29
Figure 5.3: EPR – Section 2	30
Figure 5.4: EPR – Section 3	31
Figure 6.1: Route Option BF03 Indicative Scheme Design	34
Figure 6.2: Route Option BF03 Cross-Section A-A	35
Figure 6.3: Section 2 Cross-Section B-B.....	35
Figure 6.4: Section 2 Cross-Section C-C.....	35
Figure 6.5: Route Option BF04.....	36
Figure 6.6: Route Option BF04 Cross-Section A-A	37
Figure 6.7: Route Option BF05 Indicative Scheme Design	37
Figure 6.8: Route Option BF05 Cross-Section A-A	38
Figure 6.9: Route Option CCT10 Indicative Scheme Design	42
Figure 6.10: Route Option CCT10 Cross-Section A-A.....	43
Figure 6.11: Section 3 Cross-Section B-B.....	43
Figure 6.12: Section 3 Cross-Section C-C.....	43
Figure 6.13: Section 3 Cross-Section D-D.....	44
Figure 6.14: Route Option CCT11 Indicative Scheme Design.....	44
Figure 6.15: Route Option CCT11 Cross-Section A-A.....	45
Figure 6.16: Route Option CCT12 Indicative Scheme Design.....	45
Figure 6.17: Route Option CCT12 Cross-Section A-A.....	46
Figure 7.1: Liffey Valley to City Centre Core Bus Corridor Scheme	49

Glossary of Technical Terms

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

Carbon - The term Carbon is used to refer to carbon emissions or Green house gas emissions interchangeably.

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

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

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

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

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

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

Executive Summary

Introduction

The purpose of this report is to present an overview of the Preferred Route Option (PRO) for the Liffey Valley to City Centre Core Bus Corridor (CBC) as well as describing the options assessed, and changes made to the Liffey Valley to City Centre CBC Scheme since the first Non-Statutory Public Consultation in 2019.

The aim of delivering the Liffey Valley 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.

Scheme Overview and Assessment Process

The Liffey Valley to City Centre CBC will commence on the Fonthill Road at the tie in point with the new Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme. The CBC will travel along Fonthill Road, Ballyfermot Road, Sarsfield Road, Grattan Crescent, Emmet Road, Old Kilmainham, Mount Brown, James's Street, Thomas Street and High Street. At the junction with Nicholas Street and Winetavern Street the CBC will tie into the existing traffic management regime in the City Centre.

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 Assessment (MCA) to determine the draft preferred option. The methodology used is consistent with that carried out during the initial route optioneering work which informed the EPR Option. This additional assessment does not supersede work done during earlier stages but rather complements it and is a direct response to issues raised by the public during the public consultation process and further design development. This assessment has also been carried out in the context of more detailed information now available, including topographical survey.

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

- The design along Ballyfermot Road between Markievicz Park and St Laurence's Road was amended to reduce land take following concerns raised by the public in relation to the impact on the park boundary, existing trees and residential properties;

- The design of Landen Road junction was refined to remove land take from the residential properties. A short section of westbound bus lane was removed and signal controlled priority was used to provide bus priority;
- The design along Grattan Crescent was amended following concerns raised by the public in relation to the impact on the mature trees. This design modification resulted in the retention of the mature trees, while also providing bus priority along this section, improved footways and a new pedestrian crossing;
- Following concerns raised during the public consultation regarding access to Mount Brown, Old Kilmainham, St James's Hospital and the local area, the design was refined to reduce these impacts. The Bus Gate on Mount Brown was amended with the westbound Bus Gate being relocated to the St James's Street entrance to the hospital campus. The eastbound Bus Gate location was retained but the length was shortened. The operational hours were also refined with the eastbound Bus Gate operating in the AM and the westbound Bus Gate operating in the PM. This revised arrangement for the Bus Gate will allow access at all times to Ceannt Fort, the Children's Hospital, Adult hospital, and local area from all directions;
- Following further engagement with local community in the Mount Brown and Brookfield Road area, the proposed reversal of the existing one-way system on Brookfield Road will not be progressed and the existing one-way system will remain unchanged. This will reduce the amount of traffic that would travel along Brookfield Road;
- The design along James's Street and Thomas Street was amended following concerns raised by the public in relation to the stop start nature of the cycling provision. The design was refined to provide continuous cycle tracks on both sides of the road along this section;
- The junction layouts were modified over the course of the design process to provide more protection for cyclists along the length of the route, including the addition of separately signalised stages for cyclists at large junctions such as Kylemore Road and Fonthill Road;
- The layout of all bus stops along the route have been enhanced to the latest design guidance;
- Some bus stop locations have been optimised to allow better connectivity for bus passengers; and
- Cycle facilities have been updated to the latest design guidance.

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

1. Introduction and Background

1.1 Introduction

This report presents the Preferred Route Option (PRO) of the Liffey Valley to City Centre CBC Scheme (herein after called the Proposed Scheme).

The Proposed Scheme has an overall length of approximately 9.2km. The Proposed Scheme will commence on the Fonthill Road at the tie in point with the new Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme. The Proposed Scheme will continue along Fonthill Road where it will turn left onto Coldcut Road and continue to the bridge over the M50, subsequently turning right onto Ballyfermot Road. The Proposed Scheme will travel through Ballyfermot Village and continue onto Sarsfield Road, whilst city bound general traffic will be diverted via Le Fanu Road and Kylemore Road.

The Proposed Scheme will continue along Sarsfield Road, turning right at the junction with Con Colbert Road before turning right again onto Grattan Crescent. The Proposed Scheme will then turn left onto Emmet Road and will continue along Old Kilmainham, Mount Brown, James's Street and Thomas Street. At Cornmarket, the Proposed Scheme will turn right onto High Street. At the junction with Nicholas Street and Winetavern Street the Proposed Scheme will tie into the existing traffic management regime in the City Centre.

The Proposed Scheme will significantly enhance travel by public transport by providing continuous bus priority as well as improved pedestrian and cycling infrastructure. 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 providing necessary bus, cycle, and walking infrastructure enhancements that will facilitate modal shift from car dependency, contributing to an efficient, low carbon and climate resilient City. Refer to **Figure 1.1**.

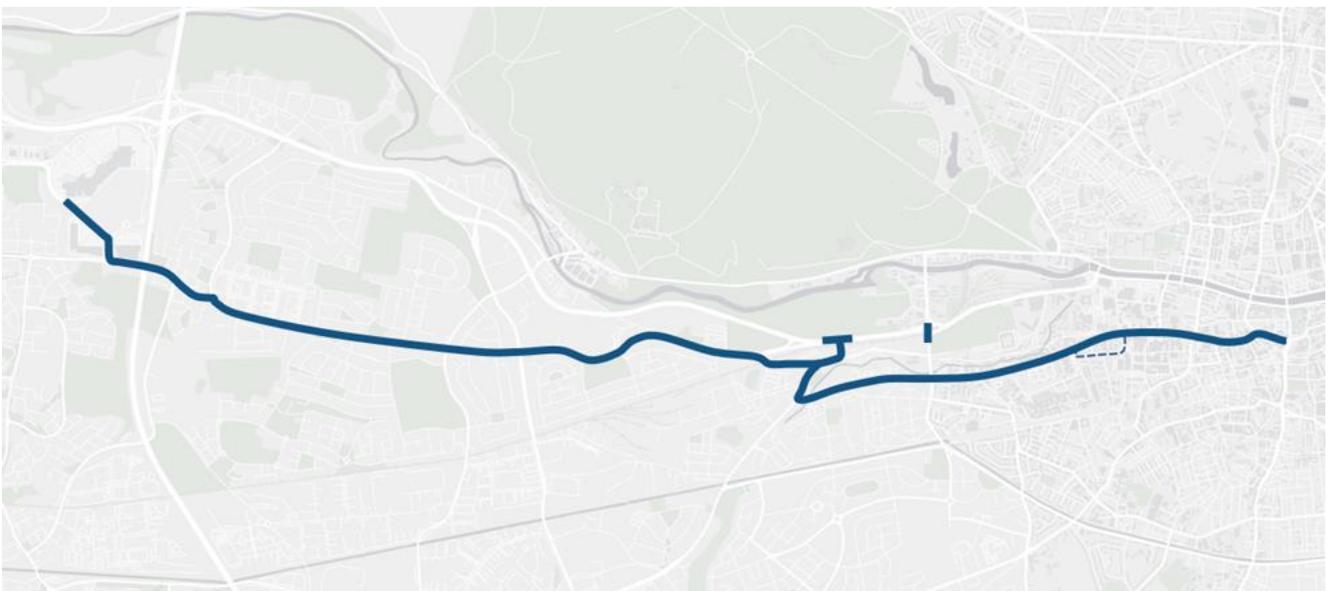


Figure 1.1: Liffey Valley to City Centre Core Bus Corridor Scheme

1.2 The Core Bus Corridor Infrastructure Works

The Proposed Scheme is one of twelve stand-alone core bus corridor schemes to be delivered under the BusConnects Dublin - Core Bus Corridors Infrastructure Works (herein after called the CBC Infrastructure Works). The CBC Infrastructure Works, once completed, will deliver the radial core corridors identified in the Transport

Strategy for the Greater Dublin Area 2016 – 2035 (herein after called the GDA Transport Strategy) Core Bus Network which is discussed below.

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

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

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

The 12 stand-alone Core Bus Corridor Schemes to be delivered under the CBC Infrastructure Works are (see **Figure 1.2**):

- The Clongriffin to City Centre CBC Scheme;
- The Swords to City Centre 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.

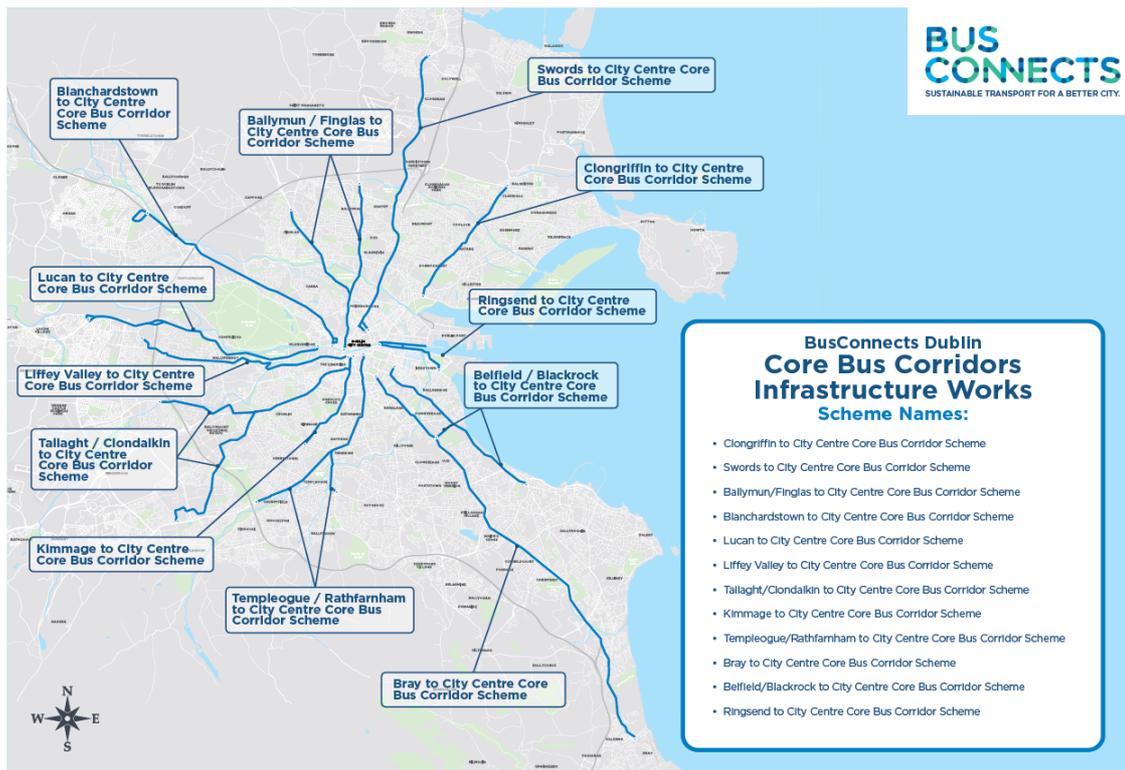


Figure 1.2: CBC Infrastructure Works

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 'Liffey Valley to City Centre Core Bus Corridor' is identified in this document as forming part of the radial Core Bus Network.

As part of this process, the 'Liffey Valley to Christchurch Core Bus Corridor Options Study' was published, which identified feasible options along the corridor, assessed these options and arrived at an EPR Option for the CBC. Submissions were invited from the public to provide comment on the EPR Option proposals and to inform subsequent design stages.

This 'Preferred Route Option Report' has been prepared for the Proposed Scheme, which will build on the assessment carried out in the Liffey Valley to Christchurch Core Bus Corridor Options Study.

The Options Study referenced above, along with the associated appendices as published, are included in **Appendix F** of this report.

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

- Updated topographical survey information;
- Output from engagement and consultation activities on the EPR Option and Draft PRO proposals;
- Clarifications to the previous assessment in the Liffey Valley to Christchurch Core Bus Corridor Options Study;

- Further design development and options assessment; and
- Change in the extent of the Proposed Scheme.

1.4 Report Structure

This report is structured as follows:

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

2. Planning and Policy Context

2.1 Transport Strategy for the Greater Dublin Area, 2016-2035

2.1.1 Introduction

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

The GDA Transport Strategy has been prepared in accordance with Section 12 of the Dublin Transport Authority Act, 2008 (as amended) and was approved in 2016 by the then Minister for Transport, Tourism and Sport (now the Department of Transport). The GDA Transport Strategy, along with supporting Government investment programmes, is an essential component for the orderly development of the GDA over the next 20 years. The purpose of the GDA Transport Strategy is stated as being "to contribute to the economic, social and cultural progress of the Greater Dublin Area by providing for the efficient, effective and sustainable movement of people and goods".

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

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

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

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

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

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

As design and planning work was progressed by the BusConnects Infrastructure team, it became clear that the level of differentiation between the 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 GDA.

There are two primary cycle routes (Cycle Route 7 and Cycle Route 7A) identified running along the majority of the Proposed Scheme. The Proposed Scheme also intersects with two other primary cycle routes, namely SO1 and 7B, as well as a number of secondary cycle routes (including Cycle Routes 8C1, SO4, NO6 and SO2). During the course of the analysis carried out to identify the preferred core bus corridor, the provision of these cycle routes was considered at all stages. Therefore, as part of the options assessment process, any upgrading of infrastructure to provide bus priority also needs to consider and provide for the required cycling infrastructure, where practicable, to the appropriate level and quality of service (as defined by the NTA National Cycle Manual) required for primary and secondary cycle routes.

2.3 Development Plan, Local Area Plans and Strategic Development Zones

2.3.1 Dublin City Development Plan 2016-2022

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

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

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

In the following tables are an extract of the development plan objectives for Modal Change and Active Travel, see **Table 2.1** and Public Transport, see **Table 2.2** which are aligned with the Proposed Scheme.

Table 2.1: Dublin City Development Plan Policies 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 2.2: Dublin City Development Plan 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.
MT6: (i)	To work with Iarnród Éireann, the NTA, Transport Infrastructure Ireland (TII) and other operators to progress a co-ordinated approach to improving the rail network, integrated with other public transport modes to ensure maximum public benefit and promoting sustainable transport and improved connectivity.

2.3.2 South Dublin County Council Development Plan 2016 – 2022

The current Development Plan for South Dublin County Council (SDCC) came into effect on 12th June 2016 and generally seeks to '*ensure an integrated strategy for transport and mobility that enhances access and movement within and through the County, while promoting change, in favour of sustainable modes.*'

The SDCC Development Plan 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 and to ensure 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 following policies and objectives have been identified in the SDCC Development Plan which support the Proposed Scheme.

Table 2.3: SDCC Development Plan Overarching Objectives Aligned with the Proposed Scheme

Transport and Mobility (TM) Policy 1 Overarching	
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 2.4: SDCC Development Plan Objectives for Public Transport Aligned with the Proposed Scheme

Transport and Mobility (TM) Policy 2 Public Transport	
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.

These objectives result in SDCC identifying a number of actions, 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 identifies the need to re-balance movement priorities towards more sustainable modes of transportation by prioritising the development of walking and cycling facilities within a safe and traffic calmed street environment.

