12

Rathfarnham
to City Centre

Draft Preferred Route Options Report

November 2020

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Glossary of Technical Terms

Signal Controlled Bus Priority - Signal Controlled Bus 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

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.

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.

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

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 bus route. Such offline options may include directing cyclists along streets with minimal general traffic other than car users who live on the street. They are called Quiet Streets due to the low amount of general traffic and are deemed suitable for cyclists sharing the roadway with the general traffic without the need to construct segregated cycle tracks or painted cycle lanes. The Quiet Street Treatment would involve appropriate advisory signage for both the general road users and cyclists.

Protected Junctions - Refers to junctions, which provide physical kerb buildouts to protect cyclists through the junction. Due to the inherently complex nature of mixed mode movements at junctions, the provision for cyclists at junctions is a critical factor in managing conflict and providing safe junctions for all road users.

As such, this is the preferred layout for signalised junctions as part of the CBC Infrastructure Works.

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.

Executive Summary

Introduction

The purpose of this report is to present an overview of the draft Preferred Route Option (PRO) for the 'Rathfarnham to City Centre' Core Bus Corridor (CBC) as well as describing the options assessed, and changes made to the scheme since the public consultation in early 2019.

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

The objectives are to:

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

Scheme Overview & Assessment Process

The Rathfarnham to City Centre CBC commences on the R821 Grange Road at the junction with Nutgrove Avenue, and is routed along the R821 Grange Road, the R115 Rathfarnham Road, the R114 Rathfarnham Road, Terenure Road East, Rathgar Road, Rathmines Road Lower, Richmond Street South, Camden Street Upper and Lower and Wexford Street as far as the junction with the R110 at Kevin Street Lower and Cuffe Street where priority bus lanes end. From Cuffe Street to Dame Street along Redmonds Hill, Aungier Street, and South Great George's Street the route will involve a traffic lane and a cycle track in both directions where it will join the prevailing traffic management regime in the city centre.

Where substantial revisions 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. This assessment has also been carried out in the context of more detailed information now available, including topographical survey.

The following list highlights the material scheme changes between the published EPR Option and the draft PRO.

- In lieu of the EPR Option proposal to provide an alternative cycle facility connecting to Brookvale Downs, the current proposal includes an alternative cycle route consisting of quiet street treatment to St. Mary's Avenue, a new shared pedestrian and cyclist track adjacent to the Owendoher river, connecting to the proposed Dodder Greenway, a new structure across the Dodder river connecting to a quiet street treatment at Rathdown Park, linking to the CBC at the junction of Rathdown Park and Rathfarnham Road.
- Land-take on Rathfarnham road between Brookvale Road and Rathfarnham Park split between both sides of the road and road level raised to avoid non-compliant driveway gradients.
- Signal controlled bus priority proposed between Rathdown Park and Bushy Park Road, reducing land-take along this section.
- Signal controlled bus priority proposed through Terenure Cross to minimise impacts on parking and loading, which will also allow urban realm improvements.
- Alternative cycle facilities proposed on Terenure Road North and Harold's Cross Road connecting to the Kimmage to City Centre CBC at Harold's Cross. Additional alternative cycle facilities proposed on Bushy Park Road, Wasdale Park, Wasdale Grove, Victoria Road, Zion Road and Orwell Road. No cycle facilities proposed on Terenure Road East, and 1.5m cycle tracks proposed on Rathgar Road. This will reduce the impact on trees and properties on Terenure Road East whilst maintaining a high level of service for cyclists travelling to and from the city centre.
- Signal controlled bus priority proposed through Rathgar Village to minimise impacts on parking and loading, which will also allow urban realm improvements.
- One-way inbound traffic regime proposed on Rathgar Road, removing the need for land-take on this section.
- Two general traffic lanes, and 2m cycle track in each direction proposed between Castlewood Avenue and Grove Road with a Bus Gate between Richmond Hill and Lissenfield. This will allow for wider footpaths and urban realm improvements through the village.

- One-way traffic regime and 1.5m cycle track in each direction proposed between Charlotte Way and Cuffe Street. This will enhance the cycle facilities along this section of the scheme while maintaining commercial loading where feasible.

1 Introduction and Background

1.1 Introduction

The BusConnects Dublin - Core Bus Corridors Infrastructure Works (herein after called the CBC Infrastructure Works) involves the development of continuous bus priority infrastructure and improved pedestrian & cycling facilities on sixteen radial core corridors in the Greater Dublin Area, across the local authority jurisdictions of Dublin City Council, South Dublin County Council, Dún Laoghaire-Rathdown County Council, Fingal County Council, and Wicklow County Council. Overall the CBC Infrastructure Works encompasses the delivery of approximately 230km of dedicated bus lanes and 200kms of cycle tracks along 16 of the busiest corridors in Dublin.

The Transport Strategy for the Greater Dublin Area 2016 – 2035 sets out a network of the bus corridors forming the "Core Bus Network" for the Dublin region. Sixteen indicative radial core bus corridors were initially identified for redevelopment. This is shown in **Figure 1.1** below (extract from Transport Strategy for the Greater Dublin Area 2016-2035).

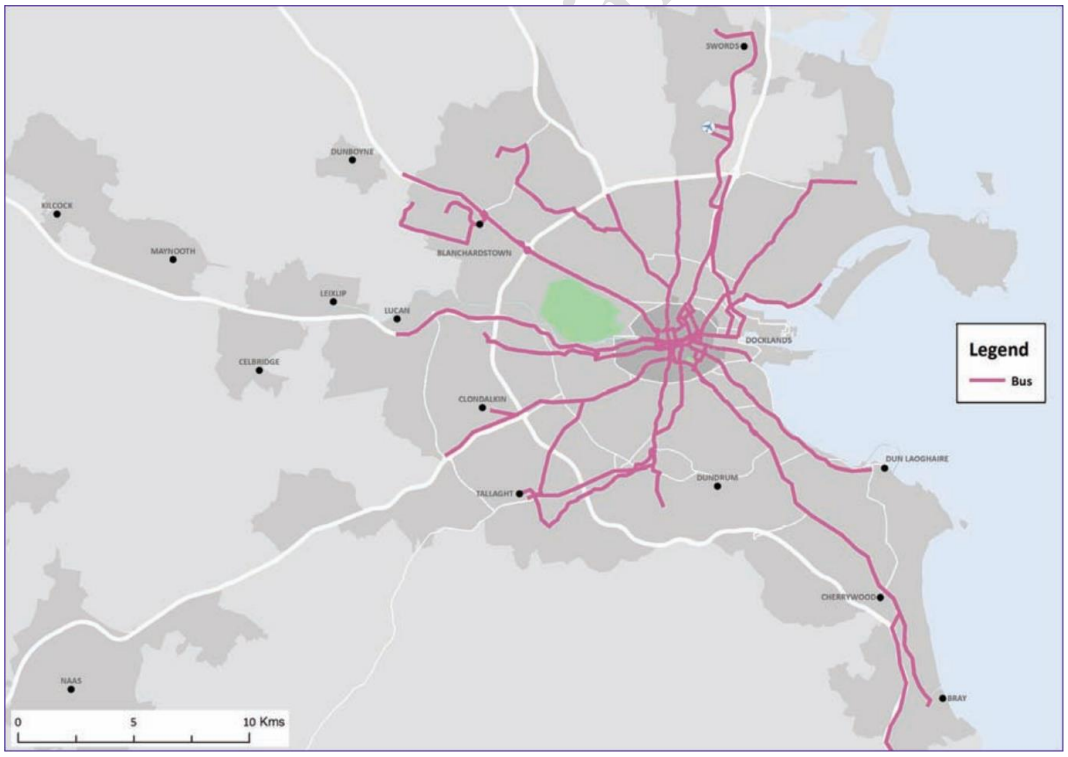


Figure 1.1: 2035 Core Bus Network – Radial Corridors

These corridors had dedicated bus lanes along only less than one third of their lengths which meant that for most of the journey, buses and cyclists were competing for space with general traffic and were negatively affected by the increasing levels of congestion. This resulted in delayed buses and unreliable journey times for passengers. Following the completion of feasibility and options

studies, the sixteen radial corridors are being progressed, as the following 16 Core Bus Corridors:

- Clongriffin to City Centre Core Bus Corridor;
- Swords to City Centre Core Bus Corridor;
- Ballymun to City Centre Core Bus Corridor;
- Finglas to Phibsborough Core Bus Corridor;
- Blanchardstown to City Centre Core Bus Corridor;
- Lucan to City Centre Core Bus Corridor;
- Liffey Valley to City Centre Core Bus Corridor;
- Clondalkin to Drimnagh Core Bus Corridor;
- Greenhills to City Centre Core Bus Corridor;
- Tallaght to Terenure Core Bus Corridor;
- Kimmage to City Centre Core Bus Corridor;
- Rathfarnham to City Centre Core Bus Corridor;
- Bray to City Centre Core Bus Corridor;
- UCD Ballsbridge to City Centre Core Bus Corridor;
- Blackrock to Merrion Core Bus Corridor; and
- Ringsend to City Centre Core Bus Corridor

1.2 Background

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

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.

In June 2018 the National Transport Authority (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 'Rathfarnham to City Centre CBC' is identified in this document as forming part of the radial Core Bus Network, designated as 'Route 12'. The BusConnects radial CBC network is shown in **Figure 1.2**.

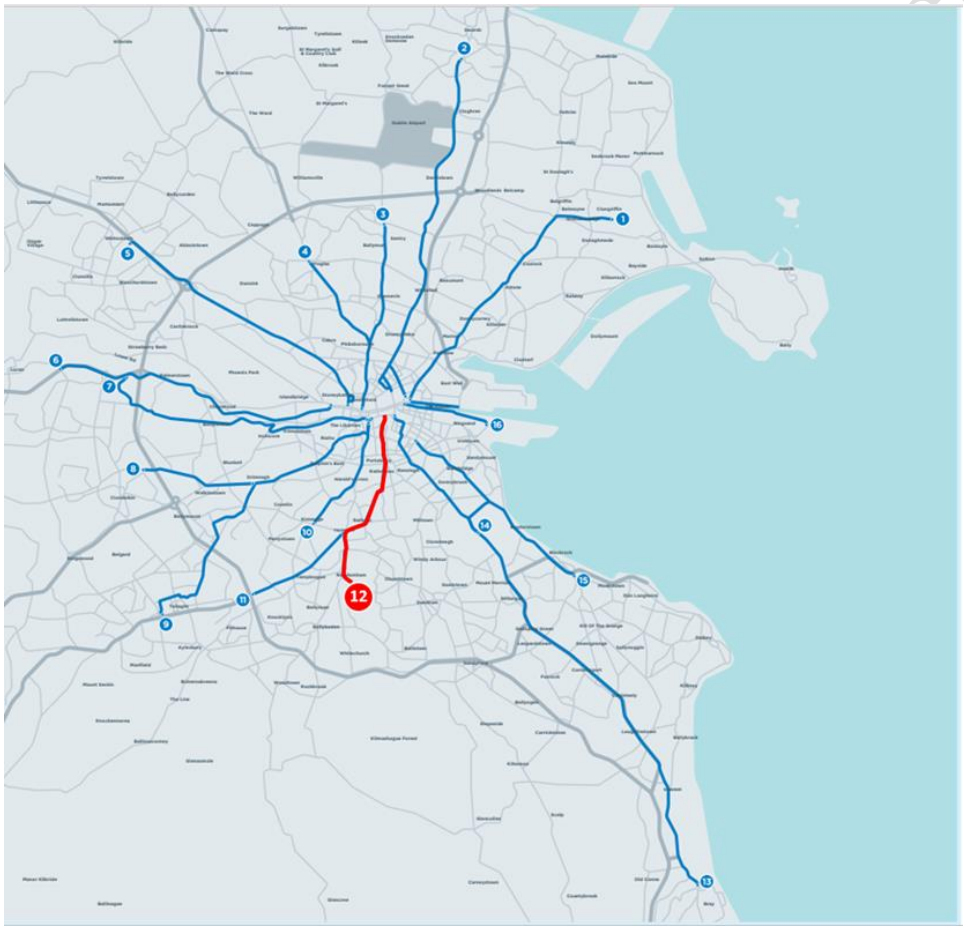


Figure 1.2: BusConnects Radial CBC Network (the CBC highlighted)

Following this, a public consultation for the sixteen radial CBCs took place on a phased basis from November 2018 until May 2019. As part of this process, the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' (included in Appendix E) was published, which identified feasible options along the corridor, assessed these options and arrived at an EPR Option. Submissions were invited from the public to provide comment on the EPR Option proposals and to inform subsequent design stages. A second round of public consultation commenced on 4th March 2020 and ran until the 17th

of April 2020 when submissions were once again invited from the public on the draft PRO.

A comprehensive review of feedback received during both public consultations has been undertaken. Based on this review, as well as availability of new information (e.g. topographical survey), alternative options have been considered in a number of areas along the Rathfarnham to City Centre route which seek to address issues of concern to the public, as well as general refinements to the scheme to reduce the overall impact of the proposals, while still achieving the objectives of the scheme.

This report presents a summary of the issues raised in the public consultations and details the alternative options considered, and assessment of same, in order to identify a draft Preferred Route Option (PRO).

1.3 Approach for this Report

This 'Draft Preferred Route Option Report' has been prepared for the Rathfarnham to City Centre CBC (the CBC), which will build on the previous 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report'. This report, and its associated appendices as published, is included in Appendix E.

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

- Updated topographical survey information;
- Output from engagement and consultation activities on the EPR Option and draft Preferred Route Option Proposals;
- Clarifications to the previous assessment in the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report';
- Further design development and options assessment; and
- Change in the extent of the scheme.

1.4 Report Structure

The structure for the remainder of this report is set out as follows:

- Chapter 2: Planning and Policy Context – This chapter outlines the general background information to the CBC Infrastructure Works. It also outlines the policy context in which the CBC was developed and presents the concept of the CBC network as outlined in the Transport Strategy for the Greater Dublin Area 2016-2035 (NTA 2015) and the CBC Infrastructure Works.
- Chapter 3: Background and Public Consultation – This chapter outlines the summary of the non-statutory public consultation process.
- Chapter 4: Study Area – In this chapter, the study area for the CBC is detailed. The integration of the scheme with existing and planned transport networks is considered, along with considerations of the scheme for other road users.
- Chapter 5: Review of the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' – This chapter is a summary of the options assessment that was previously carried out in each section of the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report'. An assessment has been made on the validity of the previous options assessment in the context of additional information collected, including through more detailed survey work undertaken and feedback from the public consultation process. Issues arising and material changes resulting from the design development are detailed.
- Chapter 6: Option Assessment – This chapter subsequently updates the previous options assessment work undertaken in light of the additional considerations set out in Chapter 5.
- Chapter 7: Draft Preferred Route Option – This chapter gives the overall conclusions of the options assessment process and describes the draft PRO proposal.
- Chapter 8: Next Steps – This chapter details the "next steps" in the delivery of the CBC.

2 Planning and Policy Context

This chapter summarises a review of transport and planning policy which is relevant to the route selection process for the CBC.

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

The CBC Infrastructure Works has evolved from and is a key component of the 'Transport Strategy for the Greater Dublin Area 2016-2035' (the 'GDA Transport Strategy'), the purpose of which is *"to contribute to the economic, social and cultural progress of the Greater Dublin Area by providing for the efficient, effective and sustainable movement of people and goods"*.

The strategy identifies a "Core Bus Network", representing the most important bus routes within the Greater Dublin Area, generally characterised by high passenger volumes, frequent services and significant trip attractors along the routes. The identified core network comprises sixteen radial bus corridors, three orbital bus corridors and six regional bus corridors. This core bus network is shown in **Figure 2.1**.

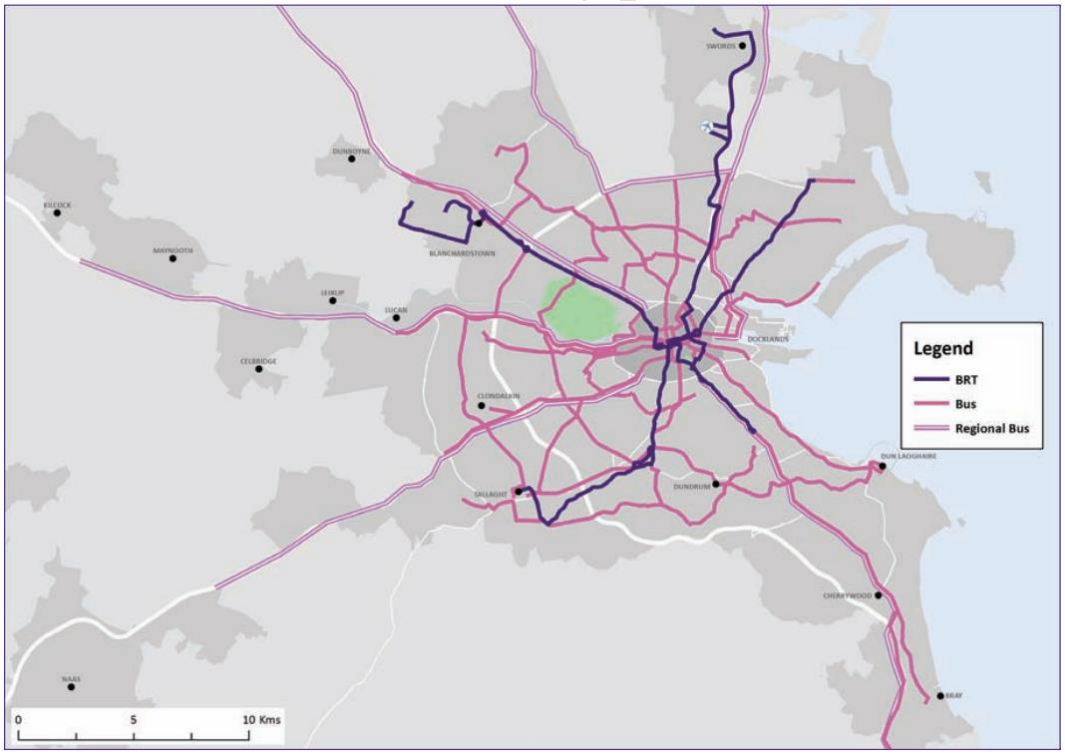


Figure 2.1: GDA Transport Strategy Overall Core Bus Network

The GDA Transport Strategy states that it is intended to provide continuous bus priority, as far as is practicable, along the core bus routes.

This will result in 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.

The Rathfarnham to City Centre CBC (the CBC) is identified as an enabling element as part of the CBC Infrastructure Works.

2.2 Greater Dublin Area Cycle Network Plan

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

There are a number of primary (Route 10) and secondary (Routes S04 and 10) cycle routes identified along the CBC. During the earlier assessment process which identified the CBC EPR Option, 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

Dublin City Council Development Plan (2016 – 2022)

The current Development Plan for Dublin City Council (DCC) came into effect on 21st October 2016. The DCC Development Plan recognises the challenge that Transport has in making an important contribution to make towards achieving a sustainable city. These key challenges for the City are outlined as follows:

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

- *Increasing significantly the existing mode share for active modes, i.e. walking and cycling, and supporting the forthcoming National Policy Framework for Alternative Fuels Infrastructure.*

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

Table 2.1: DCC Development Plan Policies for Modal Change and Active Travel aligned with the proposed development

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

Table 2.2: DCC Development Plan Policies for Public Transport aligned with the proposed development

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

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 County Development Plan which support the proposed development:

Table 2.3: SDCC Development Plan Overarching Objectives aligned with the proposed development

Transport and Mobility 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.

The Development Plan outlines the policy of SDCC 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.

Table 2.4: SDCC Development Plan Objectives for Public Transport aligned with the proposed development

Transport and Mobility 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 development

Transport and Mobility 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.

2.4 The Aim of the Bus Connects Core Bus Corridor Infrastructure Works

The aim of the CBC Infrastructure Works is to provide enhanced walking, cycling and bus infrastructure on key access corridors in the Dublin region, which will enable and deliver efficient, safe, and integrated sustainable transport movement along these corridors. These works are fundamental to addressing the congestion issues in the Dublin region with the population due to grow by 25% by 2040, bringing it to almost 1.55m.

Across Dublin, 67% of public transport journeys each day are made by bus, carrying three and four times the number of passengers that travel on the Luas or Dart and commuter rail. The popularity of cycling to work has also increased in popularity, up by 43% since 2011. Through the development of continuous bus priority and segregated cycle tracks the CBC can meet the growing demand for fast, reliable, punctual and convenient bus journeys in and out of the city centre, and safe cycling facilities for this growing numbers of cyclists.

2.5 The Core Bus Corridor Objectives

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 Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report and Emerging Preferred Route

In early 2016, the NTA initiated plans to develop the network of CBCs identified in the GDA Transport Strategy. As part of this body of work, the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' (December 2017) was prepared which identified feasible options along the corridor, assessed these options and arrived at an EPR Option. These proposals formed the basis for the first Non-Statutory Public Consultation on the CBC.

3.2 First Non-Statutory Public Consultation – Emerging Preferred Route

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

There were 2,729 submissions received relating to the Rathfarnham to City Centre CBC. These submissions ranged from individual submissions by residents, commuters and local representatives, to detailed proposals from public bodies, various associations and private sector businesses.

A brief summary of the feedback received on the Rathfarnham to City Centre CBC 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:

1. Diversion of cyclists off the most direct route
    1a. Cyclists diverted at Brookvale; and
    1b. Cyclists diverted at Rathmines.
2. Vulnerable road user safety;
3. Traffic disruption due to traffic diversions;
4. Route not suitable for bus corridor;
5. Proposed land acquisition;
6. Removal of trees;

7. Access to property;
8. Loss of parking;
9. Devaluation of property;
10. Insufficient consultation;
11. Loss of heritage;
12. A metro option should be considered; and
13. Noise pollution.

Further detail on these issues can be found in the Rathfarnham to City Centre Core Bus Corridor Emerging Preferred Route First Non-Statutory Public Consultation Report (March 2020).

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 options were developed for consideration in specific areas where issues were identified. These new options were subject to further options assessment (as detailed in Section 6 of this report) to identify the draft PRO. The selected draft PRO identified formed the basis for the second non-statutory public consultation in March / April 2020.

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

The draft PRO was published in March 2020 and a second round of public consultation commenced on 4th March 2020 and ran until the 17th of April 2020.

Due to Covid 19 restrictions being imposed by Government in mid-March, the planned Public Information Events were impacted. Consequently there were 59 submissions received relating to the CBC (compared to 2,729 submissions following the First Public Consultation). These submissions ranged from individual submissions by residents, commuters and local representatives, to detailed proposals from various associations and private sector businesses.

A brief summary of the feedback received on the Rathfarnham to City Centre CBC 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:

1. Insufficient Consultation of Scheme;
2. Need for Scheme;
3. Supportive of Scheme;
4. Devaluation of Property;
5. Loss of Parking;
6. Removal of Gardens;
7. Removal of Street Trees;
8. Air/Noise Pollution;
9. Loss of residential/amenity access;
10. Protected Structures;
11. Loss of Bus Services;
12. Additional Traffic;
13. Pedestrian Safety;
14. Cyclist Safety; and
15. Metro.

The issues raised during the second public consultation have been considered in the further development of the draft PRO.

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

4 The Study Area

4.1 Introduction

The overall study area for this assessment is the same as that identified in the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' see **Figure 4.1**.

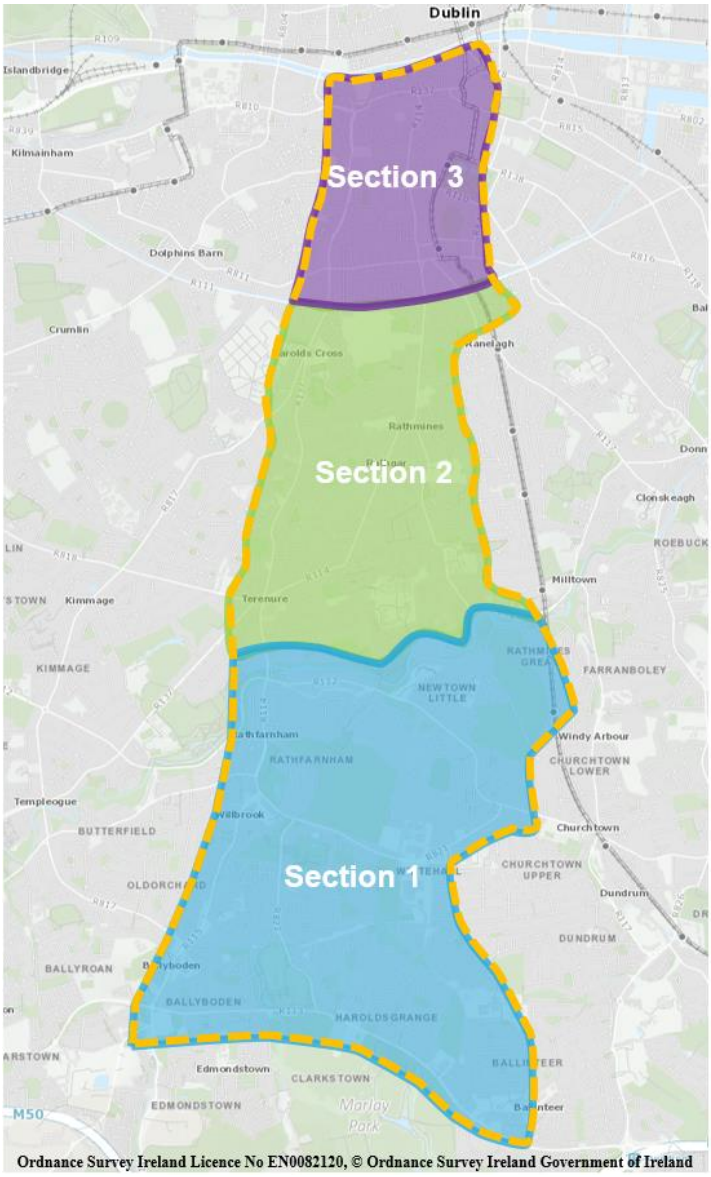


Figure 4.1: Study Area and Section Breakdown

(reproduced from Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report and updated)

Arising from the transport policy context, the study area was taken to include the route of the existing Rathfarnham QBC corridor, but extends beyond this in places to consider alternative potentially feasible route options. The study area is

generally bounded to the south by Taylors Lane and Grange Road and to the north by the River Liffey.

The western and eastern borders of the study area are generally an offset of 200m from feasible route options to assess road and street options within the same broad demand corridor.

4.2 Study Area Sections

4.2.1 Section 1

Section 1 was originally bounded to the south by Taylor's Lane and Grange Road and to the north by the River Dodder. The southern boundary of this section remains the same, however, in response to submissions from the public in relation to land acquisition on Rathfarnham Road north of the River Dodder, additional options were developed, some of which would terminate at the Rathdown Park / Rathfarnham Road junction. As such, the northern boundary of this section has been extended slightly to include Rathdown Park and to allow for the development of additional end-to-end alternative cycle facilities within this study area section.

4.2.2 Section 2

Section 2 was originally bounded to the south by the River Dodder, however, as indicated above, this boundary has been amended slightly such that the southern boundary of this scheme section is now Rathdown Park. The northern boundary of this scheme section remains the same, ending at the Grand Canal.

4.2.3 Section 3

Section 3 remains the same as per the previous study, bounded to the south by the Grand Canal and to the north by the River Liffey.

4.3 Physical Constraints and Opportunities

A number of potential constraints were identified, both natural (i.e. the existing natural environment) and physical (the built environment), which could potentially constrain route options for the proposed scheme within the defined study area including:

- Street trees and other natural features along the route;
- The existing urban and sub-urban roads and street network;
- Bridges at identified natural constraints (e.g. across the River Dodder and the Grand Canal);
- Availability of land in urban and suburban areas;
- Rathfarnham Castle and grounds;

- The available width along Rathfarnham Road between Castleside Drive and Terenure;
- The existing steep driveways along Rathfarnham Road;
- The built form in close proximity to the carriageway on Terenure Road East at Terenure Cross;
- The available width along Terenure Road East and Rathgar Road, and the known protected structures and mature trees in these areas;
- The available width along Rathmines Road Lower; and
- The available width along Richmond Street, Camden Street, Wexford Street Aungier Street and South Great Georges Street.

A number of potential opportunities were also identified, which could potentially enhance the proposed scheme within the defined study area including:

- The natural amenity of the River Dodder, and the opportunity for integration with the proposed Dodder Greenway Scheme.
- The natural amenity of the Grand Canal, and the opportunity for integration with the Grand Canal Cycleway.
- The opportunity for the provision of enhanced public realm within the various villages and urban centres within the study area including Rathfarnham, Terenure, Rathgar and Rathmines and within the city centre north of the Grand Canal.

4.4 Integration with Existing and Proposed Public Transport Network

One of the key objectives of the proposed CBC 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. Route options within the study area have therefore been developed with this in mind and, in so far as possible, seek to provide for improved interchange opportunities with existing transport services including:

- Potential for interchange with existing 15B, 16, 17, 61 and 75 routes at Grange Road/Rathfarnham Road;
- Potential for interchange with existing 49 at Terenure Cross;
- Potential for interchange with existing 15, 15A and 65B at Terenure Road East;
- Potential for interchange with existing 14 at Rathgar Road;
- Potential for interchange with existing 18, 83 and 83A, 140 and 142 at Rathmines Road;
- Potential for interchange with existing 9, 16, 68 and 122 at Camden Street;
- Potential for interchange with existing 13, 27, 40, 54A, 77A, 123, 150 and151 at Dame Street;

- Potential for interchange with the LUAS Green Line at Camden/Harcourt Street;

Figure 4.2 highlights the potential for interchange with existing public transport services along the CBC.

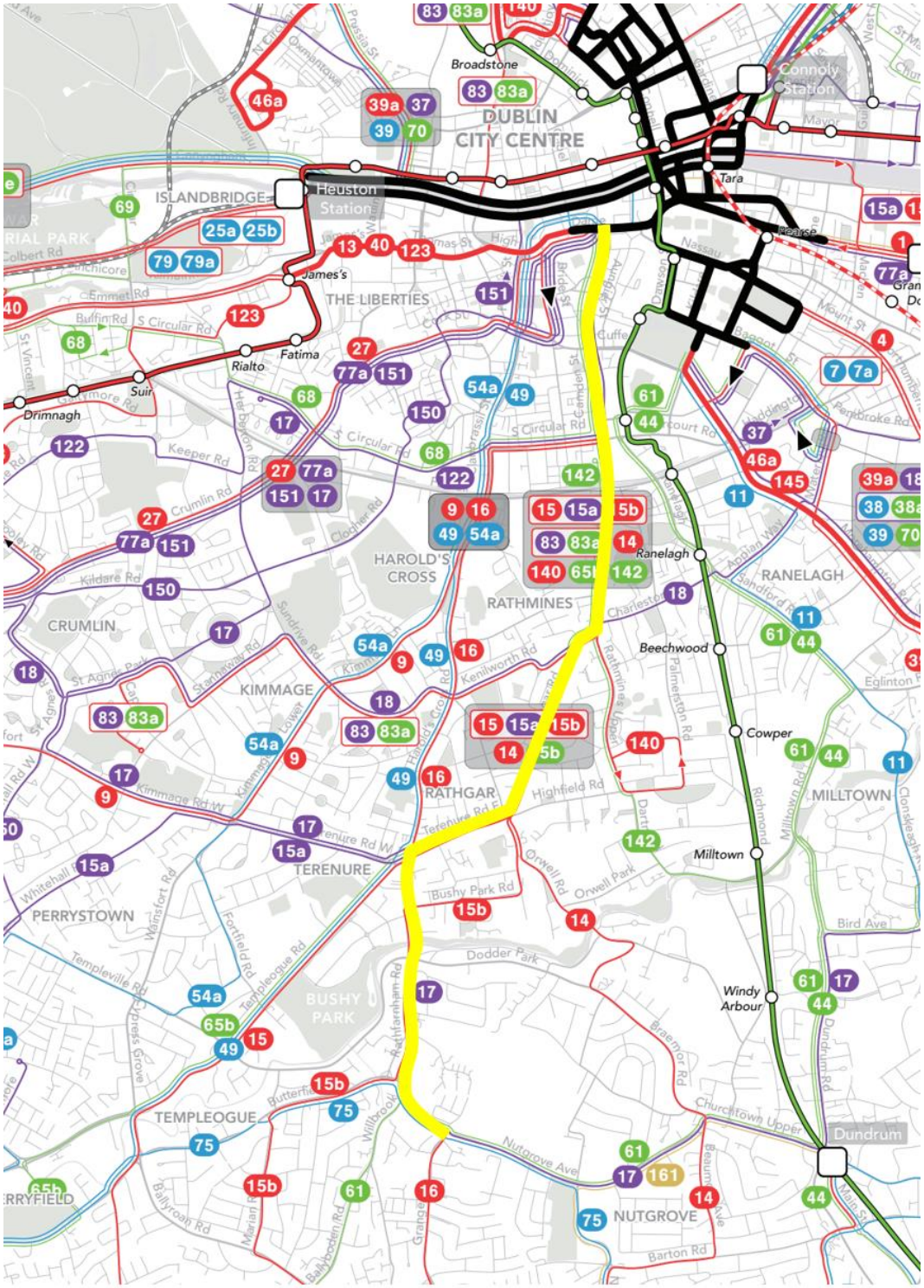


Figure 4.2: Existing Public Transport Services

(the CBC highlighted yellow)

The route options also seek to provide for interchange opportunities with new transport services proposed within the New Dublin Area Bus Network, including:

- Potential for interchange with the proposed 74, 85 and P18 routes from the New Dublin Area Bus Network at Rathfarnham Road;
- Potential for interchange with the proposed S6 orbital route from the New Dublin Area Bus Network at Butterfield Avenue;
- Potential for interchange with the proposed S4 orbital route from the New Dublin Area Bus Network at Terenure Road East;
- Potential for interchange with the proposed 81 route from the New Dublin Area Bus Network n at Terenure Road East, Rathgar Road and Rathmines Village;
- Potential for interchange with the proposed 80 route from the New Dublin Area Bus Network at Rathgar Village and Rathmines Village;
- Potential for interchange with the proposed S2 orbital route from the New Dublin Area Bus Network at Charleston Road;
- Potential for interchange with the proposed 82 route from the New Dublin Area Bus Network at Rathmines Village;
- Potential for interchange with the proposed O orbital route from the New Dublin Area Bus Network at South Circular Road; and
- Potential for interchange with the proposed F Spine radial route from the New Dublin Area Bus Network at Cuffe Street.

Figure 4.3, extracted from the BusConnects New Dublin Area Bus Network maps, highlights the potential for interchange with other proposed bus routes along the CBC.

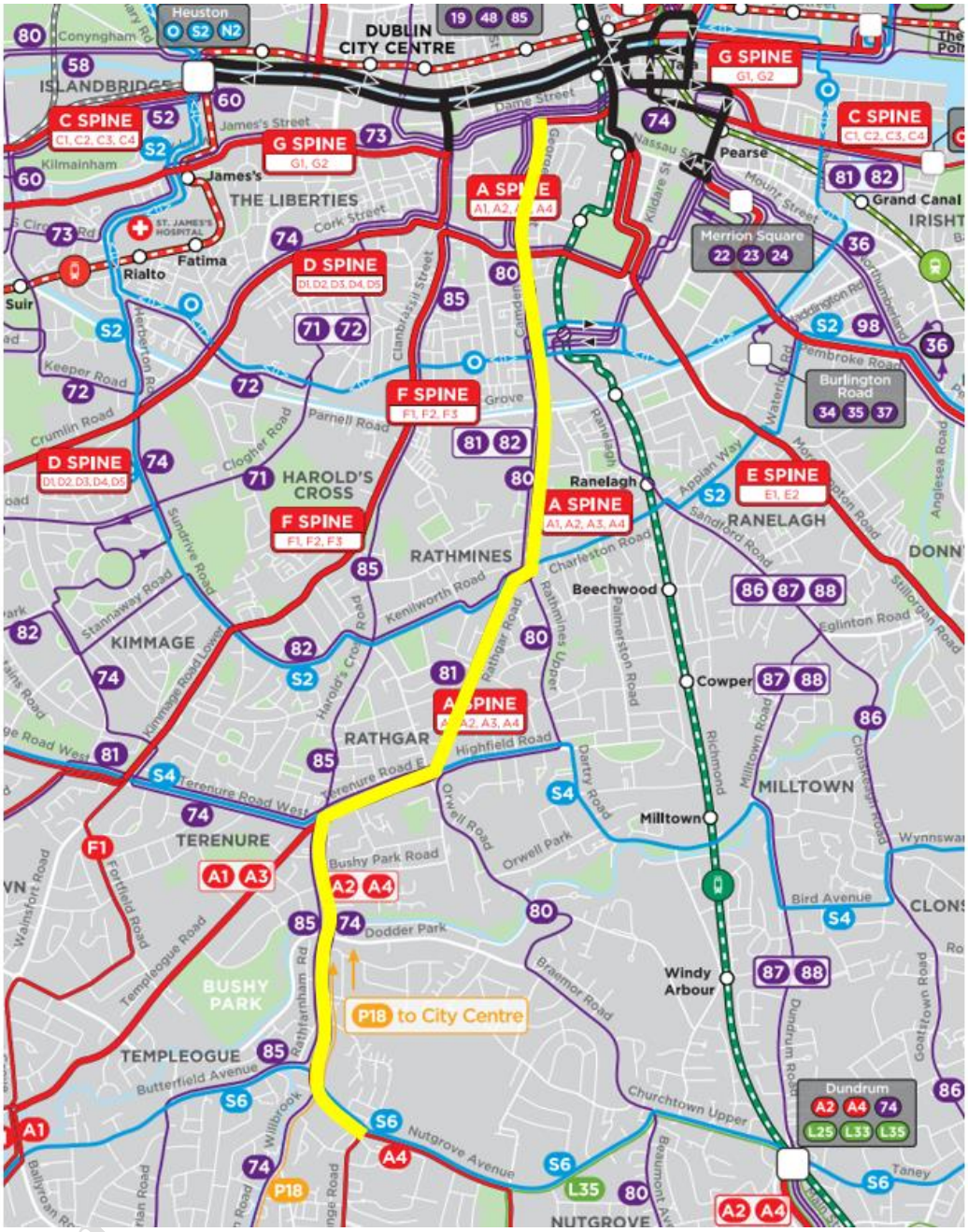


Figure 4.3: Extract from New Dublin Area Bus Network Maps

(the CBC highlighted yellow)

4.5 Integration with Other Road Users

A key objective of the proposed scheme is to improve pedestrian and cyclist facilities along the route. For cyclists, segregated facilities should be provided where practical to do so.