Table 2.5: SDCC Development Plan Objectives for Walking and Cycling Aligned with the Proposed Scheme

Transport and Mobility (TM) Policy 3 Walking and Cycling	
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 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.

2.3.3 Draft SDCC Development Plan 2022 – 2028

SDCC has reviewed the SDCCDP and has prepared a new draft SDCCDP. At the time of writing, The Executive have prepared a Chief Executive's Report on all public submissions / observations received. The Elected Members will consider the proposed amendments to the Draft Plan after receiving the Chief Executive's Report.

Policy Objective SM1 Objective 3 states that it is an objective of SDCC:

'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.' (Emphasis Added).

The Draft Plan sets out in Chapter 7 (Sustainable Movement) that the key transport vision for the plan is to:

'Increase the number of people walking, cycling and using public transport and reduce the need for car journeys, resulting in a more active and healthy community, a more attractive public realm, safer streets, less congestion, reduced carbon emissions, better air quality, and a positive climate impact.'

Chapter 7 states further under the policy objective 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).'

Under the heading 'Travel Mode Share' the need for improved public transport is recognized, stating:

'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.'

2.4 The Aim and Objectives of Delivering the Liffey Valley to City Centre Core Bus Corridor Scheme

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

The objectives are to:

- Enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements;

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

3. Background and Public Consultation

3.1 Liffey Valley to Christchurch Core Bus Corridor Options Study and Emerging Preferred Route

In early 2016, the NTA initiated plans to develop the network of CBCs identified in the GDA Transport Strategy. As part of this body of work, the 'Liffey Valley to Christchurch Core Bus Corridor Options Study' (December 2016) (hereafter called the 'Options and Feasibility Report') 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 the Proposed Scheme.

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

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

There were 135 submissions received relating to the Proposed Scheme. These submissions ranged from individual submissions by residents, commuters, and local representatives, to detailed proposals from public bodies, various associations, and private sector businesses.

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

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

- Grattan Crescent in relation to the proposed removal of mature trees (landscaping);
- Grattan Crescent in relation to the narrowing of the footpath 'plaza' outside the school gates (access and parking);
- Access and parking;
- Safety and speed;
- Anticipated increase in traffic volumes;
- Local heritage concerns;
- Community;
- Cyclists and cycling provision;
- Unsuitable design solutions;
- Bus stops, service, and network;
- Land acquisition and accommodation works;
- Air pollution;
- Impact on local businesses;

- Noise and vibration; and
- Construction phase issues.

Further detail on these issues can be found in the Public Consultation Submission Report – 1st Non-Statutory Public Consultation contained in **Appendix B** of this report.

3.3 Development of Draft Preferred Route Option

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

- Detailed topographical survey along the route corridor;
- Submissions received during the first Non-Statutory Public Consultation; and
- Issues raised during meetings with community forum, resident groups, and one-on-one meetings with directly impacted landowners.

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

- The design along Ballyfermot Road between Markievicz Park and St Laurence's Road was amended to reduce land take as it was identified following the completion of the topographical survey that the proposed cross section was not feasible through this section. This was due to an existing retaining wall at St Laurence's Glen apartments and the limited space available on the opposite side of the road due to the limited size of the front gardens of the existing properties. Land take from these residential properties would have made the driveways unusable.
- The design along Grattan Crescent was amended to a one-way system for general traffic following concerns raised by the public in relation to the impact on the mature trees. This design modification resulted in the retention of the mature trees, while also providing bus priority along this section, improved footways and a new pedestrian crossing.

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

In March 2020 the Draft PRO was published with the second round of Non-Statutory Public Consultation running from 4th March 2020 through to 17th April 2020. The Information Brochure published as part of this consultation is included in **Appendix H** of this report.

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

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

- Reversal of the Brookfield Road traffic flow and the proposed Bus Gate at Mount Brown;

- Cycling provision;
- Traffic;
- Design recommendations;
- Bus service and network;
- Impact on local business;
- Noise, air and vibration; and
- Landscaping.

The issues raised during the second non-statutory public consultation were considered in the further development of the Draft PRO. Further detail on these issues can be found in the Public Consultation Submissions Report – 2nd and 3rd Non-Statutory Public Consultation in **Appendix C**.

Subsequently, it was determined by the NTA that a third non-statutory public consultation would be conducted prior to finalising the PRO.

3.5 Development of the Updated Draft Preferred Route Option

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

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

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

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

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

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

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

The consultation period remained open until 16th 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 eighty-six submissions received as part of the Liffey Valley to City Centre CBC third Non-Statutory Public Consultation. These submissions ranged from individual submissions by residents, commuters and local representatives, to detailed proposals from various associations and private sector businesses. While a variety of matters were raised in the submissions, the key issues emerging from the consultation were as follows:

- Mount Brown bus gate;
- Grattan Crescent one-way system;
- Traffic issues along the route;
- Cycling provision along the route;
- Impact on parking along Emmet Road;
- Landscaping and trees;
- Bus stops;
- Accommodation works; and
- Design recommendations.

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

4. Study Area

4.1 Introduction

In the previously completed Options and Feasibility Report, the study area was taken to consider roads within 500m of the existing bus corridor. The study area ran from Ballyowen Road to the west of Liffey Valley and encompasses the areas around Liffey Valley, Ballyfermot, Park West, Chapelizod, Inchicore and Kilmainham. The end point for the study area is defined as being at the junction of the R108 and R137 at Christ Church Cathedral.

The study area remains the same as outlined in the Options and Feasibility Report and is shown below in **Figure 4.1**. 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 below in **Figure 4.1**.

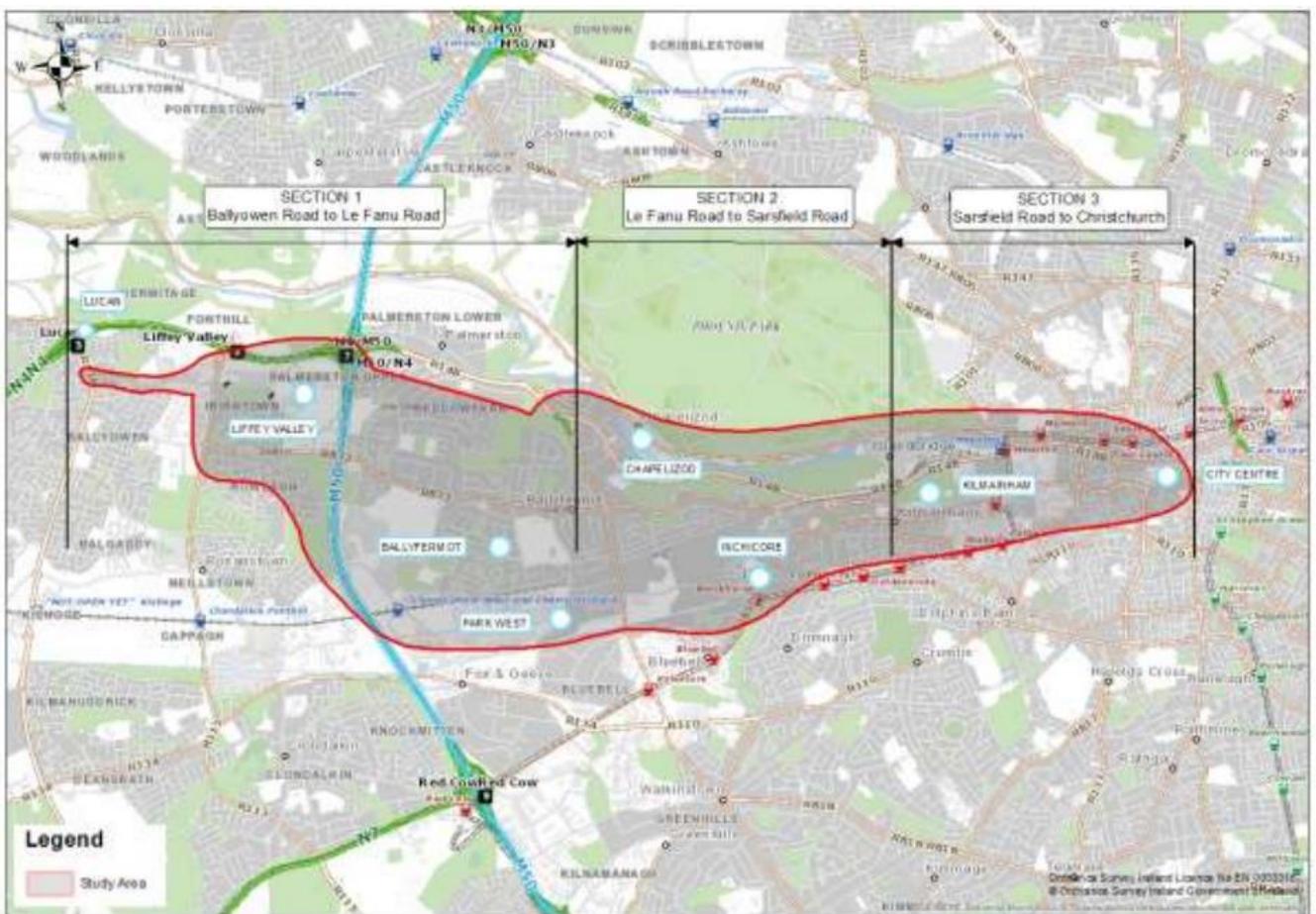


Figure 4.1: Original Study Area with Sections

4.2 Study Area Sections

In order to simplify the assessment process and allow it to be presented in a clear manner, the study area is divided into three sections, as per the Options and Feasibility Report.

4.2.1 Section 1

Section 1 extends from Fonthill Road to Le Fanu Road. The N4 is located to the north of Section 1 and the M50 intersects it. Section 1 consists of Fonthill Road, Coldcut Road and Ballyfermot Road.

The Proposed Scheme commences on the Fonthill Road where it connects to the Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme. It also travels along Cycle Route 7A of the GDA cycle network. Section 1 of the Proposed Scheme also contains a significant number of trip attractors and generators such as the Liffey Valley Shopping Centre, retail parks, Cherry Orchard Hospital, Cherry Orchard industrial estate and residential areas.

4.2.2 Section 2

Section 2 extends from Le Fanu Road to Sarsfield Road. The N4 and the River Liffey are located to the north of Section 2. The canal and Nass Road are located to the south. It also travels along Cycle Route 7A of the GDA cycle network. Section 2 contains a number of trip attractors including Ballyfermot Village, the Church of Our Lady of the Assumption, St Gabriel's St, Raphaels and St Michael's primary schools, Ballyfermot community centre, Markievicz Park, Liffey Gales GAA club and residential areas.

4.2.3 Section 3

Section 3 extends from Sarsfield Road to High Street. The South Circular Road intersects Section 3 at the junction of Old Kilmainham and Emmet Road. The River Liffey and The Quays are located to the north of Section 3. It also travels along Cycle Route 7 and 7A of the GDA cycle network. It interfaces with the Luas at St James Hospital. Section 3 of the Proposed Scheme also contains a significant number of trip attractors and generators such as Inchicore, St James's Adult Hospital, the National Children's Hospital, The Liberties, Cornmarket and Christ Church Cathedral.

The inner extent of the Proposed Scheme was determined for the following reasons:

- It connects to Winetavern Street which acts as a distribution point for bus services;
- It interfaces with the proposed Tallaght / Clondalkin to City Centre CBC Scheme;
- It facilitates connectivity to the cycle infrastructure; and
- It connects to the City Centre Traffic Management Plan.

4.3 Physical Constraints and Opportunities

As the study area has not altered from the previously published Options and Feasibility Report the noted potential physical constraints and opportunities remain valid. These are considered within the scheme assessment process and include the following:

- Availability of space between building lines;
- Public parks including Blackditch Park, Drumfinn Avenue Park, Markievicz Park, Longmeadows Park, Liffey Gales Park, Grattan Crescent Park and St. Audoen's Park;
- Street trees and other natural features along the route;
- Existing and committed future development along the route;
- Existing monuments and protected structures;
- Existing M50 overbridge, Emmet Road bridge over the Camac River, Sarsfield Road and Memorial Road rail bridge ;
- The opportunity to enhance connectivity to and from major hospitals – namely St. James's Hospital and the new National Children's Hospital;
- Need to maintain traffic flow in key areas;

- The opportunity for the provision of enhanced public realm within the various villages and urban centres within the study area including Ballyfermot, Inchicore and Cornmarket;
- The opportunity to enhance connectivity to educational centres;
- Liffey Valley shopping centre and retail park; and
- Liffey Valley Bus Interchange.

4.4 Integration with Public Transport Network

4.4.1 Introduction

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

- Interface with other CBC schemes:
 - Lucan to City Centre CBC Scheme; and
 - Tallaght / Clondalkin to City Centre CBC Scheme.
- Greater Dublin Area (GDA) Cycle Network Plan;
- Bus network:
 - Existing bus routes – 18, 40, 76, 239, 79, 79a, 68, 123, 13;
 - Revised Dublin Bus Network Redesign routes – G1, G2, S2, S4, W2, LS1, LS3, O, 60, 73, 80; and
 - Liffey Valley Bus Interchange Facility.
- Metropolitan Light Rail – Luas, DART, Metro:
 - The Luas Red Line, in particular James's Luas Stop; and
 - DART + upgrade.
- Metropolitan heavy rail:
 - Heavy rail at Heuston Station.

Figure 4.2 and **Figure 4.3** below show Dublin Bus Existing Services and an extract from BusConnects Network Redesign maps which shows the different interfaces along the corridor between Liffey Valley to City Centre which is primarily along the proposed G-Spine.

4.4.2 Existing Bus Services

The Liffey Valley corridor carries over 1,500 passengers in the peak periods (2017 Quality Bus Corridor Monitoring Report, NTA). The primary bus routes along the Liffey Valley corridor are indicated in **Figure 4.2** and listed below:

- Route 18 – Palmerstown to Sandymount;
- Route 40 – Charlestown Shopping Centre to Liffey Valley Shopping Centre;
- Route 76 – Tallaght to Chapelizod;
- Route 239 – Blanchardstown to Liffey Valley Shopping Centre;
- Route 79 – Ashton Quay to Spiddal Park;

- Route 79a – Ashton Quay to Park West;
- Route 68 – Hawkins Street to Newcastle;
- Route 123 – Griffith Avenue (Malahide Road) to Kilnamanagh Road; and
- Route 13 – Grange to Old Airport Road.



Figure 4.2: Dublin Bus Existing Services

4.4.3 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** below shows the final output from this study and illustrates that the G-Spine (G1,G2) runs from the City Centre to the West, serving areas along the Ballyfermot Corridor.

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

- Spines & Branches
 - G-SPINE Ballyfermot - City Centre – Docklands;
 - G1 Red Cow - City Centre – Spencer Dock; and
 - G2 Liffey Valley Shopping Centre - City Centre – Spencer Dock.
- Orbital Routes
 - S2 Heuston - Kimmage - Ballsbridge - Poolbeg;
 - S4 Liffey Valley - Ballyfermot - Crumlin - Milltown - UCD; and
 - W2 Liffey Valley - Clondalkin - Tallaght.

- Radial Routes
 - 60 Red Cow - Cherry Orchard - Decies Rd. - Spencer Dock;
 - 73 Marino - City Centre - Walkinstown; and
 - 80 Liffey Valley - City Centre - Ballinteer.

- Local Routes
 - L51 Adamstown - Lucan Village - Esker - Liffey Valley; and
 - L53 Adamstown - Balgaddy - Liffey Valley.

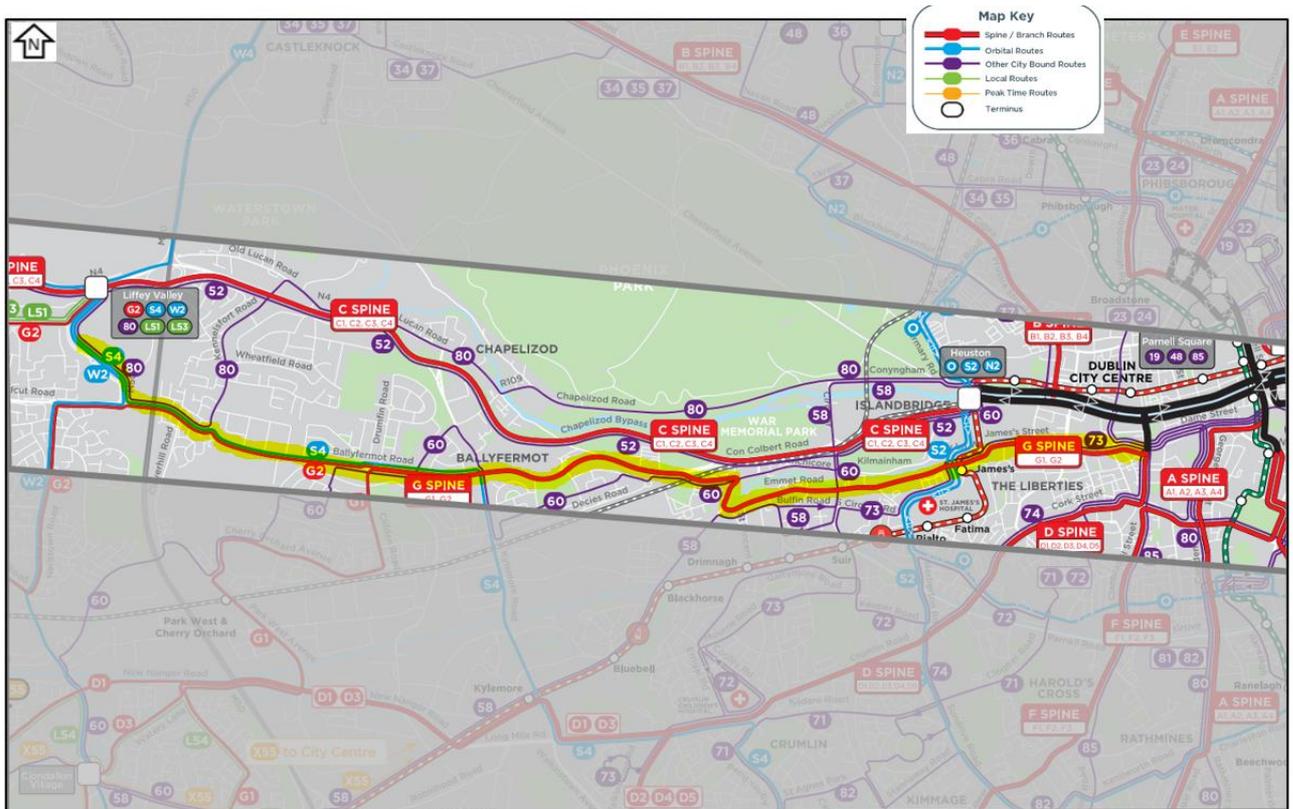


Figure 4.3: Revised Bus Network – West Quadrant

4.5 Compatibility with Other Road Users

A key objective of the Proposed Scheme is to improve pedestrian and cyclist facilities along the route. In general, segregated facilities, where practical, will 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 facilitate bus priority and cycle tracks.

Figure 4.4 below is an extract from GDA Cycle Network Plan and shows the different interfaces along the corridor between Liffey Valley to City Centre. Stub cycle tracks have been provided at the majority of interfaces that adjoin the Proposed Scheme.

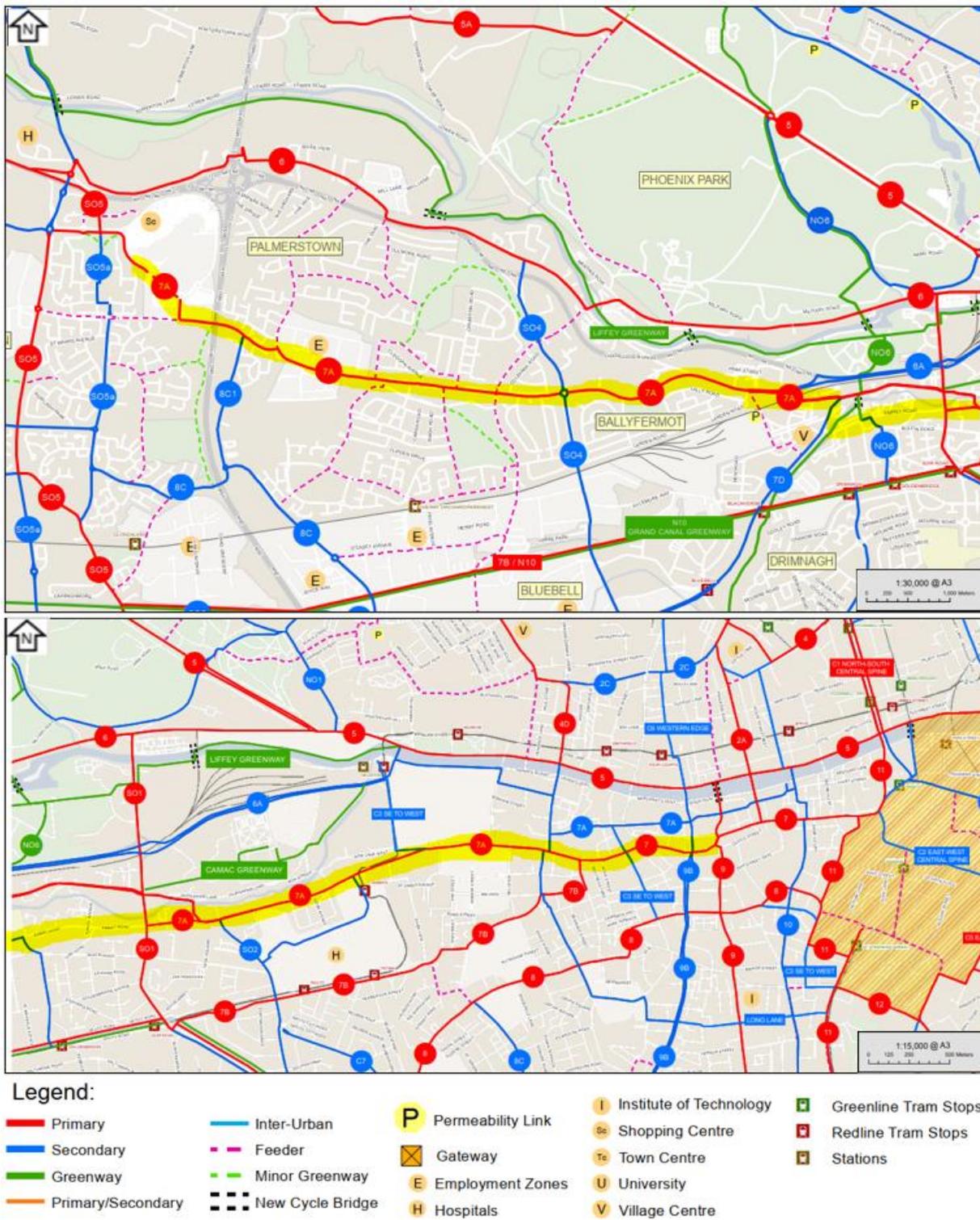


Figure 4.4: Extract from GDA Cycle Network Plan Maps

The Primary Route 7 and 7A follows the Proposed Scheme.

- The Primary Routes;
 - SO1 intersect with the Proposed Scheme at Emmet Road Junction; and
 - 7B intersect with the Proposed Scheme at Meath Street.

- The Secondary Routes;
 - 8C1 intersect with the Proposed Scheme at Cloverhill Road Junction;
 - SO4 intersect with the Proposed Scheme at Ballyfermot Road and Kylemore Road Junction;
 - NO6 intersect with the Proposed Scheme at Bulfin Road and Emmet Road Junction; and
 - SO2 intersect with the Proposed Scheme at Ewington Lane Junction and Brookfield Road Junction.

5. Review of the Previous Options and Feasibility Report

5.1 Introduction

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

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

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

5.2 Assessment Methodology

5.2.1 Methodology

5.2.1.1 Methodology Introduction

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

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

5.2.1.2 Stage 1 – Route Options Assessment – Sifting Stage

A 'spider's web' of route options was produced that accommodated the objectives of the scheme for each study area as shown in **Figure 5.1**.

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

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

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

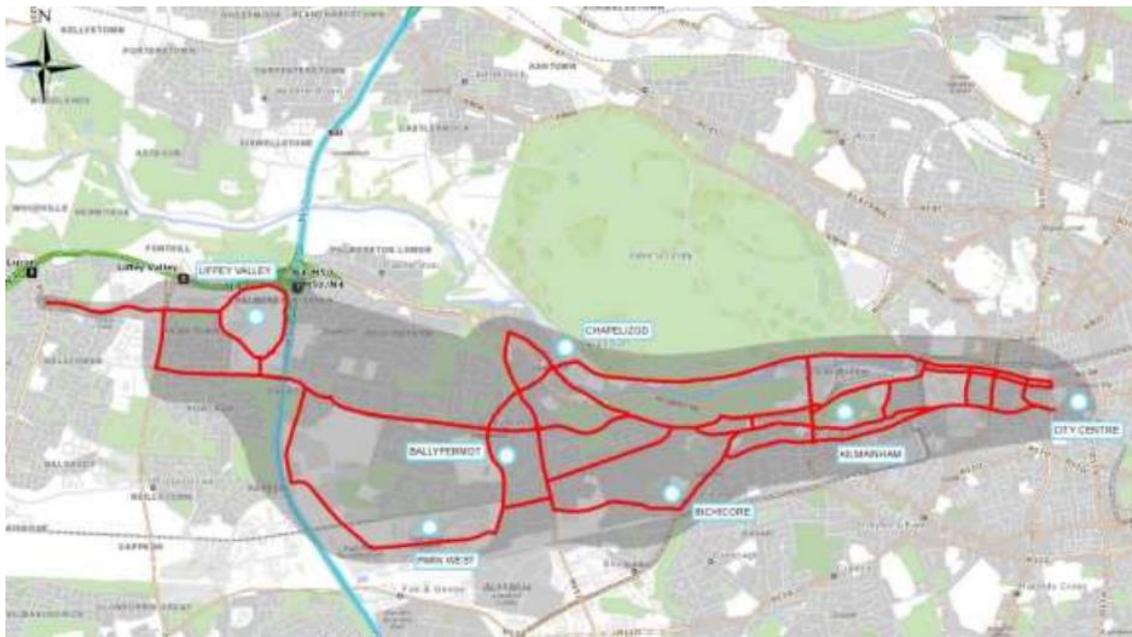


Figure 5.1: Spiders Web of Route Options

5.2.1.3 Stage 2 – Route Options Assessment – Detailed Assessment

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

The indicative scheme for each route option was then progressed to 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 5.1 presents a summary of the Proposed Scheme assessment criteria and sub criteria used as part of the Stage 2 detailed route options assessment process. With options compared and ranked against each other based as per **Table 5.2**. Options were compared based on a five-point scale, ranging from having significant advantages to having significant disadvantages over other route options. **Table 5.2** shows the colour coding of the five-point scale, with advantageous routes graded “dark green” and disadvantageous routes graded “red”.

Table 5.1: MCA Assessment Criteria

Assessment Criteria	Assessment Sub-Criteria
1. Economy	1.a Capital Cost
	1.b Transport Reliability and Quality of Service
2. Integration	2.a Land Use Integration
	2.b Residential, Employment and Educational Catchments
	2.c Transport Network Integration
	2.d Cycling Integration
3. Accessibility and Social Inclusion	3.a Key Trip Attractors
	3.b Deprived Geographic Areas
4. Safety	4.a Road Safety
5. Environment	5.a Archaeology, Architectural and Cultural Heritage
	5.b Flora and Fauna
	5.c Soils and Geology
	5.d Hydrology
	5.e Landscape and Visual
	5.f Air Quality
	5.g Noise and Vibration
	5.h Land Use Character

Table 5.2: Route Options Colour-Coded Ranking Scale

Colour	Description
	Significant advantages over other options
	Some advantages over other options
	Neutral compared to other options
	Some disadvantages compared to other options
	Significant disadvantages compared to other options

Where the design has undergone a change in respect of infrastructure provision or route choice, this has been recorded and explained. An MCA has been undertaken which assessed the newly developed and designed solutions against the EPR in the Options and Feasibility Report

Where the design has undergone more general updates and enhancements, as expected during design development, these have not been subject to a new MCA.

5.3 Emerging Preferred Route Option Summary

5.3.1 Emerging Preferred Route Option

5.3.2 Study Area Section 1 – Liffey Valley Shopping Centre to Le Fanu Road

The EPR option for Section 1 originally started on Ballyowen Road and continued along Fonthill Road, Coldcut Road and Ballyfermot Road to the junction with Le Fanu Road. The starting point of the EPR option on Ballyowen Road was subsequently changed to align with the Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme on Fonthill Road.

It is considered that the options assessment presented in the Options and Feasibility Report has appropriately assessed route options and that the selected corridor offers the most benefits for pedestrians, cyclists, and buses.

In summary, the EPR option for Section 1 is as outlined in the Options and Feasibility Report, as presented in **Figure 5.2**, with the starting point amended to align with the Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme.

The proposed section of the route from Fonthill Road to Le Fanu Road meets the Proposed Scheme objectives and is the PRO for this corridor.

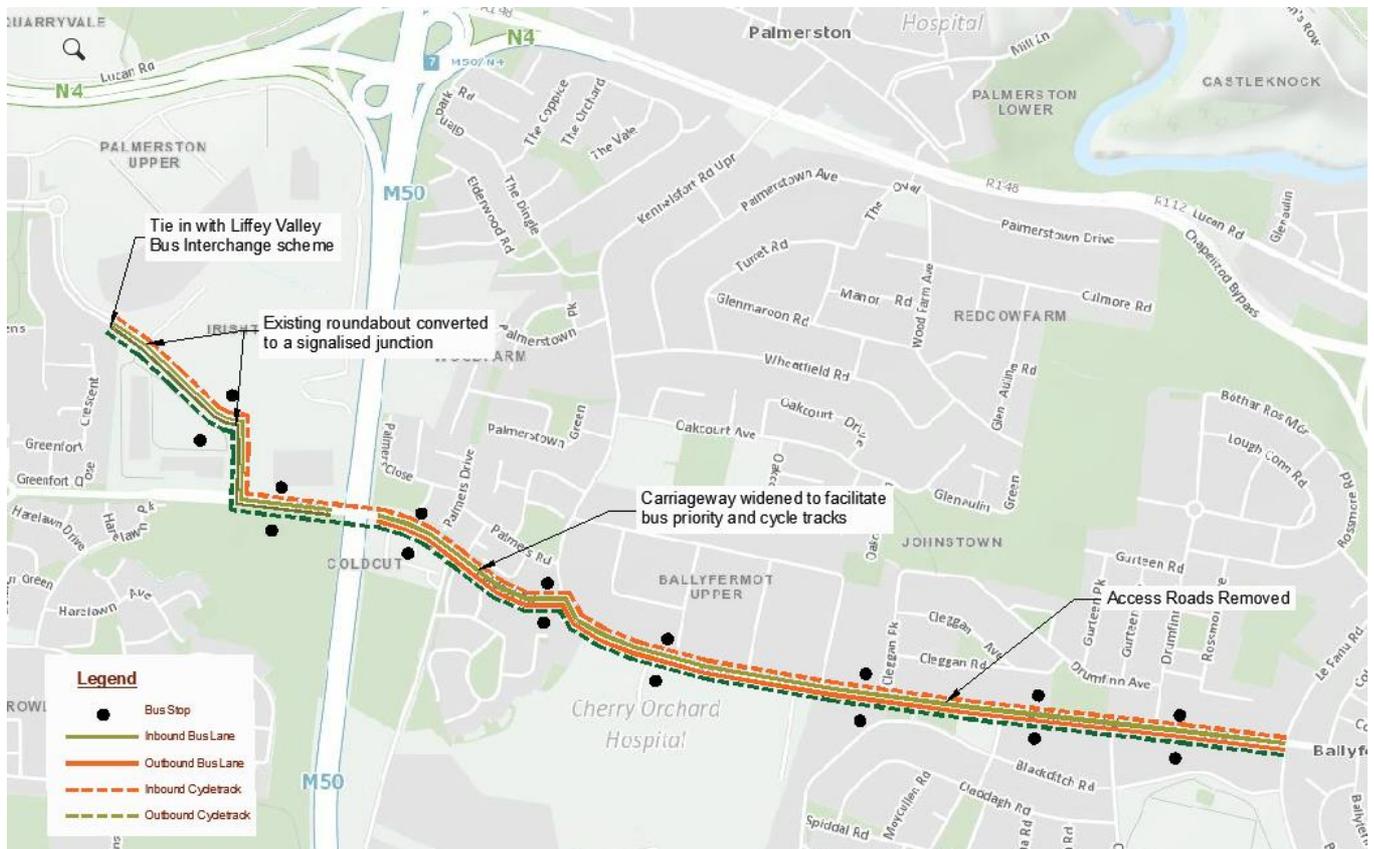


Figure 5.2: EPR – Section 1

5.3.3 Study Area Section 2 – Le Fanu Road to Sarsfield Road

The EPR option previously identified in Section 2 of the CBC corridor is presented in **Figure 5.3**. The route commences on Ballyfermot Road at the junction with Le Fanu Road. It travels through Ballyfermot Village and continues along Ballyfermot Road and Sarsfield Road.