Figure 4.4, extracted from the GDA Cycle Network Plan, highlights the CBC in the context of the planned cycle network. The GDA Cycle Network Plan proposes a network of cycle links throughout the Greater Dublin Area, categorised as follows:

- **Primary Routes:** Main cycle arteries that cross the urban area and carry most cycle traffic.
- **Secondary Routes:** Link between principal cycle routes and local zones.
- **Feeder Routes:** Cycle routes within local zones and/or connections from zones to the network levels above.
- **Inter Urban Routes:** Links the towns and city across rural areas and includes the elements of the National Cycle Network within the GDA.
- **Green Route Network:** Cycle routes developed predominately for tourist, recreational and leisure purposes but may also carry elements of the utility cycle route network above. Many National Cycle Routes will be of this type.

Specifically, Primary Cycle Route 10 and Secondary Route S04 and 10 from the Greater Dublin Area Cycle Network Plan run along, or are intercepted by, the Rathfarnham to City Centre CBC, with their provision considered at all stages of the options assessment process.

The interaction of the CBC with other schemes progressing through the planning and design process has also been considered, specifically the Grange Road Cycle & Walking Scheme, the Dodder Greenway Scheme and the Clonskeagh to City Centre Cycle route. The proposed scheme also intersects the existing Grand Canal Cycleway at La Touche bridge.

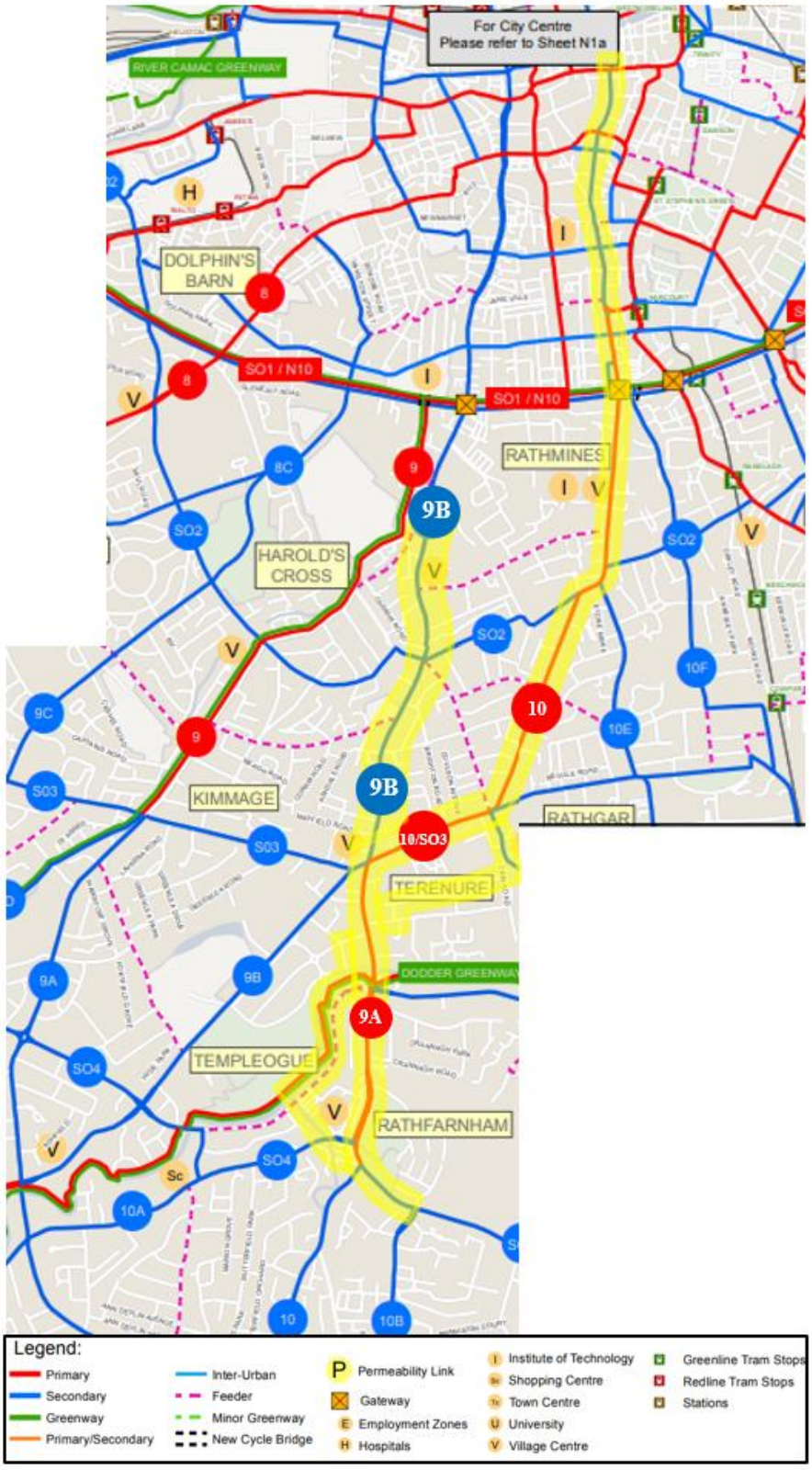


Figure 4.4: Extract from GDA Cycle Network Plan

(the CBC highlighted yellow)

5 Review of the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report'

5.1 Introduction

From a review of submissions received as part of the public consultation process, as well as a review of the topographical survey carried out since the EPR Option publication, a number of issues were identified which had the potential to be overcome through the implementation of alternative design solutions. These issues are described in the following sections.

5.2 Assessment Methodology

The first step in the assessment process was to review the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report'.

The 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' utilised a two-stage assessment process to determine the EPR Option, comprising:

- An initial 'Stage 1' high-level route options assessment or 'sifting' process which appraised routes in terms of ability to achieve scheme objectives and whether they could be practically delivered; and
- Routes which passed this initial stage were taken forward to a more detailed Stage 2 assessment.

At the start of the Stage 1 assessment, an initial 'spiders web' of potential route options that could accommodate a CBC was identified for each study area section. **Figure 5.1** is an extract from the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report', illustrating the 'spiders web' of potential routes considered in the Stage 1 assessment.

Figure 5.1: Spiders Web of Route Options extracted from the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report'

The following extract from the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' describes the two stage process used to determine the EPR Option:

"*At the start of the Stage 1 assessment, an initial 'spiders web' of potential route options that could accommodate a CBC was identified for each study area section… This was narrowed down using a high level qualitative method based on professional judgement and a general appreciation for existing physical conditions/constraints within the study area. This exercise examined and assessed technically feasible route options, based upon the distinct project specific objectives. In addition to being assessed on their individual merits, routes were also assessed relative to each other enabling some routes to be ruled out if more suitable alternatives existed.*

This stage 1 assessment focused on engineering constraints together with a desktop study, identifying high-level environmental constraints and an analysis of population catchments.

The Stage 2 assessment comprised a more detailed qualitative and quantitative assessment, using criteria established to compare route options. The first step in the Stage 2 assessment was to combine shorter route options which passed the Stage 1 assessment, to form longer end-to-end routes within each study area section.

Following this, an initial indicative scheme for each route option was determined based on the specific constraints along the route [e.g. bus lane in each direction with cycle lanes (where appropriate), bus lane in each direction, bus lane in one direction only etc.]. In particular constrained locations, a number of variant scheme options were considered and assessed as necessary.

The indicative scheme for each route option was then progressed to a 'Multi-Criteria Analysis (MCA) which evaluated the route options under the following main assessment criteria:

- *Economy;*
- *Integration;*
- *Accessibility and Social Inclusion;*
- *Safety; and*
- *Environment."*

A number of locations along the EPR Option were identified where there was potential to revisit scheme proposals to address issues raised in the public consultation or identified through a review of additional information. For each area identified, additional options were developed and if considered feasible, would be passed through a Multi-Criteria Assessment (MCA) in a similar manner to Stage 2 of the EPR Option assessment process. All new options were assessed against the EPR Option.

This additional assessment does not supersede work undertaken during earlier stages but complements it and responds to issues raised by the public during the public consultation process or issues identified by additional information available to the Design Team.

The methodology for the assessment of new options explored at this stage is the same as outlined in the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report'. A summary of the main criteria and sub criteria used in the options assessment process is presented in **Table 5.1**.

Table 5.1: Assessment Criteria

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

In keeping with the assessment undertaken in the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report', Physical Activity has been scoped out of the multi-criteria assessment at this stage as all options are considered to promote physical activity equally and it is, therefore, not considered to be a key differentiator between options.

Again, in keeping with the assessment undertaken in the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report', route 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 5.2: 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 to other options
	Significant disadvantages to other options.

Where the design has undergone a material and fundamental change in respect of infrastructure provision or route choice, this has been recorded and explained. An MCA has been undertaken which will assess the newly developed and designed solutions against the MCAs that were previously assessed as part of the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' considering the chosen option for the EPR.

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

5.3 Section 1: Grange Road to Rathdown Park

The EPR Option previously identified along this section of the CBC corridor is presented in **Figure 5.2**.

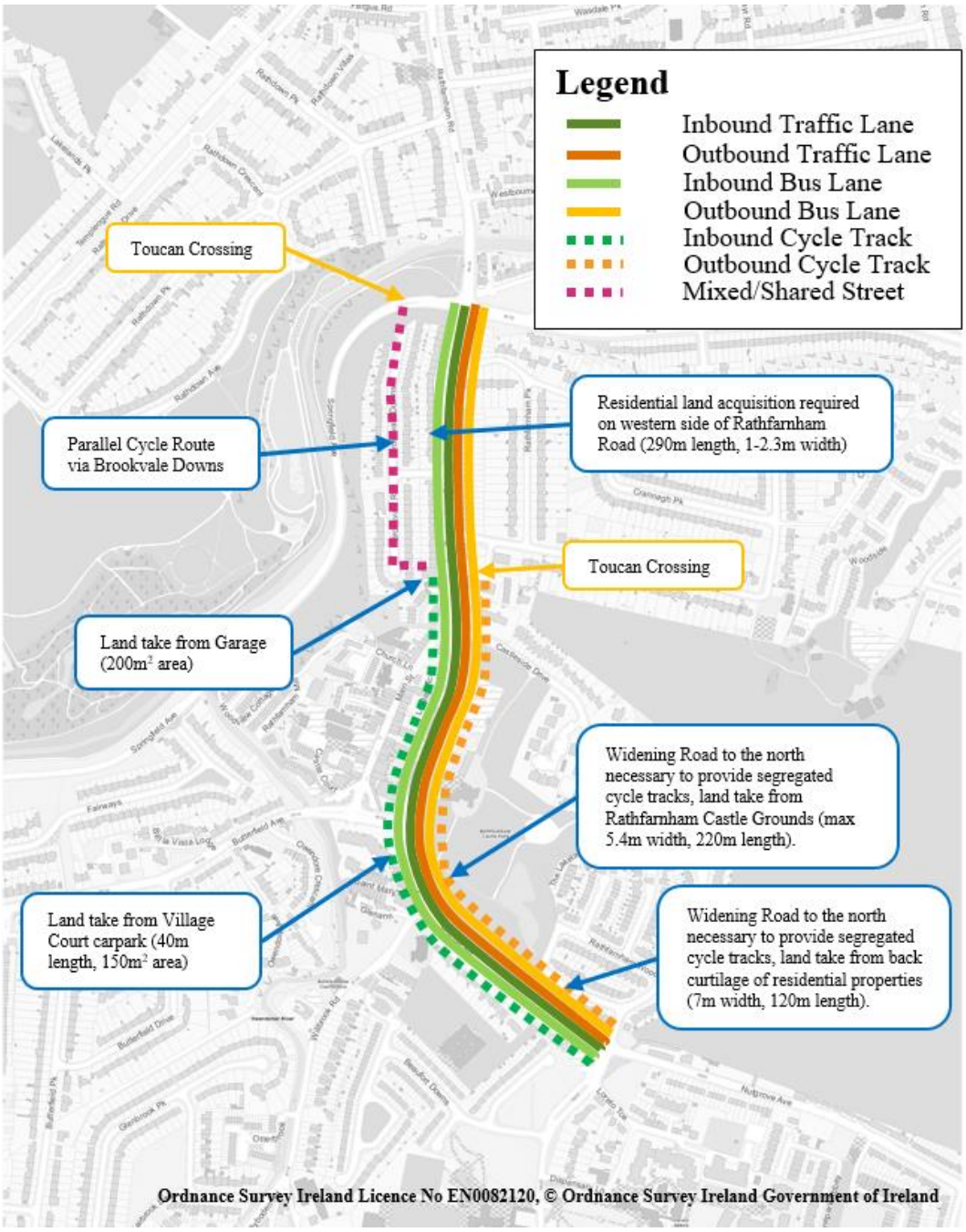


Figure 5.2: Section 1 EPR Option

The previous MCA undertaken determined that a route along Grange Road and Rathfarnham Road was the EPR Option.

Along this route it was determined that a parallel cycle route via Brookvale Downs provided a suitable alternative route for cyclists while minimising the impact on land along Rathfarnham Road.

The EPR Option indicated that land acquisition would be required along Rathfarnham Road. It is noted that section 8.3.7 of the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' incorrectly stated that this widening would occur on the eastern side of the road. For clarity, this should have read that land acquisition would occur on the western side of the road, as per the subsequent EPR Option drawings.

Based on the public consultation submissions received and assessment of topographical survey subsequently undertaken along this route section, a number of areas were identified as requiring further review. These are summarised in the following section. The EPR Option remains the preferred option for sections of the scheme not identified for further review.

5.3.1 Areas Identified for Re-examination

Brookvale Downs Cycle Route

The proposed connection for cyclists to Brookvale Downs is via a narrow laneway between an existing residential property and a petrol station. While it was proposed as part of the EPR Option to widen a section of this laneway, it is noted from a review of the topographical survey that this would require demolition of one or other of these buildings to accommodate a two-way cycle route as well as pedestrians. Coupled with concerns to the proposal from the public, as well as the delivery of a compromised and potentially unattractive route for cyclists, alternative cycle route options were explored in this area in determining the PRO, as described in Section 6.1.2 of this report.

Rathfarnham Road (between Texaco and Rathdown Park)

Based on a review of the topographical survey, it has become move evident that a number of properties along Rathfarnham Road, between Brookvale Road and Dodder Park Road, as well as north of the Dodder, between Dodder Park Road and Rathdown Park, currently have steep driveways in excess of current standards. As part of the public consultation, the issue of compliance with Part M of the Building Regulations has been highlighted. It has been considered, that with the level of land acquisition proposed as part of the EPR Option, existing driveways would be made much steeper than they currently are and would not be compliant with the Regulations without substantial mitigation. Alternative design solutions have therefore been explored in this area in determining the PRO, as described in Section 6.1.3 of this report.

5.4 Section 2: Rathdown Park to Grand Canal

The EPR Option previously identified along this section of the CBC corridor is presented in **Figure 5.3**.

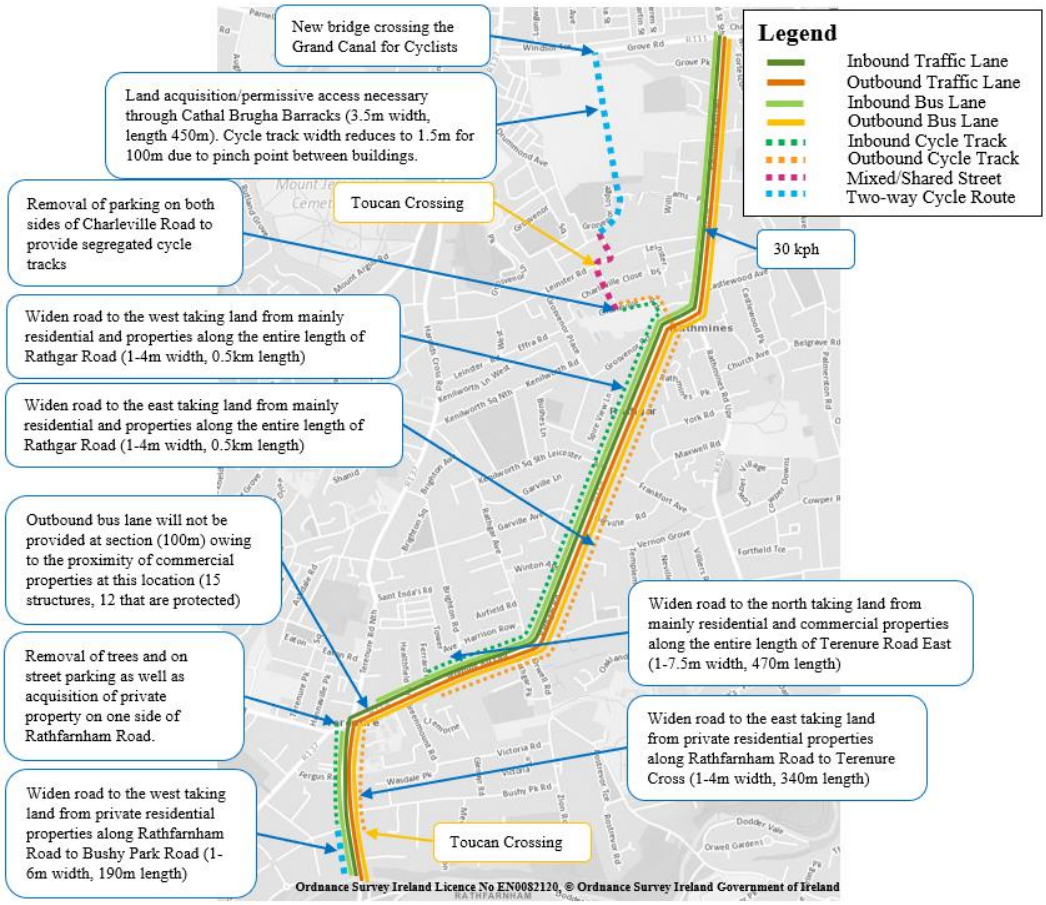


Figure 5.3: Section 2 EPR Option

The previous MCA undertaken determined that a route along Rathfarnham Road, Terenure Road East, Rathgar Road and Rathmines Road Lower was the EPR Option. Along this route it was determined that a parallel cycle route via Charleville Road, Grosvenor Lodge and Cathal Brugha Barracks provided a suitable alternative route for cyclists while maintaining bus priority and traffic movements through Rathmines Village.

Subsequent to the preparation of the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report', it was decided that an option which provided online bus and cycle lanes along the route and one-way traffic outbound through Rathmines should be given further consideration. As a result, both options were presented for consideration by the public in the first non-statutory public consultation.

It is considered that the options assessment presented in the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' has appropriately assessed route options and that the selected corridor offers the most benefits for buses.

However, upon review of the topographical survey and public consultation submissions, a number of issues that were identified that could potentially be addressed through the consideration of alternative options along this route section. These are summarised in the following section. The EPR Option remains the preferred option for sections of the scheme not identified for further review.

5.4.1 Areas Identified for Re-examination

'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' Clarifications

The following paragraphs are intended to clarify a specific query raised during the public consultation which relates to the determination of the EPR.

The primary route corridors considered in the assessment of Section 2 focussed on the Harold's Cross and the Rathgar/Rathmines corridors. The 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' concluded that the Rathgar/Rathmines corridor was preferred for a number of reasons, one of which being that the Harold's Cross corridor would have duplicated the then proposed Clongriffin to Tallaght Bus Rapid Transit (BRT) Route.

It is evident in section 5.5.4 of the GDA Transport Strategy which states:

"[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 progressed, it became clear that the level of differentiation between the BRT corridors and the Core Bus Corridors would, ultimately, be limited, and that all of the Core Radial Bus Corridors should be developed to provide a BRT level of service.

The BRT routes shown in the Transport Strategy are indicative only. Section 5.5.4 of the strategy document states:

"*The routes of these two BRT schemes are indicative and subject to design development. Such design development may include changes to the indicated alignments and /or terminal points of the schemes, including further extension of the routes.*"

Notwithstanding the fact that the BRT Route is no longer currently being progressed, the Rathgar/Rathmines Corridor remains the preferred corridor for the CBC.

The primary reason for this is the significantly stronger demand for bus along the Rathgar Road / Rathmines Road when compared to Harold's Cross Road. This route corridor serves the urban village of Rathmines, which is a significant trip attractor on southern side of the city. The strength of the high demand for bus in Rathmines compared to Harold's Cross Road is clearly evident from the extracts from the Dublin Area Bus Network Redesign Revised Proposal (October 2019) presented in **Figure 5.4** and **Figure 5.5**. The patronage shown in **Figure 5.4** is based on existing bus services.

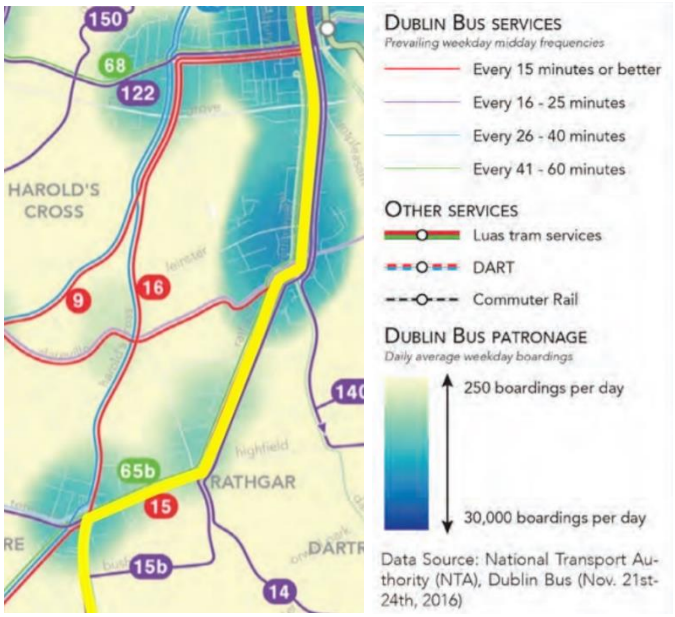


Figure 5.4: Average Daily Bus Patronage - Heatmap

(Source Dublin Area Bus Network Redesign Revised Proposal (October 2019) – the CBC highlighted yellow. Patronage based on existing bus services.)

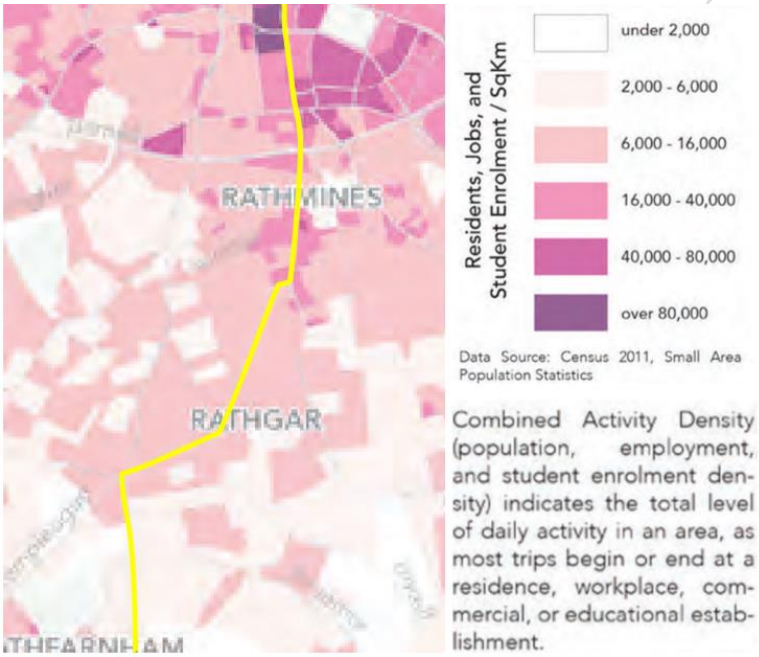


Figure 5.5: Combined Activity Density Map

(Source Dublin Area Bus Network Redesign Revised Proposal (October 2019) – the CBC highlighted yellow)

Terenure Road East

The EPR Option proposed to provide bus and traffic lanes in each direction along Terenure Road East, except for a short section between Terenure Cross and Aldi where only an outbound bus lane was proposed.

Cycle lanes were proposed in each direction between Ferrard Road and Rathgar Avenue, but none were proposed between Terenure Cross and Ferrard Road.

It was highlighted through the public consultation process that this proposal impacted on several properties with heritage value, including the loss of mature trees from within these properties. Additionally, a review of the EPR Option proposals against the detailed topographical survey showed that it was not possible to provide a bus lane and two traffic lanes on Terenure Road East immediately to the east of Rathfarnham Road.

Alternative design solutions have therefore been explored in this area in determining a draft PRO, as described in Section 6.2.1 of this report.

Rathgar Road

The EPR Option proposed bus lanes, traffic lanes and cycle tracks in each direction along Rathgar Road.

This would result in impact on heritage properties along the length of Rathgar Road as well as the loss of trees from within these properties. These impacts were noted as being of concern to many local residents during the public consultation.

Alternative design solutions have therefore been explored in this area in determining a draft PRO, as described in Section 6.2.1 of this report.

Rathmines Village

The EPR Option identified two potential options for Rathmines Village, both taken forward to public consultation and for more detailed assessment as part of this process. Option A proposed keeping cyclists on Rathmines Road Lower with bus lanes provided in each direction and only a single traffic lane to accommodate outbound traffic. Option B proposed diverting cyclists to an alternative cycle route to the west of Rathmines Road Lower with bus and traffic lanes provided in each direction along Rathmines Road Lower and is illustrated in **Figure 5.3**. The responses to the public consultation showed a clear preference for Option A on the basis that the cycle route proposed in Option B was indirect and unattractive compared to Option A. However, a review of Option A showed that this option would require reductions to footpath width along Rathmines Road Lower that could impact on the public realm within Rathmines Village. Further, more detailed alternative design solutions have therefore been explored in this area in determining a draft PRO, as described in Section 6.2.2 of this report.

5.5 Section 3: Grand Canal to Christchurch Place

The EPR Option previously identified along this section of the CBC corridor is presented in **Figure 5.6.**

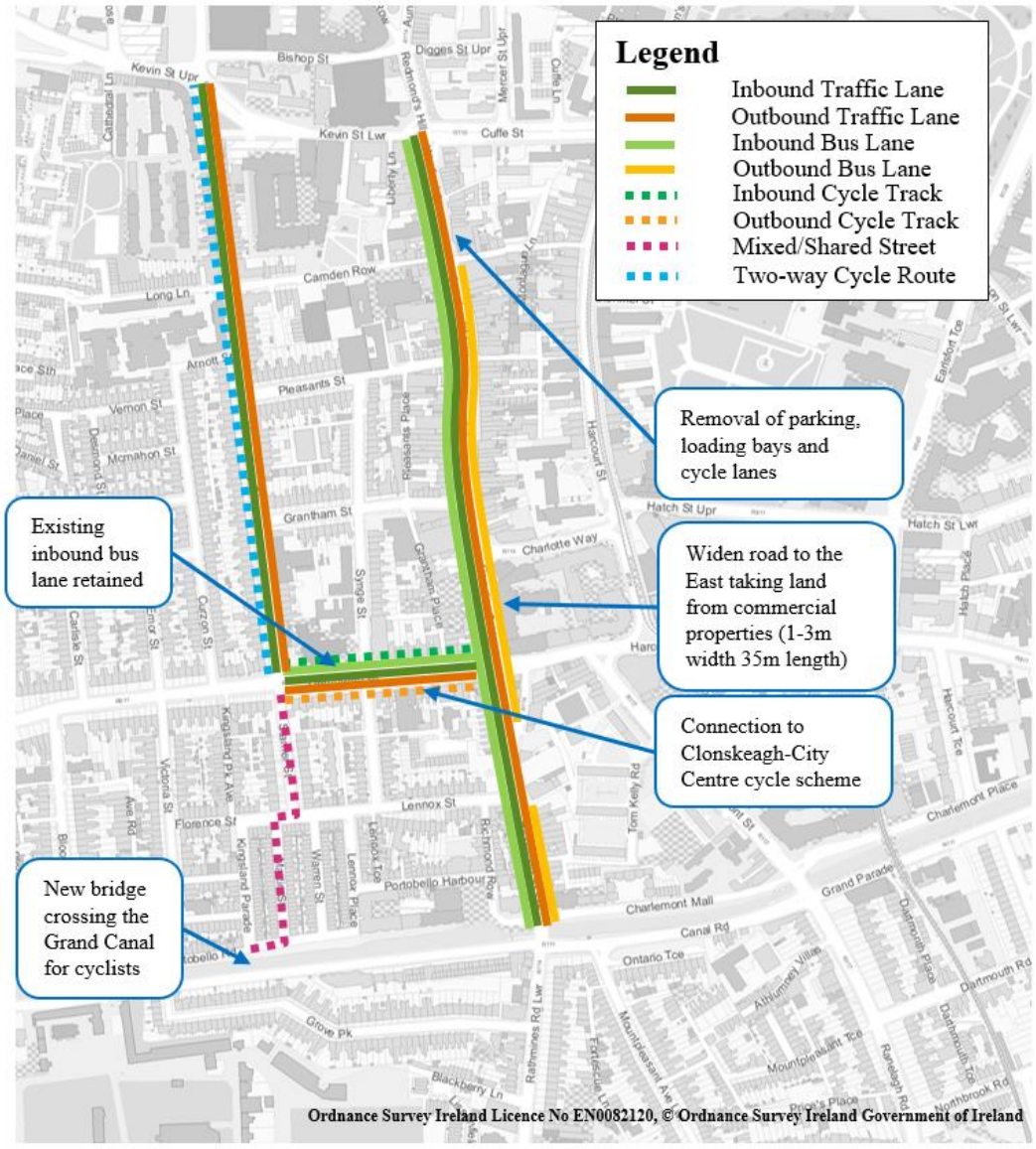


Figure 5.6: Section 3 EPR Option

The previous MCA undertaken determined that a route along Richmond Street, Camden Street and Wexford Street was the EPR Option. Along this route it was determined that a parallel cycle route via Marin Street, Heytesbury Street and Bride Street provided a suitable alternative route for cyclists and connecting to the Section 2 proposal.

Subsequent to the preparation of the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report', it was decided that the option which provided online bus and cycle lanes through Rathmines should be given further consideration.

North of the Grand Canal, this option proposed bus lanes in each direction for the majority of the length, one-way outbound traffic between Harrington Street and the canal, and online cycle lanes between Harrington Street and the canal.

Based on the public consultation submissions received and assessment of topographical survey subsequently undertaken along this route section, a number of areas were identified as requiring further review. These are summarised in the following section. The EPR Option remains the preferred option for sections of the scheme not identified for further review.

5.5.1 Areas Identified for Re-examination

Camden Street

The EPR Option proposed that Camden Street/Wexford Street between Harrington Street and Cuffe Street would be upgraded to include bus lanes in each direction along its length except for a short section on Wexford Street where only an inbound bus lane would be provided. No cycle tracks were proposed in this area and the published drawings stated that '*Additional cycle facilities along Camden Street (secondary cycle route 10) to be considered as part of next design development stage*'. These have been assessed in further detail as part of the process to identify the PRO, as described in Section 6.3 of this report.

5.6 Summary

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

- Alternative cycle route between Grange Road and Rathdown Park;
- Alternative design options along Rathfarnham Road between Brookvale Downs and Rathdown Park;
- Alternative design options along Terenure Road East;
- Alternative design options along Rathgar Road;
- Alternative design options within Rathmines Village; and
- Alternative design options providing cycle facilities on Camden Street.

Detail of the options assessment completed is presented in Chapter 6.

6 Option Assessment

6.1 Section 1 Option Assessment: Grange Road to Rathdown Park

6.1.1 Introduction

Numerous submissions received as part of the public consultation raised concerns about the impact of land acquisition along this section of the route, particularly in relation to the implications on existing steep driveway gradients and the ability of residents to park within their driveway. Submissions also raised concerns about the suitability of the proposed offline cycle facility along Brookvale Downs. A number of alternative options have been developed with the objective of mitigating these concerns.

Within this section of the CBC route, Rathfarnham Road is particularly constrained in terms of the available width. As such, this section of the route has been brought through an initial assessment to determine the optimum alternative cycle route for this section. The preferred alternative cycle route was then progressed for inclusion in an assessment of alternative bus infrastructure options for the CBC route through this section.

6.1.2 Initial Assessment of Alternative Cycle Routes

6.1.2.1 Introduction

Prior to the assessment of principal route options for Section 1, an assessment of alternative cycle routes was carried out to determine the optimum option for cycle facilities in conjunction with segregated bus facilities on Rathfarnham Road, as it would be difficult to achieve segregated cycle facilities along the same route as the CBC in this section. The cycle route option emerging from this initial assessment was then taken forward to form part of the principal route options considered as part of the multi-criteria assessment.

6.1.2.2 Assessment of Potential Dodder Bridge Crossings

In developing options for alternative cycle routes, it became evident that some options being considered would require a new pedestrian and cyclist bridge crossing the river Dodder. The general location of a bridge crossing to facilitate these options, is indicated in **Figure 6.1**.

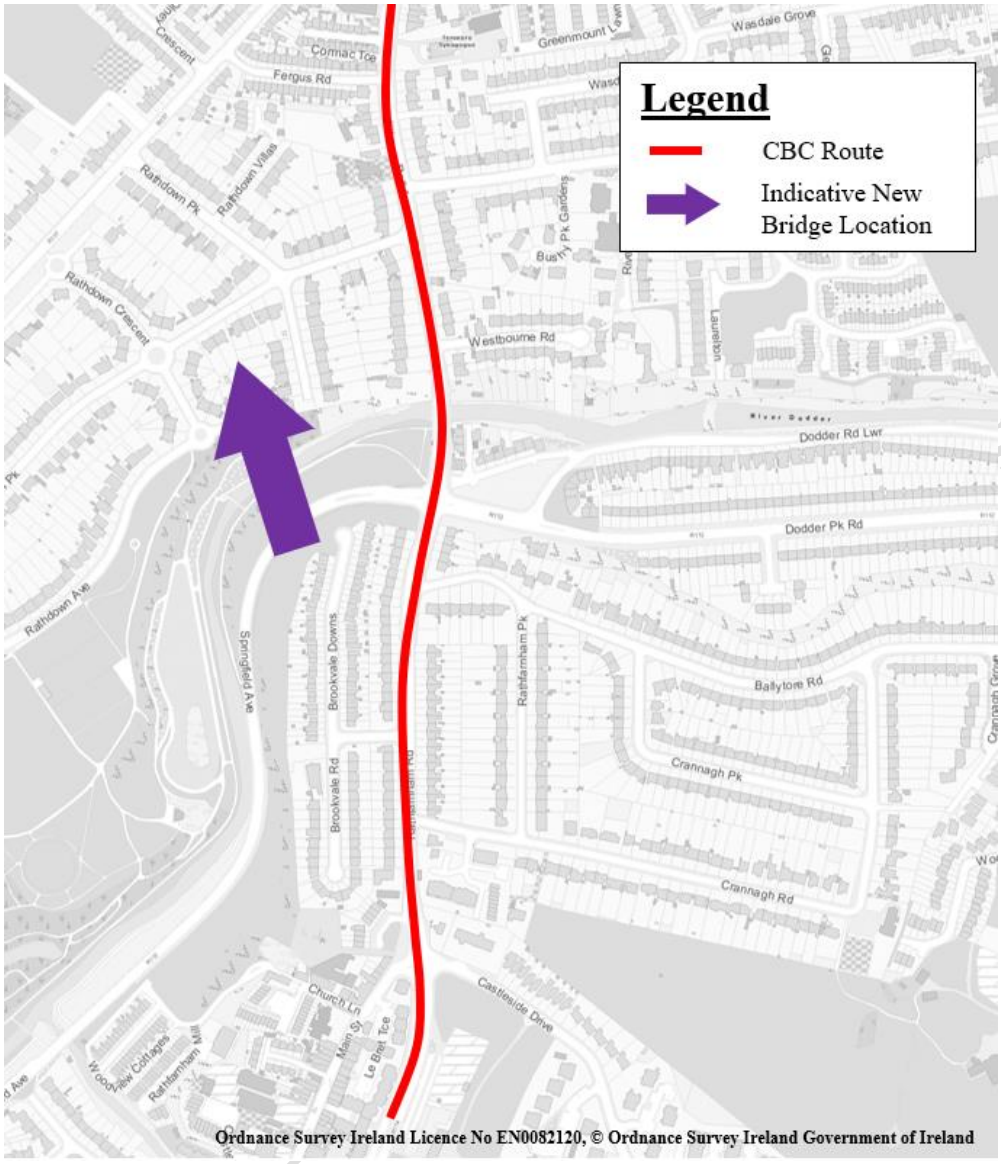


Figure 6.1: Indicative Location of potential Dodder Bridge crossing

Two potential bridge sites have been identified within this general location. In order to rationalise the number of parallel cycle route options to be assessed, an initial assessment of two potential bridge locations within this area has been undertaken. The preferred bridge option was then incorporated into end-to-end parallel cycle route options for comparative assessment.

A bespoke MCA methodology has been developed to consider the merits of each bridge option. This methodology allows a high-level comparative assessment of these bridge options to be carried out based on the following criteria:

- Cost;
- Constructability and engineering constraints;
- Cycle connectivity;
- Impact on private property;
- Impact on flora & fauna; and
- Landscape & visual impacts.

The locations of the two bridge options developed are indicated in **Figure 6.2** and the proposals are described in further detail below.