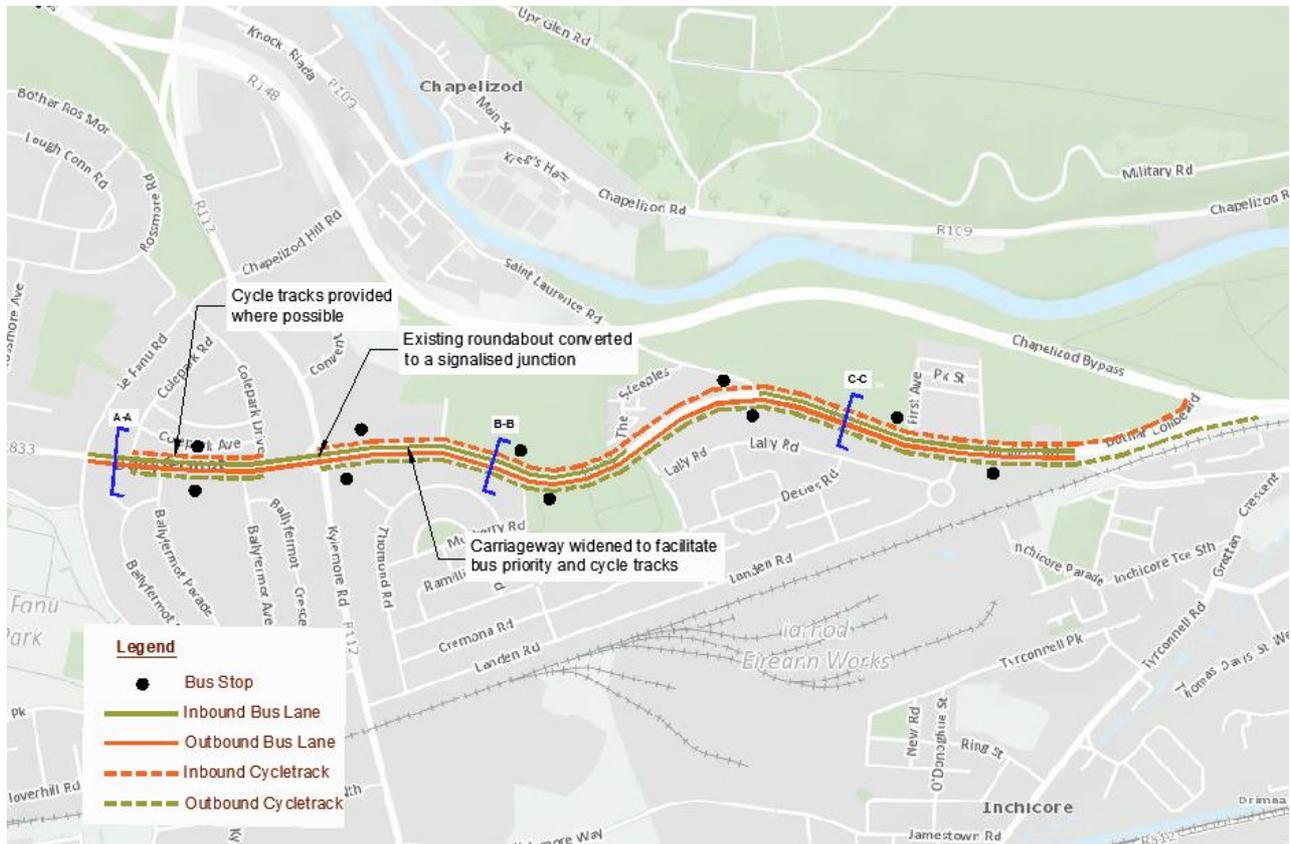


Figure 5.3: EPR – Section 2

Based on the public consultation submissions received, and assessment of topographical survey subsequently undertaken, the section between Le Fanu Road and Kylemore Road was identified as requiring further review which is summarised in **Section 5.3.5**.

The EPR Option between Markievicz Park and St Laurence’s Road proposed the ‘optimum BusConnects cross section’, i.e. two general traffic lanes, two bus lanes, two cycle tracks and two footpaths. In order to achieve this, the EPR Option design indicated a loss of existing trees from Markievicz Park, as well as potential land take on both sides of the road to the east of O’Hogan Road. From a review of submissions received as part of the public consultation for this route, as well as a review of the topographical survey carried out subsequent to the route’s publication, a number of issues have been identified with the delivery of this section of the EPR Option as previously proposed. The impact on Markievicz Park and on the residential properties was a significant cause for concern amongst residents. In addition, based on a review of the topographical survey file, there is now a clearer indication of the potential impact to adjacent properties including a retaining wall at St Laurence’s Glen apartments. Based on this additional information, the full cross section between Markievicz Park and St Laurence’s Road was not feasible and the cross section was reduced as part of the design development of the scheme.

5.3.4 Study Area Section 3 - Sarsfield Road to City Centre

The EPR option previously identified along this section of the CBC corridor is presented in **Figure 5.4**. The EPR option will continue along Sarsfield Road and turn right onto Grattan Crescent. It will then turn left onto Emmet Road and will continue along Old Kilmainham, Mount Brown, James's Street and Thomas Street. At Cornmarket, the EPR Option will turn right onto High Street. At the junction with Nicholas Street and Winetavern Street the EPR option will tie into the existing traffic management regime in the City Centre.

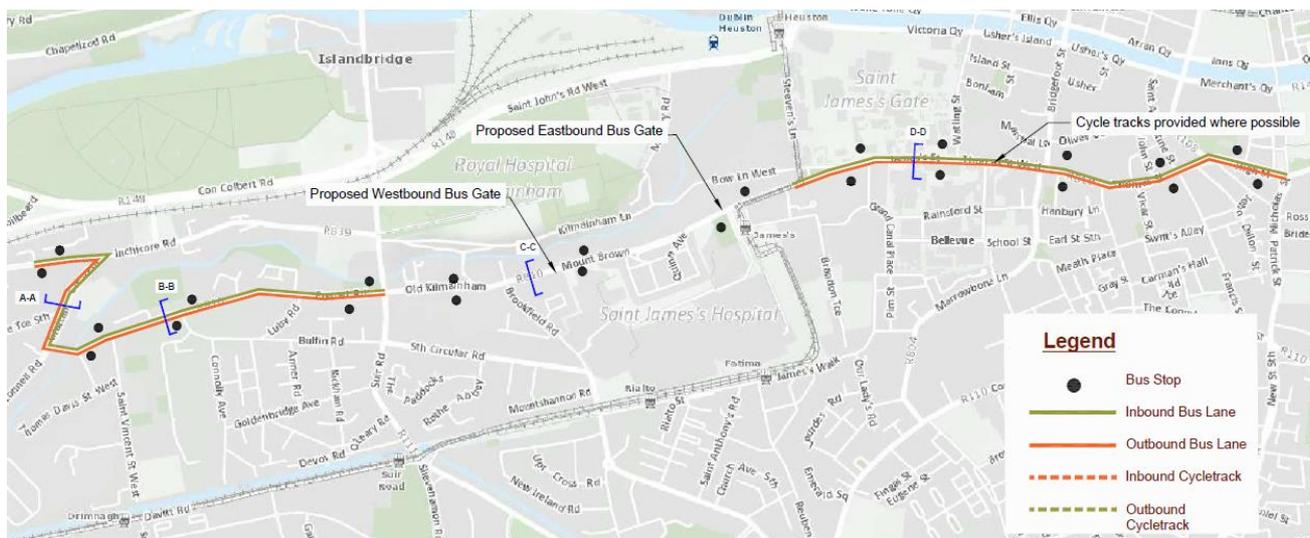


Figure 5.4: EPR – Section 3

Based on the Non-Statutory Public Consultation submissions received, and assessment of topographical survey subsequently undertaken, Grattan Crescent was identified as requiring further review which is summarised in the following section.

Following concerns raised during the Non-Statutory Public Consultation regarding access to Mount Brown, Old Kilmainham, St James's Hospital and the local area, the EPR option was refined to reduce these impacts. The Bus Gate on Mount Brown was amended with the eastbound Bus Gate being relocated to the St James's Street entrance to the hospital campus. The westbound Bus Gate location was retained but the length was shortened. The operational hours were also refined with the eastbound Bus Gate operating in the AM and the westbound Bus Gate operating in the PM. This revised arrangement for the Bus Gate will allow access at all times to Ceant Fort, the Children's Hospital, Adult hospital, and local area from all directions.

5.3.5 Areas Identified for Re-Examination

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

- A review was undertaken of the proposed design along Ballyfermot Village. Consideration was given to the option of providing continuous cycling facilities along this section while still maintaining full bus priority. This is presented in **Section 6.2**; and
- A review was undertaken of the proposed design along Grattan Crescent. Consideration was given to alternative options which retained the existing mature trees while still providing bus priority along this section. This is presented in **Section 6.3**.

5.4 Summary

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

- Section 1 – The start of the route has been changed to align with the Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme;
- Section 2 – Alternative options at Ballyfermot Village; and
- Section 3 – Alternative options along Grattan Crescent.

5.5 Carbon Considerations for the Route Options

Carbon for the Proposed Scheme will arise from three potential sources namely user carbon, capital carbon and operational carbon. These sources are further discussed as follows:

- The majority is the road USER CARBON from cars, light and heavy goods vehicles and buses, whilst the majority of the fleet is combustion engine based in the short term.
- The 'Climate Action Plan 2021' outlines a range of targets for the electrification of private and public service vehicles in the medium term.
- In comparison, road construction CAPITAL CARBON has been assessed as having a smaller footprint. On the basis that the Proposed Scheme is designed and executed appropriately, it will facilitate and enable a long-term user carbon reduction.
- The OPERATIONAL CARBON once construction is complete includes the carbon associated with the operations of the Proposed Scheme, such as maintenance.

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

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

Following publication of the 'Climate Action Plan 2021' by the Department of the Environment, Climate and Communication, consideration was given to the inclusion of a new criterion assessing the construction capital carbon of route options. As noted above, the capital carbon elements of 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, all route options support 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 for the Proposed Scheme, consideration has been given to the carbon generated during construction and operation. Many of the changes made to the design since the EPR Option proposal have resulted in minor changes in the construction capital carbon generated by the Proposed Scheme, such as altering junction layouts and cycle track / footpath widths. Additionally, significant design iterations have been undertaken to mitigate against traffic re-distribution impacts and consequent impacts on greenhouse gas emissions.

6. Options Assessment

6.1 Section 1 – Liffey Valley Shopping Centre to Le Fanu Road

As discussed in **Section 5.3** of this PRO Report, the option for Study Area Section 1 is as outlined in the previous Options and Feasibility Report with the starting point changed to Fonthill Road to tie-in with the Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme. The Study Area Analysis and MCA for the previously proposed feasible route options for Section 1 outlined in the Options and Feasibility Report have been evaluated by the design team and are considered still to be valid.

6.2 Section 2 - Le Fanu Road to Sarsfield Road

6.2.1 Introduction

Following the MCA for the EPR in the Options and Feasibility Report, BF03 was considered the most desirable option in terms of cost, reliability, and catchments.

6.2.2 Options Considered

This section travels along Ballyfermot Road and Sarsfield Road. A number of options have been developed with the objective of identifying the PRO. These options are outlined in more detail below:

Option BF03: Bus lane and general traffic lane provided in both directions through Ballyfermot Village. At some locations through Ballyfermot Village, cyclists are required to share the bus lane.

Option BF04: Continuous bus lanes and cycle tracks through Ballyfermot Village. Citybound general traffic diverted away from Ballyfermot Village and travels along Le Fanu Road and Kylemore Road.

Option BF05: Full BusConnects cross-section through Ballyfermot Village which includes a bus lane, general traffic lane, footway, and cycle track in each direction.

Unless otherwise stated, all three of the options considered follow the same layout as BF03 as detailed in the Options and Feasibility Report.

6.2.2.1 Alternative Options Considered

No alternative options were considered for this scheme section, additional to those assessed through the MCA.

6.2.2.2 Route Option BF03 (EPR)

Figure 6.1 illustrates the indicative scheme design for Route Option BF03 as well as the locations of indicative cross-sections.

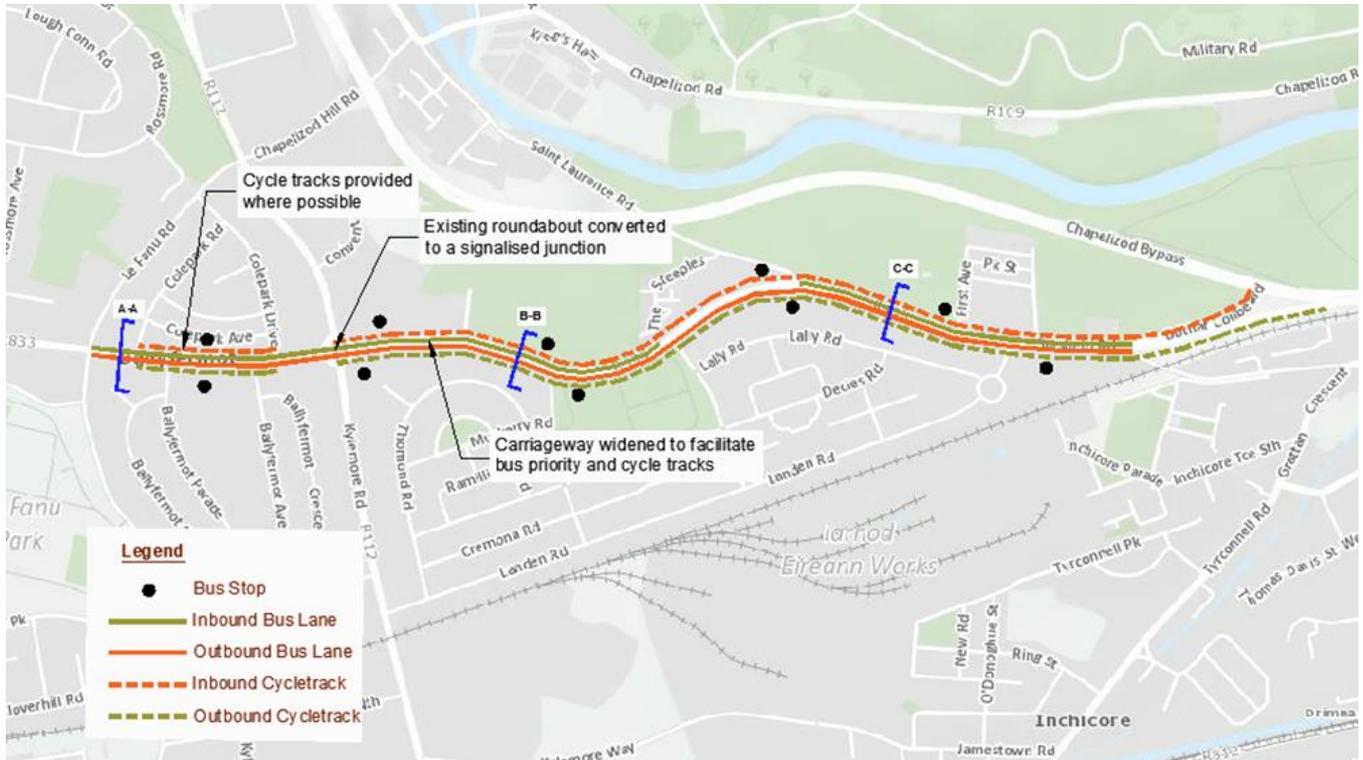


Figure 6.1: Route Option BF03 Indicative Scheme Design

Inbound: Route Option BF03 would start at the junction of Ballyfermot Road and Le Fanu Road. From here, the route would continue in an easterly direction along Ballyfermot Road and subsequently onto Sarsfield Road until its junction with Con Colbert Road.

Outbound: The outbound route would follow the same route as the inbound route.

Bus Stops: A total of five bus stops would be provided in each direction along this route option.

A Continuous outbound bus lane is provided along the route. The majority of the inbound route has continuous bus lanes. Between Markievicz Park and St Laurence’s Road, Signal Controlled Priority has been used to provide inbound bus priority along this constrained area.

The existing roundabout intersecting Ballyfermot Road and Kylemore Road would be upgraded to a signalised junction to minimise potential delays, improve bus priority, and improve safety for cyclists and pedestrians.

To reduce the impact on Markievicz Park and the adjacent residential and commercial properties, it is proposed to provide Signal Controlled Bus Priority in lieu of a bus lane for inbound buses on Ballyfermot Road between Markievicz Park and St. Laurence Road. The inbound bus lane would then be reintroduced at St. Laurence Road. To accommodate the revised arrangements, it is intended to close the Ballyfermot Road / O’Hogan Road Junction as part of the implementation of the Signal Controlled Priority on Ballyfermot Road.

Between Markievicz Park and Landen Road, the road boundary on the northern side will be set back to accommodate the road widening which will impact commercial and residential properties along this section.

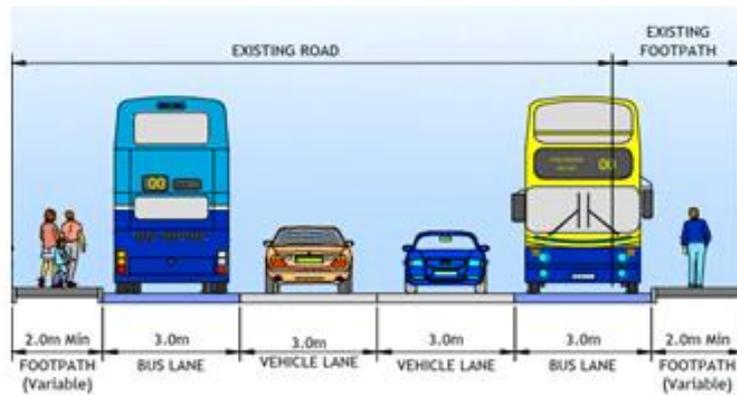


Figure 6.2: Route Option BF03 Cross-Section A-A

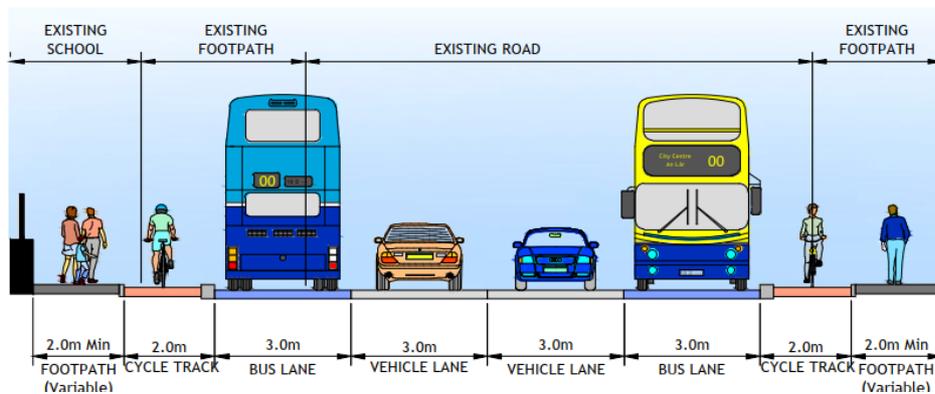


Figure 6.3: Section 2 Cross-Section B-B

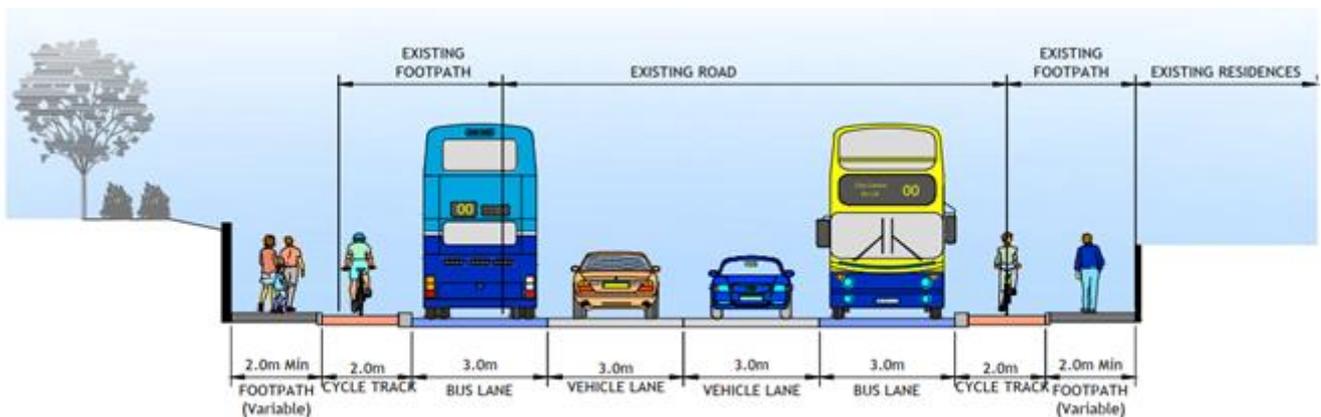


Figure 6.4: Section 2 Cross-Section C-C

Cycle Route

The proposed cycle track would travel along Ballyfermot Road and subsequently onto Sarsfield Road until its junction with Con Colbert Road, where it would tie into the Lucan to City Centre CBC Scheme. If the cycling infrastructure proposed as part of the Lucan to City Centre CBC Scheme is not in place, cyclist have an alternative route to the City Centre via Sarsfield Road, Inchicore Road, Kilmainham Lane and Bow Lane where they will re-join the Proposed Scheme.

Between the junctions of Ballyfermot Road with Le Fanu Road and Kylemore Road, there are two locations on Ballyfermot Road where providing segregated cycle tracks would not be feasible due to the proximity of residential properties. The first location is east of the junction of Ballyfermot Road and La Fanu Road in both directions. The second location is west of the junction of the Ballyfermot Road and Kylemore Road in both directions. At both locations, cyclists would have to share the bus lane.

East of Ballyfermot Village, fully segregated cycling facilities are provided in both directions.

6.2.2.3 Route Option BF04

Figure 6.5 illustrates the indicative scheme design for Route Option BF04 as well as location of indicative cross-sections.

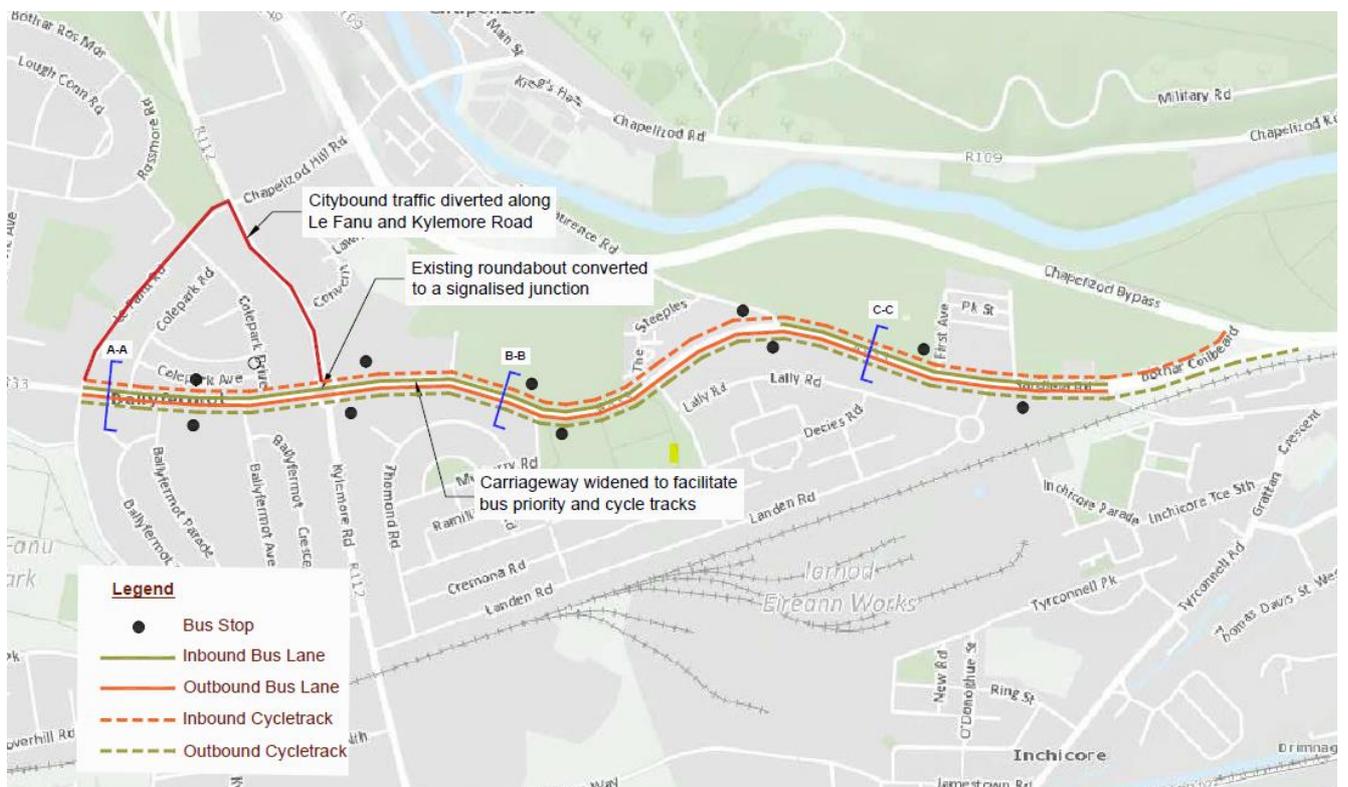


Figure 6.5: Route Option BF04

Route Option BF04 differs from the other options being considered as it proposes to divert inbound general traffic along Le Fanu Road and Kylemore Road in order to provide segregated cycle tracks for the full length of the section, without requiring any land acquisition through Ballyfermot Village. Inbound general traffic through Ballyfermot Village would be prohibited in order to facilitate the provision of bus lanes and segregated cycle tracks through Ballyfermot Village, but local access would be permitted to access Colepark Road from the Le Fanu Road / Ballyfermot Road Junction.

Citybound general traffic would be required to turn left onto Le Fanu Road to its intersection with Kylemore Road, and then travel along Kylemore Road to the intersection with Ballyfermot Road. General traffic would then turn left and re-join Ballyfermot Road in the direction of the City Centre. Outbound traffic would operate as normal and travel through Ballyfermot Village.

A total of five bus stops would be provided in each direction along this route option.

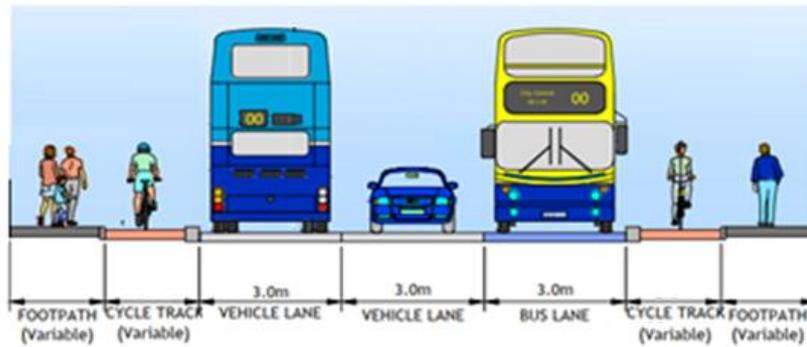


Figure 6.6: Route Option BF04 Cross-Section A-A

Cross-sections B-B and C-C are as per Route Option BF03.

Cycle Route

The proposed cycle track would run along Ballyfermot Road and subsequently onto Sarsfield Road until its junction with Con Colbert Road, where it would tie into the Lucan to City Centre CBC Scheme. If the cycling infrastructure proposed as part of the Lucan to City Centre CBC Scheme is not in place, cyclists have an alternative route to the City Centre via Sarsfield Road, Inchicore Road, Kilmainham Lane and Bow Lane where they will re-join the Proposed Scheme.

Fully segregated cycling facilities are provided in both directions.

6.2.2.4 Route Option BF05

Figure 6.7 illustrates the indicative scheme design for Route Option BF05 as well as the locations of indicative cross-sections.

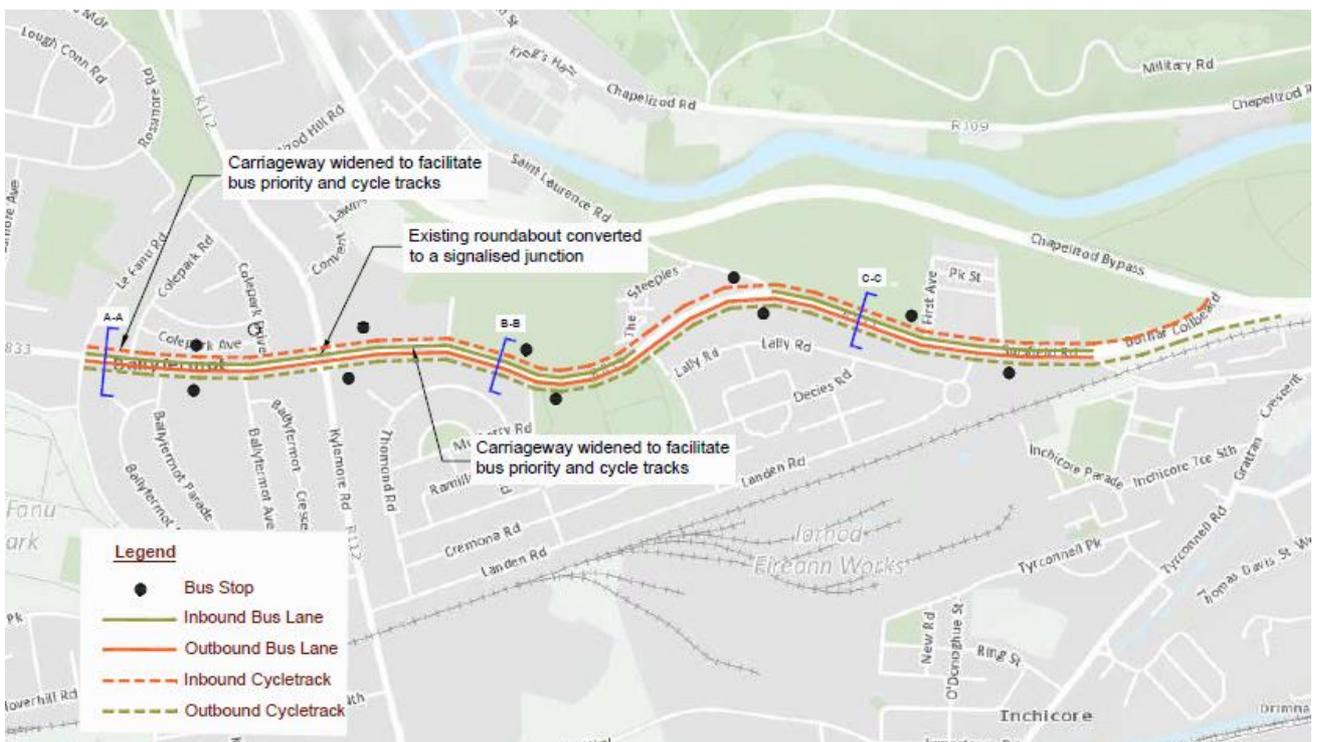


Figure 6.7: Route Option BF05 Indicative Scheme Design

The key difference in Route Option BF05 is the proposal to provide bus lanes, general traffic lanes, segregated cycle tracks and pedestrian facilities in both directions along Ballyfermot Road between Le Fanu Road and Kylemore Road. To provide this proposed cross-section, widening and land take would be required along Ballyfermot Road between Le Fanu Road and Kylemore Road.