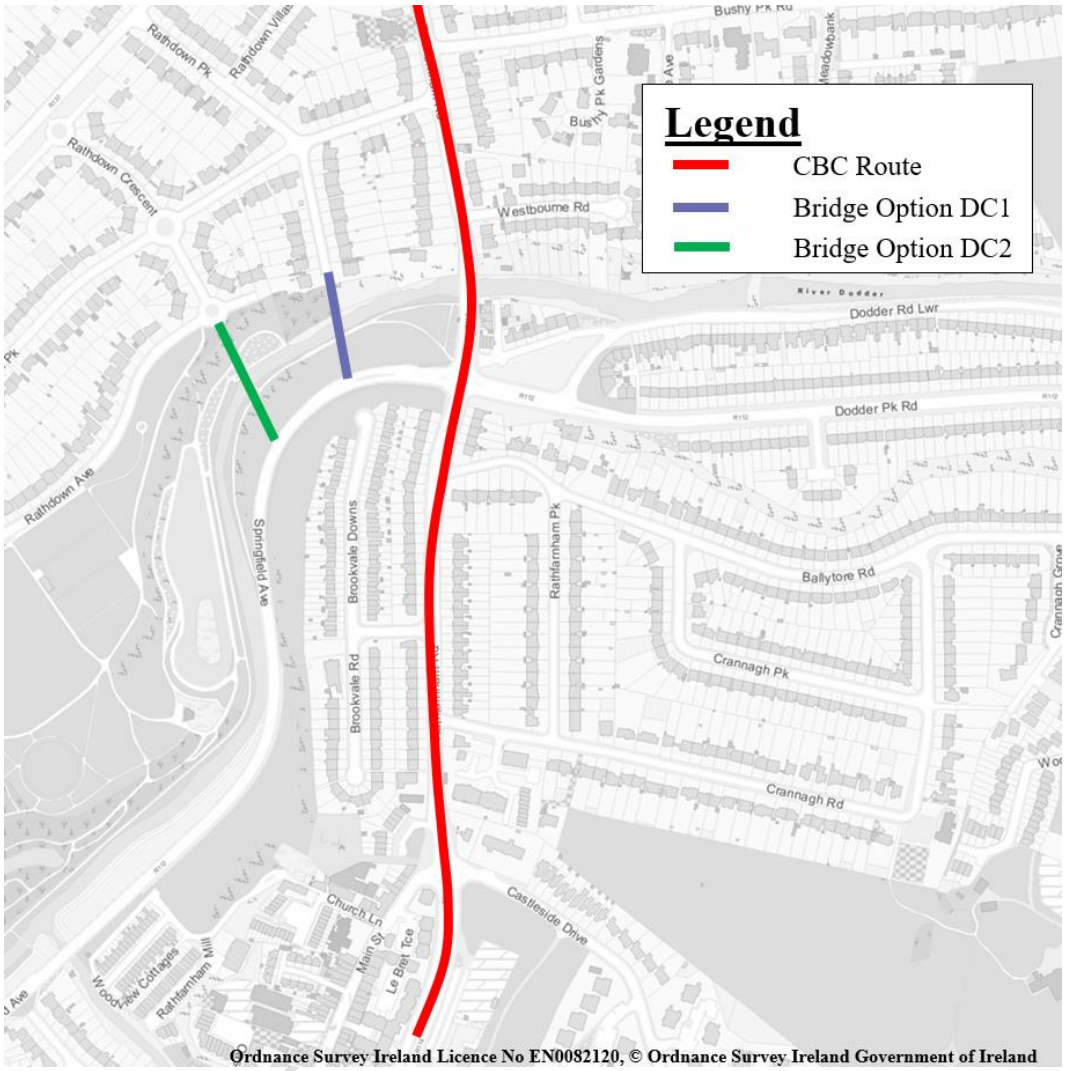


Figure 6.2: Potential Dodder Bridge crossing locations

Bridge Option DC1

Bridge Option DC1 consists of providing a pedestrian and cyclist bridge spanning the river Dodder linking from Springfield Avenue to Rathdown Park, as shown in **Figure 6.2**. The indicative proposed cross-section of this bridge is shown in **Figure 6.3**.

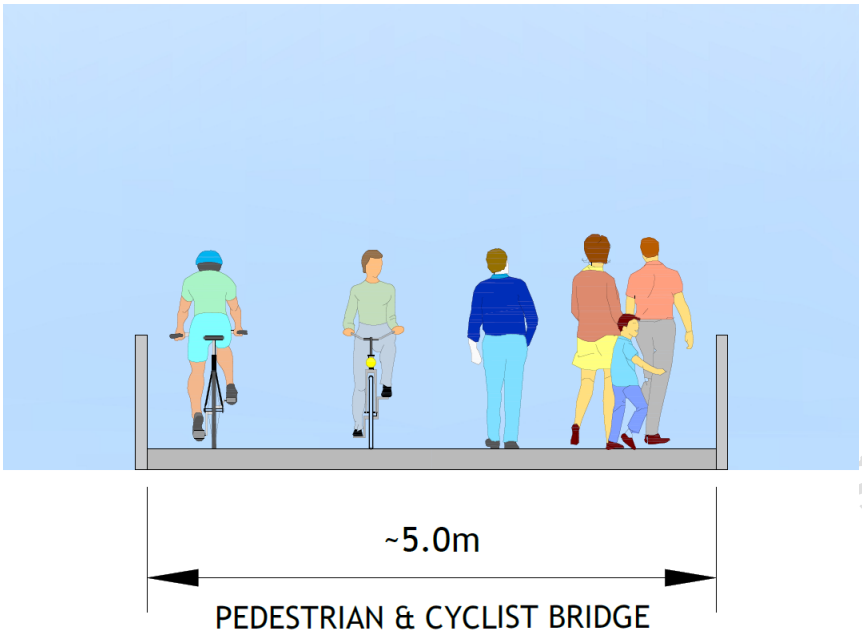


Figure 6.3: Bridge Option DC1 - Indicative cross-section

This bridge option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- A main span of approximately 50m. This 50m main span would allow the northern bank and waterway to be crossed with a single span, limiting the impact on the existing environment below.
- An assessment of the existing northern embankment would be required to ensure overall slope stability.
- Additional approach spans would be required within public open space on the southern side of the Dodder river to overcome the level difference (approx. 8m) between the southern and northern landings. It is anticipated that the main construction works would occur on the southern side of the river.
- Land acquisition from a private property on Rathdown Park would be required.
- There would be an impact on a number of mature trees in the vicinity of the bank of the river Dodder.
- South of the Dodder, cyclists would utilise the Dodder Greenway. North of the Dodder, cyclists would share with vehicles along Rathdown Park for approximately 260m before joining Rathfarnham Road, passing through 1 junction along the way.

Bridge Option DC2

Bridge Option DC2 consists of providing a pedestrian and cyclist bridge spanning the river Dodder linking from Springfield Avenue to Rathdown Crescent, as shown in **Figure 6.2**. The indicative proposed cross-section of this bridge is shown in **Figure 6.3**.

This bridge option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- A main span of approximately 60m. Due to the topography on the northern side of the river, there is potential to install an additional pier, splitting this main span into two equal 30m spans. This would limit the effort required to erect the main span beams, however it would require a permanent pier within the heavily vegetated surrounds and result in disruption to the surrounding vegetation and fauna within Bushy Park, especially taking into account the access required for construction. As such, this option has been progressed with a 60m main span, to allow the northern bank and waterway to be crossed with a single span.
- An assessment of the existing northern embankment would be required to ensure overall slope stability.
- Additional approach spans would be required within public open space on the southern side of the Dodder river to overcome the significant level difference (approx. 8m) between the southern and northern landings.
- There would be an impact on a number of mature trees in the vicinity of the bank of the river Dodder.
- The bridge would span over existing public walkways within Bushy Park.
- South of the Dodder, cyclists would utilise the Dodder Greenway. North of the Dodder, cyclists would share with vehicles along Rathdown Park for approximately 380m before joining Rathfarnham Road, passing through 2 roundabouts along the way.

Bridge Options Assessment

Details of the parallel cycle route options assessment undertaken for the Grange Road to Rathdown Park study area section are presented in Appendix A. The relative ranking of route options against the scheme assessment sub-criteria is summarised in **Table 6.1**.

Table 6.1: Proposed Dodder Bridge Crossing MCA Summary

Appraisal Criteria	Option DC1	Option DC2
1 Cost		
2 Constructability		
3 Cycle Connectivity		
4 Impact on Private Property		
5 Flora and Fauna		
6 Landscape and Visual		

In terms of cost, Option DC2 would have a higher construction cost due to the additional length to be spanned and the associated construction complexity. Option DC1 would have additional costs associated with the acquisition of private lands. As such, it is considered that the overall cost of both options would be comparable.

In terms of constructability, Option DC2 performs marginally worse under this criterion. This is due to the construction complexity added by the additional length of the span, which in turn will require deeper and heavier sections, impacting on constructability, particularly given the limited access to the site.

In terms of cycle connectivity, both options would connect to the Dodder Greenway south of the Dodder. To the north, option DC2 would share with general traffic for approximately 120m longer than options DC1 and would pass through 2 roundabout junctions prior to joining the CBC corridor on Rathfarnham Road. Option DC1 performs therefore performs marginally better as it offers a more attractive route for cyclists north of the Dodder.

In terms of impact on properties, Option DC1 performs worse under this criterion due to the fact that land acquisition from one private property would be required to deliver this option.

In terms of flora and fauna, Option DC1 performs marginally better due to the fact that fewer mature trees along the Dodder River would be impacted to deliver this bridge option.

Finally, in terms of landscape and visual impacts, it is considered that both options wold have equal impacts under this criterion.

Based on the assessment carried out, Option DC1 is the preferred location for a new pedestrian and cyclist bridge crossing the river Dodder. This bridge has been incorporated into end-to-end parallel cycle route options where appropriate, as described in the following sections.

6.1.2.3 Parallel Cycle Route Options Considered

10 potential parallel cycle route options were identified as presented within this section and as illustrated in **Figure 6.4**. For completeness the EPR Option has been included in this assessment.

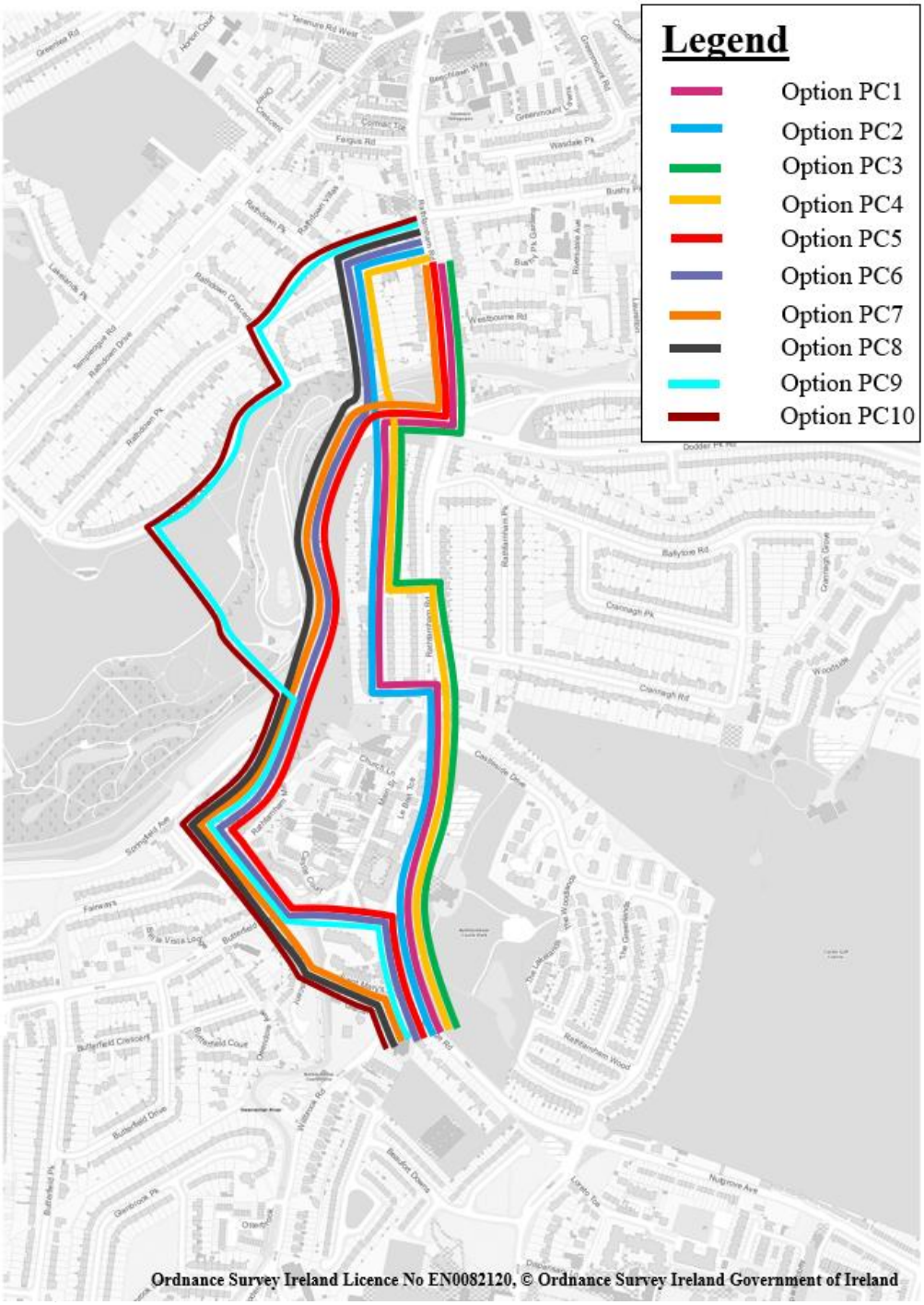


Figure 6.4: Section 1 Parallel Cycle Route Options

- **Option PC1** ***(EPR Option)*** – Parallel cycle route via Brookvale Downs using laneway north of Texaco Station and crossing River Dodder via a new boardwalk at Pearse Bridge;
- **Option PC2** - Parallel cycle route via Brookvale Downs using laneway north of Texaco Station and crossing River Dodder via a new pedestrian/cycle bridge to Rathdown Park;
- **Option PC3** - Parallel cycle route via Brookvale Downs using Brookvale Road and crossing the River Dodder via a new boardwalk at Pearse Bridge;

- **Option PC4** - Parallel cycle route via Brookvale Downs using Brookvale Road and crossing River Dodder via a new pedestrian/cycle bridge to Rathdown Park;
- **Option PC5** - Parallel cycle route along Butterfield Avenue and the Owendoher River connecting to the Dodder Greenway and crossing the River Dodder via a new boardwalk at Pearse Bridge;
- **Option PC6** - Parallel cycle route along Butterfield Avenue and Owendoher River connecting to the Dodder Greenway and a new bridge to Rathdown Park;
- **Option PC7** - Parallel cycle route along St Mary's Avenue and the Owendoher River connecting to the Dodder Greenway and a new boardwalk via a new boardwalk at Pearse Bridge;
- **Option PC8** - Parallel cycle route along St Mary's Avenue and the Owendoher River connecting to the Dodder Greenway and new bridge to Rathdown Park;
- **Option PC9** - Parallel cycle route along Butterfield Avenue and the Owendoher River connecting to Bushy Park utilising the proposed Dodder Greenway bridge; and
- **Option PC10** - Parallel cycle route along St Mary's Avenue and the Owendoher River connecting to Bushy Park utilising the proposed Dodder Greenway bridge.

These 10 parallel cycle route options have been comparatively assessed in order to determine the draft preferred option for a parallel cycle route. The assessment is based on the same methodology presented in the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' for cycle route options considered in Rathgar/Rathmines.

This methodology assesses options using the 'Five Needs of a Cyclist' outlined in the National Cycle Manual Guidelines along with Capital Cost and Environmental Impacts. The cycle routes were assessed using the criteria and rationale presented in **Table 6.2**.

Table 6.2: Alternative Cycle Route Assessment Criteria

Appraisal Criteria	Rationale
1 Capital Cost	Capital cost estimates consist of both the indicative infrastructure cost estimate and land acquisition costs The cycle route infrastructure cost examines the practicality and extent of works required to accommodate cycle route infrastructure along route options. This criterion evaluates the likely costs associated with land acquisition and associated boundary/accommodation works for each route option. The assessment takes consideration of: • The number of adjacent public/commercial/ residential/industrial properties, from which land acquisition would be required as well as the extent (area) of land acquisition likely to be necessary; and • The costs associated with boundary/accommodation works.

Appraisal Criteria	Rationale
2 Road Safety	For the purposes of comparing route options, the extent of segregation and the number of junctions along the route has been used as a proxy for road safety. The number of junctions is effectively a measure of the number of potential conflicts on the route and therefore a measure of the potential for a collision. The type of movement required by the cyclist at junctions on the route is also considered with routes where turning movements (either left or right) are required being assigned a lower ranking in terms of safety. The quality of cycle provision practically achievable on route options has been assessed. For comparison purposes, the highest level of practical cycle provision achievable on each route has been determined and compared between route options.
3 Coherence	This criterion considers whether a route option forms part of the GDA Cycle Network Plan, with routes where CBC and designated Cycle Routes overlap given a higher designation in terms of benefits arising where cycle infrastructure can be provided as part of a proposed CBC scheme. In some instances, however it may be more appropriate to provide a parallel cycle track off the CBC route. Consideration is also given to cycle routes intersecting with the CBC route. The cycle route should also link the main origin and destination zones along the CBC route.
4 Directness	For the purposes of comparing route options, the number of junctions, length of the route and the number of detours & gaps from the CBC has been used as a proxy for directness.
5 Attractiveness	The cycling environment along the route should be pleasant and interesting. Monotony and lack of points of interest along the cycle route are unattractive to cyclists. Cycle routes should also be adequately lit so as not to deter evening and night time use.
6 Comfort	The quality of cycle provision practically achievable on route options has been assessed. For comparison purposes, the highest level of practical cycle provision achievable on each route has been determined and compared between route options.
7 Environmental	The provision of segregated cycle tracks has the potential to impact on the archaeological, architectural and cultural heritage environment. At this stage of the assessment process, a conservative approach has been adopted in assessing the potential for impact and this is further described below. The provision of segregated cycle tracks has the potential to impact on flora and fauna, the townscape/streetscape along the route and on the land use character through land-take, severance or reduction of viability which prevents or reduces it from being used for its intended use.

Each of the alternative cycle routes are described in further detail in the next section of the report.

6.1.2.3.1 Cycle Route Option PC1

Parallel cycle route PC1 is presented in **Figure 6.5**.

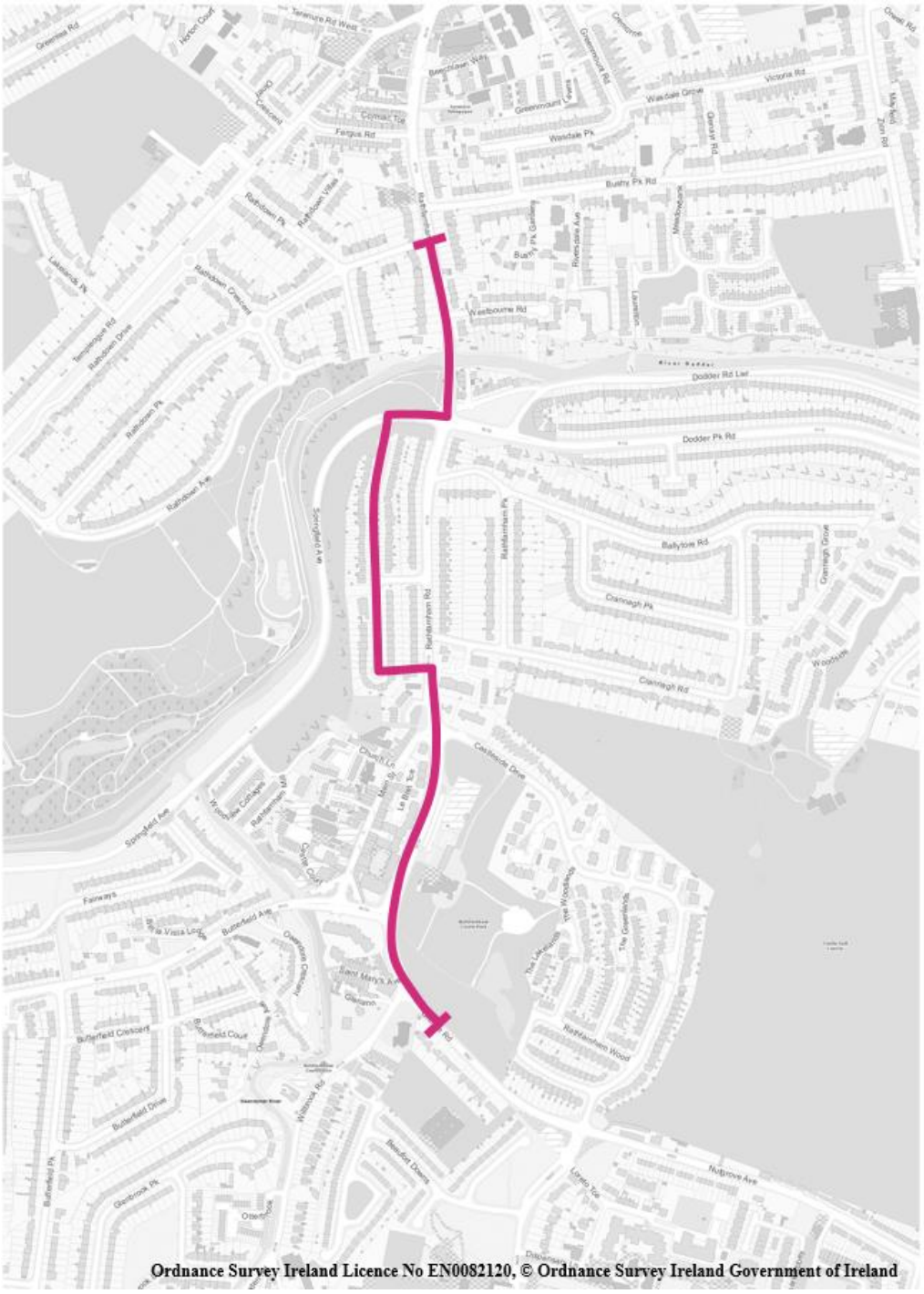


Figure 6.5: Cycle Route Option PC1

Inbound (Northbound): The cycle route would proceed along Rathfarnham Road, linking to Brookvale Downs via an existing laneway adjacent to the Texaco garage.

The route would then continue on Brookvale Downs, linking to Dodder Park Road where the cycle track would cross the River Dodder via a new boardwalk adjacent to the western side of Pearse Bridge. The cycle route then continues along Rathfarnham Road to Rathdown Park.

Outbound (Southbound): The southbound route follows the same route as northbound.

There are five signal-controlled junctions and two pedestrian/toucan crossings along this route.

This segregated cycle route aligns with the GDA Cycle Network Plan proposal for Primary Route 10, with the exception of a 500m section which diverts to Brookvale Downs.

Cycle Route PC1 scheme proposals are presented in **Figure 6.6** while sample cross-sections are illustrated in **Figure 6.7**, **Figure 6.8** and **Figure 6.9**.

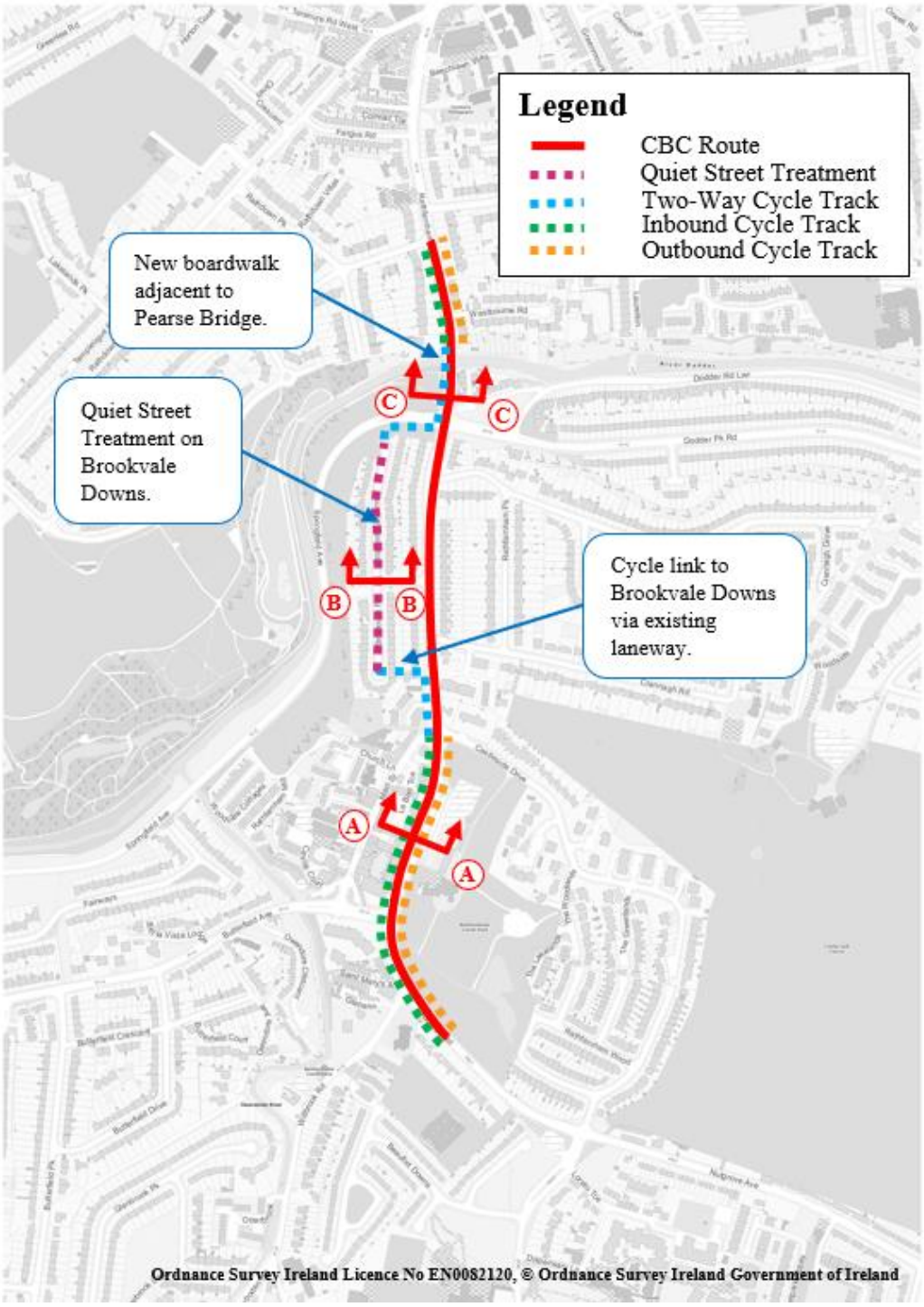


Figure 6.6: Cycle Route PC1 Scheme Proposals

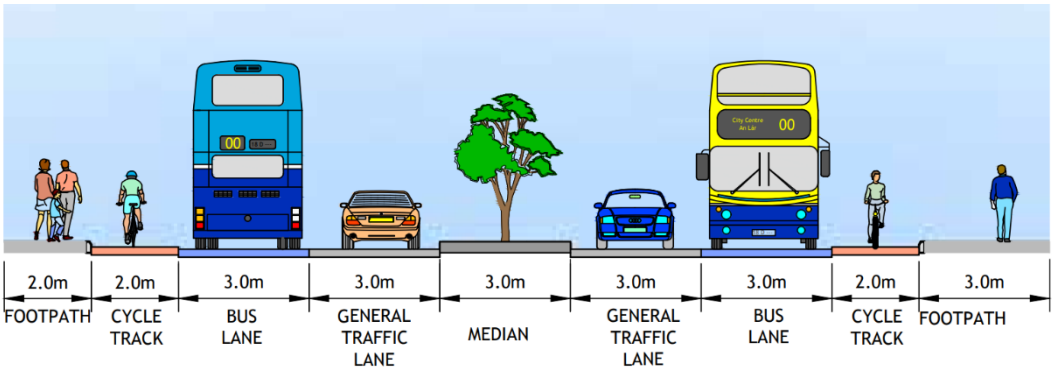


Figure 6.7: Cross-Section A-A (Relevant to PC1, PC2, PC3 & PC4)

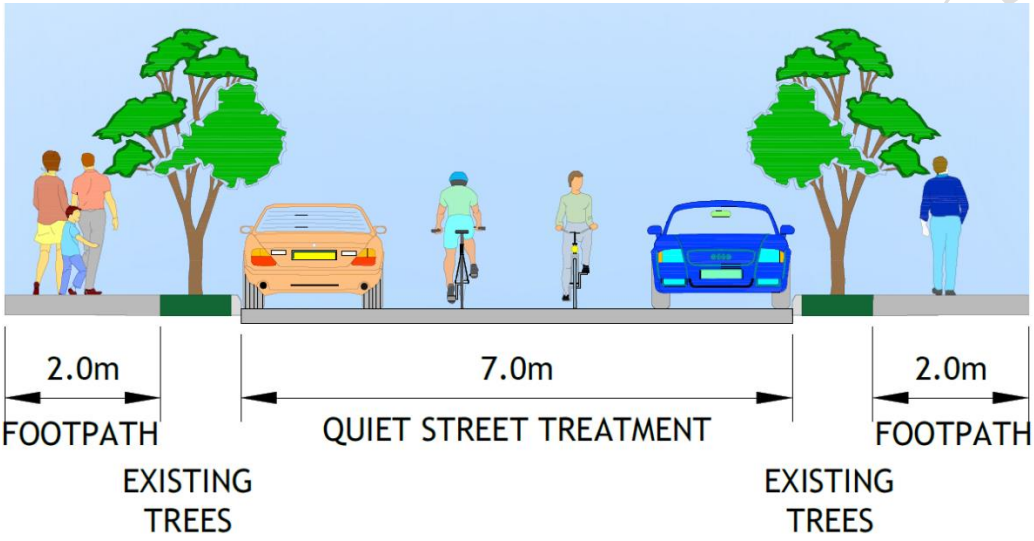


Figure 6.8: Cross-Section B-B (Relevant to PC1, PC2, PC3 & PC4)

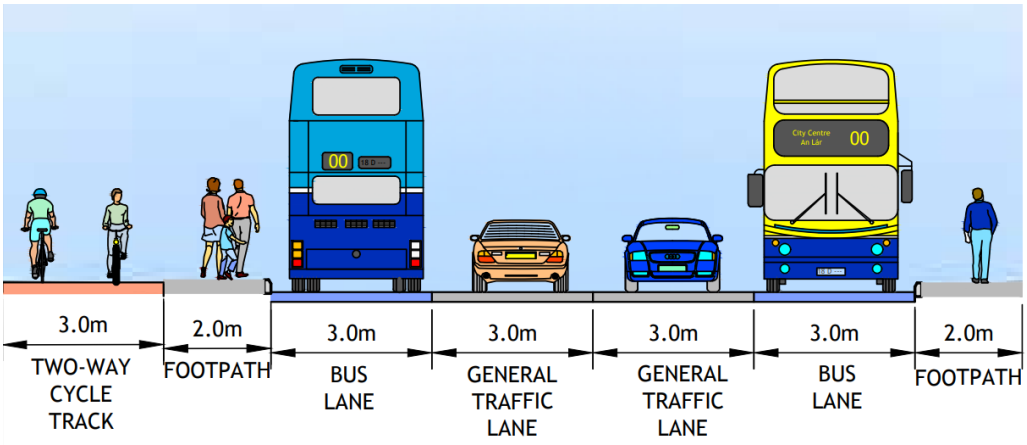


Figure 6.9: Cross-Section C-C (Relevant to PC1 & PC3)

Cycle route option PC1 represents the cycle facilities presented in EPR Option. This option would provide dedicated cycle facilities in each direction on each side of Rathfarnham Road between Willbrook Road and Castleside Drive.

North of Main Street, cyclists would continue on a segregated two-way cycle facility on the western side of Rathfarnham Road before turning onto the existing pedestrian laneway north of the Texaco Station which would be widened to improve access for pedestrians and cyclists.

This laneway leads to Brookvale Downs where cyclists would continue along the road sharing with low volumes of residential traffic in a quiet street environment. Cyclists would exit Brookvale Downs via the existing pedestrian/cycle access on Dodder View Road and cross the road using a new toucan crossing. From here cyclists would continue along a two-way cycle facility along the northern side of Dodder View Road before continuing north across the River Dodder via a new 2-way cycle boardwalk on the western side of Pearse Bridge. Just north of the bridge a toucan crossing would be provided to allow cyclists to cross. North of this point, segregated cycle tracks would be provided on each side of the road.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics.

- Segregated cycle facilities would be provided between Willbrook Road and Texaco Rathfarnham;
- There would be no segregated cycle facilities provided along a 400m section of Rathfarnham Road between Texaco and Dodder Park Road, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A quiet street treatment would be provided on Brookvale Downs. In order to connect cyclists from the main CBC to Brookvale Downs, a narrow existing laneway is proposed to be utilised. Accessing this laneway would require sharp diversions for cyclists, lacks passive surveillance and is very narrow in some locations;
- A new boardwalk would be provided adjacent to Pearse Bridge crossing the River Dodder; and
- Segregated cycle facilities would be provided north of the River Dodder.

6.1.2.3.2 Cycle Route Option PC2

Parallel cycle route option PC2 is presented in **Figure 6.10**.

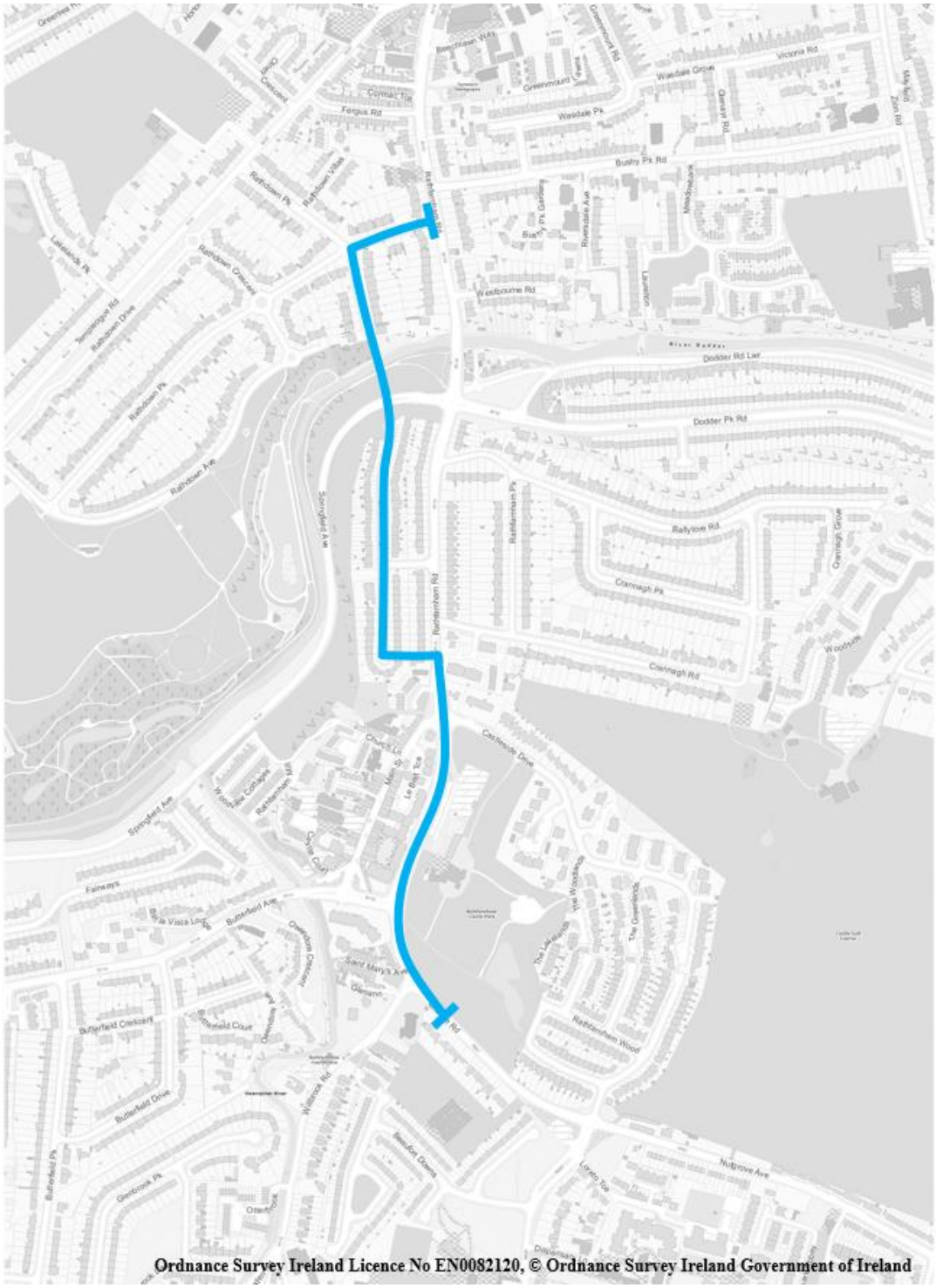


Figure 6.10: Cycle Route Option PC2

Inbound (Northbound): The cycle route follows the same route as Option PC1 as far as Dodder View Road, at which point the cycle track would cross the River Dodder via a new bridge linking to Rathdown Park where a quiet street treatment would be provided connecting back to the CBC.

Outbound (Southbound): The southbound option follows the same route as northbound.

There are four signal-controlled junctions and one pedestrian/toucan crossing along this route.

This segregated cycle route aligns with the GDA Cycle Network Plan proposal for Primary Route 10, with the exception of a 650m section which diverts to Brookvale Downs and Rathdown Park.

The Cycle Route PC2 scheme proposals are presented in **Figure 6.11** while sample cross-sections are presented in **Figure 6.7, Figure 6.8** and **Figure 6.12**.