A total of five bus stops would be provided in each direction along this route option.

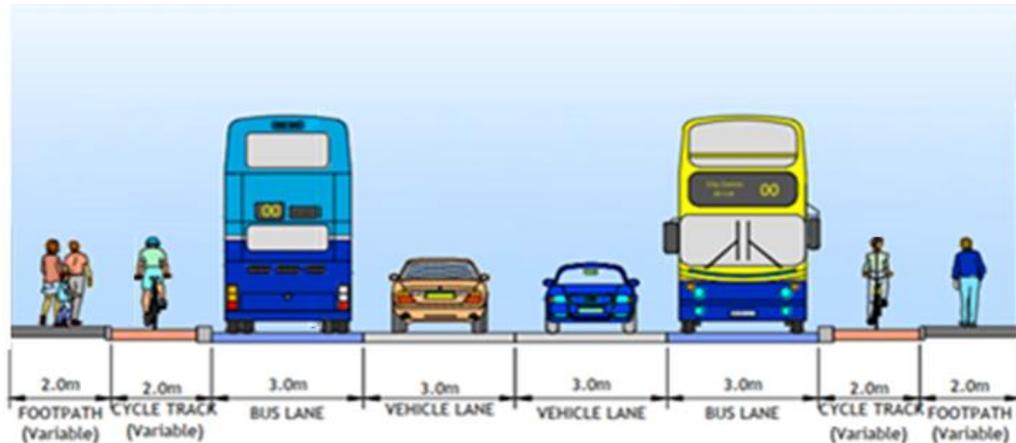


Figure 6.8: Route Option BF05 Cross-Section A-A

Cross-sections B-B and C-C are as per Route Option BF03.

Cycle Route

The proposed cycle track would travel along Ballyfermot Road and subsequently onto Sarsfield Road until its junction with Con Colbert Road, where it would tie into the Lucan to City Centre CBC Scheme. If the cycling infrastructure proposed as part of the Lucan to City Centre CBC Scheme is not in place, cyclist have an alternative route to the City Centre via Sarsfield Road, Inchicore Road, Kilmainham Lane and Bow Lane where they will re-join the Proposed Scheme.

Fully segregated cycling facilities would be provided in both directions.

6.2.3 Options Assessment

The Stage 2 Route Options Assessment – MCA summary table for this section is included in **Appendix D**. The relative ranking of the route options for each assessment sub-criteria is shown in **Table 6.1** below.

Table 6.1: Section 2: Route Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	BF03	BF04	BF05
Economy	Capital Cost	Green	Green	Orange
	Transport Reliability and Quality of Service	Yellow	Yellow	Yellow
Integration	Land Use Integration	Yellow	Yellow	Yellow
	Residential, Employment and Educational Catchments	Yellow	Yellow	Yellow
	Transport Network Integration	Yellow	Yellow	Yellow
	Cycling Integration	Red	Green	Green
Accessibility and Social Inclusion	Key Trip Attractors	Yellow	Yellow	Yellow
	Deprived Geographic Areas	Yellow	Yellow	Yellow
Safety	Road Safety	Yellow	Yellow	Yellow
Environment	Archaeology, Architectural and Cultural Heritage	Yellow	Yellow	Yellow
	Flora and Fauna	Yellow	Yellow	Yellow
	Soils and Geology	Yellow	Yellow	Yellow
	Hydrology	Yellow	Yellow	Yellow
	Landscape and Visual	Green	Green	Orange
	Air Quality	Green	Green	Orange
	Noise and Vibration	Green	Green	Orange
	Land Use Character	Green	Green	Red

In terms of Economy, Route Option BF05 is the most expensive, due to the Capital Cost associated with land take and the construction works along Ballyfermot Village which are required for the proposed cross-section, compared to Route Options BF03 and BF04 which retain the existing highway boundary through Ballyfermot Village due to a reduced cross-section.

All options ranked equally on Transport Reliability and Quality of Service as they have the same levels of bus priority.

In terms of Cycling Integration, Route Options BF04 and BF05 are considered to perform favourably, as they provide continuous cycle tracks through Ballyfermot Village, compared to Route Option BF03, which requires cyclists to share the bus lane at pinch points.

All options rank equally under Accessibility and Social Inclusion, as they all follow the same route.

In terms of Environment, Route Option BF05 scored lower, due to the impacts as a result of the additional land take required along Ballyfermot Village to provide the full cross-section, compared to Route Options BF03 and BF04, which retain the existing highway boundary and have a reduced cross-section for the majority of this section.

A summary of the assessment and relative ranking of route options against the five main assessment criteria is presented in **Table 6.2** below.

Table 6.2: Section 2: Final Summary of MCA

Assessment Criteria	BF03	BF04	BF05
Economy	Green	Green	Orange
Integration	Red	Green	Green
Accessibility and Social Inclusion	Yellow	Yellow	Yellow
Safety	Yellow	Yellow	Yellow
Environment	Green	Green	Red

Based on the assessment undertaken, Route Option BF04 appears to offer more benefits over other options. It performs well under the Economy, Integration and Environment criteria. Route Option BF04 is the PRO for the Le Fanu Road to Sarsfield Road section for the following reasons:

- It provides full physical bus priority throughout this section, ensuring reliability of journey time for the bus;
- It provides continuous cycle tracks through the section in line with primary Cycle Route 7A of the GDA cycle network; and
- It minimises the impact on properties along Ballyfermot Road through Ballyfermot village.

6.3 Section 3 - Sarsfield Road to City Centre

6.3.1 Introduction

Following the MCA for the EPR in the Options and Feasibility Report, CCT10 was considered the most desirable option by best balancing cost, reliability, and catchments.

However, during the first Non-Statutory Public Consultation, several residents of Inchicore made it clear that they strongly opposed the proposals to widen the carriageway along Grattan Crescent due to the loss of the existing mature trees and the visual impacts it may cause. Following multiple discussions with residents, alternative plans were proposed which would reduce Grattan Crescent to a single general traffic lane and allow the mature trees in the area to be retained. As such, CCT10 from the EPR was reassessed against two new options.

6.3.2 Options Considered

This section travels along Sarsfield Road, Grattan Crescent, Emmet Road, Old Kilmainham, Mount Brown, James's Street, Thomas Street and High Street. A number of options have been developed with the objective of identifying the PRO. These options are outlined in more detail below:

Option CCT10: Full Bus Connects Cross-Section along Grattan Crescent which will require the removal of the existing mature trees along this section.

Option CCT11: Continuous bus lanes provided along Grattan Crescent with general traffic limited to a single lane along Grattan Crescent in a southbound direction.

Option CCT12 : Continuous bus lanes provided along Grattan Crescent with general traffic limited to a single lane along Grattan Crescent in a northbound direction.

Unless otherwise stated, all three of the options considered follow the same layout as CCT10 as detailed in the Options and Feasibility Report.

6.3.2.1 Alternative Options Considered

No alternative options were considered for this scheme section, additional to those run through the MCA.

6.3.2.2 Route Option CCT10 (EPR)

Figure 6.9 illustrates the indicative scheme design for Route Option CCT10 as well as the locations of indicative cross-sections.

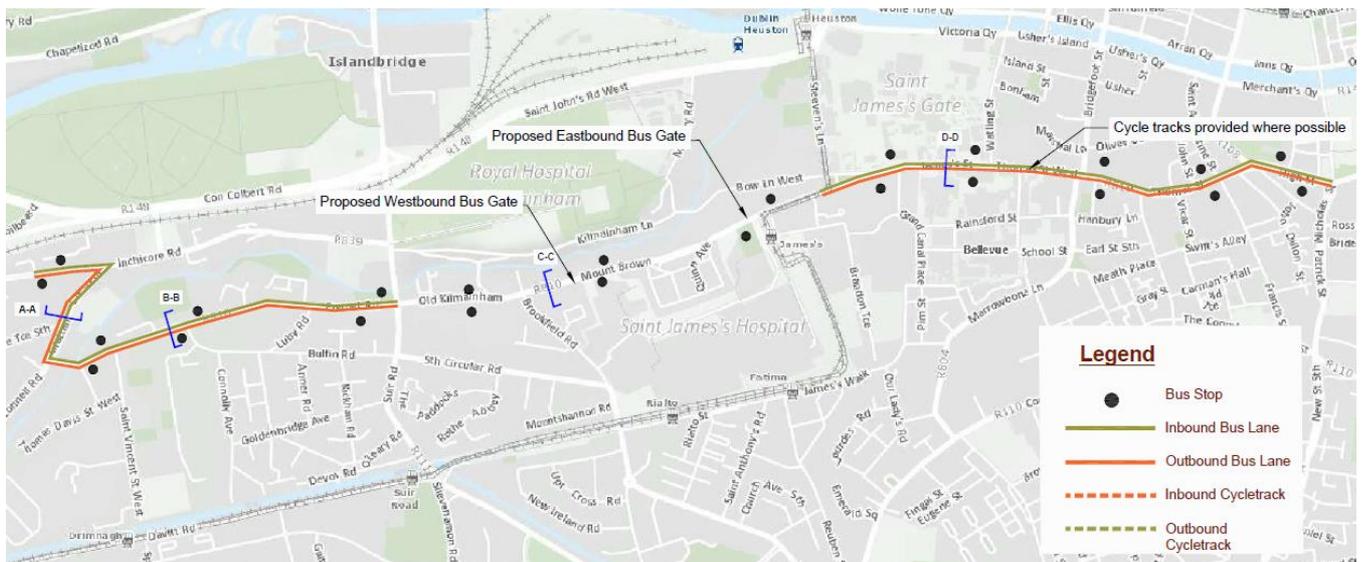


Figure 6.9: Route Option CCT10 Indicative Scheme Design

Inbound: Route Option CCT10 would start on Sarsfield Road at the junction with Con Colbert Road. From here, the route would continue in an easterly direction and subsequently turn right onto Grattan Crescent. At the junction of Grattan Crescent and Emmet Road, the route turns left onto Emmet Road and continues along Old Kilmainham, Mount Brown, James's Street and Thomas Street. At Christ Church, the route turns right onto High Street. At the junction with Nicholas Street and Winetavern Street the route will end and join the existing traffic management regime in the City Centre.

Outbound: The outbound route would follow the same route as the inbound route.

Bus Stops: A total of 12 bus stops would be provided in the inbound and outbound along this route option.

Continuous inbound and outbound bus lanes are provided along the majority of the route. A Bus Gate is proposed to provide bus priority between the South Circular Road and Bow Lane.

Route Option CCT10 will provide new and upgraded bus lanes and pedestrian facilities on Grattan Crescent in both directions between Sarsfield Road and Emmet Road. The existing traffic lane layout would be maintained throughout the section but would have reduced traffic lane widths of 3m, as shown in **Figure 6.10** below. To incorporate the new bus lanes, the carriageway would need to be widened and a number of mature trees would be removed. It is proposed to retain car parking along this section where possible.

Emmet Road is proposed to be reconfigured to provide a bus lane and general traffic lane in both directions. To facilitate this wider road configuration, some local on-street parking would be removed.

Currently, Old Kilmainham / Mount Brown has significant width restrictions that will not permit any substantial road widening or bus lane provision. To maintain bus priority on this section of the route, it is proposed to provide a Bus Gate.

Following concerns raised during the Non-Statutory Public Consultation regarding access to Mount Brown, Old Kilmainham, St James's Hospital and the local area, the EPR option was refined to reduce these impacts. The Bus Gate on Mount Brown was amended with the eastbound Bus Gate being relocated to the St James's Street entrance to the hospital campus. The westbound Bus Gate location was retained but the length was shortened. The operational hours were also refined with the eastbound Bus Gate operating in the AM and the westbound Bus Gate operating in the PM. This revised arrangement for the Bus Gate will allow access at all times to Ceant Fort, the Children's Hospital, Adult hospital, and local area from all directions.

Between the St. James's Hospital entrance and the junction with Bow Lane West, it is proposed to retain the existing road layout. From Bow Lane West to High Street, it is intended to provide continuous cycle tracks, a bus

lane where possible and a general traffic lane in both directions. Bus priority is provided via a combination of bus lanes, Signal Controlled Priority and by the reduction in general traffic in the area as a result of the Bus Gate in Mount Brown.

The route will join the prevailing City Centre traffic management regime at the junction with Nicholas Street and Winetavern Street.

Outbound: The outbound route would follow the same route as the inbound route.

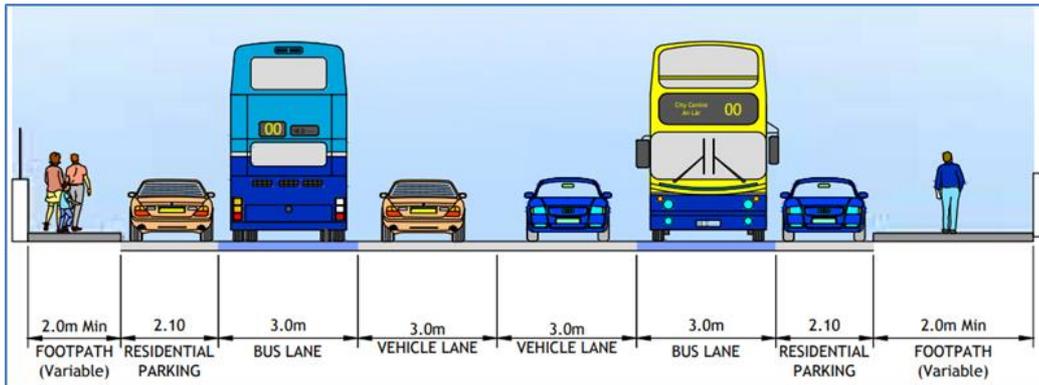


Figure 6.10: Route Option CCT10 Cross-Section A-A

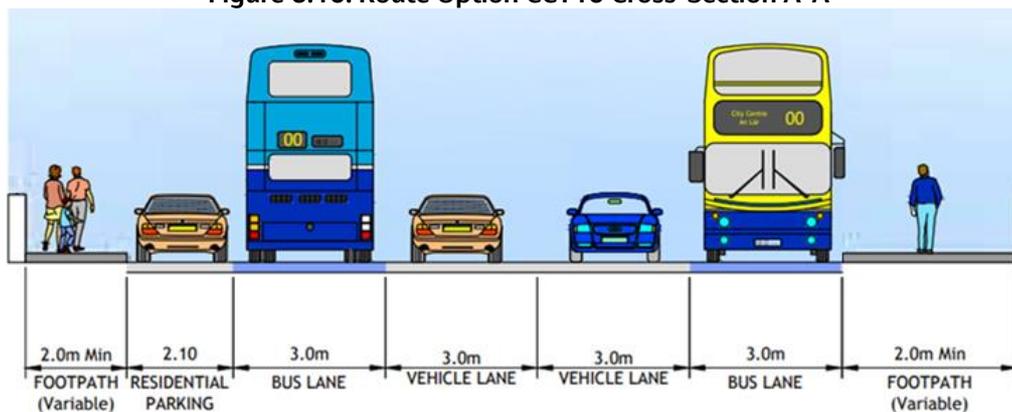


Figure 6.11: Section 3 Cross-Section B-B

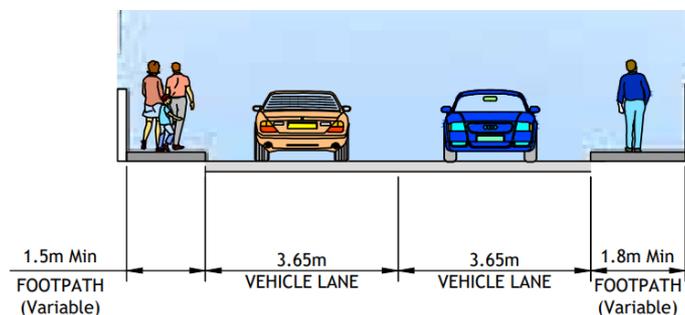


Figure 6.12: Section 3 Cross-Section C-C

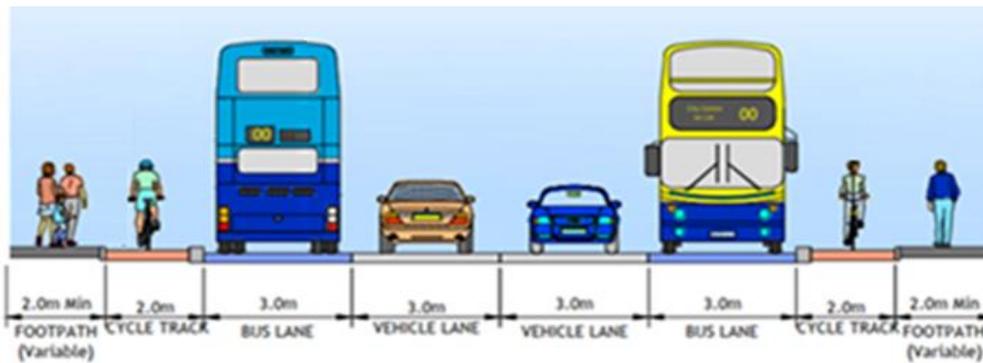


Figure 6.13: Section 3 Cross-Section D-D

6.3.2.3 Route Option CCT11

Figure 6.14 illustrates the indicative scheme design for Route Option CCT11 as well as the locations of indicative cross-sections.