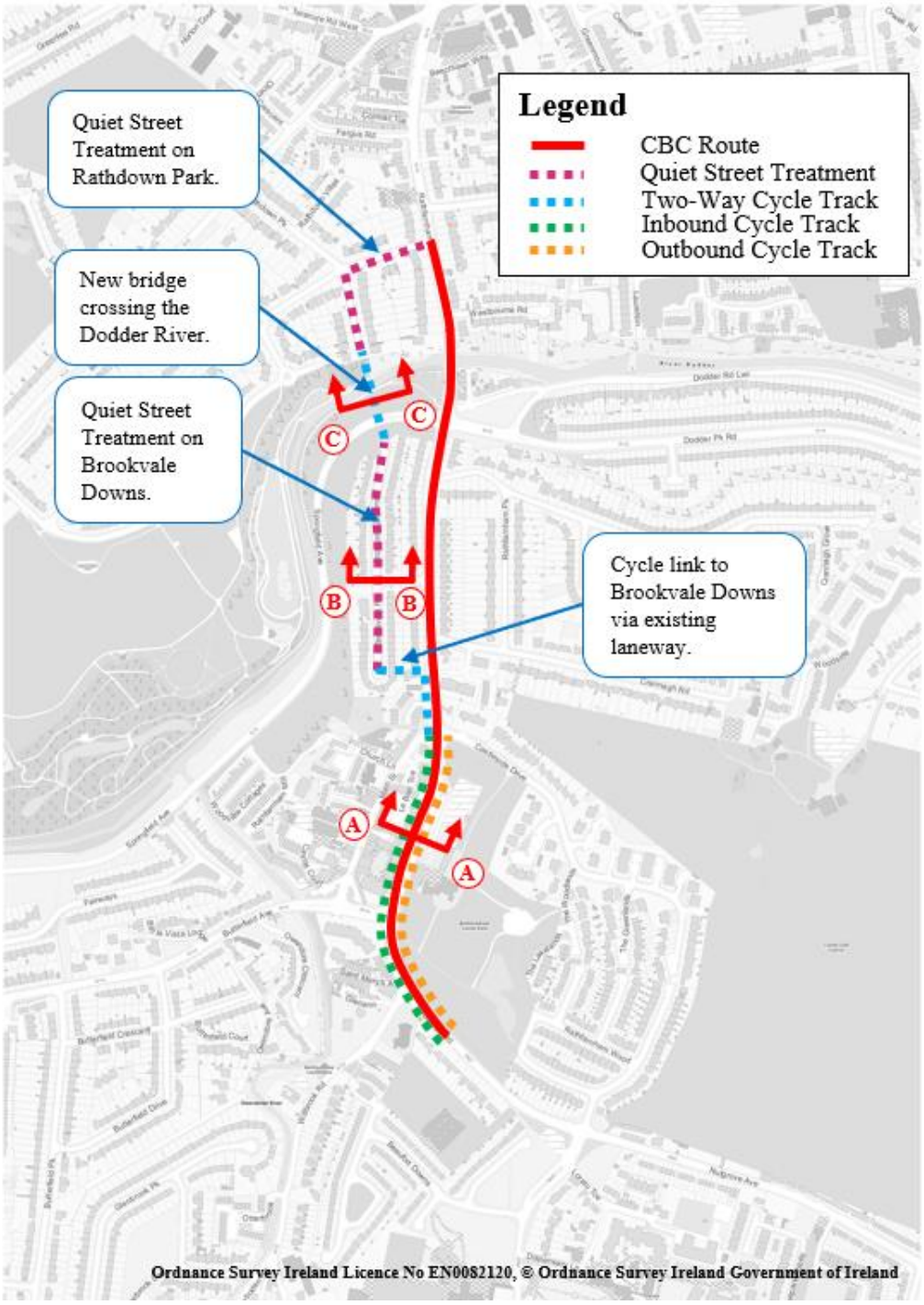


Figure 6.11: Cycle Route PC2 proposal (refer to earlier report sections for duplicate cross-sections)

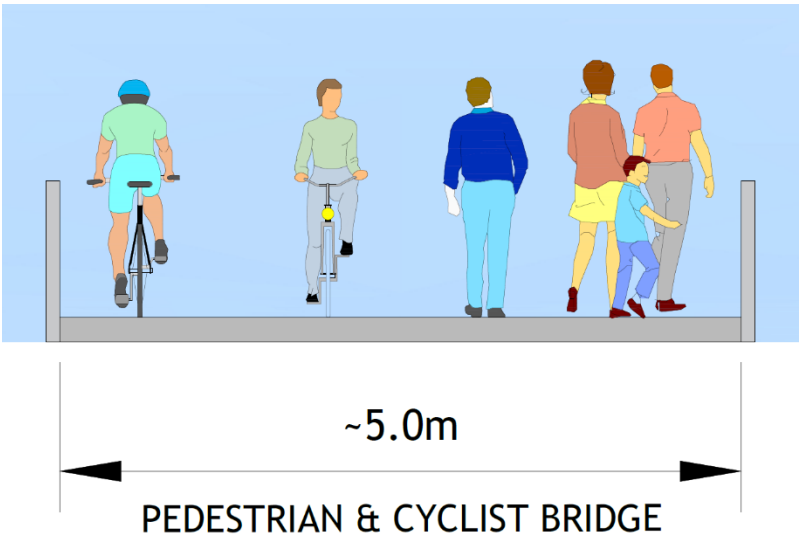


Figure 6.12: Cross-Section C-C (Relevant to PC2, PC4, PC6 & PC8)

Between Willbrook Road and Dodder Park Road, the infrastructure proposed would be as described in Option PC1. Cyclists would exit Brookvale Downs via the existing pedestrian/cycle access on Dodder View Road and cross the road using a new toucan crossing. From here, cyclists would cross the Dodder via a new pedestrian and cyclist bridge linking to Rathdown Park, where a quiet street treatment would be provided, linking back to the CBC.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Texaco Rathfarnham;
- There would be no segregated cycle facilities provided along a 650m section of Rathfarnham Road between Texaco and Rathdown Park, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A quiet street treatment would be provided on Brookvale Downs. In order to connect cyclists from the main CBC to Brookvale Downs, a narrow existing laneway is proposed to be utilised. Accessing this laneway would require sharp diversions for cyclists, lacks passive surveillance and it is very narrow in some locations;
- A new structure would be provided crossing the River Dodder and connecting to Rathdown Park; and
- A quiet street treatment would be provided on Rathdown Park.

6.1.2.3.3 Cycle Route Option PC3

Parallel cycle route option PC3 is presented in **Figure 6.13**.

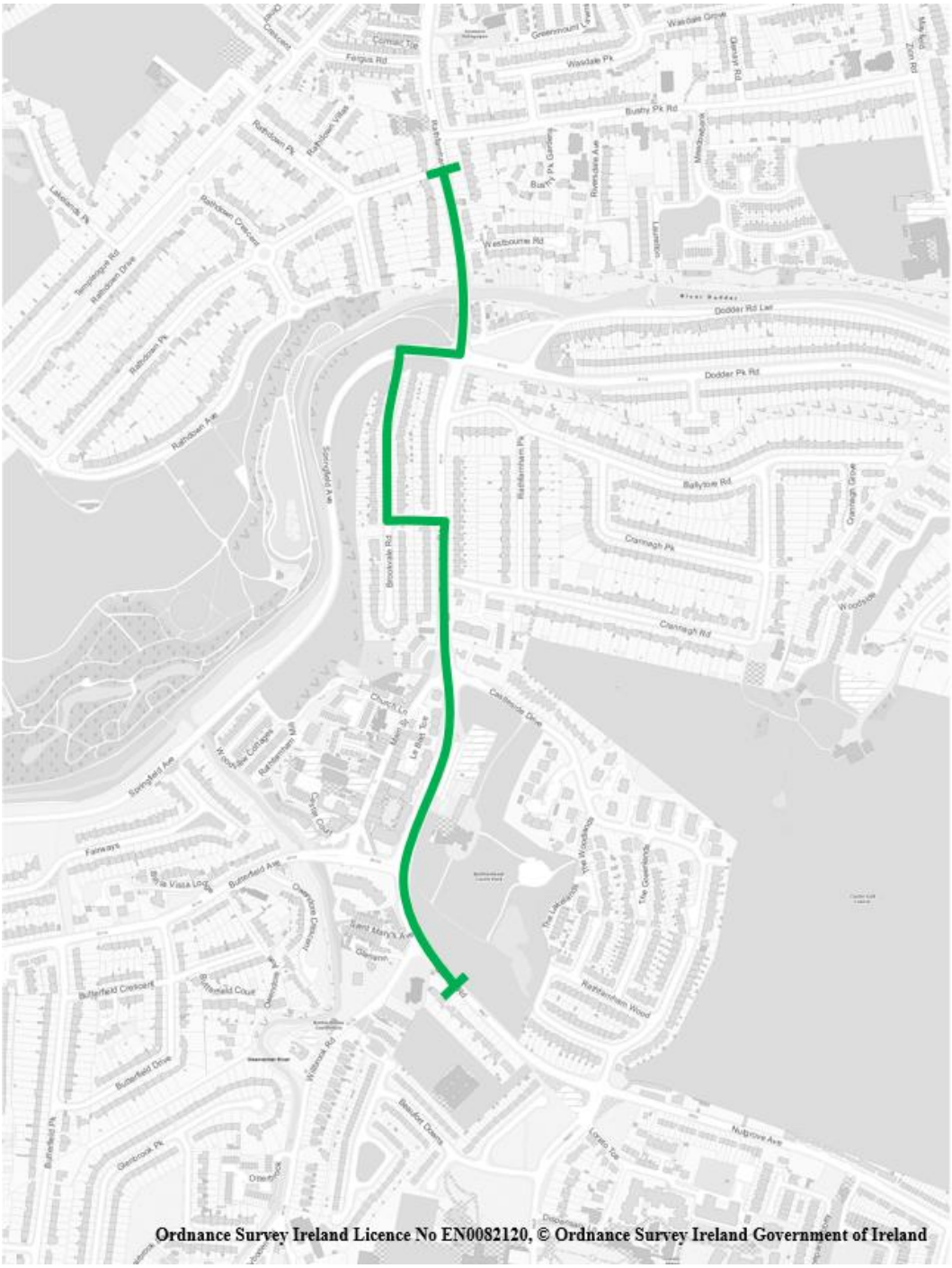


Figure 6.13: Cycle Route Option PC3

Inbound (Northbound): The cycle route proceeds along Rathfarnham Road, linking to Brookvale Downs via Brookvale Road. The cycle route would continue on Brookvale Downs, linking to Dodder View Road where the cycle track would cross the River Dodder via a new boardwalk adjacent to the western side of Pearse bridge. The cycle route would then continue along Rathfarnham Road to Rathdown Park.

Outbound (Southbound): The southbound option follows the same route as northbound.

There are five signal-controlled junctions and four pedestrian/toucan crossings along this route.

This segregated cycle route aligns with the GDA Cycle Network Plan proposal for Primary Route 10, with the exception of a 250m section which diverts to Brookvale Downs.

Cycle Route PC3 scheme proposals are presented in **Figure 6.14** while sample cross-sections are illustrated in **Figure 6.7**, **Figure 6.8** and **Figure 6.9**.

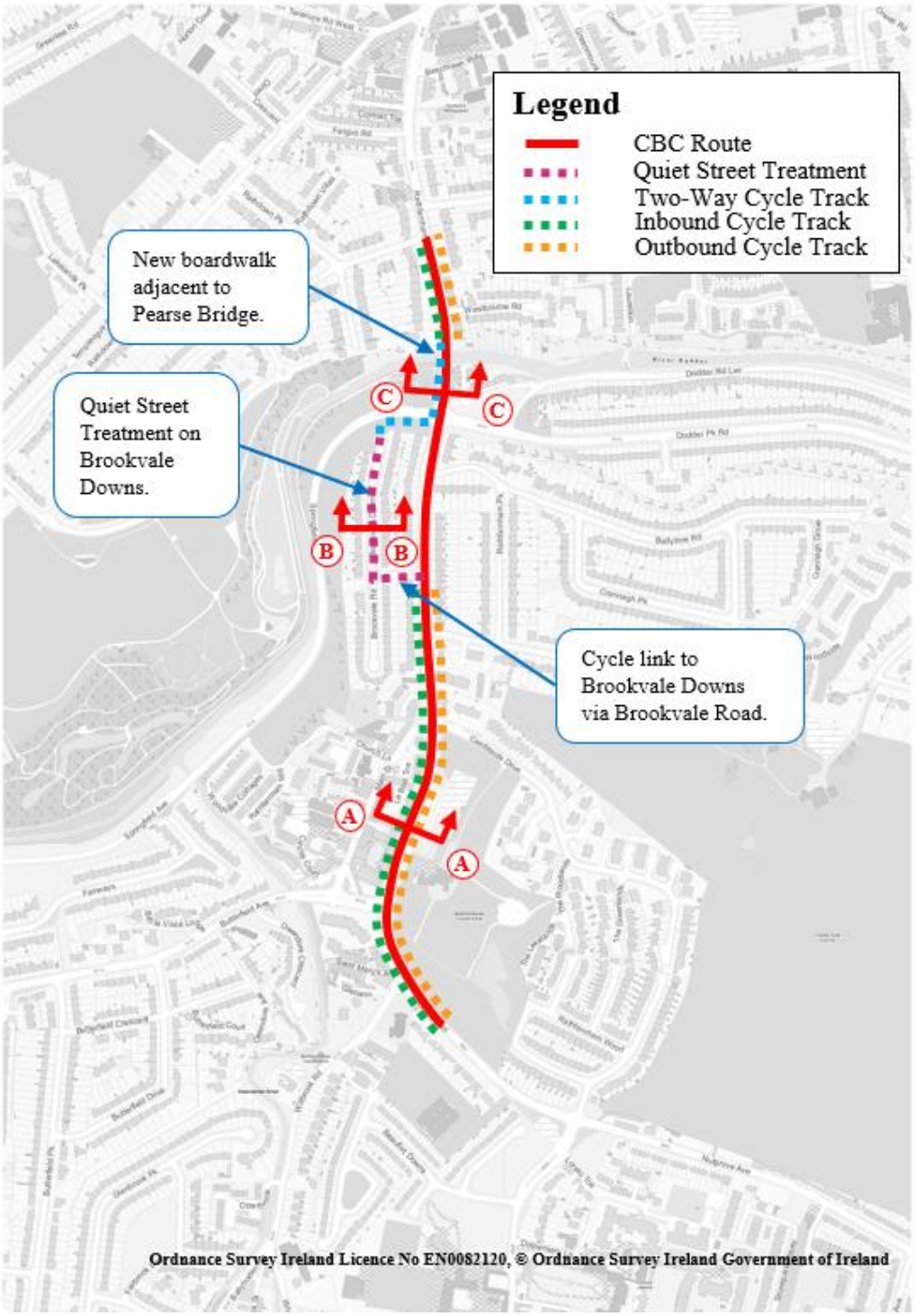


Figure 6.14: Cycle Route PC3 Scheme Proposals (refer to earlier report sections for duplicate cross-sections)

Cycle route Option PC3 would provide dedicated cycle facilities in each direction on each side of Rathfarnham Road between Willbrook Road and Brookvale Road. At Brookvale Road, cyclists would divert to Brookvale Downs where cyclists would continue along the road sharing with low volumes of residential traffic in a quiet street environment. Cyclists would exit Brookvale Downs via the existing pedestrian/cycle access on Dodder View Road and cross the road using a new toucan crossing.

From here cyclists would continue along a two-way cycle facility along the northern side of Dodder View Road before continuing north across the River Dodder via a new 2-way cycle boardwalk on the western side of Pearse Bridge. Just north of the bridge a toucan crossing would be provided to allow cyclists to cross. North of this point, segregated cycle tracks would be provided on each side of the road.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Brookvale Road;
- There would be no segregated cycle facilities provided along a 250m section of Rathfarnham Road between Brookvale Road and Dodder Park Road, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A quiet street treatment would be provided on Brookvale Downs;
- A new boardwalk would be provided adjacent to Pearse Bridge crossing the River Dodder; and
- Segregated cycle facilities would be provided on Rathfarnham Road between the River Dodder and Rathdown Park.

6.1.2.3.4 Cycle Route Option PC4

Parallel cycle route option PC4 is presented in **Figure 6.15**.

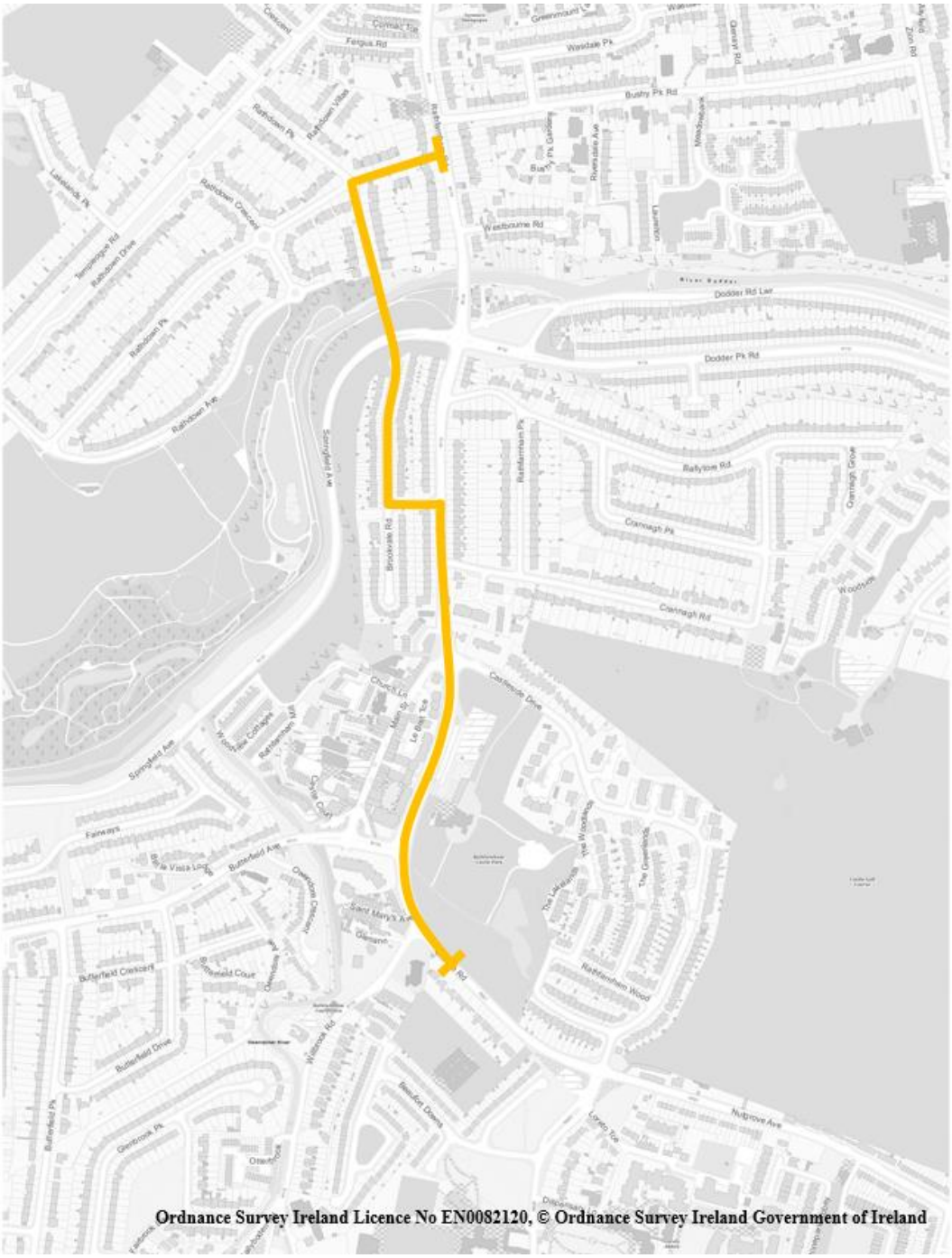


Figure 6.15: Cycle Route Option PC4

Inbound (Northbound): The cycle route follows the same route as Option PC3 as far as Dodder View Road, at which point the cycle track would cross the River Dodder via a new bridge linking to Rathdown Park where a quiet street treatment would be provided connecting back to the CBC.

Outbound (Southbound): The southbound option follows the same route as northbound.

There are four signal-controlled junctions and three pedestrian/toucan crossings along this route.

This segregated cycle route aligns with the GDA Cycle Network Plan proposal for Primary Route 10, with the exception of a 500m section which diverts to Brookvale Downs and Rathdown Park.

Cycle Route PC4 scheme proposals are presented in **Figure 6.16** while sample cross-sections are illustrated in **Figure 6.7**, **Figure 6.8** and **Figure 6.12**.

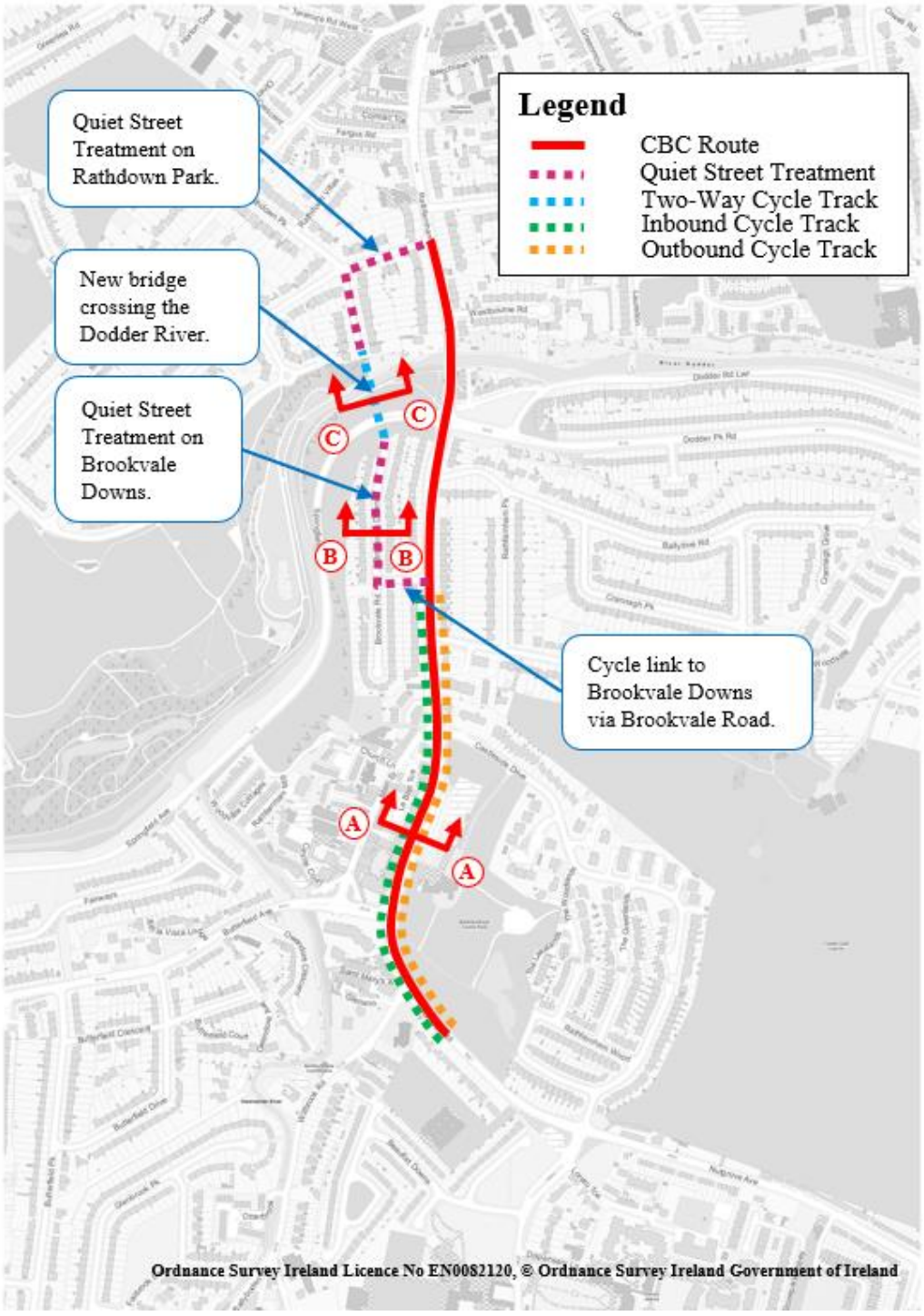


Figure 6.16: Cycle Route PC4 Scheme Proposals (refer to earlier report sections for duplicate cross-sections)

Between Willbrook Road and Dodder Park Road, the infrastructure proposed would be as described in Option PC3. Between Dodder Park Road and Rathdown Park, the infrastructure proposed would be as described in Option PC2.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Brookvale Road;
- There would be no segregated cycle facilities provided along a 500m section of Rathfarnham Road between Brookvale Road and Rathdown Park, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A quiet street treatment would be provided on Brookvale Downs;
- A new structure would be provided crossing the River Dodder and connecting to Rathdown Park; and
- A quiet street treatment would be provided on Rathdown Park.

6.1.2.3.5 Cycle Route Option PC5

Parallel cycle route option PC5 is presented in **Figure 6.17**.

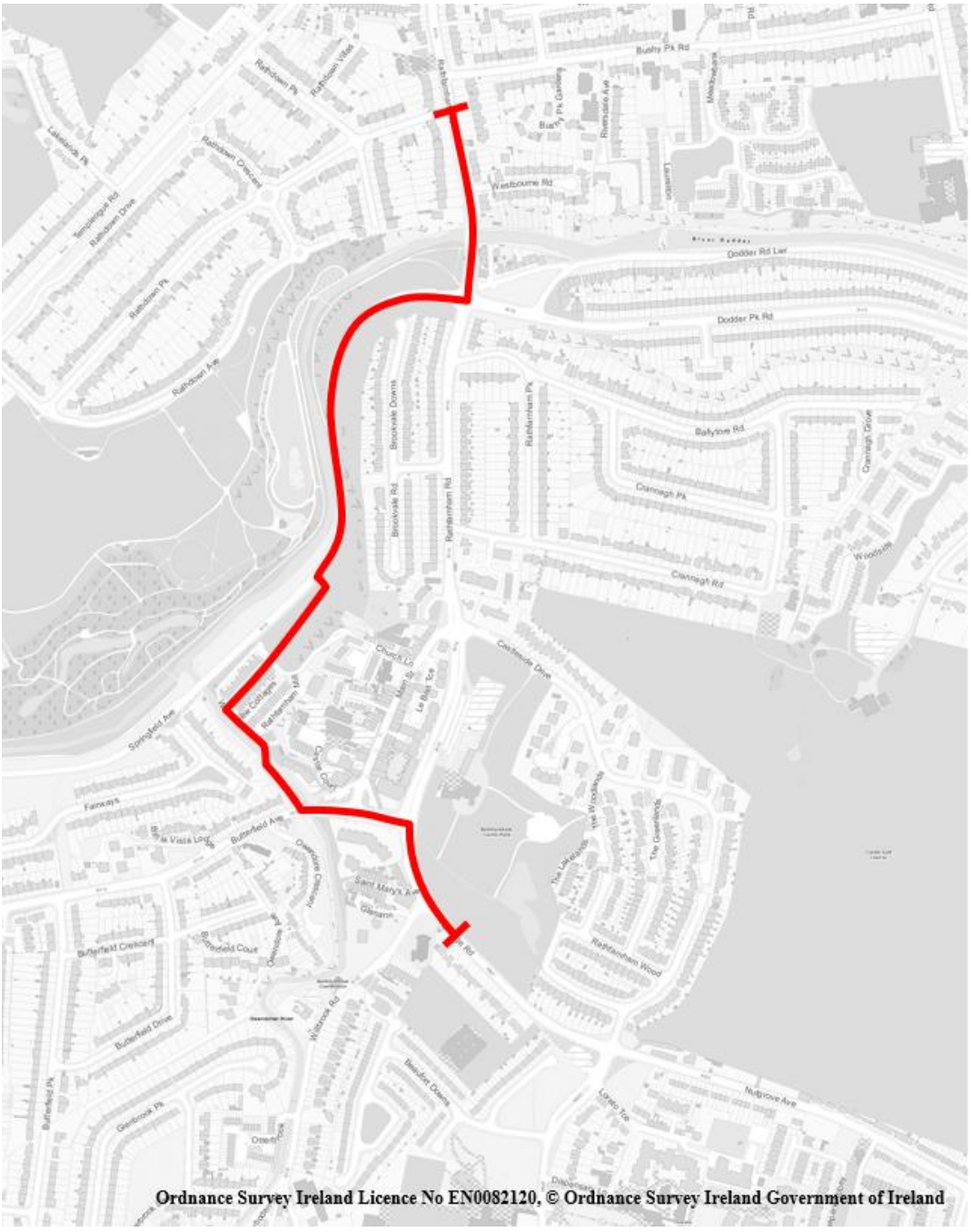


Figure 6.17: Cycle Route Option PC5

Inbound (Northbound): The cycle route proceeds along Rathfarnham Road as far as Butterfield Avenue. At this point, the route would divert to Butterfield Avenue. A toucan crossing would be provided on Butterfield Road, linking to a pedestrian and cycle facility along the banks of the Owendoher River, crossing to Woodview Cottages. A toucan crossing would be provided crossing Springfield Avenue, connecting to a two-way cycle facility on the western side of Springfield Avenue being proposed as part of the Dodder Greenway. This two-way facility would continue to a new boardwalk structure crossing the River Dodder at the Pearse Bridge. A segregated facility would continue along Rathfarnham Road as far as Rathdown Park.

Outbound (Southbound): The southbound option follows the same route as northbound.

There are three signal-controlled junctions and three pedestrian/toucan crossings along this route.

This segregated cycle route does not align directly with the GDA Cycle Network Plan proposal for Primary Route 10 for the majority of the route (750m).

Cycle Route PC5 scheme proposals are presented in **Figure 6.18** while sample cross-sections are illustrated in **Figure 6.19**, **Figure 6.20** and **Figure 6.21**.

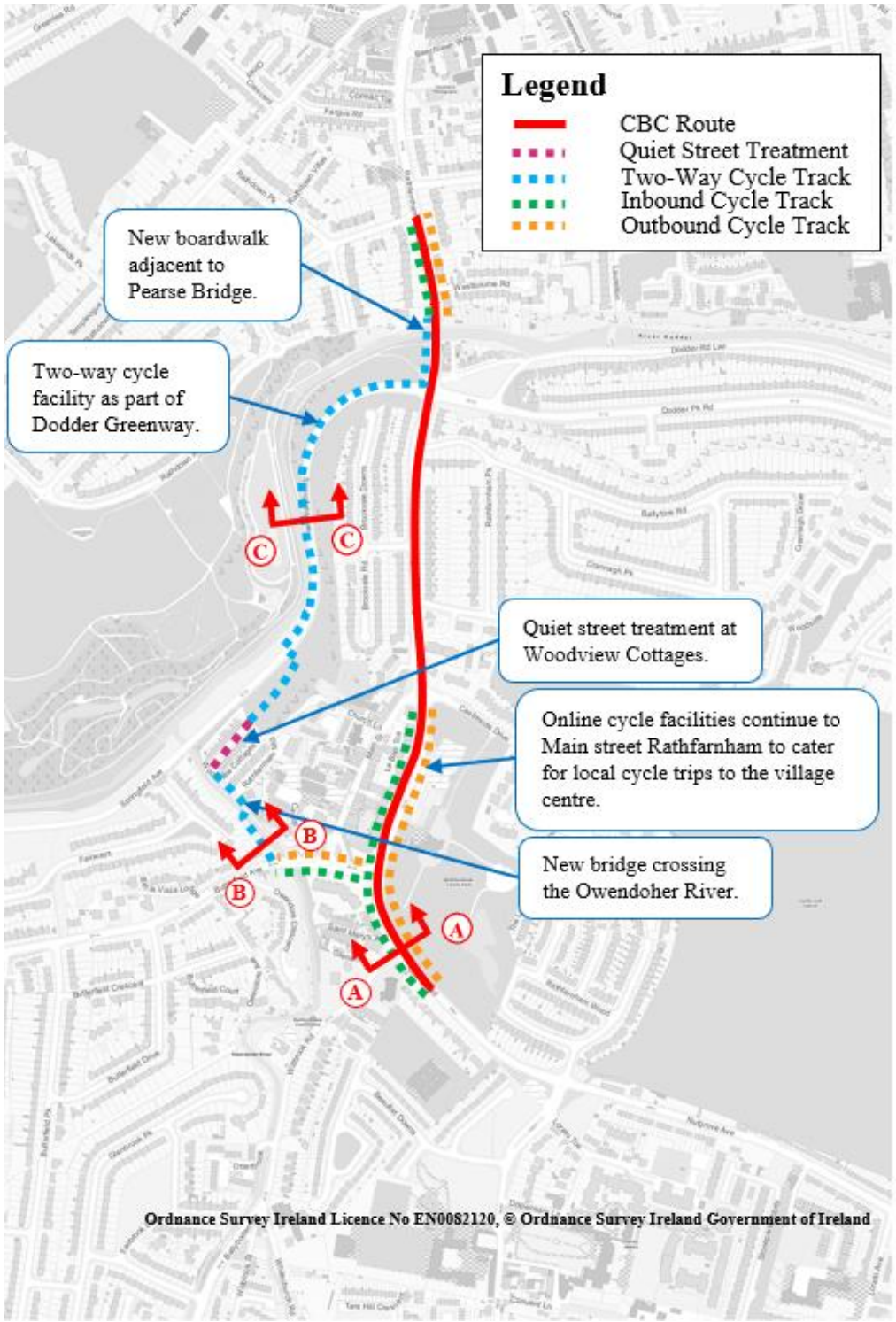


Figure 6.18: Cycle Route PC5 Scheme Proposals (refer to earlier report sections for duplicate cross-sections)

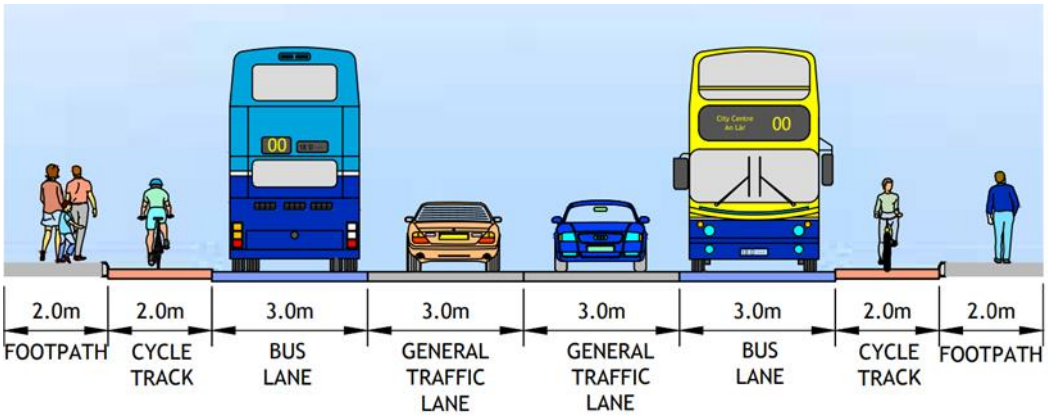


Figure 6.19: Cross Section A-A (Relevant to PC5, PC6, PC7, PC8, PC9 & PC10)

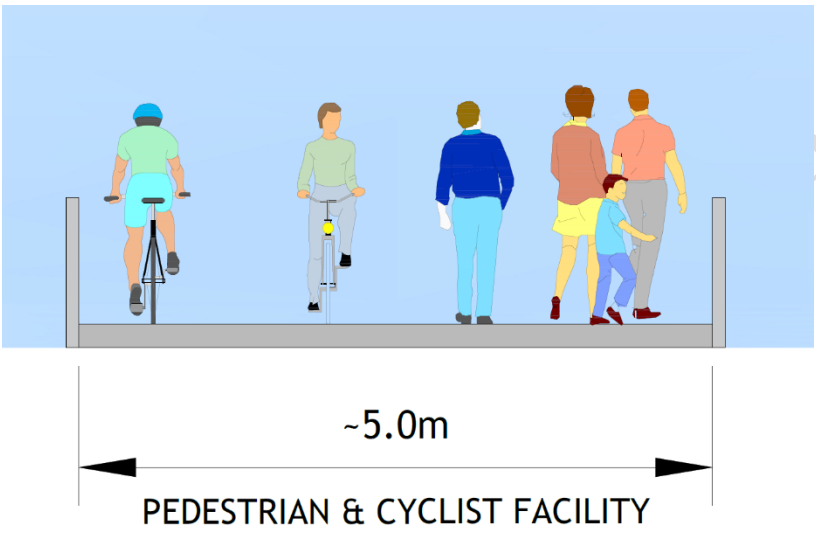


Figure 6.20: Cross-Section B-B (Relevant to PC5, PC6, PC7, PC8, PC9 & PC10)

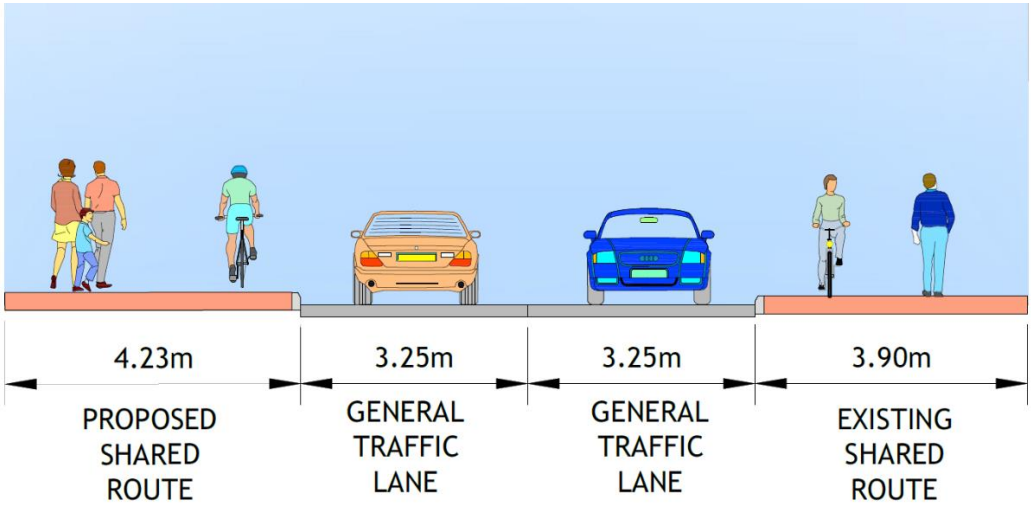


Figure 6.21: Cross-Section C-C (reproduced based SDCC Part VIII application) (Relevant to PC5, PC6, PC7 & PC8)

Cycle route Option PC5 would provide dedicated cycle facilities in each direction on each side of Rathfarnham Road between Willbrook Road and Butterfield Avenue. Cyclists would divert at Butterfield Avenue with segregated cyclist facilities provided along this road as far as the Owendoher River. A new toucan crossing would be provided crossing Butterfield Avenue at this point, connecting to a new proposed pedestrian and cyclist link crossing the Owendoher River via a new structure and connecting to Woodview Cottages. A quiet street treatment would be provided for cyclists along Woodview Cottages.

The proposed cycle facility would then link to the Dodder Greenway Scheme, via a toucan crossing of Springfield Avenue. Shared pedestrian and cyclist facilities would be provided on either side of Springfield Avenue/Dodder View Road as far as the junction with Rathfarnham Road, as part of the Dodder Greenway Scheme. A new 2-way cycle boardwalk would be provided on the western side of Pearse Bridge. Just north of the bridge a toucan crossing would be provided to allow cyclists to cross. North of this point, segregated cycle tracks would be provided on each side of the road.

The following constraints would need to be considered if this route option is progressed:

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Texaco Rathfarnham;
- There would be no segregated cycle facilities provided along a 500m section of Rathfarnham Road between Texaco Rathfarnham and Dodder Park Road, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A new structure would need to be provided crossing the Owendoher River;
- A quiet street treatment would be provided on Woodview Cottages linking to the Dodder Greenway Scheme on Springfield Avenue;
- A new boardwalk would need to be provided adjacent to Pearse Bridge crossing the River Dodder; and
- Segregated cycle facilities would be provided on Rathfarnham Road between the River Dodder and Rathdown Park.

6.1.2.3.6 Cycle Route Option PC6

Parallel cycle route option PC6 is presented in **Figure 6.22**.