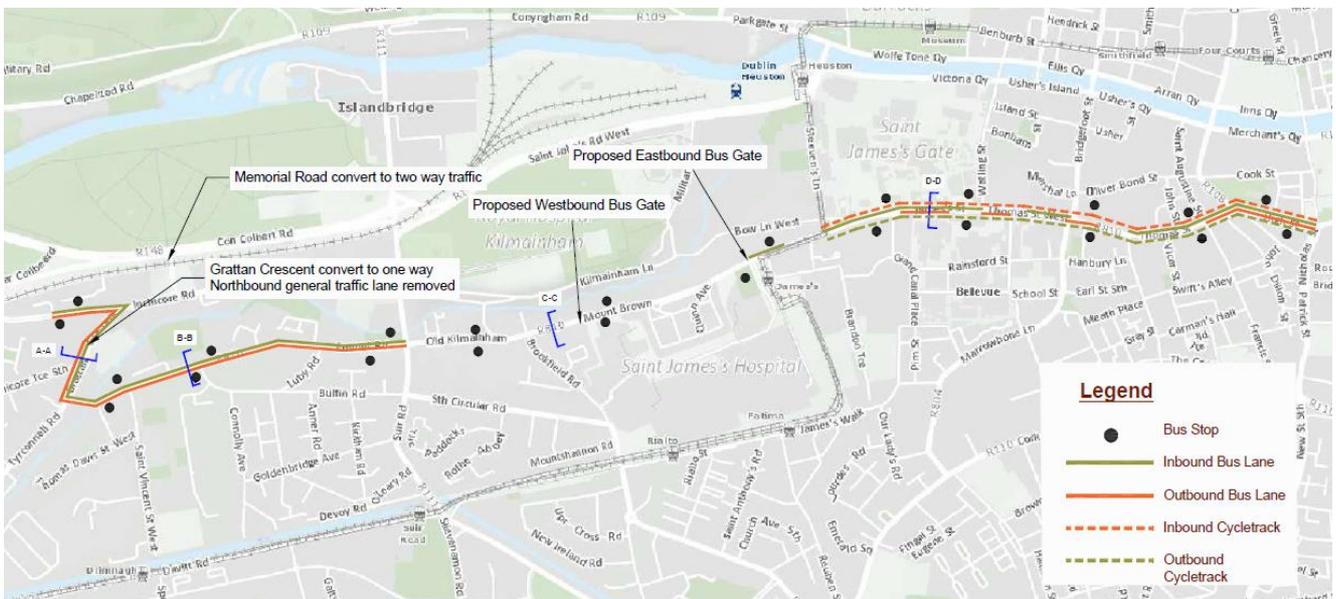


Figure 6.14: Route Option CCT11 Indicative Scheme Design

Route Option CCT11 proposes to provide new and upgraded bus lanes and pedestrian facilities on Grattan Crescent in both directions between the Sarsfield Road and Emmet Road junctions. To remove the need for carriageway widening and retain the existing mature trees, general traffic will be limited to a single lane along Grattan Crescent in a southbound direction between Sarsfield Road and Inchicore Terrace South. Some car parking will be retained along this section, and a new pedestrian crossing would be provided between Grattan Crescent Park and Inchicore National School.

To reduce the impact of the proposed traffic restrictions on local residents, Memorial Road will be converted to two-way for general traffic, the junction between Inchicore Road and Memorial Road will be modified to accommodate the traffic movements, and a new right-turn will be made available for cars accessing the Chapelizod Bypass from the western end of Sarsfield Road.

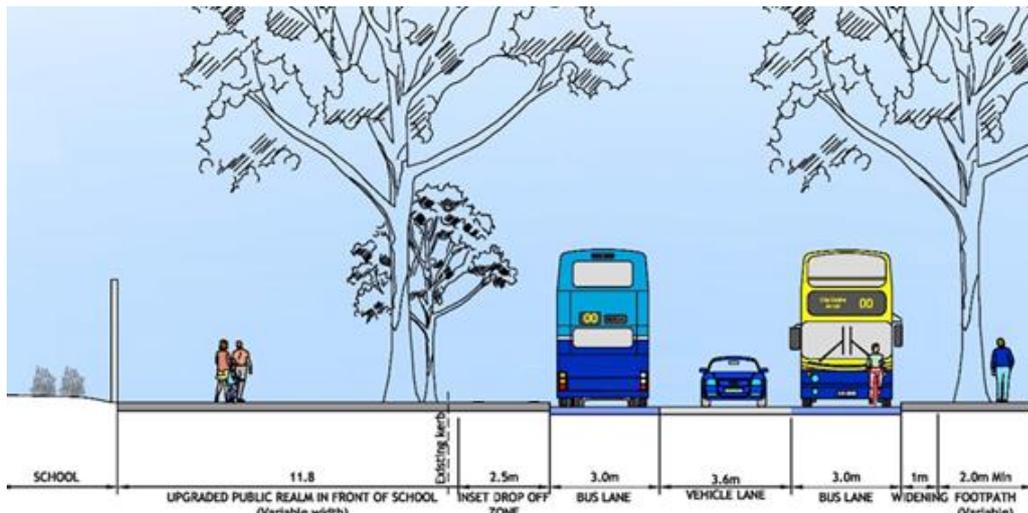


Figure 6.15: Route Option CCT11 Cross-Section A-A

Cross-sections B-B, C-C and D-D are as per Route Option CCT10.

6.3.2.4 Route Option CCT12

Figure 6.16 below illustrates the indicative scheme design for Route Option CCT12 as well as the locations of indicative cross-sections.

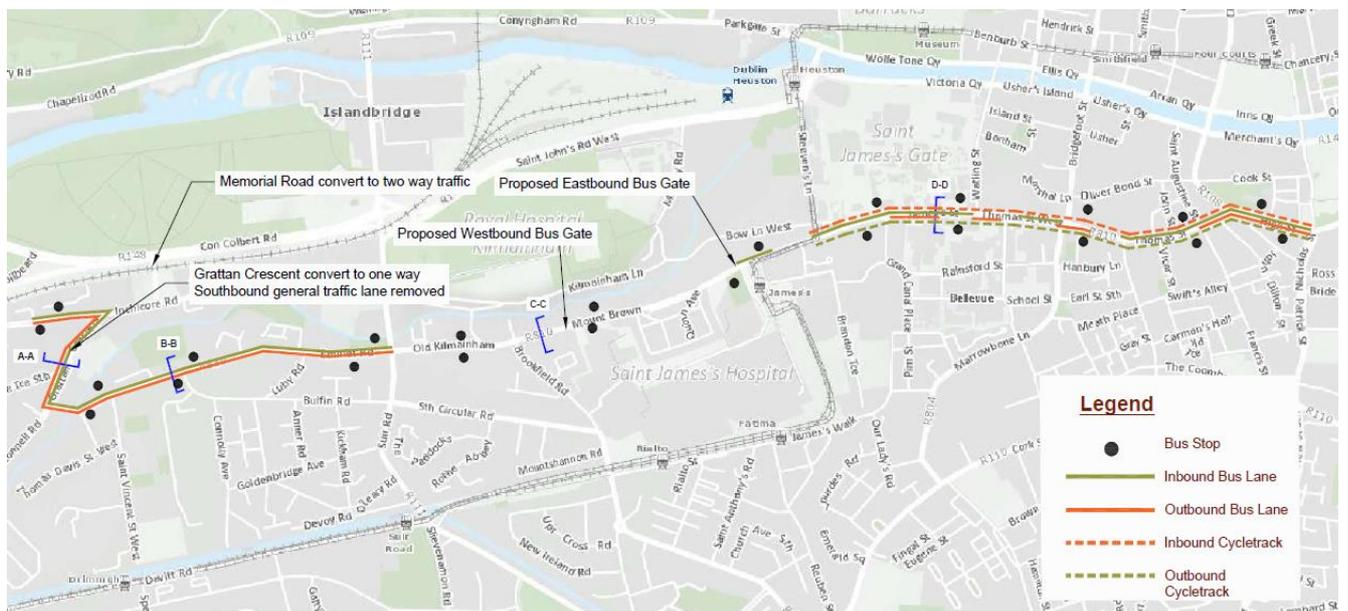


Figure 6.16: Route Option CCT12 Indicative Scheme Design

Route Option CCT12 proposes to provide new and upgraded bus lanes and pedestrian facilities on Grattan Crescent in both directions between the Sarsfield Road and Emmet Road junctions. To remove the need for carriageway widening, general traffic would be limited to a single lane along Grattan Crescent in a northbound direction between Sarsfield Road and Inchicore Terrace South. Some car parking will be retained along this section, and a new pedestrian crossing would be provided between Grattan Crescent Park and Inchicore National School.

To reduce the impact of the proposed traffic restrictions on local residents, Memorial Road will be converted to two-way for general traffic, the junction between Inchicore Road and Memorial Road will be modified to accommodate the traffic movements, and a new right-turn will be made available for cars accessing the Chapelizod Bypass from the western end of Sarsfield Road.

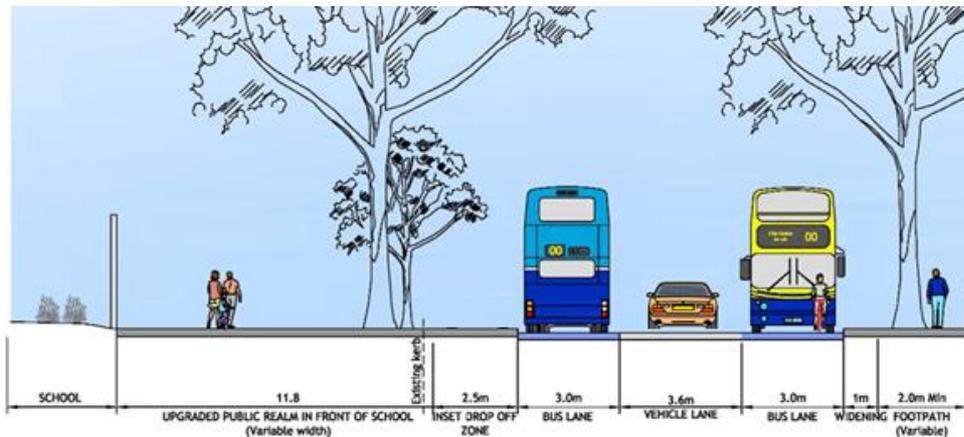


Figure 6.17: Route Option CCT12 Cross-Section A-A

Cross-sections B-B, C-C and D-D are as per Route Option CCT10.

6.3.3 Options Assessment

The Stage 2 Route Options Assessment – MCA summary table for this section is included in **Appendix E**. The relative ranking of the route options for each assessment sub-criteria is shown in **Table 6.3**.

Table 6.3: Section 3: Route Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	CCT10	CCT11	CCT12
Economy	Capital Cost			
	Transport Reliability and Quality of Service			
Integration	Land Use Integration			
	Residential, Employment and Educational Catchments			
	Transport Network Integration			
	Cycling Integration			
Accessibility and Social Inclusion	Key Trip Attractors			
	Deprived Geographic Areas			
Safety	Road Safety			
Environment	Archaeology, Architectural and Cultural Heritage			
	Flora and Fauna			

Assessment Criteria	Assessment Sub-Criteria	CCT10	CCT11	CCT12
	Soils and Geology	Yellow	Yellow	Yellow
	Hydrology	Yellow	Yellow	Yellow
	Landscape and Visual	Orange	Green	Green
	Air Quality	Yellow	Yellow	Yellow
	Noise and Vibration	Yellow	Yellow	Yellow
	Land Use Character	Orange	Green	Green

In terms of Economy, Route Option CCT10 is the most expensive due to the Capital Cost associated with the additional carriageway widening works proposed on Grattan Crescent, which are required to accommodate the proposed cross-section. Route Options CCT11 and CCT12 retain the majority of the existing carriageway along Grattan Crescent due to the reduced cross-section.

All route options ranked equally on Transport Reliability and Quality of Service, as they have the same levels of bus priority.

In terms of Integration, Route Option CCT12 scored lower as the proposed northbound one-way system for general traffic on Grattan Crescent did not tie-in as well with existing local traffic management arrangements in the area. CCT11 proposes a southbound one-way system for general traffic on Grattan Crescent which tie-in with the existing one-way system on Inchicore Road.

All options rank equally under Accessibility and Social Inclusion, as they all follow the same route.

In terms of Environment, Route Option CCT10 scored lower due to the impact as a result of the additional carriageway widening along Grattan Crescent, which required the removal of the existing mature trees on both sides of the road. This would have a negative impact in terms of Landscape and Visual and the Land Use Character of the area. Route Options CCT11 and CCT12 retain the existing trees along Grattan Crescent.

A summary of the assessment and relative ranking of route options against the five main assessment criteria is presented in **Table 6.4** below.

Table 6.4: Section 3: Final Summary of MCA

Assessment Criteria	CCT10	CCT11	CCT12
Economy	Orange	Green	Green
Integration	Green	Green	Orange
Accessibility and Social Inclusion	Yellow	Yellow	Yellow
Safety	Yellow	Yellow	Yellow
Environment	Orange	Green	Green

Based on the assessment undertaken, Route Option CCT11 offers more benefits over the other options. It performs well under the Economy, Integration and Environment criteria. Route Option CCT11 is the PRO for the Sarsfield Road to City Centre section for the following reasons:

- It provides full physical bus priority throughout this section, ensuring reliable bus journey times;
- It retains the existing mature trees along Grattan Crescent; and
- The proposed one-way system on Grattan Crescent ties-in well with the existing local traffic management in the area.

7. Preferred Route Option

7.1 Introduction

This chapter of the report presents and describes the PRO identified and the PRO scheme design for the Proposed scheme. The PRO scheme design drawings are included in **Appendix A** of this report.

7.2 Preferred Route Option Scheme Design Description

The Preferred Route Option between Fonthill Road and High Street is 9.2km as shown in **Figure 7.1** below. The Preferred Route Option will commence on the Fonthill Road at the tie in point with the new Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme. It continues along Fonthill Road where it will turn left onto Coldcut Road and continues to the bridge over the M50, subsequently turning right onto Ballyfermot Road. The Preferred Route Option will travel through Ballyfermot Village and continue onto Sarsfield Road, whilst city bound general traffic will be diverted via Le Fanu Road and Kylemore Road.

The Preferred Route Option will continue along Sarsfield Road, turning right at the junction with Con Colbert Road before turning right again onto Grattan Crescent. It will then turn left onto Emmet Road and will continue along Old Kilmainham, Mount Brown, James's Street and Thomas Street. At Cornmarket, it will turn right onto High Street. At the junction with Nicholas Street and Winetavern Street the Preferred Route Option will tie into the existing traffic management regime in the City Centre.