Figure 6.22: Cycle Route Option PC6

Inbound (Northbound): The cycle route follows the same route as Option PC5 as far as a point approx. 100m west of the junction between Dodder Park Road and Rathfarnham Road, at which point the two-way facility would connect to a new pedestrian and cyclist bridge crossing the River Dodder and linking to Rathdown Park.

Outbound (Southbound): The southbound option follows the same route as northbound.

There are two signal-controlled junctions and three pedestrian/toucan crossings along this route.

This segregated cycle route does not align directly with the GDA Cycle Network Plan proposal for Primary Route 10 for the majority of the route (1km).

Cycle Route PC6 scheme proposals are presented in **Figure 6.23** while sample cross-sections are presented in **Figure 6.19**, **Figure 6.20** and **Figure 6.21**.

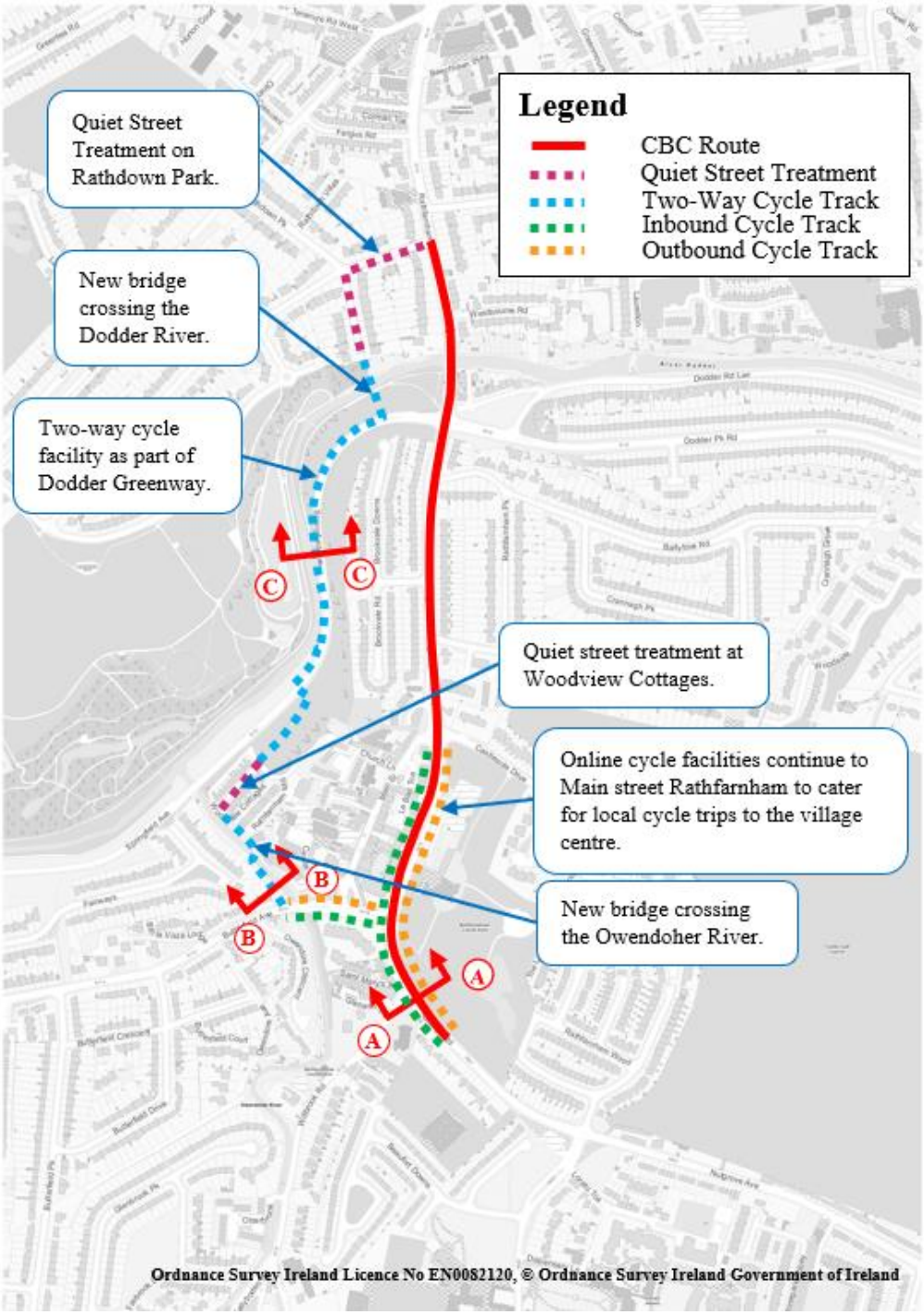


Figure 6.23: Cycle Route PC6 Scheme Proposals (refer to earlier report sections for duplicate cross-sections)

Between Willbrook Road and a point approx. 100m west of the junction between Dodder Park Road and Rathfarnham Road, the infrastructure proposed would be as described in Option PC5. At this point, the scheme would connect to a new pedestrian and cyclist bridge linking to Rathdown Park, where a quiet street treatment would be provided, linking back to the CBC.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Texaco Rathfarnham;
- There would be no segregated cycle facilities provided along a 750m section of Rathfarnham Road between Texaco Rathfarnham and Rathdown Park, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A new structure would be provided Crossing the Owendoher River;
- A quiet street treatment would be provided on Woodview Cottages linking to the Dodder Greenway Scheme;
- A new structure would be provided crossing the River Dodder and connecting to Rathdown Park; and
- A quiet street treatment would be provided on Rathdown Park.

6.1.2.3.7 Cycle Route Option PC7

Parallel cycle route option PC7 is presented in **Figure 6.24**.

Figure 6.24: Cycle Route Option PC7

Inbound (Northbound): The cycle route proceeds along Rathfarnham Road as far as St Mary's Avenue. At this point, the route would divert to St. Mary's Avenue. This would link to a new structure crossing the Owendoher River to the Owendoher Crescent green area. From here, a dedicated cyclist and pedestrian track would then cross Butterfield Avenue via a new toucan crossing. From this point the cycle route would follow the same route as Option PC5.

Outbound (Southbound): The southbound option follows the same route as northbound.

There are three signal-controlled junctions and three pedestrian/toucan crossings along this route.

This segregated cycle route does not align directly with the GDA Cycle Network Plan proposal for Primary Route 10 for the majority of the route (850m).

Cycle Route PC7 scheme proposals are presented in **Figure 6.25** while sample cross-sections are illustrated in **Figure 6.19**, **Figure 6.20** and **Figure 6.21**.

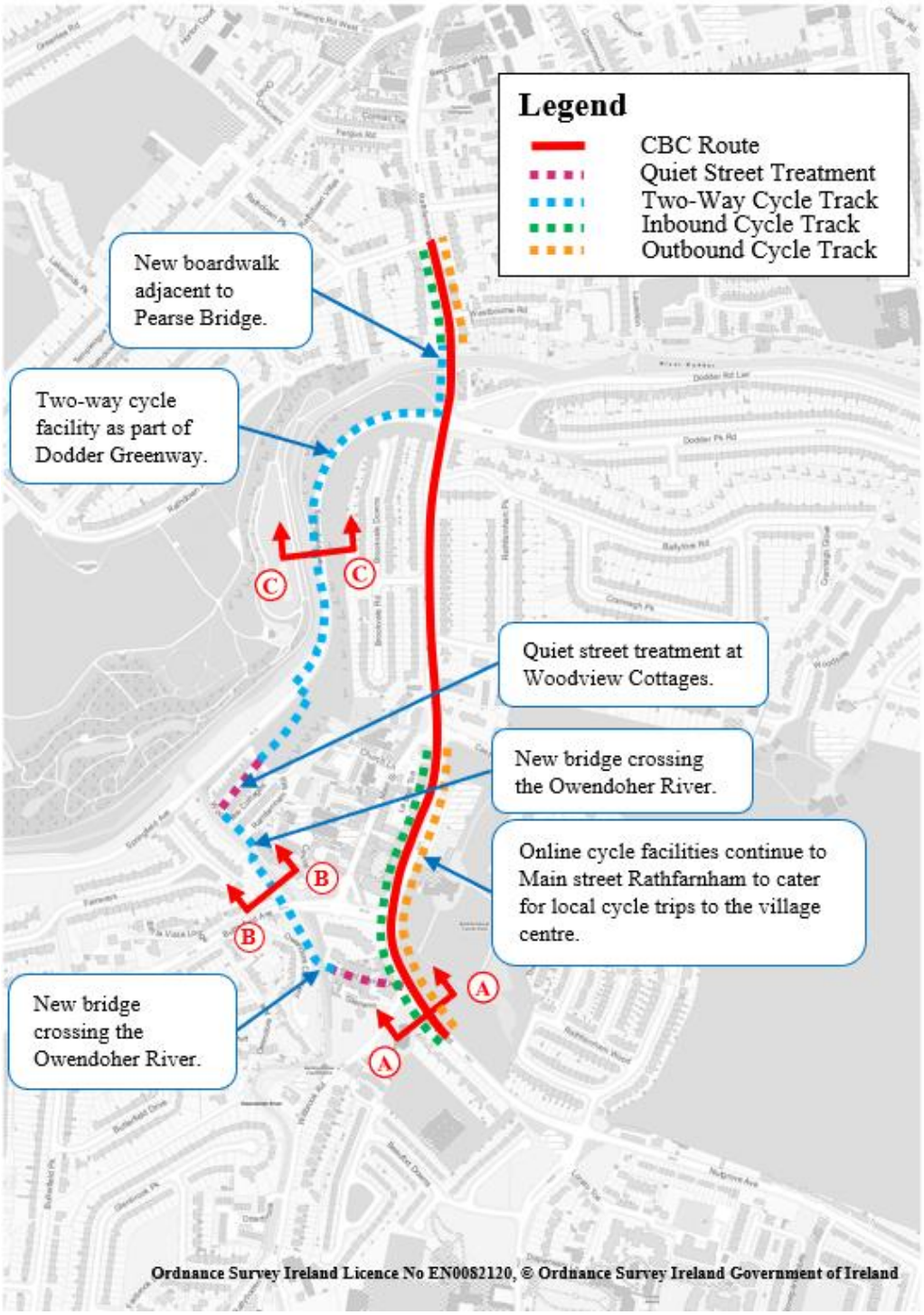


Figure 6.25: Cycle Route PC7 Scheme Proposals (refer to earlier report sections for duplicate cross-sections)

Cycle route Option PC7 would provide dedicated cycle facilities in each direction on each side of Rathfarnham Road as far as St. Mary's Avenue. Cyclists would divert at St. Mary's Avenue where a quiet street treatment would be provided. This would link to a new structure crossing the Owendoher River to the Owendoher Crescent green area. From here, a dedicated cyclist and pedestrian track would then cross Butterfield Avenue via a new toucan crossing. From this point as far as Rathdown Park, the infrastructure proposed would be as described in Option PC5.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Texaco Rathfarnham;
- There would be no segregated cycle facilities provided along an 500m section of Rathfarnham Road between Texaco Rathfarnham and Dodder Park Road, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A quiet street treatment would be provided on St. Mary's Avenue;
- Two new structures would be provided crossing the Owendoher River; and
- A quiet street treatment would be provided on Woodview Cottages linking to the Dodder Greenway Scheme;
- A new boardwalk structure would be provided at the Pearse Bridge; and
- Segregated cycle facilities would be provided on Rathfarnham Road between the River Dodder and Rathdown Park.

6.1.2.3.8 Cycle Route Option PC8

Parallel cycle route option PC8 is presented in **Figure 6.26**.

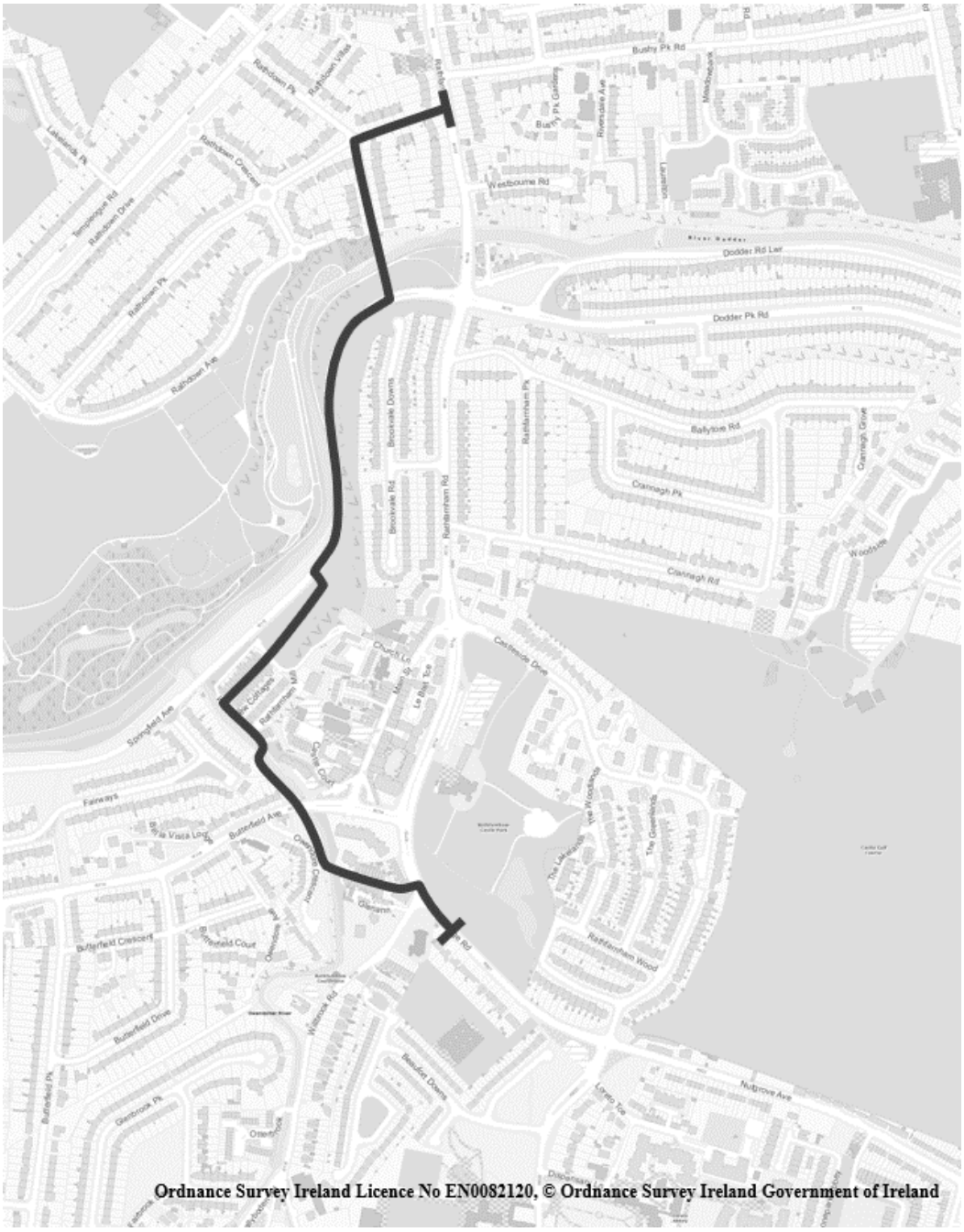


Figure 6.26: Cycle Route Option PC8

Inbound (Northbound): The cycle route follows the same route as Option PC7 as far as Dodder View Road, at which point the cycle track would cross the River Dodder via a new bridge linking to Rathdown Park where a quiet street treatment would be provided connecting back to the CBC.

Outbound (Southbound): The southbound option follows the same route as northbound.

There is one signal-controlled junction and three pedestrian/toucan crossings along this route.

This segregated cycle route does not align directly with the GDA Cycle Network Plan proposal for Primary Route 10 for the majority of the route (1.1km).

Cycle Route PC8 scheme proposals are presented in **Figure 6.27** while sample cross-sections are presented in **Figure 6.19**, **Figure 6.20** and **Figure 6.21**.

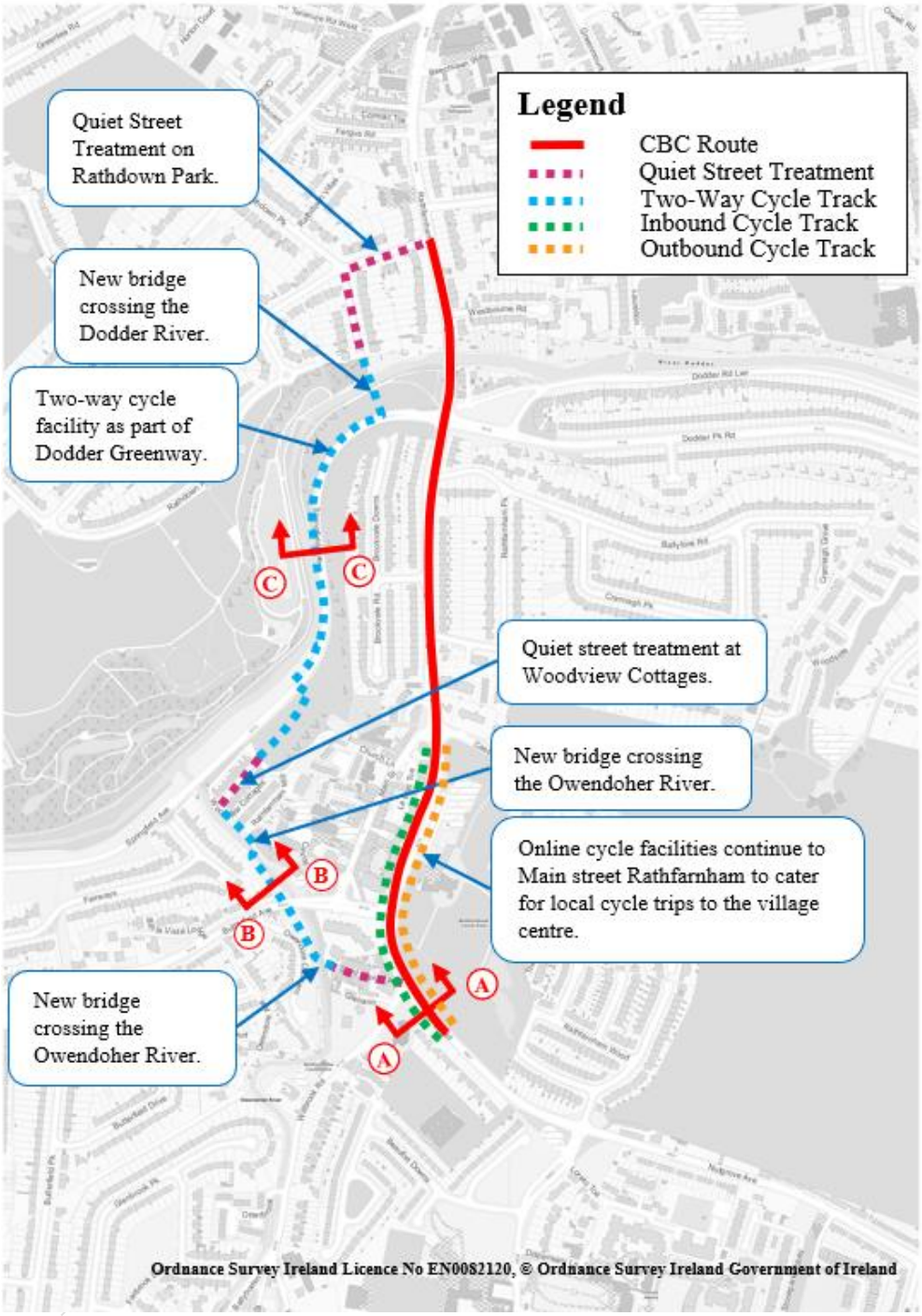


Figure 6.27: Cycle Route PC8 Scheme Proposals (refer to earlier report sections for duplicate cross-sections)

Between Willbrook Road and a point approx. 100m west of the junction between Dodder Park Road and Rathfarnham Road, the infrastructure proposed would be as described in Option PC7. Between this point and Rathdown Park, the infrastructure proposed would be as described in Option PC2.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Texaco Rathfarnham;
- There would be no segregated cycle facilities provided along a 750m section of Rathfarnham Road between Texaco Rathfarnham and Rathdown Park, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A quiet street treatment would be provided on St. Mary's Avenue;
- Two new structures would be provided crossing the Owendoher River;
- A quiet street treatment would be provided on Woodview Cottages linking to the Dodder Greenway scheme;
- A new bridge structure would be provided linking to Rathdown Park; and
- A quiet street treatment would be provided on Rathdown Park.

6.1.2.3.9 Cycle Route Option PC9

Parallel cycle route option PC9 is presented in **Figure 6.28**.

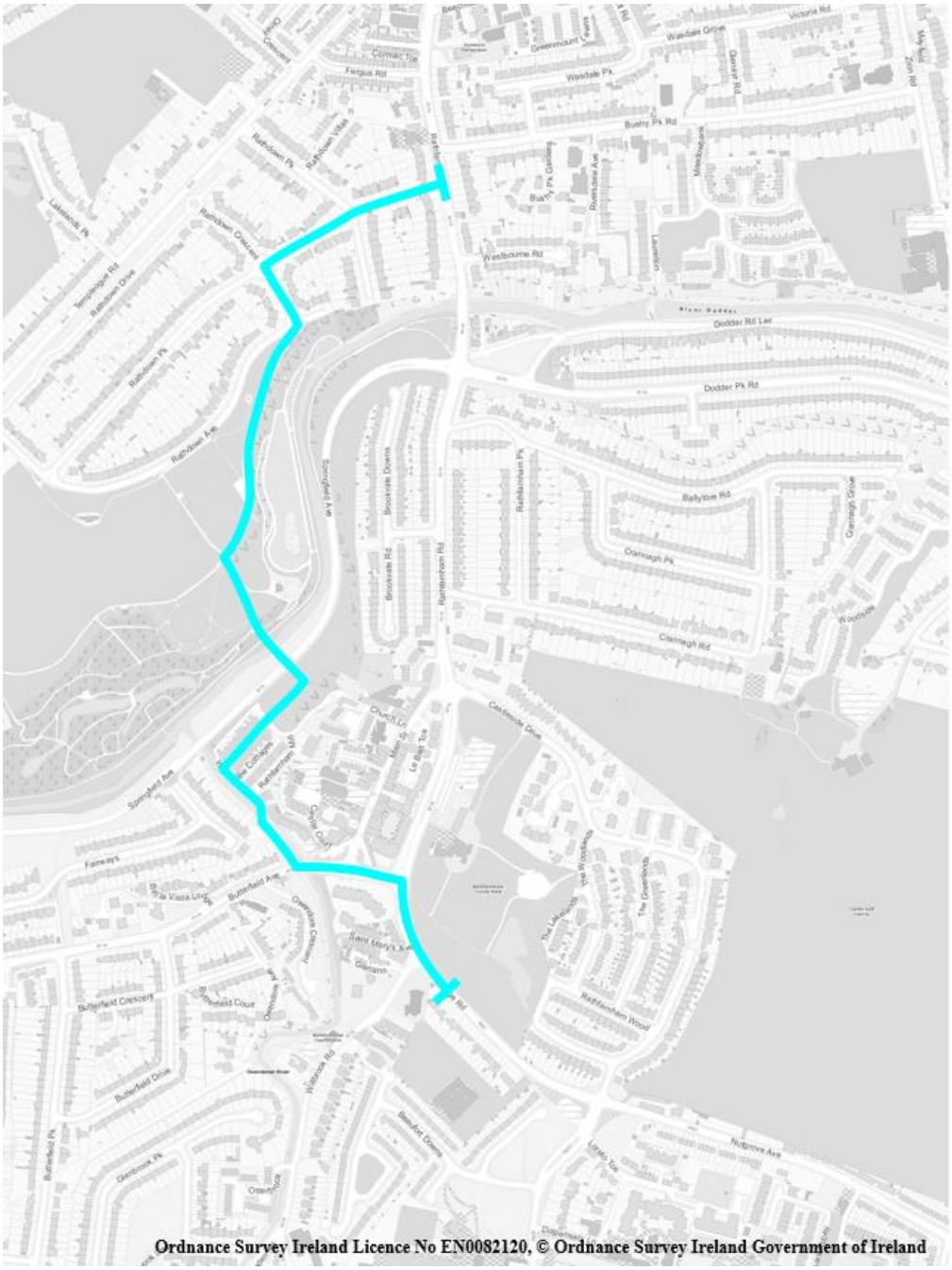


Figure 6.28: Cycle Route Option PC9

Inbound (Northbound): The cycle route follows the same route as Option PC5 as far as Springfield Avenue, at which point a toucan crossing would be provided crossing Springfield Avenue, connecting to the Dodder Greenway pedestrian and cyclist bridge. From here, a dedicated cycle track would be provided through Bushy Park, connecting to Rathdown Crescent. From here, a quiet street treatment would be provided along Rathdown Crescent and Rathdown Park, linking back to the CBC.

Outbound (Southbound): The southbound option follows the same route as northbound.

There is one signal-controlled junction and two pedestrian/toucan crossings along this route.

This segregated cycle route does not align directly with the GDA Cycle Network Plan proposal for Primary Route 10 for the majority of the route (1.55km).

Cycle Route PC9 scheme proposals are presented in **Figure 6.29** while sample cross-sections are presented in **Figure 6.19**, **Figure 6.20** and **Figure 6.30**.

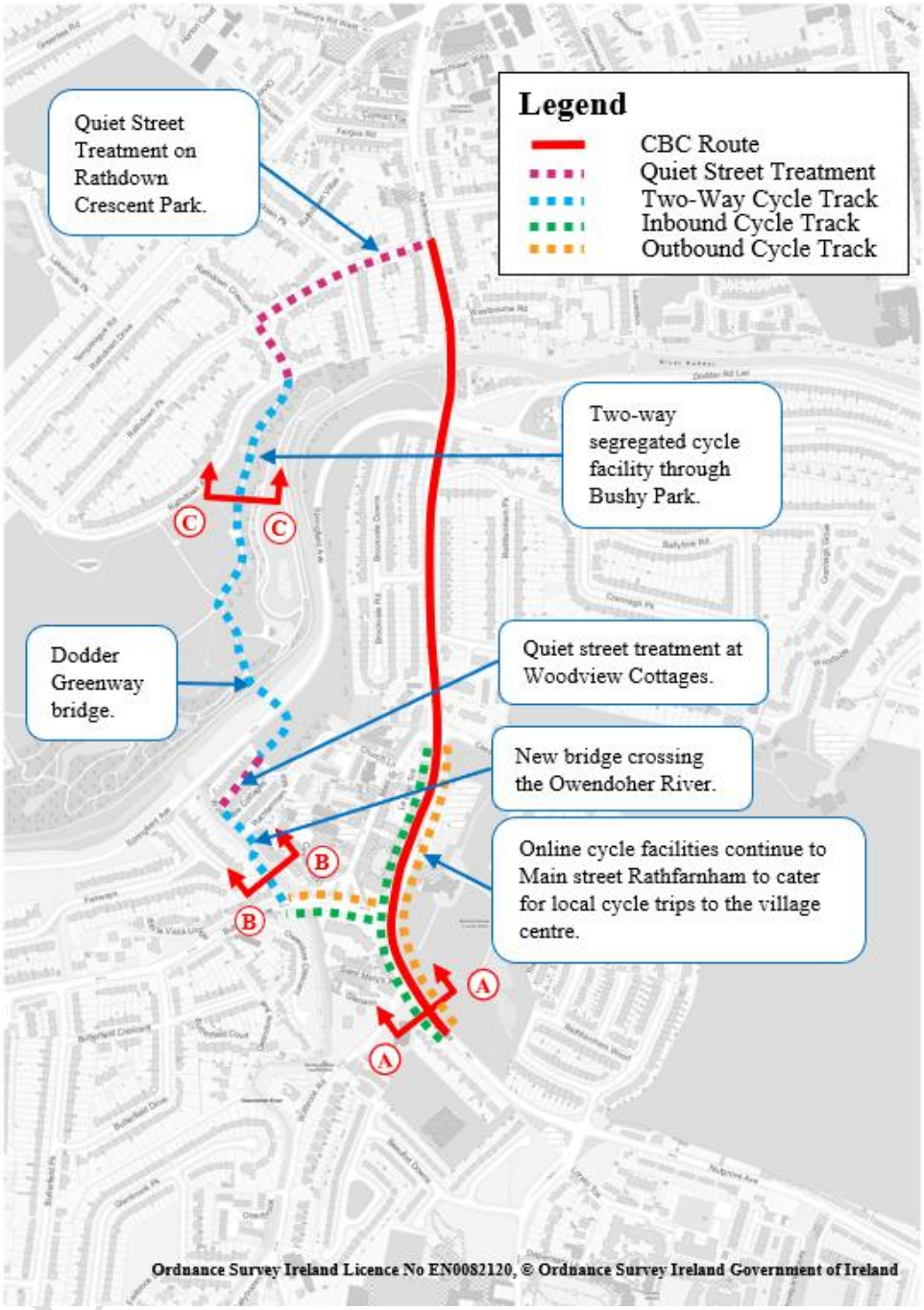


Figure 6.29: Cycle Route PC9 Scheme Proposals (refer to earlier report sections for duplicate cross-sections)

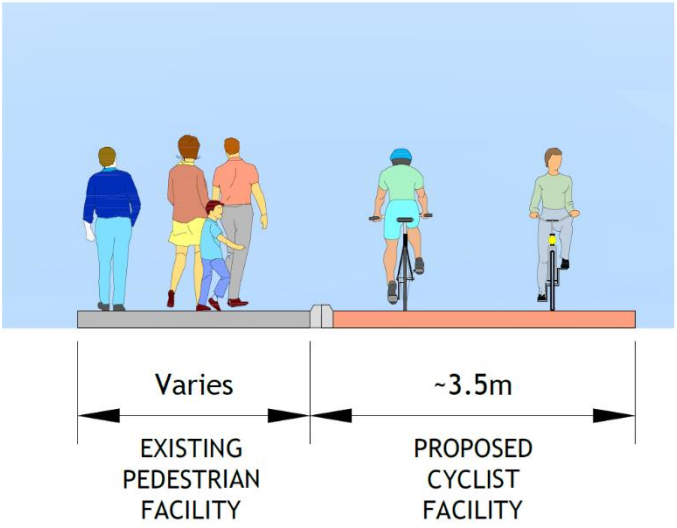


Figure 6.30: Cross-Section C-C (Relevant to PC9 & PC10)

Between Willbrook Road and Springfield Avenue, the infrastructure provided would be as described in Option PC5. From here, a toucan crossing would be provided across Springfield Avenue, linking to the Dodder Greenway bridge crossing the river Dodder into Bushy Park. Within Bushy Park, a segregated cyclist facility would be provided, maintaining existing footways within the park. This would connect to Rathdown Crescent where a quiet street treatment would be provided, connecting to Rathdown Park and linking back to the CBC.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Texaco Rathfarnham;
- There would be no segregated cycle facilities provided along a 750m section of Rathfarnham Road between Texaco Rathfarnham and Rathdown Park, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A new structure would be provided crossing the Owendoher River;
- A quiet street treatment would be provided on Woodview Cottages linking to the Dodder Greenway Scheme and crossing the River Dodder via a new bridge to be provided as part of that scheme;
- New segregated cyclist facilities would be constructed through Bushy Park; and
- A quiet street treatment would be provided on Rathdown Crescent and Rathdown Park.

6.1.2.3.10 Cycle Route Option PC10

Parallel cycle route option PC10 is presented in **Figure 6.31**.

Figure 6.31: Cycle Route Option PC10

Inbound (Northbound): The cycle route follows the same route as Option PC7 as far as Springfield Avenue, at which point a toucan crossing would be provided crossing Springfield Avenue, connecting to the Dodder Greenway pedestrian and cyclist bridge. From here, a dedicated cycle track would be provided through Bushy Park, connecting to Rathdown Crescent. From here, a quiet street treatment would be provided along Rathdown Crescent and Rathdown Park, linking back to the CBC.

Outbound (Southbound): The southbound option follows the same route as northbound.

There is are two pedestrian/toucan crossings along this route.

This segregated cycle route does not align directly with the GDA Cycle Network Plan proposal for Primary Route 10 for the entirety of the route (1.6km).

Cycle Route PC10 scheme proposals are presented in **Figure 6.32** while sample cross-sections are presented in **Figure 6.19**, **Figure 6.20** and **Figure 6.30**.

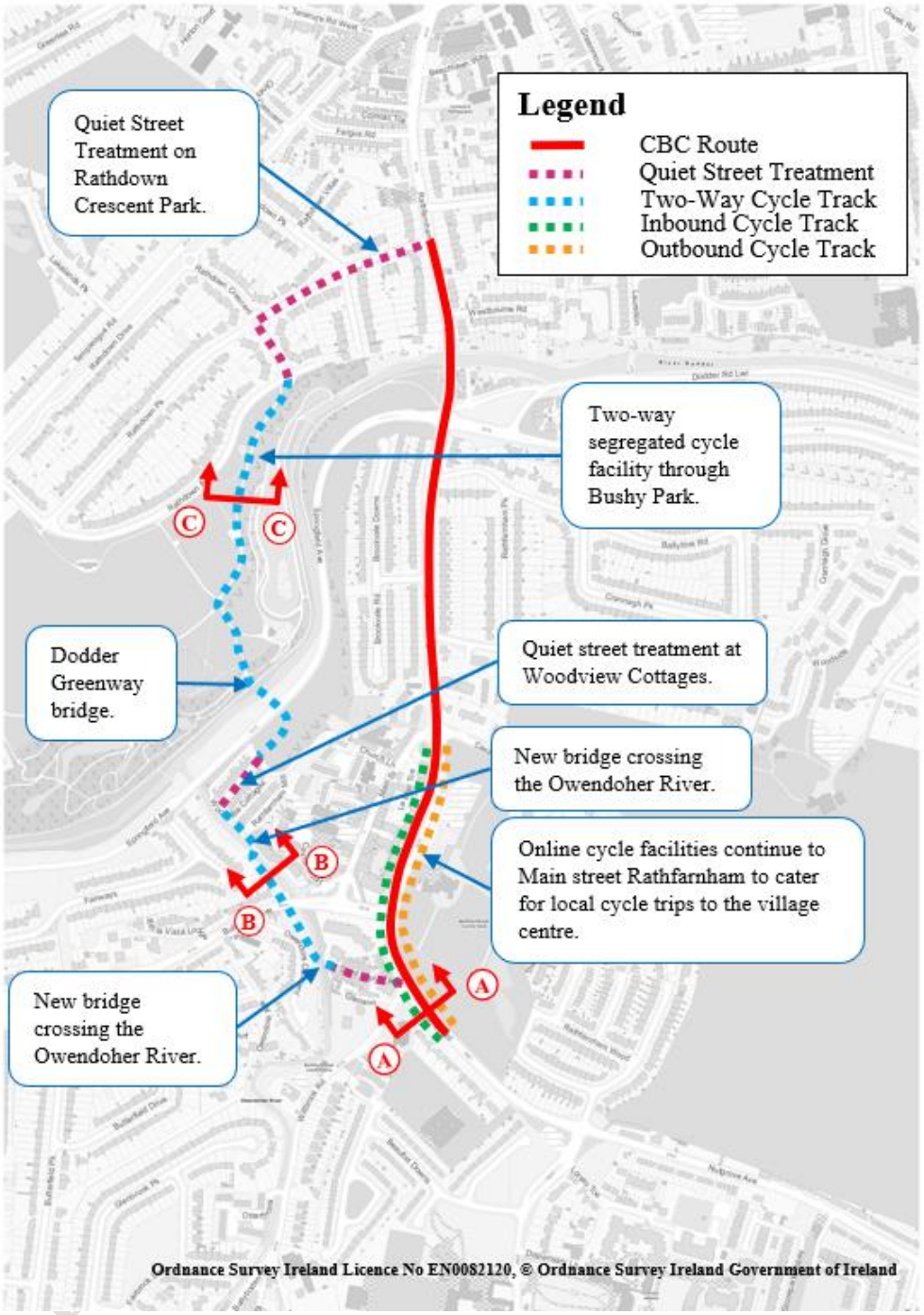


Figure 6.32: Cycle Route PC10 Scheme Proposals (refer to earlier report sections for duplicate cross-sections)

Between Willbrook Road and Springfield Avenue, the infrastructure proposed would be as described in Option PC7. Between Springfield Road and Rathdown Park, the infrastructure proposed would be as described in Option PC9.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Segregated cycle facilities would be provided between Willbrook Road and Texaco Rathfarnham;
- There would be no segregated cycle facilities provided along a 750m section of Rathfarnham Road between Texaco Rathfarnham and Rathdown Park, which is identified as Primary Route 10 within the GDA Cycle Network Plan;
- A quiet street treatment would be provided on St. Mary's Avenue;
- Two new structures would be provided crossing the Owendoher River;
- A quiet street treatment would be provided on Woodview Cottages linking to the Dodder Greenway Scheme and crossing the River Dodder via a new bridge to be provided as part of that scheme;
- New segregated cyclist facilities would be constructed through Bushy Park; and
- A quiet street treatment would be provided on Rathdown Crescent and Rathdown Park.

6.1.2.4 Section 1 Parallel Cycle Route Options Assessment

Details of the parallel cycle route options assessment undertaken for the Grange Road to Rathdown Park study area section are presented in Appendix A. The relative ranking of route options against the scheme assessment sub-criteria is summarised in **Table 6.3**.

Table 6.3: Section 1 - Parallel Cycle Routes Summary MCA

Appraisal Criteria	Option PC1	Option PC2	Option PC3	Option PC4	Option PC5	Option PC6	Option PC7	Option PC8	Option PC9	Option PC10
1 Capital Cost										
2 Road Safety										
3 Coherence										
4 Directness										
5 Attractiveness										
6 Comfort										
7 Environmental										

In terms of Capital Cost, Option PC1 is the cheapest option due to lower infrastructure costs than other options. Options PC7 and PC8 are the most expensive options, due to significant infrastructure delivery costs. Options PC2, PC3, PC4 and PC9 also perform relatively well under this criterion.

In terms of road safety, Option PC8 performs the best as it segregates cyclists from large signalised junctions along the main CBC and utilises quiet alternative routes. Options PC7 and PC10 also perform well under this criterion for the same reason.

Options which align with the CBC perform well under the criterion of coherence, since they deliver cycle infrastructure along Primary Route 10 from the GDA cycle network plan. As such, PC1 – PC4 perform marginally better than PC5 – PC10 under this criterion.

Similarly, in terms of directness, options which align with the CBC perform well under this criterion, as the CBC follows the most direct route. As such, PC1 – PC4 perform marginally better than PC5 – PC10 under this criterion.