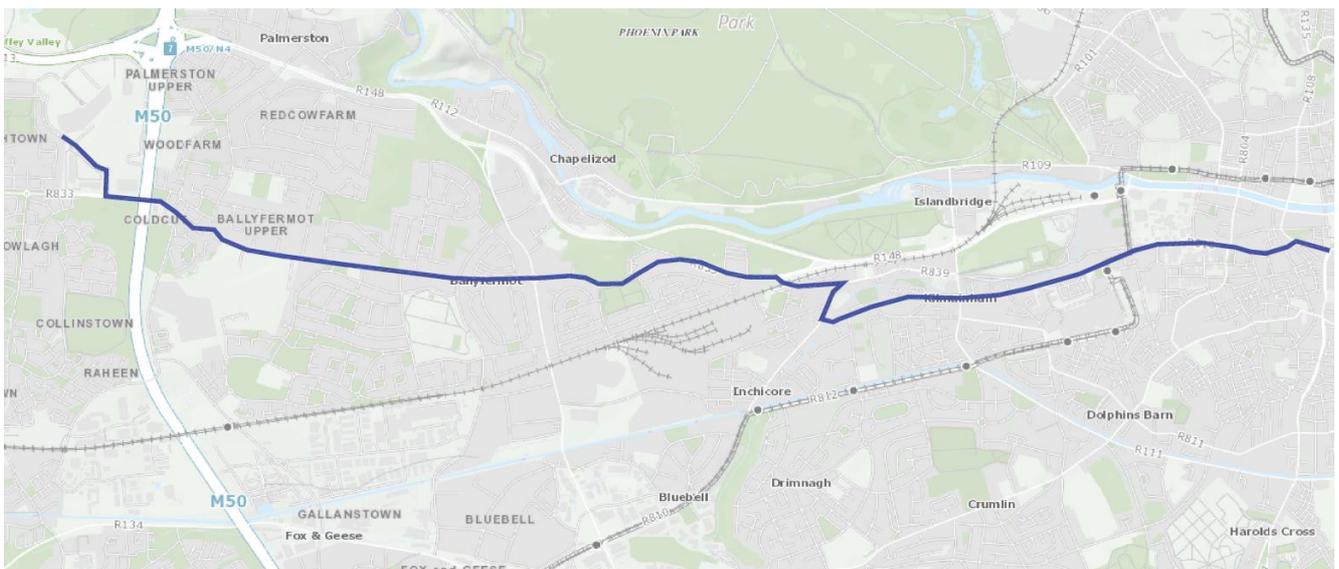


Figure 7.1: Liffey Valley to City Centre Core Bus Corridor Scheme

7.2.1 Section 1 – Liffey Valley to Le Fanu Road

The Preferred Route Option commences on Fonthill Road at the tie in with the Liffey Valley Shopping Centre Bus Interchange and Road Improvement Scheme. Between Fonthill Road and the junction with Coldcut Road, it is proposed to provide a continuous bus lane, cycle tracks and an improved footway in each direction. These proposals can be provided by widening into the central median, modifying the existing junctions and utilising existing green space adjacent to the road.

Two existing roundabouts on the Fonthill Road will be developed into signalised junctions and provide improved infrastructure for cyclists and pedestrians.

Either side of the M50 bridge on Coldcut Road, it is proposed to provide a continuous bus lane, cycle tracks and an improved footway in each direction. As Coldcut Road crosses over the M50, the carriageway width is restricted. To overcome this restriction and maintain bus priority over this section, it is proposed to provide Signal Controlled Priority on both sides of the bridge crossing. The traffic signals at this location will be sequenced to ensure bus priority. To accommodate these changes, it is proposed to encroach on the green space to the east of the existing structure.

It is proposed to modify the Cloverhill Road and Kennelsfort Road junctions to provide bus priority and improved facilities for cyclists and pedestrians. To accommodate these changes, it is proposed to utilise limited land take along the green space adjacent to Palmers Walk, Palmers Court and Palmers Drive area.

On Ballyfermot Road, it is proposed to provide a bus lane, general traffic lane, segregated cycle track and footway in both directions. To accommodate this improved infrastructure, it will be necessary to acquire limited land take at the following locations:

- Cherry Orchard Industrial Estate;
- Cherry Orchard Hospital;
- Cherry Orchard Filling Station; and
- At the junction with Le Fanu Road.

It is also proposed to amalgamate the main Ballyfermot Road and the access roads which run parallel. This would provide sufficient space to improve the existing public transport infrastructure. Public Realm works, additional tree planting and provision for parallel parking are proposed where the access roads will be removed.

7.2.2 Section 2 – Le Fanu Road to Sarsfield Road

At the Le Fanu Road junction, it is proposed to divert city bound traffic onto Le Fanu Road. The section of Ballyfermot Road between Le Fanu Road and Kylemore Junction will be restricted to one bus lane in both directions and one outbound general traffic lane. Local access on Ballyfermot Road between La Fanu Road and Colepark Road will be maintained. City bound general traffic will be redirected along Le Fanu Road and Kylemore Road where it will then re-join the corridor at Ballyfermot Road. Segregated cycle tracks and improved footways in both directions will be provided on this section of Ballyfermot Road and on Kylemore Road.

It is proposed to upgrade the existing roundabout at Kylemore Road / Ballyfermot Road to a signalised junction. Between Kylemore Road and Markievicz Park, it is intended to provide a continuous bus lane with a single general traffic lane in each direction. Segregated cycle tracks and footways will be provided along this section in each direction. To accommodate this, some areas of land acquisition will be required at the following locations:

- Limited green space from St. Raphael's and St. Gabriel's Primary School;
- Ballyfermot Resource Centre; and
- Limited green space from the former De La Salle National School / Mount La Salle.

To reduce the impact on Markievicz Park and the adjacent residential properties, it is proposed to provide Signal Controlled Priority for citybound buses with the traffic signals sequenced to ensure full bus priority. The citybound bus lane would then be reintroduced at St. Laurence's Road. To accommodate the revised arrangements, it is intended to close the junction of O'Hogan Road and Ballyfermot Road as part of the implementation of the Signal Controlled Priority on Ballyfermot Road. O'Hogan Road can still be accessed via Garryowen Road and Decies Road. Segregated cycle tracks and footways will be provided through this section. The proposals will require land take at the following locations:

- Limited land take at Markievicz Park;
- Boundary lands at the Steeples Estate;

- Private frontages on the northern side of Ballyfermot Road between O'Hogan Road and St. Laurence's Road;
- Boundary lands on Longmeadows Pitch and Putt / Longmeadow Park; and
- Private frontages at Ruby's Pub and the adjacent commercial units.

Between Sarsfield Road and Chapelizod Bypass it is proposed to extend the cycle track to tie into the cycle infrastructure that forms part of the Lucan to City Centre CBC Scheme. If the cycling infrastructure proposed as part of the Lucan to City Centre CBC Scheme is not in place, cyclists have an alternative route to the City Centre via Sarsfield Road, Inchicore Road, Kilmainham Lane and Bow Lane where they will re-join the Proposed Scheme.

7.2.3 Section 3 – Sarsfield Road to City Centre

It is proposed to change Memorial Road from one way to two way for general traffic. Eastbound traffic will also be able to turn right from the Chapelizod Bypass to Memorial Road. It is intended to provide a cycle track in both directions on Memorial Road. On Inchicore Road, between Memorial Road and Grattan Crescent, it is proposed to retain the existing lane configuration. The junction of Grattan Crescent / Sarsfield Road / Inchicore Road will be upgraded to provide improved walking and cycling facilities. The improved cycle facilities at this junction also facilitates the primary cycle route 7A which travels along Sarsfield Road and Inchicore Road and provides an alternative quiet street cycle route to the city centre before re-joining the corridor at Bow Lane.

On Grattan Crescent, it is proposed to provide bus lanes in both directions and one general traffic lane in a southbound direction. Northbound traffic will be permitted up to the junction with the C oras Iompair  ireann (CI ) Inchicore Works to maintain local access. The existing footway will be widened, and a new crossing will be provided between Grattan Crescent Park and Inchicore National School and the existing mature trees will be retained. Several of the car parking spaces adjacent to the entrance to Grattan Park will be retained.

At the junction of Emmet Road and Tyrconnell Road, general traffic turning right from Emmet Road to Grattan Crescent will be for buses and access to the CI  Inchicore Works only.

Signal Controlled Priority is provided at the junction of St. Vincent's Street West and Emmet Road to provide bus priority for westbound buses travelling to Grattan Crescent.

Between St. Vincent's Street West and South Circular Road, Emmet Road is proposed to be reconfigured to provide a bus lane and general traffic lane in both directions. To facilitate this wider road configuration some local on-street parking will need to be removed, but the focus has been to retain as much of the existing parking as possible.

To maintain bus priority on Old Kilmainham / Mount Brown, it is proposed to provide a Bus Gate. Following concerns raised during the Non-Statutory Public Consultation regarding access to Mount Brown, Old Kilmainham, St James's Hospital and the local area, the design was refined to reduce these impacts. The Bus Gate was amended with the eastbound Bus Gate being relocated to the St James's Street entrance to the hospital campus. The westbound Bus Gate location was retained but the length was shortened. The operational hours were also refined with the eastbound Bus Gate operating in the AM and the westbound Bus Gate operating in the PM. This revised arrangement for the Bus Gate will allow access at all times to Ceannt Fort, the Children's Hospital, Adult hospital, and local area from all directions.

Between the St. James' Adult Hospital Entrance and the Junction with Bow Lane West, it is proposed to retain the existing road layout. From Bow Lane West to High Street, it is intended to provide continuous cycle tracks, a bus lane where possible and general traffic lane in both directions. The existing footways along this section are being retained. Bus priority is provided via a combinations of bus lanes, Signal Controlled Priority and by the reduction in general traffic in the area as a result of the Bus Gate in Mount Brown.

A quiet street cycle route is proposed for westbound cyclists to avoid the Luas tracks via Echlin Street to connect James's Hospital and James's Street.

At the Cornmarket junction, the priority has been changed from High Street / Thomas Street to High Street / Bridge Street Upper. The junction has also been refined to remove the existing islands and provide improved

walking and cycling facilities. The Preferred Route Option will join the prevailing City Centre traffic management regime at the junction with Nicholas Street and Winetavern Street.

7.3 Summary

7.3.1 Infrastructure Provision

The Preferred Route is approximately 9.2 km long from end to end. The PRO scheme design drawings show the extent of the infrastructure proposed to deliver the Proposed Scheme. The bullet points below present the length of existing and proposed bus and cycle priority as a percentage of the overall route length.

- 21% Existing bus priority (outbound) (21% physical)
- 25% Existing bus priority (citybound) (25% physical)
- 100% Proposed bus priority (outbound) (71% physical, 29% virtual)
- 100% Proposed bus priority (citybound) (64% physical, 36% virtual)
- 37% Existing cycle priority (outbound) (28% advisory, 9% segregated)
- 46% Existing cycle priority (citybound) (31% advisory, 15% segregated)
- 75% Proposed cycle priority (outbound) (75% segregated)
- 70% Proposed cycle priority (citybound) (70% segregated)

Virtual bus priority measures are proposed at the following locations:

- Signal controlled priority over the M50 Overbridge on Coldcut Road (citybound and outbound) – Approximately 150m length inbound and approximately 160m outbound;
- One-way general traffic on Ballyfermot Road from Kylemore Road to Colepark Road, providing space for dedicated bus priority citybound and outbound (outbound) - Approximately 300m length;
- Signal controlled priority on Ballyfermot Road from Markiewicz Park to St. Laurence Road (citybound) – Approximately 370m length;
- One-way general traffic on Sarsfield Road East from Grattan Crescent to Woodfield Cottages, providing bus priority outbound Sarsfield Road East (citybound) - Approximately 80m length;
- One-way general traffic on Grattan Crescent from Sarsfield Road to Inchicore Terrace South, providing space for dedicated bus priority citybound and outbound (citybound) - Approximately 160m length;
- Signal controlled priority on Grattan Crescent allowing virtual priority between Grattan Crescent and Spa Road along Emmet Road (citybound) – Approximately 110m length;
- Signal controlled priority on Emmet Road allowing virtual priority between St. Vincent's Street West and Spa Road (outbound) – Approximately 110m length;
- Signal controlled priority at the junction of Emmet Road and South Circular Road allowing virtual priority along Old Kilmainham Road (citybound) – Approximately 260m length;
- Bus gate on Mount Brown providing virtual priority between the National Children's Hospital and South Circular Road between the hours of 16:00 to 20:00, Monday to Sunday (outbound) – Approximately 490m length;
- Bus gate on James Street providing virtual priority between St. James's Hospital and Bow Lane West between the hours of 6:00 to 10:00, Monday to Sunday (citybound) – Approximately 250m length;

- Signal controlled priority on James Street allowing virtual priority between Echlin Street and Bow Lane West (citybound) – Approximately 110m length;
- Signal controlled priority on James Street allowing virtual priority between Watling Street and Echlin Street (outbound) – Approximately 110m length;
- Signal controlled priority on Thomas Street allowing virtual priority between Watling Street and Bridgefoot Street (citybound) – Approximately 150m length;
- Signal controlled priority on Thomas Street allowing virtual priority between Bridgefoot Street and Crane Street (outbound) – Approximately 170m length;
- Signal controlled priority on Thomas Street allowing virtual priority between Bridgefoot Street and Meath Street (citybound) – Approximately 170m length;
- Signal controlled priority on Thomas Street allowing virtual priority between Francis Street and Meath Street (outbound) – Approximately 220m length.

7.3.2 Main Scheme Changes

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

- The starting point of the scheme was amended to tie into the Liffey Valley Bus Interchange and Road Improvement Scheme.
- At the Le Fanu Road Junction, it is proposed to divert citybound traffic via Le Fanu Road and Kylemore Road. The section of Ballyfermot Road between Le Fanu Road and Kylemore Junction will be restricted to one bus lane in each direction and one outbound general traffic lane. Local access on Ballyfermot Road between La Fanu Road and Colepark Road is maintained.
- The design along Grattan Crescent was amended following concerns raised by the public in relation to the impact on the mature trees. This design modification resulted in the retention of the mature trees, while also providing bus priority along this section, improved footways and a new pedestrian crossing;
- The design along Ballyfermot Road between Markievicz Park and St Laurence's Road was amended to reduce land take following concerns raised by the public in relation to the impact on the park boundary, existing trees and residential properties;
- The design of Landen Road junction was refined to remove land take from the residential properties. A short section of westbound bus lane was removed and signal controlled priority was used to provide bus priority;
- Following concerns raised during the Non-Statutory Public Consultation regarding access to Mount Brown, Old Kilmainham, St James's Hospital and the local area, the design was refined to reduce these impacts. The Bus Gate on Mount Brown was amended with the eastbound Bus Gate being relocated to the St James's Street entrance to the hospital campus. The westbound Bus Gate location was retained but the length was shortened. The operational hours were also refined with the eastbound Bus Gate operating in the AM and the westbound Bus Gate operating in the PM. This revised arrangement for the Bus Gate will allow access at all times to Ceannt Fort, the Children's Hospital, Adult hospital, and local area from all directions;
- Following further engagement with local community in the Mount Brown and Brookfield Road area, the proposed reversal of the existing one-way system on Brookfield Road will not be progressed and the existing one-way system will remain unchanged. This will reduce the amount of traffic that would travel along Brookfield Road;

- The design along James's Street and Thomas Street was amended following concerns raised by the public in relation to the stop start nature of the cycling provision. The design was refined to provide continuous cycle tracks on both sides of the road along this section;
- A quiet street cycle route is proposed for westbound cyclists to avoid the Luas tracks via Echlin Street to connect James's Hospital and James's Street;
- The junction layouts were modified over the course of the design process to provide more protection for cyclists along the length of the Proposed Scheme, including the addition of separately signalised stages for cyclists at large junctions such as Kylemore Road and Fonthill Road;
- The layout of all bus stops along the route have been enhanced to the latest design guidance;
- Some bus stop locations have been optimised to allow better connectivity for bus passengers; and
- Cycle facilities have been updated to the latest design guidance.

7.4 Scheme Benefits

7.4.1 Bus Journey Times

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

The facilitation of bus priority along the Liffey Valley to City Centre, through the delivery of dedicated bus lanes, bus gates and signal-controlled bus priority, is envisaged to reduce bus journey times. Reliability is envisaged to be improved, by largely removing interaction between bus traffic and general traffic.

7.4.2 Walking and Cycling

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

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

The Proposed Scheme will deliver substantial elements of the GDA Cycle Network Plan as outlined in **Section 4.5**, as well as linking with other proposed cycling schemes including cycle routes 7, 7A, 7B, SO1, 8C1, SO4, NO6, SO2, contributing towards the development of a comprehensive cycling network for Dublin.

The Proposed Scheme would also provide improved facilities for pedestrians along the route. Improved crossing facilities would be provided both at junctions and in mid-block locations.

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 for pedestrians.