In terms of Attractiveness, Options PC1 and PC2 perform very poorly, due to the requirement for cyclists to utilise the existing narrow laneway connecting to Brookvale Downs, as well as the fact that the diversion length is not considered long enough to attract cyclists off the CBC route. Options PC3 and PC4 perform marginally better in this regard but are still not considered particularly attractive for cyclists. Options PC7 – PC10 are considered highly attractive options, as they connect to the Dodder Greenway and provide high quality cycle infrastructure with good amenity value. They also have less interaction with busy trafficked routes when compared to other options.

In terms of comfort, Options PC1, PC2, PC9 and PC10 perform marginally worse under this criterion due to the significant proportion of the route which is made up of quiet street treatment.

Finally, in terms of environment, Options PC4, PC7 and PC8 perform marginally worse than other options. Option PC8 has a lesser impact on properties than other options but has a significant impact on trees. Options PC4 and PC7 have a greater cumulative impact on properties and trees than other options. All other options perform marginally better under this criterion.

It is noted that, Options PC9 and PC10 may have a potential impact on the amenity value of Bushy Park, due to the provision for commuter cycling through the park.

6.1.2.5 Section 1 Parallel Cycle Route Options Conclusion and Draft Preferred Option

Based on the assessment undertaken, route Option PC8 offers more benefits over other options. While it is the most expensive option, and has slightly greater environmental impacts, it performs better than other options overall in providing for the five needs of the cyclists, particularly in terms of key criteria, namely road safety and attractiveness. While it has some disadvantages over other routes in terms of coherence and directness, it is considered that given the attractiveness, more cyclists would be inclined to use the route, regardless of the directness. Option PC8 is therefore the draft preferred parallel cycle route option for the Willbrook Road to Rathdown Park scheme section for the following reasons:

- It provides an attractive alternative cycle route which avoids the pinch point on Rathfarnham Road. It is considered likely that cyclists will utilise such a high-quality connection linking to the Dodder Greenway, and as such ensure that bus priority along the main CBC route is not compromised;
- It provides a safe alternative for cyclists, removing them from major junctions along the CBC route;
- The delivery of a new bridge linking to Rathdown Park significantly reduces the impact on a number of properties on Rathfarnham Road with steep existing driveways; and
- The parallel route represents a 300m longer route when compared to the CBC route. This detour is considered long enough that this additional length, when considered over the entire length of the parallel cycle facility will not be a major deterrent to cyclists.

Parallel Cycle Route Option PC8 in combination with bus priority measures along the CBC will be brought forward to the principal route options assessment for Section 1.

6.1.3 Grange Road to Rathdown Park – Principal Route Options

6.1.3.1 Introduction

Numerous submissions received as part of the public consultation raised concerns about the impact of land acquisition along this section of the route. In addition, upon review of the EPR Option proposals with the benefit of topographical survey, it was evident that portions of the EPR Option proposals, namely the Brookvale Downs parallel cycle route as well as the impact on steep driveways on Rathfarnham Road, required further consideration. For these reasons, alternative options have been considered in these areas.

6.1.3.2 Options Considered

Following the initial assessment of Parallel Cycle Route options, a number of options for the delivery of the CBC scheme from Grange Road to Rathdown Park have been developed. These are:

Option RF1: Two bus lanes and two general traffic lanes provided on Rathfarnham Road south of the Dodder with cyclists diverted to Brookvale Downs. Two bus lanes, two general traffic lanes and two cycle tracks provided on Rathfarnham Road north of the Dodder. This option is a version of the EPR Option, refined to reflect issues identified upon review of the topographical survey, namely the existing steep driveway gradients on Rathfarnham Road.

Option RF2: Two bus lanes and two general traffic lanes provided on Rathfarnham Road south of the Dodder with cyclists diverted to the draft preferred parallel route as identified during the initial assessment of parallel cycle route options of the route selection process, detailed in Section 6.1.2 of this report.

Option RF3: One-way inbound general traffic on Rathfarnham Road between Castleside Drive and Dodder Park Road with two bus lanes and online cycle tracks on the CBC. A combination of bus lanes and signal controlled priority two general traffic lanes and two cycle tracks provided north of the Dodder.

Option RF4: One-way inbound general traffic on Rathfarnham Road between Castleside Drive and Dodder Park Road with two bus lanes on the CBC with cyclists diverted to the draft preferred parallel route as identified during the initial assessment of parallel cycle route options of the route selection process.

Option RF5: A combination of bus lanes and signal controlled priority provided on Rathfarnham Road south of the Dodder, with two-way general traffic and online cycle tracks on the CBC. A combination of bus lanes and signal controlled priority, two general traffic lanes and two cycle tracks provided north of the Dodder.

Option RF6: A combination of bus lanes and signal controlled priority provided on Rathfarnham Road south of the Dodder, with two-way general traffic and with cyclists diverted to the draft preferred parallel route as identified during the initial assessment of parallel cycle route options of the route selection process.

6.1.3.2.1 Alternative Options Considered

A number of other options were also considered in the area but were not carried forward for the reasons briefly outlined below:

- **Option of a bus gate along Rathfarnham Road between Castleside Drive and Dodder Park Road**. This option was not considered feasible as through traffic would be required to undertake a diversion of up to 2km to continue beyond the bus gate, resulting in a route almost four times as long when compared to the most direct route. Similarly, local access for residents along Rathfarnham Road could be increase by up to 2.5km resulting in a route almost 10 times as long for some residents compared to the most direct route. This diversion length is considered to be too disruptive in this area and as such a bus gate at this location was not considered further.
- **Option of a bus gate along Rathfarnham Road between Dodder Park Road and Rathdown Park**. This option was not considered feasible as through traffic would be required to undertake a diversion of up to 3km to continue beyond the bus gate, resulting in a route almost six times as long when compared to the most direct route. Similarly, local access for residents along Rathfarnham Road could be increase by up to 2.5km resulting in a route over 10 times as long for some residents compared to the most direct route. Furthermore, the proposal to provide an inbound bus gate along Templeogue Road (where physical space is not available for other options) as part of the Tallaght to Terenure CBC would further restrict inbound traffic movements in this area. For these reasons, this option is not considered feasible.

6.1.3.2.2 Route Option RF1

Route Description

Route option RF1 is presented in **Figure 6.33**.

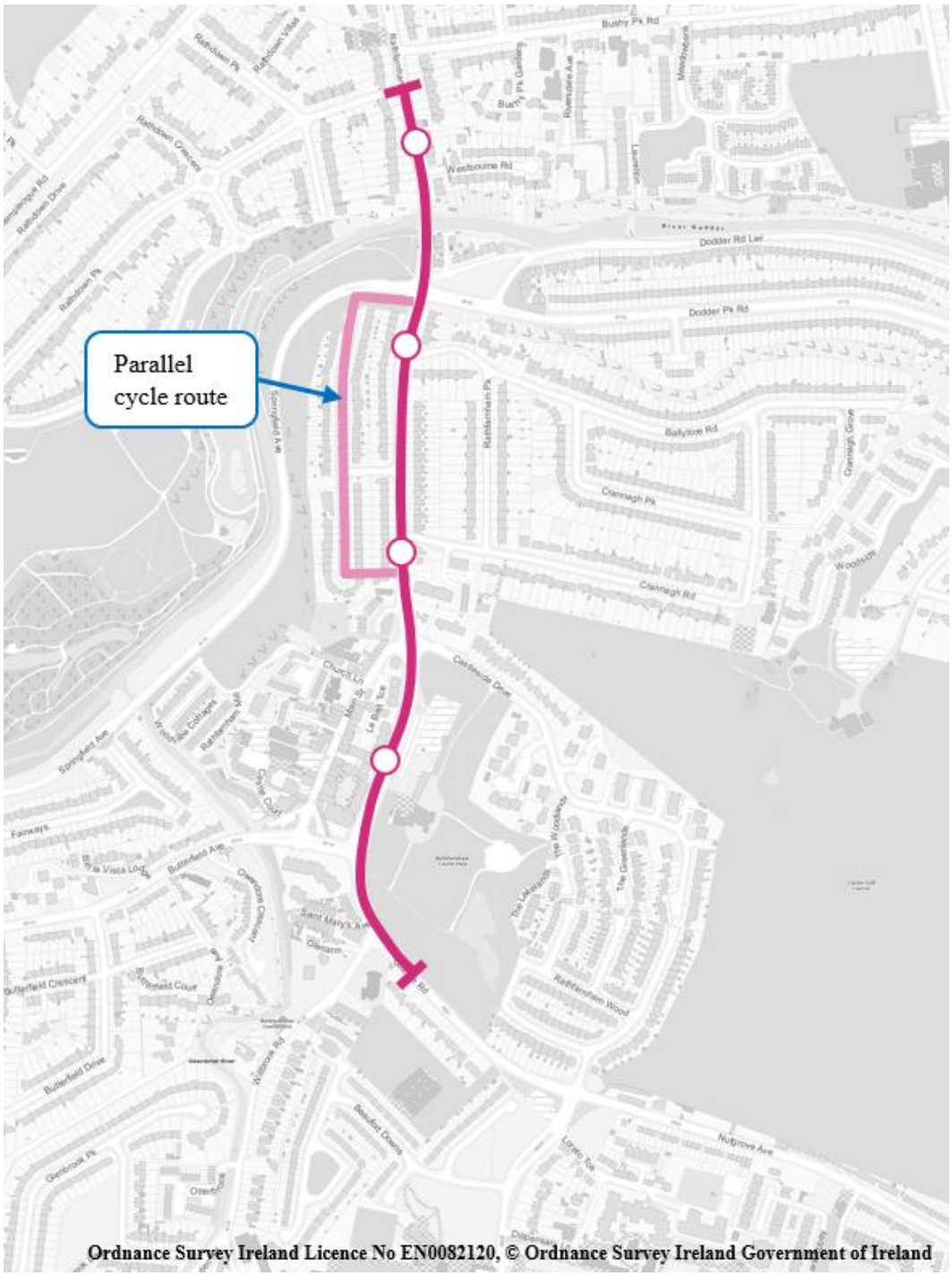


Figure 6.33: Route Option RF1

Inbound: This section of the route would commence on Grange Road just south of the junction with Willbrook Road. The CBC Route would proceed along Rathfarnham Road as far as the junction with Rathdown Park. Cycle facilities would be provided on the CBC from Willbrook Road as far as the Texaco service station on Rathfarnham Road, just north of Rathfarnham Village. At this point, cyclists would be diverted down an existing shared pedestrian and cyclist laneway connecting to Brookvale Downs. This would connect to the southern side of Dodder View Road, linking cyclists back to the CBC at the junction of Rathfarnham Road and Dodder Park Road. This section of the route ends at Rathdown Park.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.34 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also illustrated in this figure.

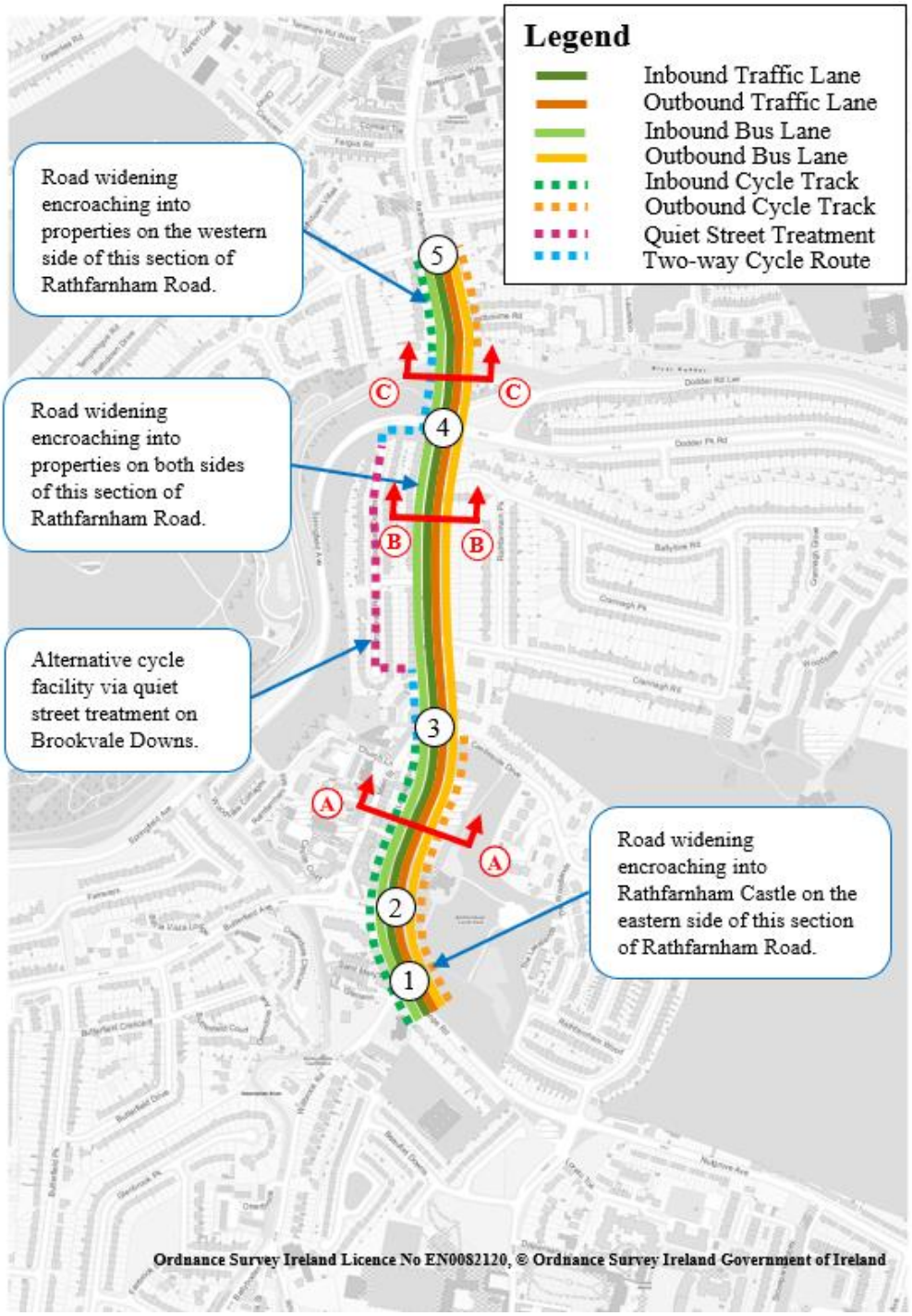


Figure 6.34: Route Option RF1 Indicative Scheme Design

This section of the route commences on Grange Road just south of the junction with Willbrook Road.

Between Willbrook Road and Castleside Drive, a cross-section consisting of two general traffic lanes, two bus lanes and two cycle tracks is proposed. The proposed cross-section along this section of Rathfarnham Road is presented in **Figure 6.35**.

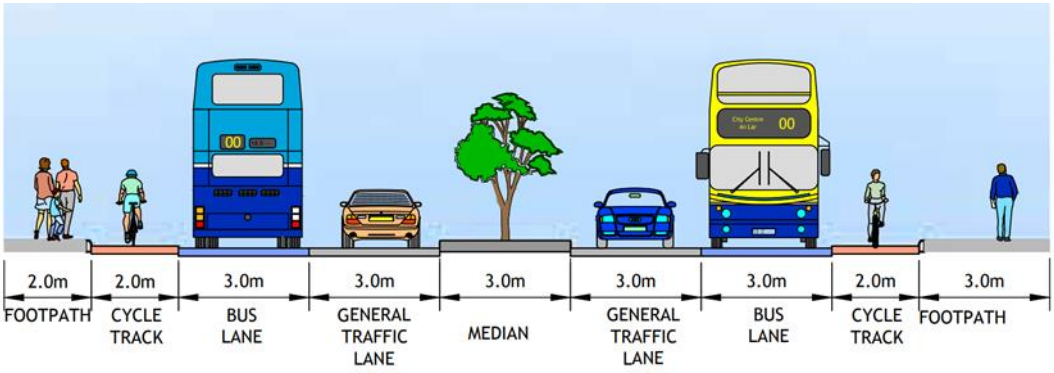


Figure 6.35: Cross-Section A-A (relevant to RF1, RF2, RF3, RF4 & RF5)

At the junction between Castleside Drive and Rathfarnham Road, cyclists would be diverted to a two-way facility on the western side of Rathfarnham Road, and onwards via an existing laneway to Brookvale Downs where a quiet street treatment would be provided. Along the main CBC, a dedicated bus lane and a general traffic lane would be provided in each direction. This cross-section would result in widening into adjacent properties on both sides of Rathfarnham Road along this section of the route.

This proposal represents a change when compared to the published EPR Option which proposed widening into properties on the western side of the road only. This change has been proposed as widening into properties on the western of the road only would require the road to be raised in order maintain driveway gradients at existing grades, which is a requirement of Part M Building Regulations. Raising the road would result in a requirement to encroach on properties on the eastern side of the road also in order provide the necessary tie-ins between driveways and the new road level. Given this proposal would impact properties on both sides of the road, it was determined that the land acquisition would therefore be split between properties on each side of the road (up to 800mm encroachment on each side of the road), with the road level raised by approx. 200-300mm to maintain existing driveway gradients. This proposed cross-section is presented in **Figure 6.36**.

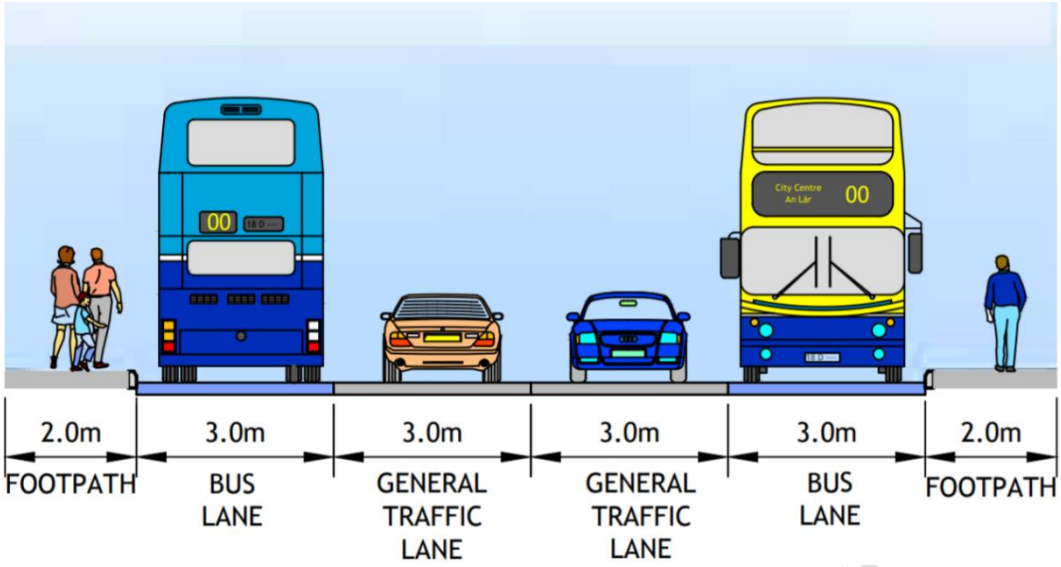


Figure 6.36: Route Option RF1 Cross-Section B-B

Cycle facilities re-join the main CBC route at Dodder View Road and cross the River Dodder via a new boardwalk structure adjacent to the Pearse Bridge. The proposed cross-section within this section is indicated in **Figure 6.37**.

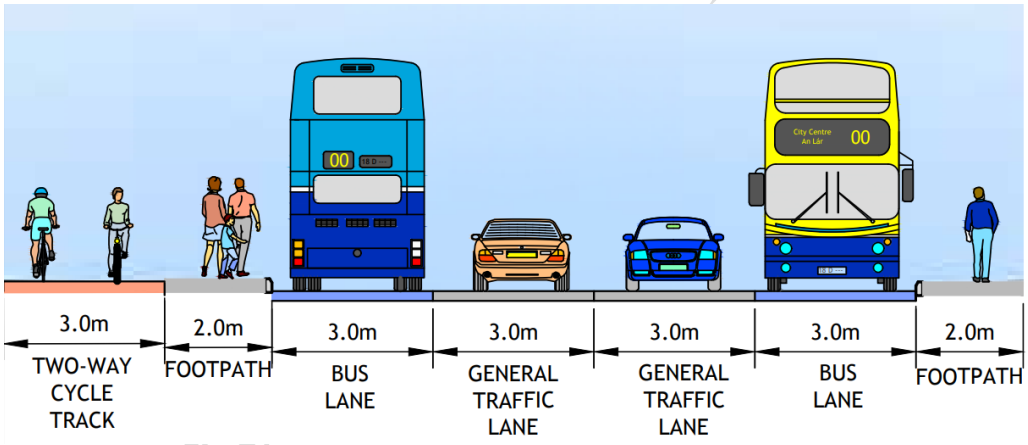


Figure 6.37: Route Option RF1 Cross-Section C-C

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Fully segregated bus priority provided throughout this scheme section;
- 2.0m wide cycle tracks in each direction between Willbrook Road and Castleside Drive;
- Alternative cycle facility provided linking to Brookvale Downs, where a quiet street treatment would be provided;
- A new boardwalk structure provided adjacent to the Pearse Bridge; and
- 2.0m wide cycle tracks in each direction from immediately north of the River Dodder to Rathdown Park.

Junctions:

There are five signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.34** and discussed below:

1. **Grange Road/Rathfarnham Road/Willbrook Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction, as well as to bring to inbound bus lane to the stop line. There is also a possible requirement to relocate/provide new signal equipment.
2. **Rathfarnham Road/Butterfield Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
3. **Rathfarnham Road/ Castleside Drive:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
4. **Rathfarnham Road/Dodder Park Road:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
5. **Rathfarnham Road/Rathdown Park:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.1.3.2.3 Route Option RF2

Route Description

Route option RF2 is presented in **Figure 6.38**.

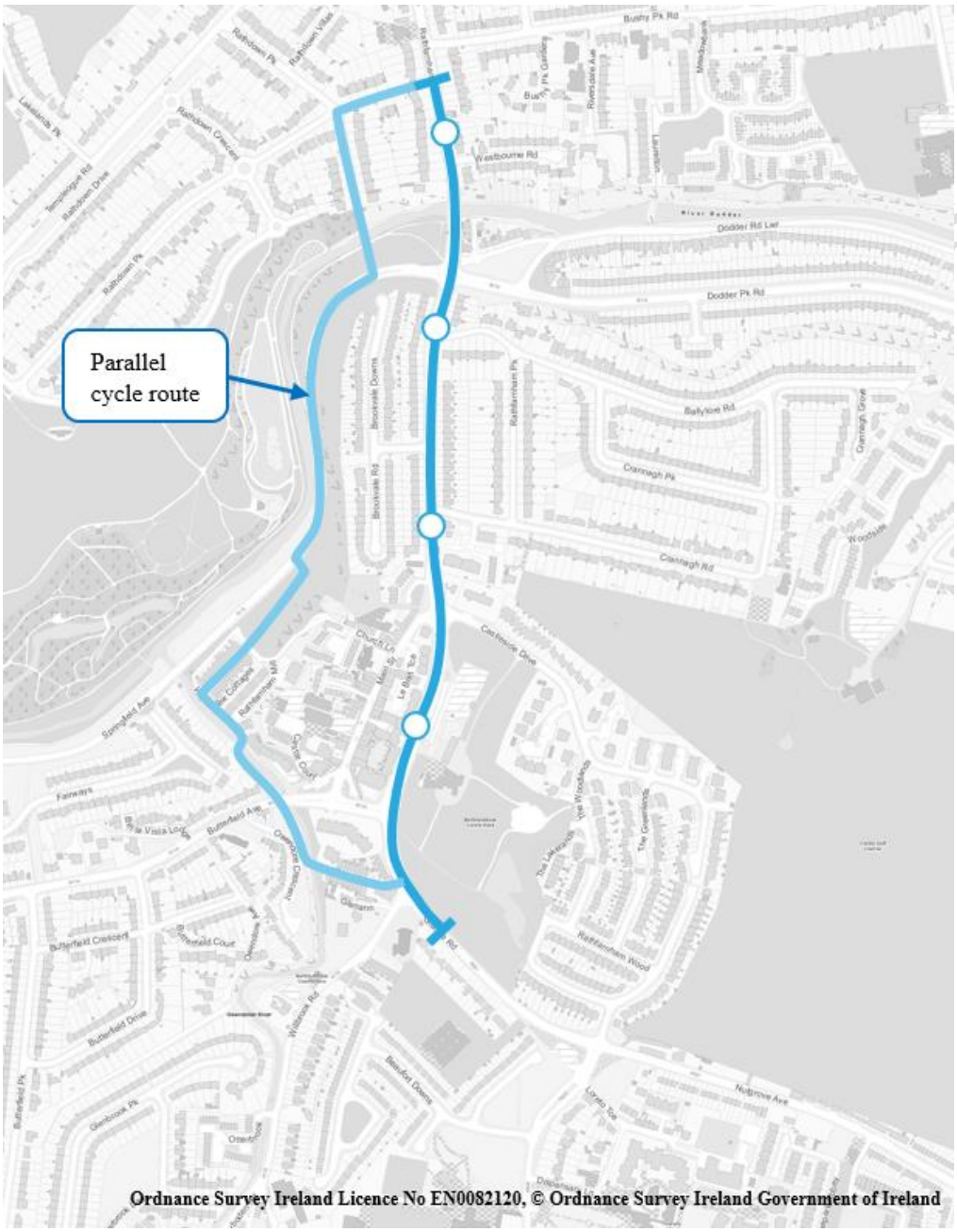


Figure 6.38: Route Option RF2

Inbound: This section of the route would commence on Grange Road just south of the junction with Willbrook Road. The CBC Route would proceed along Rathfarnham Road as far as the junction with Rathdown Park. At the junction with Willbrook Road, cyclists would be directed to St. Mary's Avenue. This would link to a new structure crossing the Owendoher River to the Owendoher Crescent green area. From here, a dedicated cyclist and pedestrian track would then cross Butterfield Avenue, connecting to a new proposed pedestrian and cyclist link crossing the Owendoher River via a second new structure and connecting to Woodview Cottages. The proposed cycle facility would then link to the Dodder Greenway Scheme. This would then link to a new pedestrian and cyclist bridge linking to Rathdown Park, linking back to the CBC.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.39 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

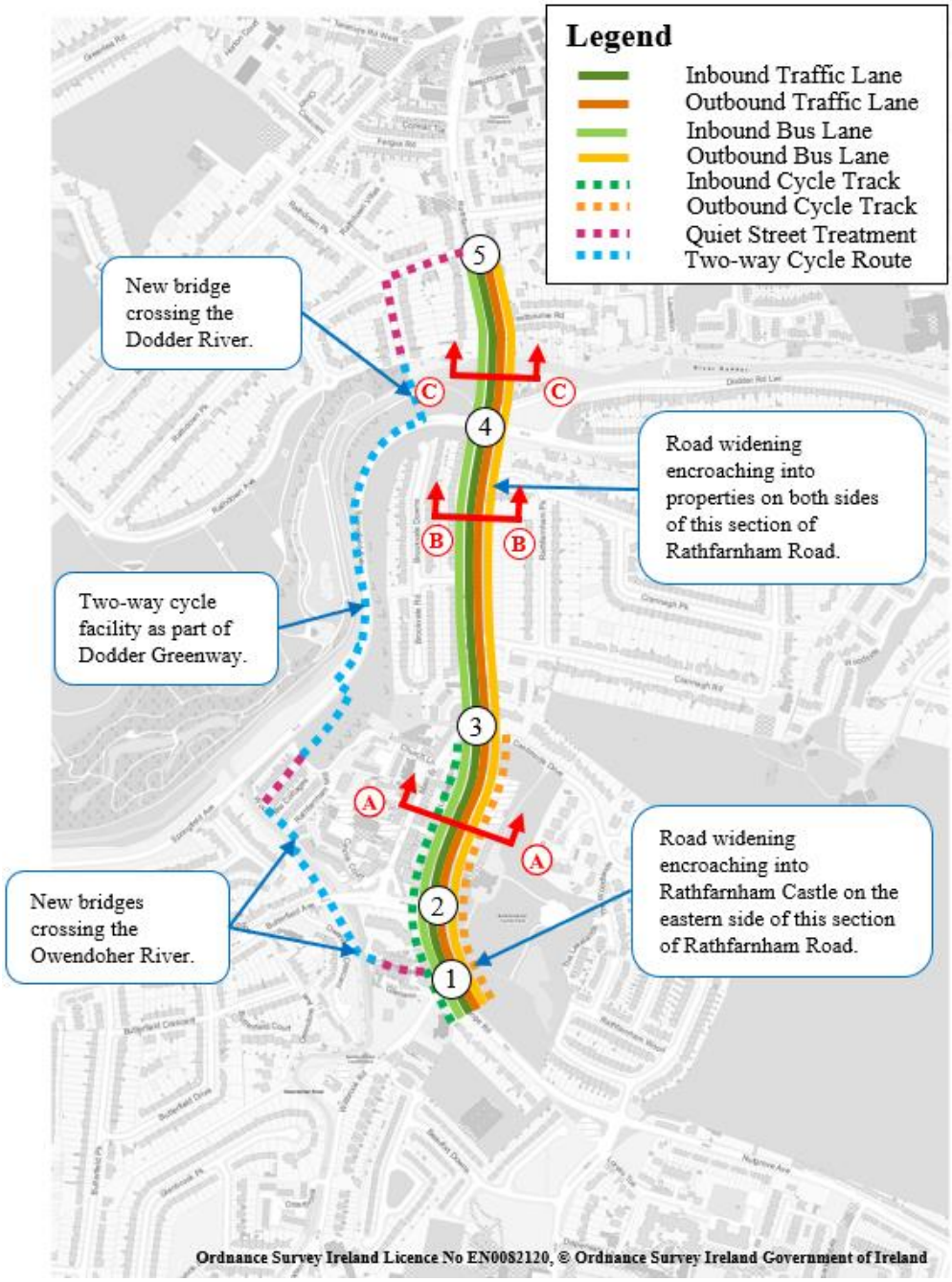


Figure 6.39: Route Option RF2 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

This section of the route commences on Grange Road just south of the junction with Willbrook Road. Between Willbrook Road and Castleside Drive, a cross-section consisting of two general traffic lanes, two bus lanes and two cycle tracks is proposed. The proposed cross-section along this section of Rathfarnham Road is presented in **Figure 6.35**.

At the junction between Rathfarnham Road and Willbrook Road, cyclists would be directed to St. Mary's Avenue, which would link to an alternative cycle facility connecting to the Dodder greenway and re-joining the CBC at Rathdown Park. Along the main CBC, a dedicated bus lane and a general traffic lane would be provided in each direction. This cross-section would result in widening into adjacent properties on both sides of Rathfarnham Road along this section of the route. This proposal represents a change when compared to the published EPR Option which proposed widening into properties on the western side of the road only. This proposed cross-section is presented in **Figure 6.36**.

This cross-section continues north of the Dodder, as cyclists are directed to Rathdown Park via a new cyclist and pedestrian bridge structure. The proposed cross-section on the main CBC within this section is indicated in **Figure 6.40**.

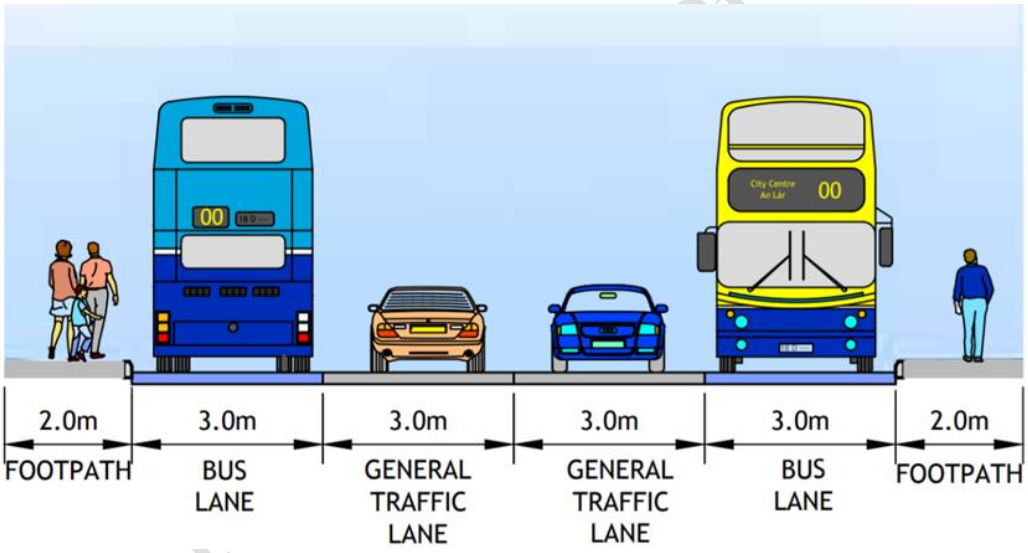


Figure 6.40: Route Option RF2 Cross-Section C-C

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Fully segregated bus priority provided throughout this scheme section;
- 2.0m wide cycle tracks in each direction between Willbrook Road and Castleside Drive; and
- Alternative cycle facility provided utilising a quiet street treatment on St. Mary's Avenue and linking to the proposed Dodder Greenway via two structures crossing the Owendoher River. This facility would link to Rathdown Park via a new cyclists and pedestrian bridge structure where a quiet street treatment would be provided.

Junctions:

There are five signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.39** and discussed below:

1. **Grange Road/Rathfarnham Road/Willbrook Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction, as well as to bring to inbound bus lane to the stop line. There is also a possible requirement to relocate/provide new signal equipment. A new high-quality crossing would be provided at this junction as well as a short section of two-way cycle track to link cyclists to the alternative route via St. Mary's Avenue.
2. **Rathfarnham Road/Butterfield Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
3. **Rathfarnham Road/ Castleside Drive:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
4. **Rathfarnham Road/Dodder Park Road:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
5. **Rathfarnham Road/Rathdown Park:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment. A high-quality right turning facility would be provided for southbound cyclists accessing Rathdown Park.

6.1.3.2.4 Route Option RF3

Route Description

Route option RF3 is presented in **Figure 6.41**.

Figure 6.41: Route Option RF3

Inbound: This section of the route would commence on Grange Road just south of the junction with Willbrook Road. The CBC Route would proceed along Rathfarnham Road as far as the junction with Rathdown Park. Cycle facilities would be provided along the CBC route.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.42 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

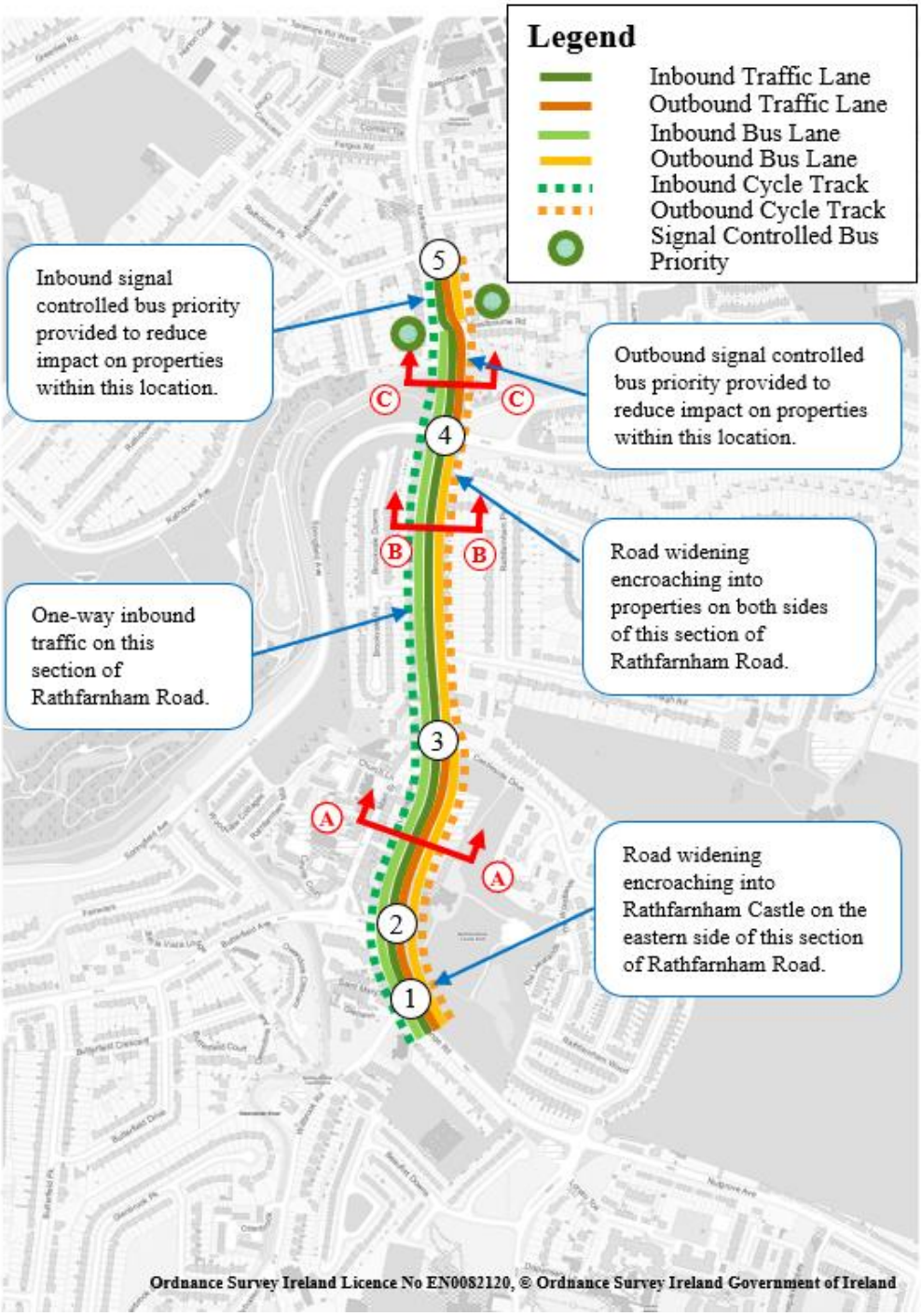


Figure 6.42: Route Option RF3 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

This section of the route commences on Grange Road just south of the junction with Willbrook Road. Between Willbrook Road and Castleside Drive, a cross-section consisting of two general traffic lanes, two bus lanes and two cycle tracks is proposed. The proposed cross-section along this section of Rathfarnham Road is presented in **Figure 6.35**.

North of the junction between Rathfarnham Road and Castleside Drive, an outbound general traffic lane would not be provided. A dedicated bus lane and dedicated cycle tracks would be provided in both directions through this section, as well as an inbound general traffic lane. This cross-section would result in widening into adjacent properties on both sides of Rathfarnham Road along this section of the route. This proposed cross-section is presented in **Figure 6.43**.

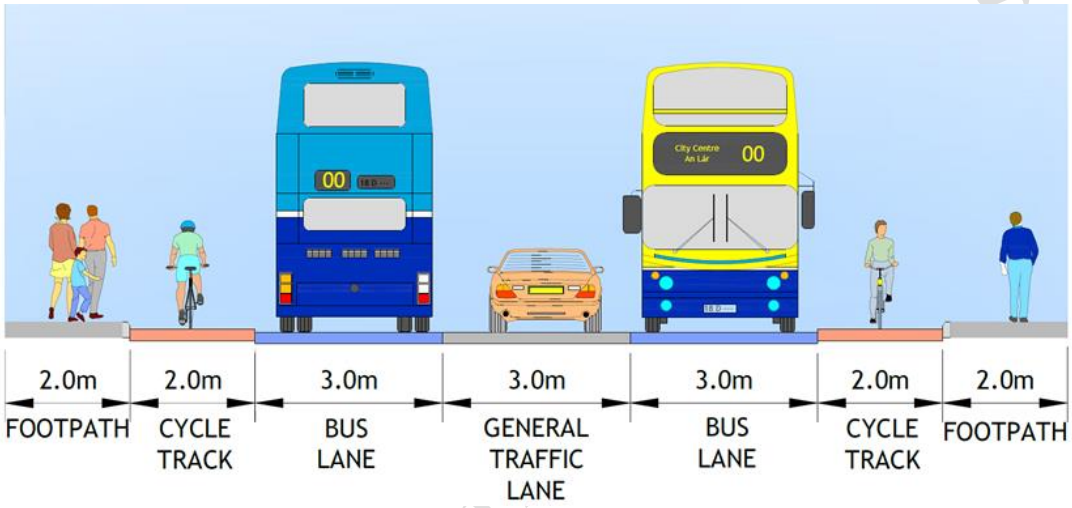


Figure 6.43: Route Option RF3 Cross-Section B-B

North of the Dodder, the outbound traffic lane is reintroduced, however a combination of bus lanes and signal controlled priority would be provided in this location to minimise impact on the properties to the west of Rathfarnham Road. The proposed cross-section on the main CBC within this section is indicated in **Figure 6.44**.

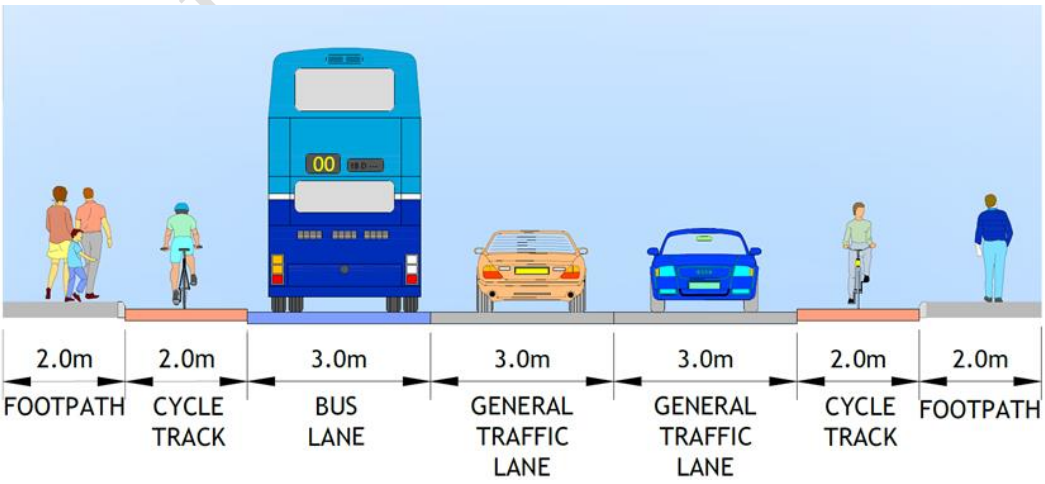


Figure 6.44: Route Option RF3 Cross-Section C-C

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Fully segregated bus priority provided between Willbrook Road and Dodder Park Road;
- 2.0m wide cycle tracks in each direction throughout this section of the scheme; and
- One-way inbound traffic regime between Castleside Drive and Dodder Park Road; and
- A combination of bus lanes and signal controlled priority between Dodder Park Road and Rathdown Park.

Junctions:

There are five signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.42** and discussed below:

1. **Grange Road/Rathfarnham Road/Willbrook Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction, as well as to bring to inbound bus lane to the stop line. There is also a possible requirement to relocate/provide new signal equipment.
2. **Rathfarnham Road/Butterfield Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
3. **Rathfarnham Road/ Castleside Drive:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction, as well as the removal of the outbound traffic lane on approach from the north. There is also a possible requirement to relocate/provide new signal equipment.
4. **Rathfarnham Road/Dodder Park Road:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction as well as to redirect outbound traffic to alternative routes and remove the outbound traffic lane from the southern approach. There is also a possible requirement to relocate/provide new signal equipment.
5. **Rathfarnham Road/Rathdown Park:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.1.3.2.5 Route Option RF4

Route Description

Route option RF4 is presented in **Figure 6.45**.

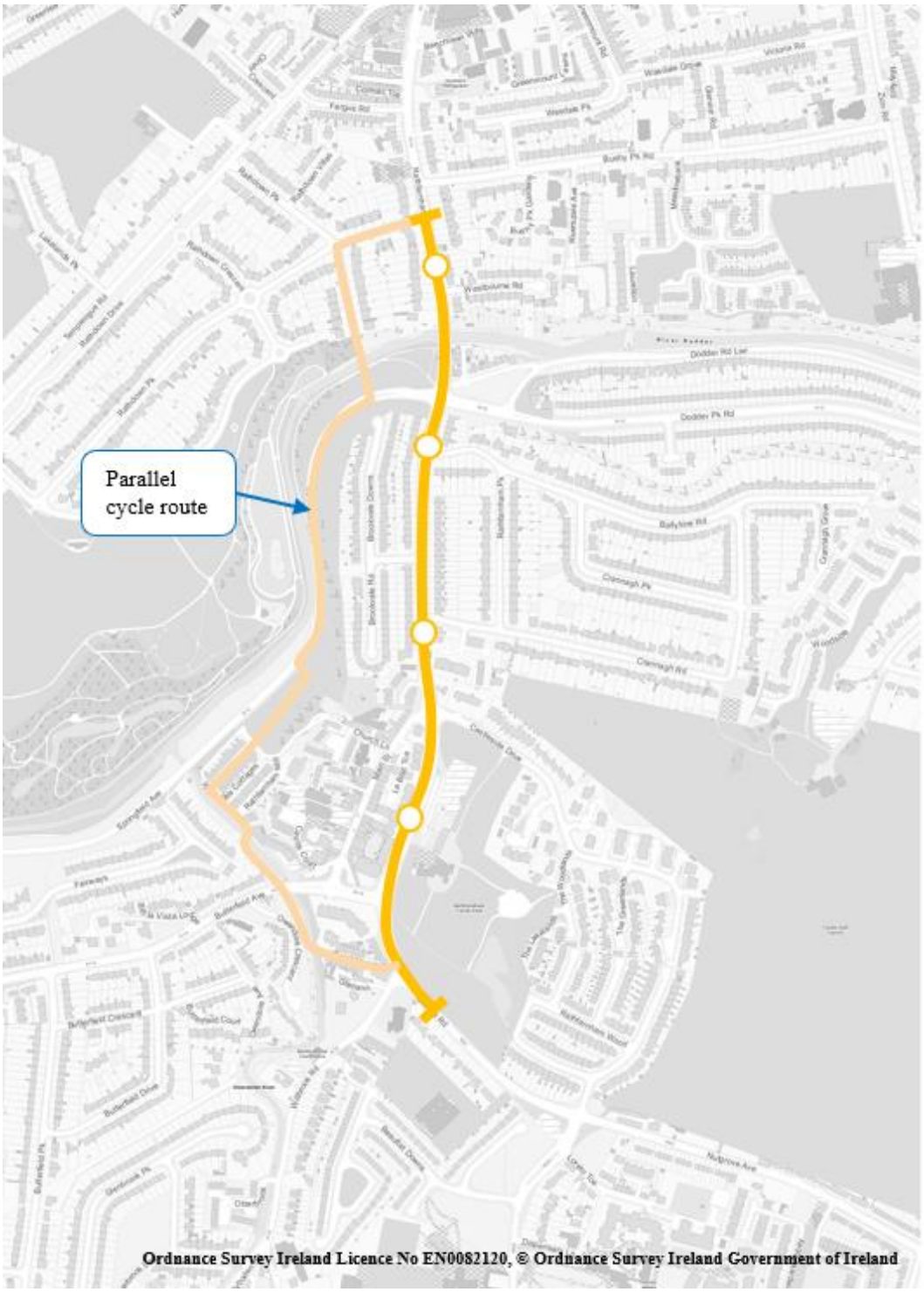


Figure 6.45: Route Option RF4

Inbound: This section of the route would commence on Grange Road just south of the junction with Willbrook Road. The CBC Route would proceed along Rathfarnham Road as far as the junction with Rathdown Park. At the junction with Willbrook Road, cyclists would be directed to St. Mary's Avenue. This would link to a new structure crossing the Owendoher River to the Owendoher Crescent green area. From here, a dedicated cyclist and pedestrian track would then cross Butterfield Avenue, connecting to a new proposed pedestrian and cyclist link crossing the Owendoher River via a second new structure and connecting to Woodview Cottages. The proposed cycle facility would then link to the Dodder Greenway Scheme. This would then link to a new pedestrian and cyclist bridge linking to Rathdown Park, linking back to the CBC.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.46 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

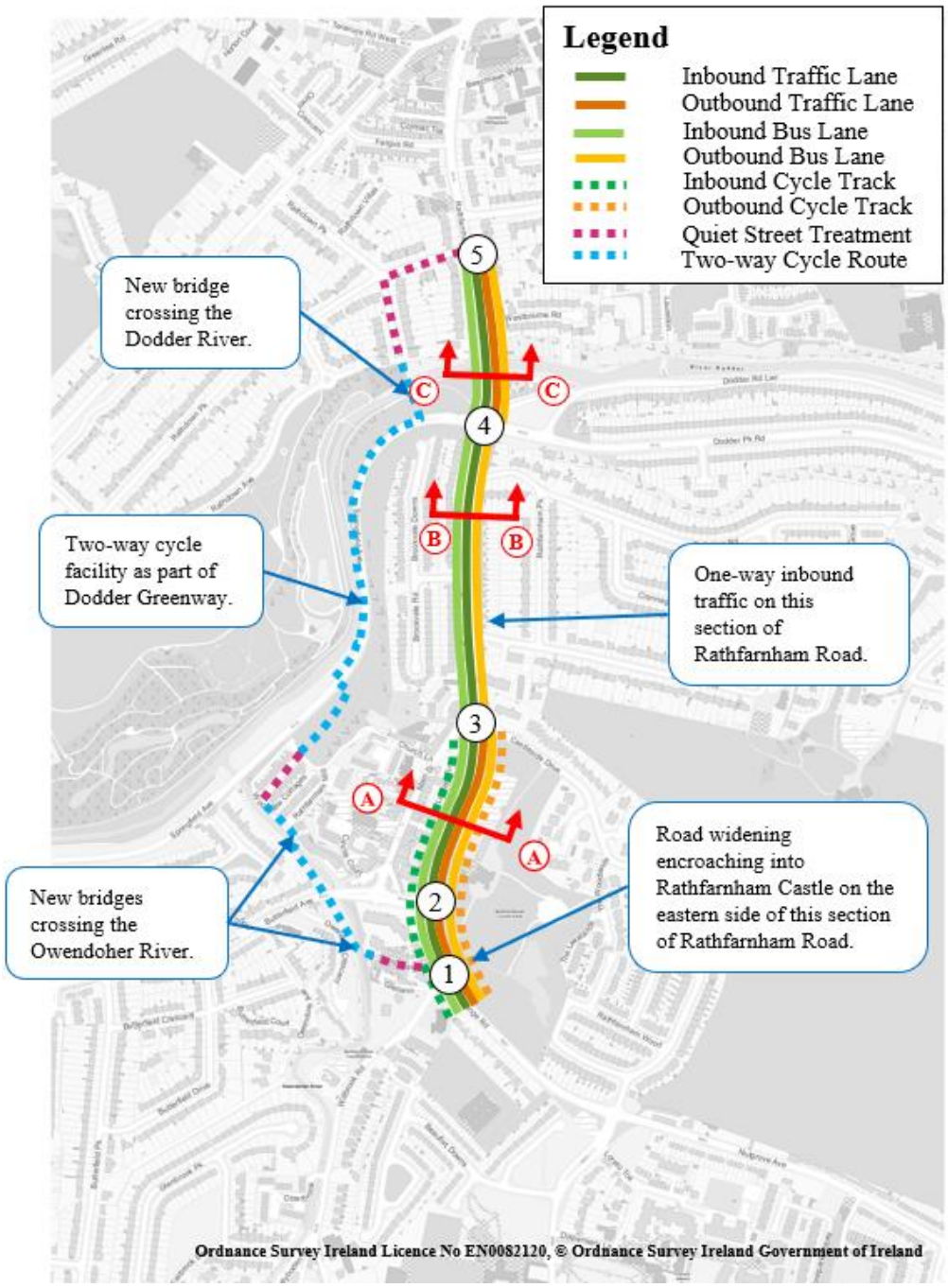


Figure 6.46: Route Option RF4 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

This section of the route commences on Grange Road just south of the junction with Willbrook Road. Between Willbrook Road and Castleside Drive, a cross-section consisting of two general traffic lanes, two bus lanes and two cycle tracks is proposed. The proposed cross-section along this section of Rathfarnham Road is presented in **Figure 6.35.**

At the junction between Rathfarnham Road and Willbrook Road, cyclists would be directed to St. Mary's Avenue, which would link to an alternative cycle facility connecting to the Dodder greenway and re-joining the CBC at Rathdown Park.

North of the junction between Rathfarnham Road and Castleside Drive, an outbound general traffic lane would not be provided. A dedicated bus lane and dedicated cycle tracks would be provided in both directions through this section, as well as an inbound general traffic lane. This cross-section would result in no widening into adjacent properties on both sides of Rathfarnham Road along this section of the route. This proposed cross-section is presented in **Figure 6.47**.

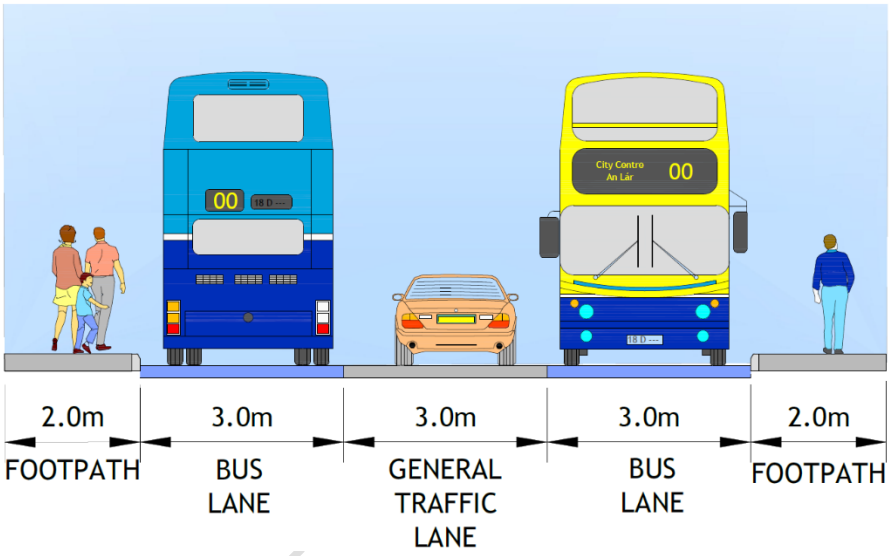


Figure 6.47: Route Option RF4 Cross-Section B-B

North of the Dodder, the outbound traffic lane is reintroduced. The proposed cross-section on the main CBC within this section is indicated in **Figure 6.40.**

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Fully segregated bus priority provided between Willbrook Road and Dodder Park Road;
- 2.0m wide cycle tracks in each direction between Willbrook Road and Castleside Drive;
- Alternative cycle facility provided utilising a quiet street treatment on St. Mary's Avenue and linking to the proposed Dodder Greenway via two structures crossing the Owendoher River. This facility would link to Rathdown Park via a new cyclists and pedestrian bridge structure where a quiet street treatment would be provided; and

- One-way inbound traffic regime between Castleside Drive and Dodder Park Road.

Junctions:

There are five signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.46** and discussed below:

1. **Grange Road/Rathfarnham Road/Willbrook Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction, as well as to bring to inbound bus lane to the stop line. There is also a possible requirement to relocate/provide new signal equipment. A new high-quality crossing would be provided at this junction as well as a short section of two-way cycle track to link cyclists to the alternative route via St. Mary's Avenue.
2. **Rathfarnham Road/Butterfield Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
3. **Rathfarnham Road/ Castleside Drive:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction, as well as the removal of the outbound traffic lane on approach from the north. There is also a possible requirement to relocate/provide new signal equipment.
4. **Rathfarnham Road/Dodder Park Road:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction as well as to redirect outbound traffic to alternative routes and remove the outbound traffic lane from the southern approach. There is also a possible requirement to relocate/provide new signal equipment.
5. **Rathfarnham Road/Rathdown Park:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment. A high-quality right turning facility would be provided for southbound cyclists accessing Rathdown Park.

6.1.3.2.6 Route Option RF5

Route Description

Route option RF5 is presented in **Figure 6.48**.

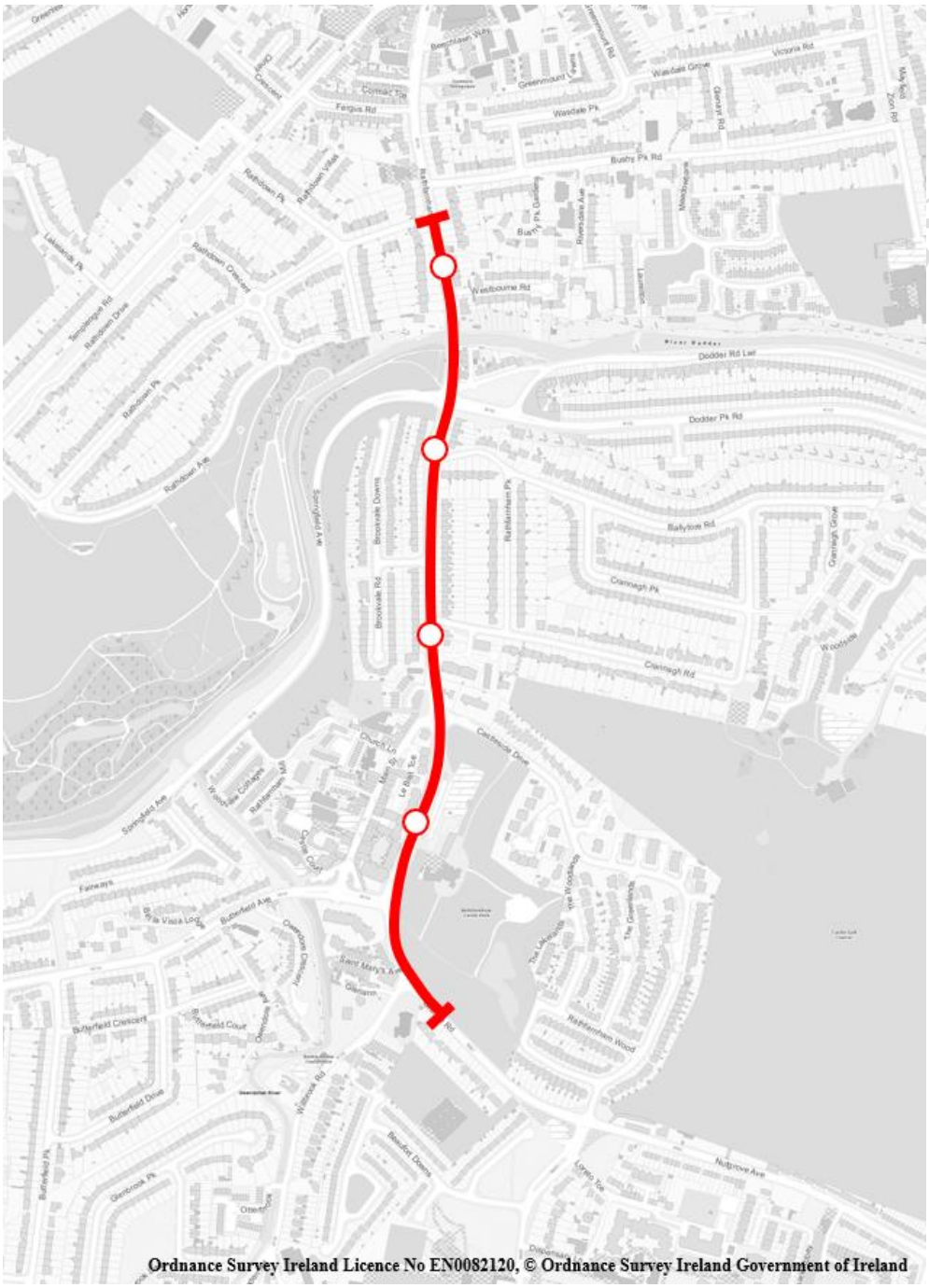


Figure 6.48: Route Option RF5

Inbound: This section of the route would commence on Grange Road just south of the junction with Willbrook Road. The CBC Route would proceed as far as the junction with Brookfield Road. Cycle facilities would be provided along this section of the CBC under this option.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.49 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

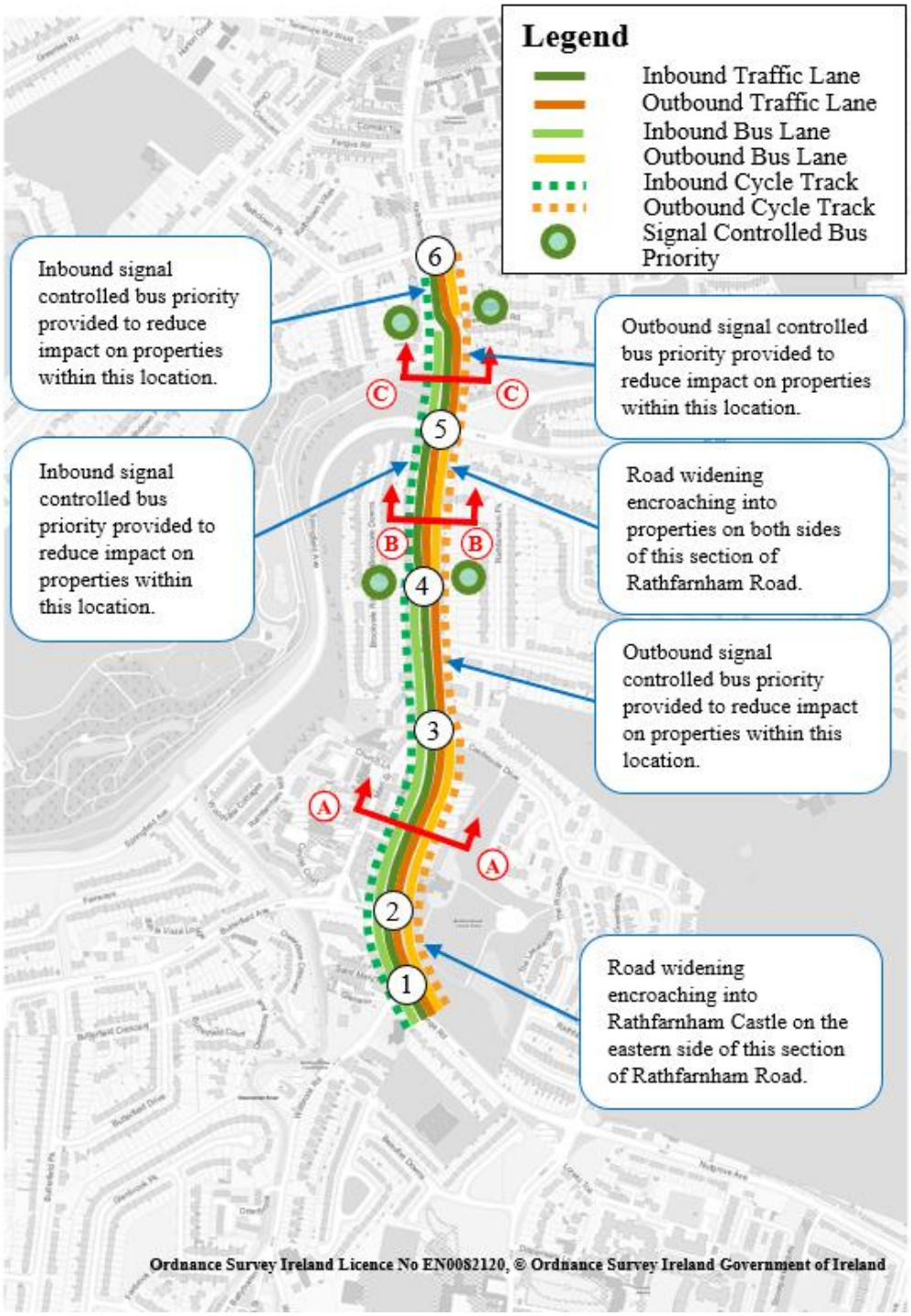


Figure 6.49: Route Option RF5 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

This section of the route commences on Grange Road just south of the junction with Willbrook Road. Between Willbrook Road and Castleside Drive, a cross-section consisting of two general traffic lanes, two bus lanes and two cycle tracks is proposed. The proposed cross-section along this section of Rathfarnham Road is presented in **Figure 6.35.**

North of the junction between Rathfarnham Road and Castleside Drive a combination of bus lanes and signal controlled priority would be provided on Rathfarnham Road. An inbound bus lane would be provided on the CBC between the junction with Castleside Drive and the junction with Brookvale Road. This junction would be signalised, and north of here, inbound buses would share with general traffic, with signal controlled bus priority provided. In an outbound direction, a dedicated bus lane would be provided between the junction with Dodder Park Road and the junction with Brookvale Road. South of here, buses would share the lane with general traffic, and bus priority would be maintained by bus priority signals at the junction with Brookvale Road. A general traffic lane and a dedicated cycle track would be provided in each direction through this section of the scheme.

This proposed cross-section is presented in **Figure 6.50**.

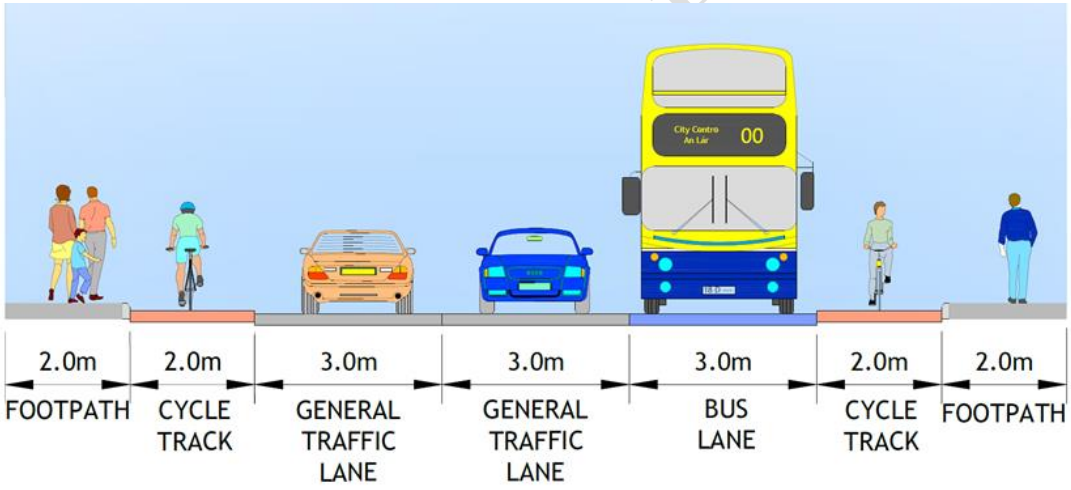


Figure 6.50: Route Option RF5 Cross-Section B-B

North of the River Dodder, a combination of bus lanes and signal controlled priority would be provided in this location to minimise impact on the properties to the west of Rathfarnham Road, with bus priority managed through signal controlled bus priority. The proposed cross-section on the main CBC within this section is indicated in **Figure 6.51**.

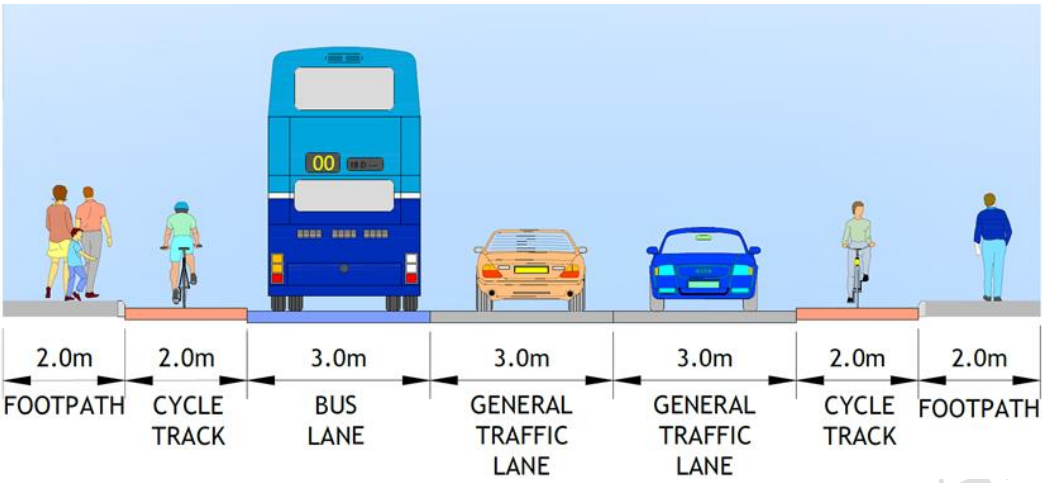


Figure 6.51: Route Option RF5 Cross-Section C-C

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Fully segregated bus priority provided between Willbrook Road and Castleside Drive;
- A combination of bus lanes and signal controlled priority between Castleside Drive and Dodder Park Road;
- 2.0m wide cycle tracks in each direction throughout this section of the scheme; and
- A combination of bus lanes and signal controlled priority between Dodder Park Road and Rathdown Park.

Junctions:

There are six signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.49** and discussed below:

1. **Grange Road/Rathfarnham Road/Willbrook Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction, as well as to bring to inbound bus lane to the stop line. There is also a possible requirement to relocate/provide new signal equipment.
2. **Rathfarnham Road/Butterfield Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
3. **Rathfarnham Road/ Castleside Drive:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
4. **Rathfarnham Road/Brookvale Road:** This junction would be required to be signalised to provide signal controlled bus priority on Rathfarnham Road.

5. **Rathfarnham Road/Dodder Park Road:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
6. **Rathfarnham Road/Rathdown Park:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.1.3.2.7 Route Option RF6

Route Description

Route option RF6 is presented in **Figure 6.52**.

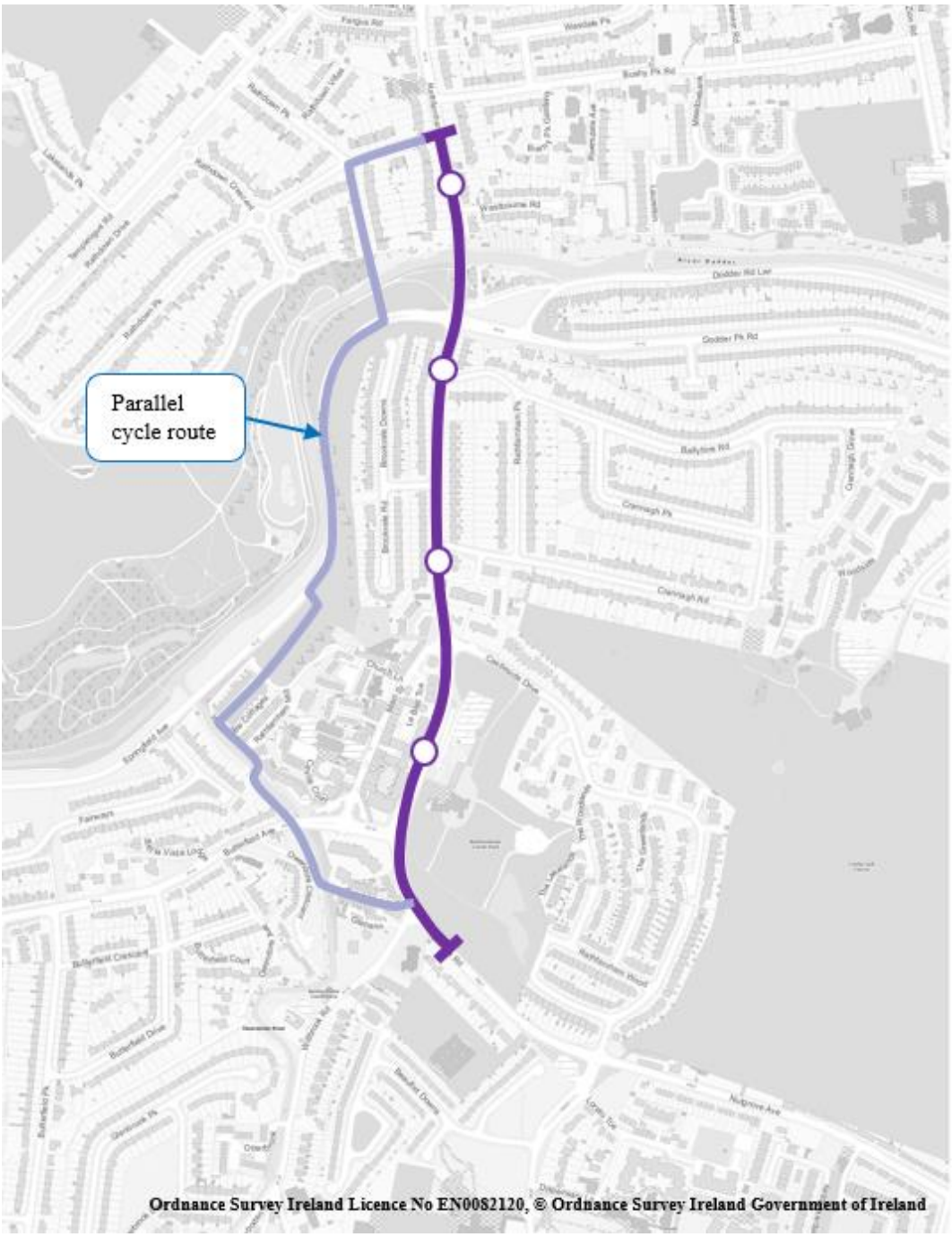


Figure 6.52: Route Option RF6

Inbound: This section of the route would commence on Grange Road just south of the junction with Willbrook Road. The CBC Route would proceed along Rathfarnham Road as far as the junction with Rathdown Park. At the junction with Willbrook Road, cyclists would be directed to St. Mary's Avenue. This would link to a new structure crossing the Owendoher River to the Owendoher Crescent green area. From here, a dedicated cyclist and pedestrian track would then cross Butterfield Avenue, connecting to a new proposed pedestrian and cyclist link crossing the Owendoher River via a second new structure and connecting to Woodview Cottages. The proposed cycle facility would then link to the Dodder Greenway Scheme. This would then link to a new pedestrian and cyclist bridge linking to Rathdown Park, linking back to the CBC.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.53 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

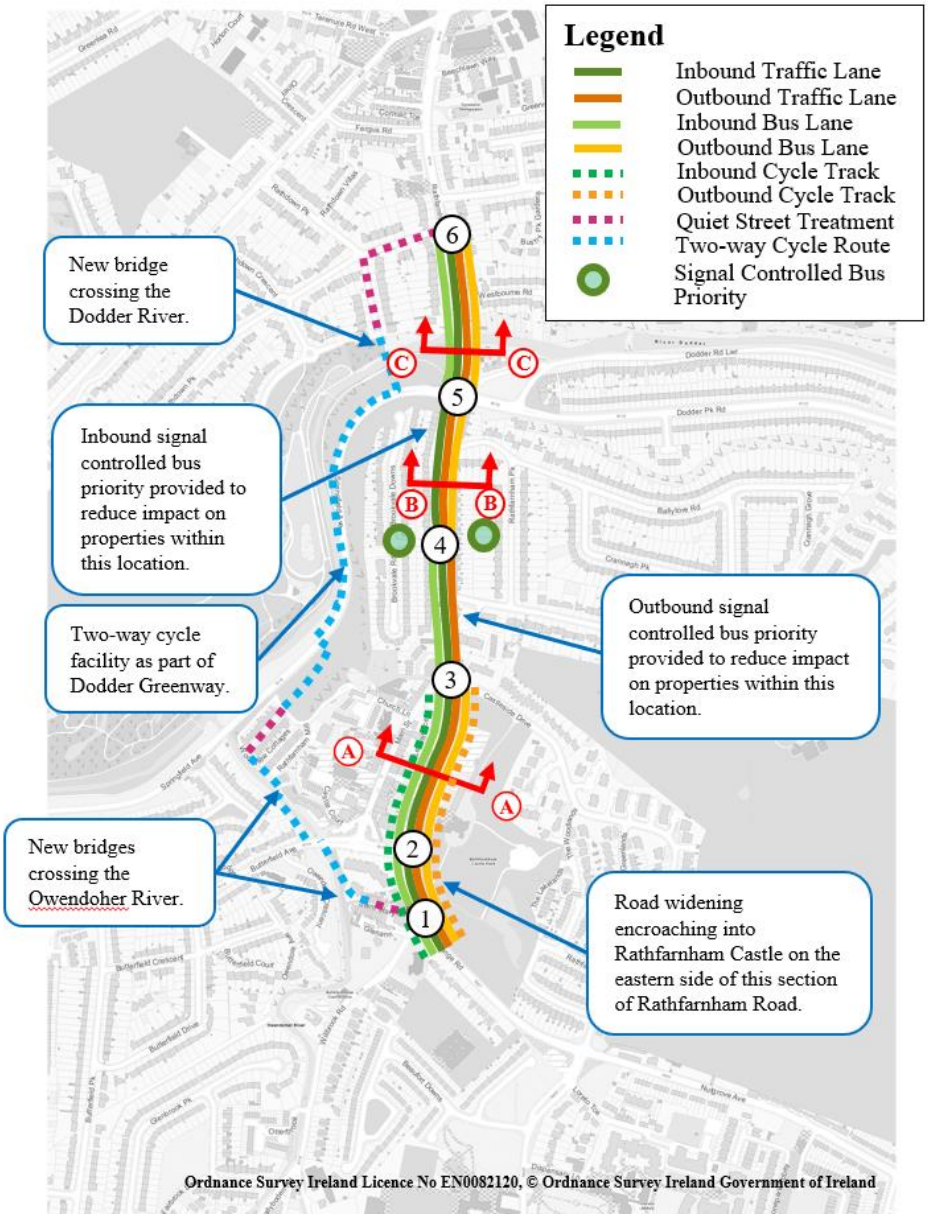


Figure 6.53: Route Option RF6 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

This section of the route commences on Grange Road just south of the junction with Willbrook Road. Between Willbrook Road and Castleside Drive, a cross-section consisting of two general traffic lanes, two bus lanes and two cycle tracks is proposed. The proposed cross-section along this section of Rathfarnham Road is presented in **Figure 6.35.**

At the junction between Rathfarnham Road and Willbrook Road, cyclists would be directed to St. Mary's Avenue, which would link to an alternative cycle facility connecting to the Dodder greenway and re-joining the CBC at Rathdown Park.

North of the junction between Rathfarnham Road and Castleside Drive a combination of bus lanes and signal controlled priority would be provided on Rathfarnham Road. An inbound bus lane would be provided on the CBC between the junction with Castleside Drive and the junction with Brookvale Road. This junction would be signalised, and north of here, inbound buses would share with general traffic, with signal controlled bus priority provided. In an outbound direction, a dedicated bus lane would be provided between the junction with Dodder Park Road and the junction with Brookvale Road. South of here, buses would share the lane with general traffic, and bus priority would be maintained by bus priority signals at the junction with Brookvale Road. A general traffic lane would be provided in each direction through this section of the scheme. This proposed cross-section is presented in **Figure 6.54**.

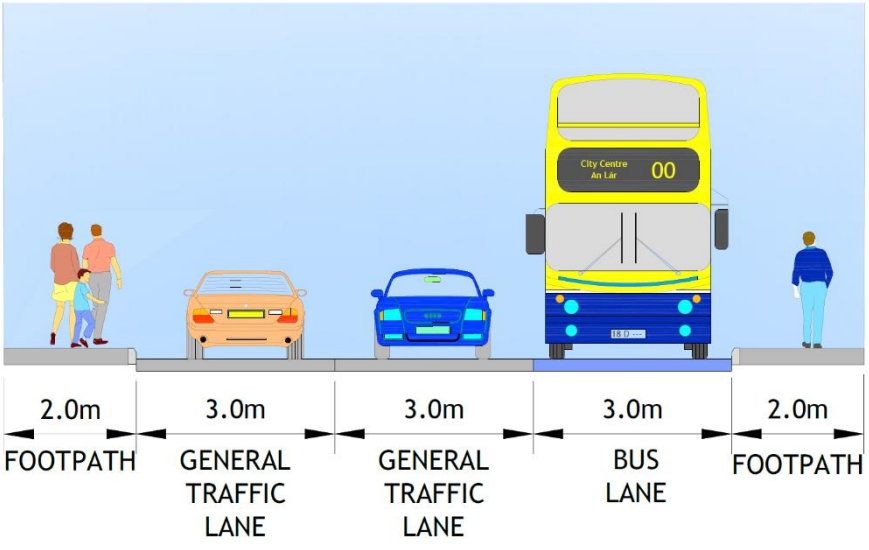


Figure 6.54: Route Option RF4 Cross-Section B-B

North of the Dodder, a cross section consisting of a bus lane and a general traffic lane in each direction is reintroduced. The proposed cross-section on the main CBC within this section is indicated in **Figure 6.40.**

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Fully segregated bus priority provided between Willbrook Road and Castleside Drive;

- A combination of bus lanes and signal controlled priority between Castleside Drive and Dodder Park Road;
- A combination of bus lanes and signal controlled priority between Dodder Park Road and Rathdown Park.
- 2.0m wide cycle tracks in each direction between Willbrook Road and Castleside Drive; and
- Alternative cycle facility provided utilising a quiet street treatment on St. Mary's Avenue and linking to the proposed Dodder Greenway via two structures crossing the Owendoher River. This facility would link to Rathdown Park via a new cyclists and pedestrian bridge structure where a quiet street treatment would be provided.

Junctions:

There are six signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.52** and discussed below:

1. **Grange Road/Rathfarnham Road/Willbrook Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction, as well as to bring to inbound bus lane to the stop line. There is also a possible requirement to relocate/provide new signal equipment.
2. **Rathfarnham Road/Butterfield Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
3. **Rathfarnham Road/ Castleside Drive:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
4. **Rathfarnham Road/Brookvale Road:** This junction would be required to be signalised to provide signal controlled bus priority on Rathfarnham Road.
5. **Rathfarnham Road/Dodder Park Road:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
6. **Rathfarnham Road/Rathdown Park:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.1.3.3 Section 1 Route Option Assessment

Details of the route options assessment undertaken for the Rathfarnham Road study area section are presented in Appendix A. The relative ranking of route options against the scheme assessment sub-criteria is summarised in **Table 6.4**.

Table 6.4: Section 1 Route MCA Summary

Appraisal Criteria	Sub-Criteria	Option RF1	Option RF2	Option RF3	Option RF4	Option RF5	Option RF6
1 Economy	1A Capital Cost						
	1B Transport Quality & Reliability						
2 Integration	2A Land Use Policy						
	2B Residential Population and Employment Catchments						
	2C Transport Network Integration						
	2D Cycle Network integration						
	2E Traffic Network Integration						
3 Accessibility & Social Inclusion	3A Key Trip Attractors						
	3B Deprived Geographic Areas						
4 Safety	4A Road Safety						
	4B Pedestrian Safety						
5 Environment	5A Archaeology & Cultural Heritage						
	5B Architectural Heritage						
	5C Flora & Fauna						
	5D Soils, Geology & Hydrogeology						
	5E Landscape & Visual						
	5F Air Quality						
	5G Noise & Vibration						
	5H Land Use Character						

In terms of Capital Cost, Option RF2 is the most expensive option due to the significant infrastructure costs associated with delivering the alternative cycle facilities coupled with land acquisition costs. Other options have lower associated capital costs as generally less physical infrastructure is required to deliver them, or in the case of RF4 and RF6, less land acquisition is required.

In terms of Transport Quality and Reliability, Options RF2 and RF4 perform the best under this criterion as full physical bus priority is provided throughout, and an attractive alternative cycle facility is provided.

Option RF1 performs well under this criterion, however the proposed cycle facility is not considered highly attractive and there may be associated delays to the bus due to cyclists remaining on the mainline. Option RF3 also performs slightly worse than Options RF2 and RF4 due to the short section of signal controlled priority north of the River Dodder, which is a risk to bus priority. Options RF5 and RF6 perform the worst under this criterion due to buses being required to share the general traffic lane for substantial sections of Rathfarnham Road.

All options serve the same catchments and as such are ranked equally in relation to land use policy and residential population catchments and employment catchments. Similarly, in terms of transport network integration, as all options follow the same route, the opportunity for interchange with other routes is equal.

In terms of cycle network integration, Options RF3 and RF5 provide high quality cycle facilities along Primary Route 10 in the GDA cycle network plan, and as such perform the best under this criterion. Options RF2 and RF4 do not provide cycle facilities along a section of Primary Route 10, however do deliver high-quality facilities along the Dodder Greenway. Option RF6 provides an alternative cycle facility, but performs worse than other similar options under this criterion due to the fact that cyclists that remain on the mainline would have to share a general traffic lane. Option RF1 performs the worst under this criterion due to the fact that it relies on an existing narrow laneway linking to Brookvale Downs, which is not considered attractive for cyclists.

Options RF3 and RF4 perform much worse than other options under the traffic network integration criterion, due to the significant detours required for through traffic as well as local access to Rathfarnham Village and the surrounding residential area. Options RF1 and RF2 perform the best under this criterion as all traffic movements are retained.

All options rank equally under accessibility and social inclusion as they all follow the same route.

All options rank equally under safety as they all require the same number of turning movements at junctions and footpath widths are the same throughout.

Options RF2, RF4 and RF6 perform worse than other options under flora and fauna due to the likely impacts related to delivering the parallel cycle facility. Similarly, Options RF2, RF4 and RF6 perform slightly worse than other options under the landscape and visual criterion due to the likely impacts associated with the construction of new bridge structures. Options RF1, RF3 and RF5 perform slightly worse than other options under the architectural and archaeological and cultural heritage criteria due to the impact on Pearse bridge which is a protected structure.

A summary of the assessment and relative ranking of route options against the five main assessment criteria is presented in **Table 6.5**.

Table 6.5: Section 1 MCA Criteria Summary

Appraisal Criteria	Option RF1	Option RF2	Option RF3	Option RF4	Option RF5	Option RF6
1 Economy						
2 Integration						
3 Accessibility & Social Inclusion						
4 Safety						
5 Environment						

6.1.3.4 Section 1 Conclusion and Draft Preferred Option

Based on the assessment undertaken, route Option RF2 offers more benefits over other options. It performs significantly better under the Integration criterion, while performing slightly worse than other options under the Economy and Environment criteria. Option RF2 is the draft PRO for the Rathfarnham Road area for the following reasons:

- It provides full physical bus priority throughout this section, supporting reliability of journey time for the bus;
- It reduces the impact on properties with steep existing driveways along Rathfarnham Road both north and south of the River Dodder through the delivery of an alternative cycle facility utilising the permitted Dodder Greenway and linking to Rathdown Park;
- It delivers an attractive alternative cycle facility making use of the under-construction Dodder Greenway scheme, providing the opportunity for integration with secondary Route 9B from the GDA cycle network plan. While cycle facilities are not provided along a short section of the CBC, the proposal is an attractive and safe alternative;
- It maintains existing traffic movements along Rathfarnham Road.

6.2 Section 2 Option Assessment: Rathdown Park to Grand Canal

6.2.1 Section 2a - Terenure to Grosvenor Road

6.2.1.1 Introduction

Numerous submissions received as part of the public consultation raised concerns about the impact of land acquisition along this section of the route, particularly in relation to the implications on heritage, considering the number of protected structures along this route as well as the removal of trees.

In addition, upon review of the EPR Option proposals with the benefit of topographical survey, it was evident that portions of the EPR Option proposals, namely Terenure Road East immediately east of Rathfarnham Road, were not feasible due to lack of available space. For these reasons, alternative options have been considered in these areas.

6.2.1.2 Options Considered

A number of alternative options have been developed with the objective of addressing the issues noted above. These options are outlined in more detail below:

Option RG1: Option RG1 would provide a general traffic lane in each direction along the entirety of this route section, as well as dedicated bus lanes and cycle tracks along the CBC for the majority of the route section. Under this option, bus lanes and cycle tracks would not be provided over a short section of Terenure Road East immediately east of Terenure Cross where bus priority would be managed through signalling. This option is a version of the EPR Option, refined to reflect issues identified upon review of the topographical survey.

Option RG2: Option RG2 would provide a general traffic lane in each direction on Terenure Road East as well as bus lanes in each direction. Under this option, bus lanes would not be provided over a short section of Terenure Road East immediately east of Terenure Cross where bus priority would be managed through signal controlled priority. No cycle facilities would be provided on Terenure Road East under this option. Additional cycle facilities would be provided on Terenure Road North and Harold's Cross Road, linking to the Kimmage to City Centre CBC, and providing an alternative route for cyclists travelling towards the city which would otherwise use Terenure Road East. Additional secondary cycle facilities would also be provided on Bushy Park Road, Wasdale Park, Wasdale Grove, Victoria Road, Zion Road and Orwell Road, linking back to the CBC at Rathgar Village to provide some level of service for east-west cyclists. A one-way inbound traffic arrangement would be provided on Rathgar Road, with outbound traffic diverted to alternative routes. 1.5m wide cycle tracks would be provided along Rathgar Road.

Option RG3: Option RG3 would provide a general traffic lane in each direction on Terenure Road East as well as bus lanes and cycle tracks in each direction.

Under this option, bus lanes and cycle tracks would not be provided over a short section of Terenure Road East immediately east of Terenure Cross where bus priority would be managed through signalling.

A one-way inbound traffic arrangement would be provided on Rathgar Road, with outbound traffic diverted to alternative routes. 2.0m wide cycle tracks would be provided along Rathgar Road.

Option RG4: Option RG4 would provide a general traffic lane in each direction on Terenure Road East as well as bus lanes in each direction. Under this option, bus lanes would not be provided over a short section of Terenure Road East immediately east of Terenure Cross where bus priority would be managed through signal controlled priority.

No cycle facilities would be provided on Terenure Road East under this option. Additional cycle facilities would be provided on Terenure Road North and Harold's Cross Road, linking to the Kimmage to City Centre CBC, and providing an alternative route for cyclists travelling towards the city which would otherwise use Terenure Road East. Additional cycle facilities would also be provided on Bushy Park Road, Wasdale Park, Wasdale Grove, Victoria Road, Zion Road and Orwell Road, linking back to the CBC at Rathgar Village to provide some level of service for east-west cyclists. A two-way general traffic arrangement would be provided on Rathgar Road. An inbound bus lane would be provided between Highfield Road and Frankfort Avenue, while north of this point inbound bus priority would be managed through signal controlled bus priority. An outbound bus lane would be provided between Grosvenor Road and Frankfort Avenue, while south of this point outbound bus priority would be managed through signal controlled bus priority. 1.5m wide cycle tracks would be provided along Rathgar Road.

Option RG5: Option RG5 would provide a general traffic lane in each direction on Terenure Road East as well as bus lanes and cycle tracks in each direction. Under this option, bus lanes and cycle tracks would not be provided over a short section of Terenure Road East immediately east of Terenure Cross where bus priority would be managed through signalling. A two-way general traffic arrangement would be provided on Rathgar Road. An inbound bus lane would be provided between Highfield Road and Frankfort Avenue, while north of this point inbound bus priority would be managed through signal controlled bus priority. An outbound bus lane would be provided between Grosvenor Road and Frankfort Avenue, while south of this point outbound bus priority would be managed through signal controlled bus priority. 2.0m wide cycle tracks would be provided along Rathgar Road.

6.2.1.2.1 Alternative Options Considered

A number of other options were also considered in the area but were not carried forward for the reasons briefly outlined below:

- **Option of a bus gate along Terenure Road East between Rathfarnham Road and Rathgar Road**. This option was not considered feasible due to the orbital traffic movement function of Terenure Road East and the lack of an alternative route for east-west traffic movements. In addition, a bus gate at this location was not considered feasible in combination with scheme proposals for a bus gate within Rathmines Village, which is considered a more appropriate location given the inability to introduce other bus priority measures on this road section.
- **Option of a bus gate along Rathgar Road.** A bus gate on Rathgar Road was not considered feasible in combination with scheme proposals for a bus gate within Rathmines Village, which is considered a more appropriate location given the inability to introduce other bus priority measures on this road section. Furthermore, the permeable nature of the surrounding road network would make it difficult to mitigate against vehicular traffic bypassing the bus gate, whilst also maintaining vehicular access to these areas for residents.

- **Option of the CBC following Harold's Cross Road and connecting to the Kimmage to City Centre CBC.** This option has been previously discussed in section 5.4.1 of this report. The primary reason that this option has not been progressed is the significantly stronger demand for bus along the Rathgar Road / Rathmines Road when compared to Harold's Cross Road as illustrated in **Figure 5.4** and **Figure 5.5**.

6.2.1.2.2 Route Option RG1

Route Description

Route option RG1 is presented in **Figure 6.55**.

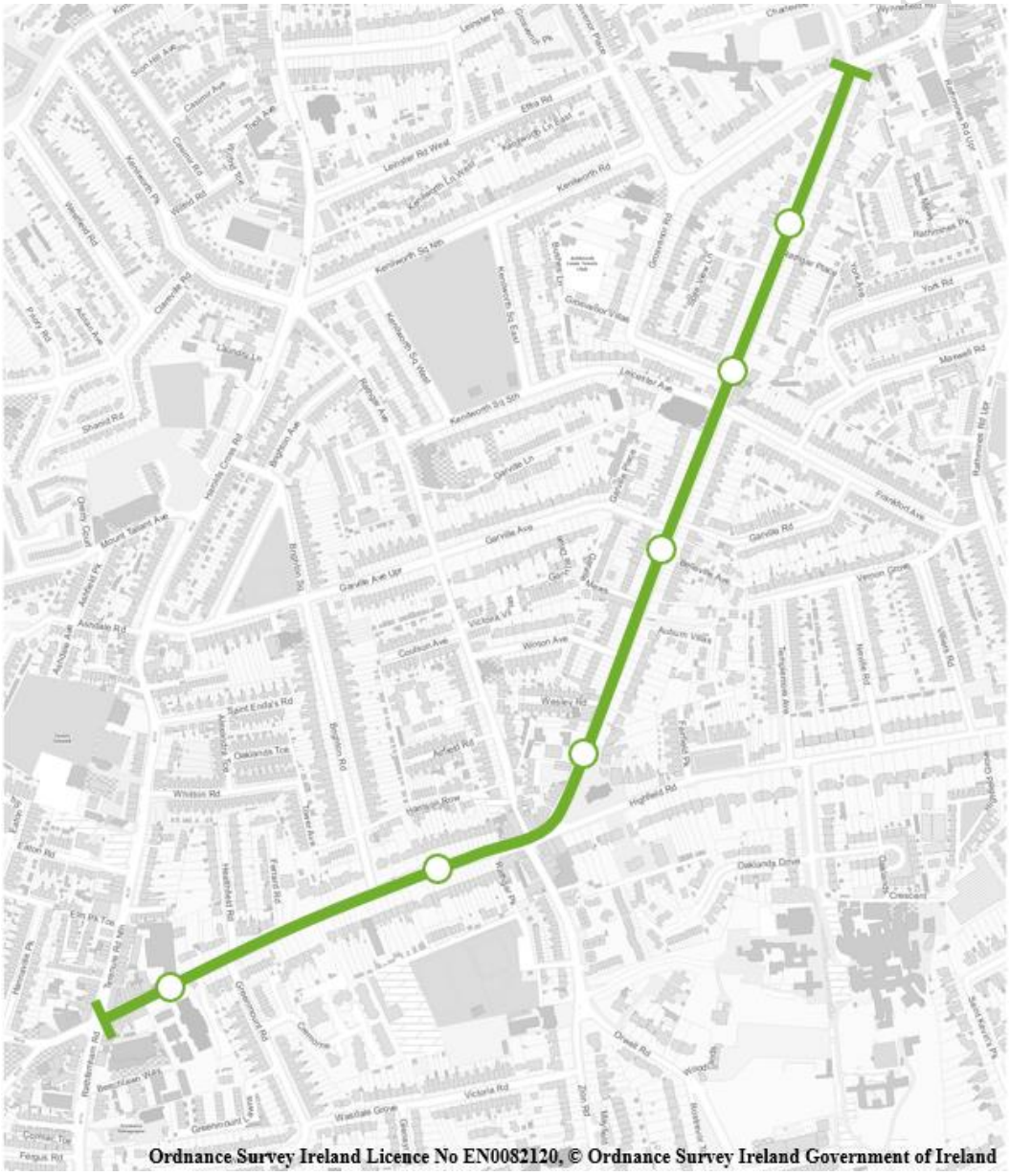


Figure 6.55: Route Option RG1

Inbound: This section of the route would commence on Terenure Road East at Terenure Cross. The CBC Route would proceed along Terenure Road East and Rathgar Road. This route section ends at the junction of Rathgar Road and Grosvenor Road.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of six stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.56 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

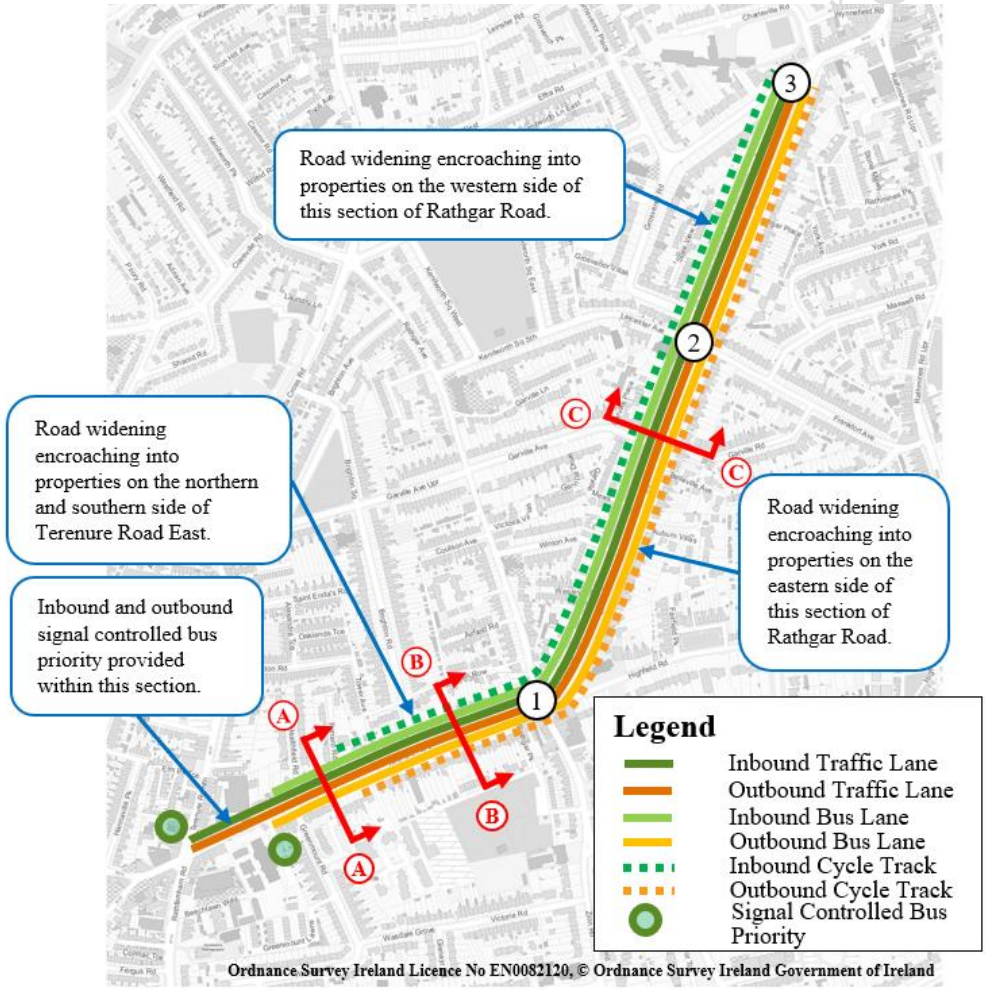


Figure 6.56: Route Option RG1 Indicative Scheme Design

This section of the route commences on Terenure Road East at Terenure Cross. Between Terenure Cross and St Joseph's Church a general traffic lane in each direction is proposed. Inbound and outbound bus priority would be managed through bus priority signals through this section.

An inbound and outbound bus lane would be developed at St. Joseph's Church. The cross-section at this point would consist of a general traffic lane and a bus lane in each direction. This option would require widening into properties on the northern and southern sides of Terenure Road East. The proposed cross-section along this section of Terenure Road East is presented in **Figure 6.57**.

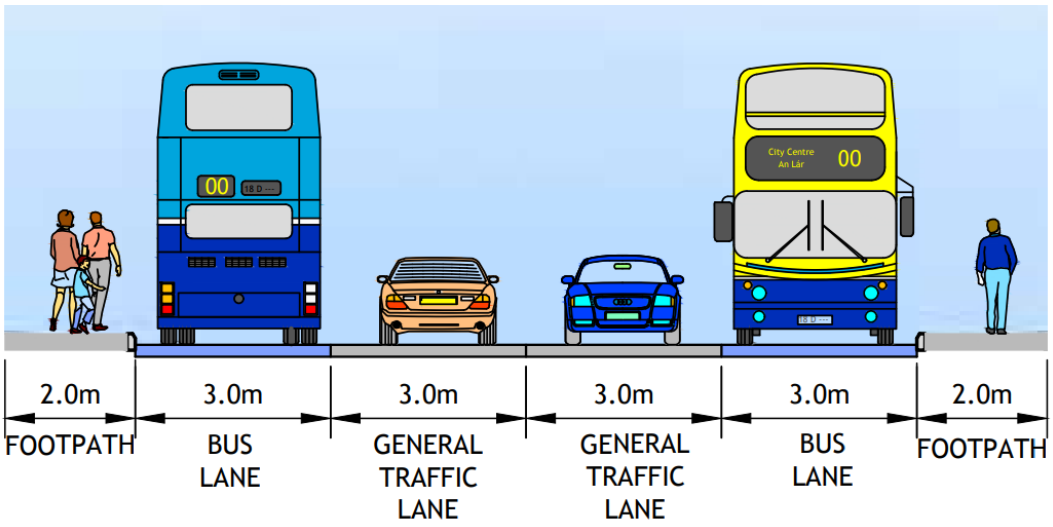


Figure 6.57: Cross-Section A-A (relevant to RG1, RG2, RG3, RG4 & RG5)

Inbound and outbound cycle tracks would be provided between the junction with Ferrard Road as far as Grosvenor Road. This cross-section, consisting of dedicated cycle tracks, a bus lane and a general traffic lane in each direction, would continue onto Rathgar Road. This cross-section would result in widening into adjacent properties on both Terenure Road East and Rathgar Road. This proposed cross-section is presented in **Figure 6.58** and **Figure 6.59**.

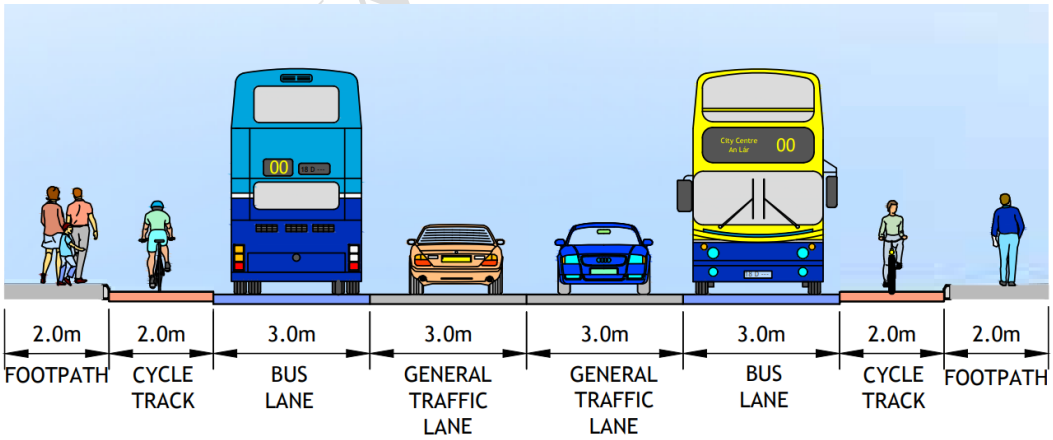


Figure 6.58: Cross-Section B-B (relevant to RG1, RG3 & RG5)

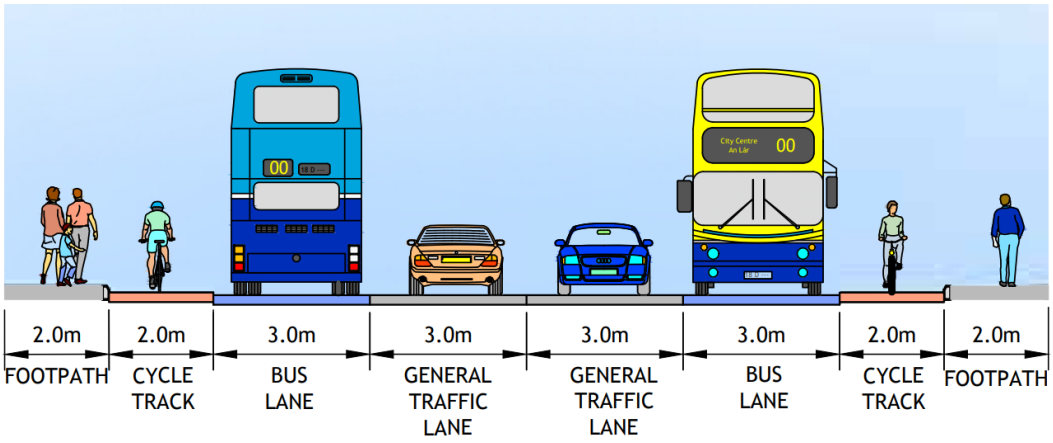


Figure 6.59: Cross-Section C-C (relevant to RG1)

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Bus priority managed through bus priority signals between Terenure Cross and St. Joseph's Church;
- Bus lanes in each direction between St. Joseph's Church and Grosvenor Road; and
- 2.0m wide cycle tracks in each direction between Ferrard Road and Grosvenor Road.

Junctions:

There are three signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.56** and discussed below:

1. **Terenure Road East/Rathgar Road/Rathgar Avenue/ Orwell Road/Highfield Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
2. **Rathgar Road/Leicester Avenue/Frankfort Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
3. **Rathgar Road/Grosvenor Road:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. Outbound traffic at this junction would not be permitted to turn onto Rathgar Road, but would instead be directed to Grosvenor Road. There is also a possible requirement to relocate/provide new signal equipment.

6.2.1.2.3 Route Option RG2

Route Description

Route option RG2 is presented in **Figure 6.60**.

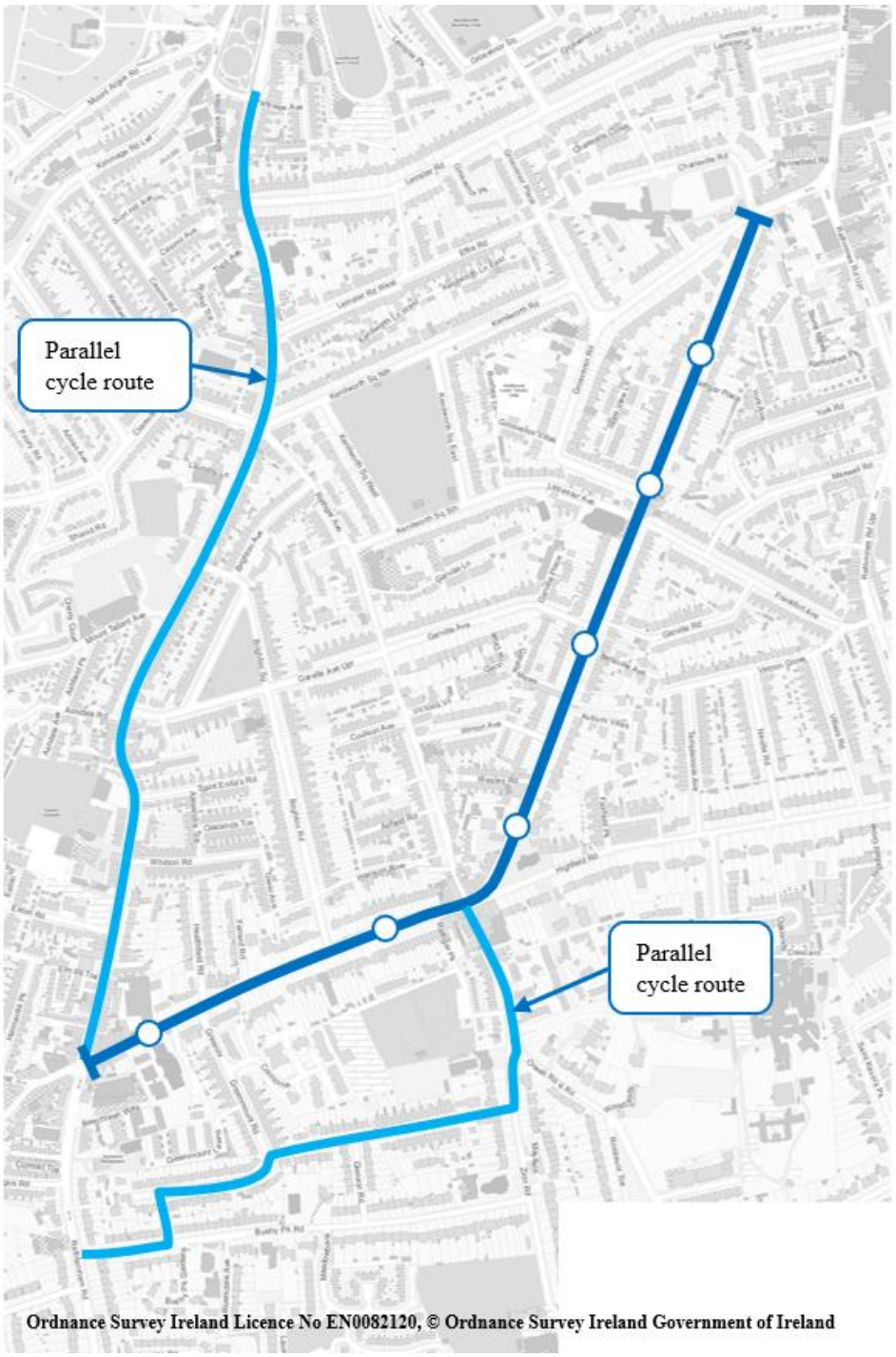


Figure 6.60: Route Option RG2

Inbound: This section of the route would commence on Terenure Road East at Terenure Cross. The CBC Route would proceed along Terenure Road East and Rathgar Road.

This route section ends at the junction of Rathgar Road and Grosvenor Road. Alternative cycle facilities would be provided on Terenure Road North and Harold's Cross Road, linking to the Kimmage to City Centre CBC at Harold's Cross, as well as on Bushy Park Road, Wasdale Park, Wasdale Grove, Victoria Road, Zion Road and Orwell Road, linking back to the CBC at Rathgar Village.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of six stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.61 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

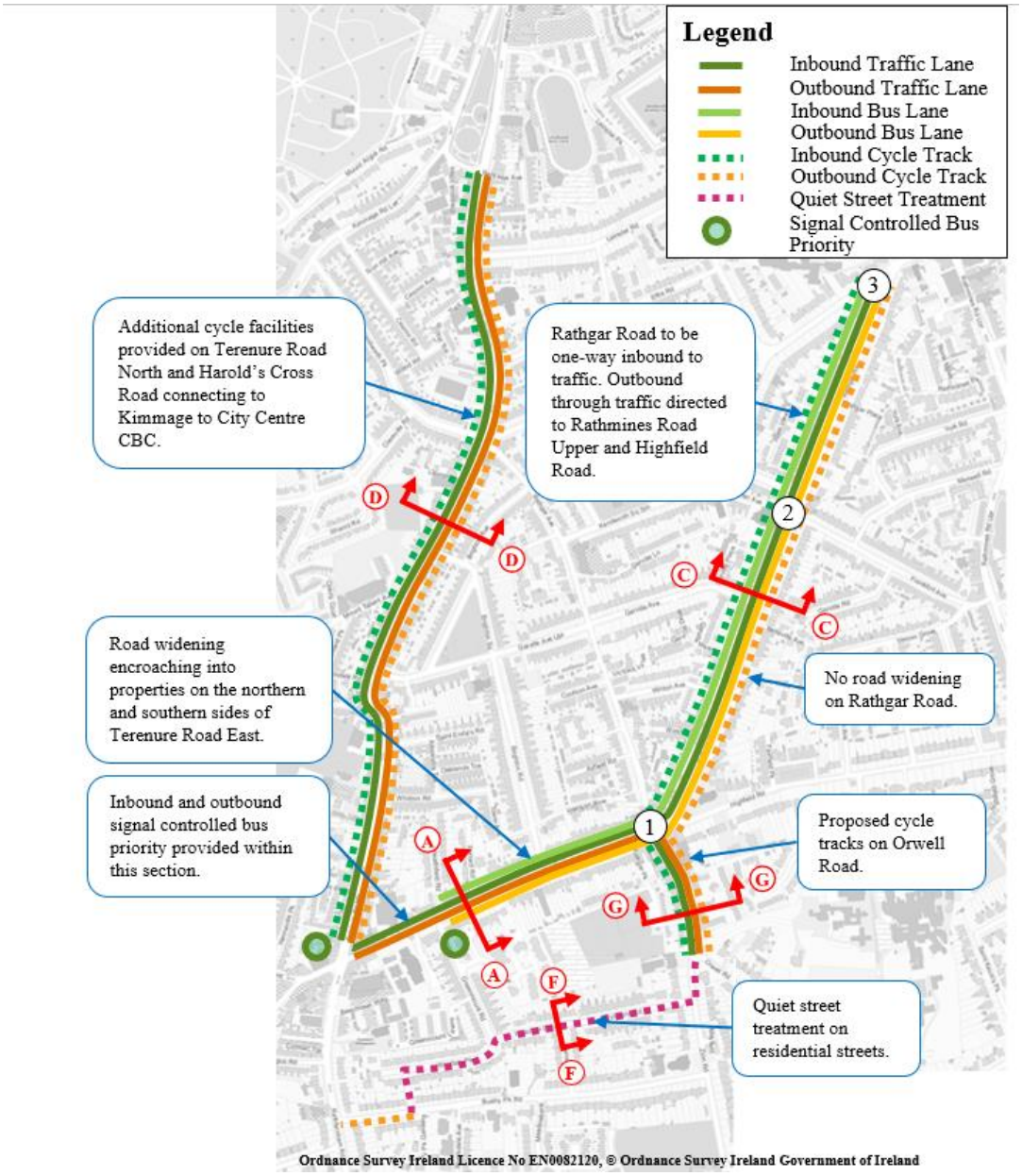


Figure 6.61: Route Option RG2 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

Between Terenure Cross and Ferrard Road the infrastructure provided would be as described in Option RG1. Between Ferrard Road and Rathgar Road the cross section would consist of a general traffic lane and a bus lane in each direction. The proposed cross-section along this section of Terenure Road East is presented in **Figure 6.57**.

Rathgar Road would be made one-way inbound for traffic, with outbound traffic diverted to other routes. Outbound through traffic would be directed to Rathmines

Road Upper and Highfield Road, while local outbound traffic would use the numerous streets connecting to Rathgar Road for access. The right turn movements from Rathmines Road Upper to Highfield Road and from Highfield Road onto Rathgar Road would be reinstated under this option. 1.5m wide inbound and outbound cycle tracks would be provided along Rathgar Road. No road widening would be required on Rathgar Road to deliver this cross-section, significantly reducing the impact on protected structures, private garden trees and resulting in reduced land acquisition when compared with options requiring road widening. This proposed cross-section is presented in **Figure 6.62**.

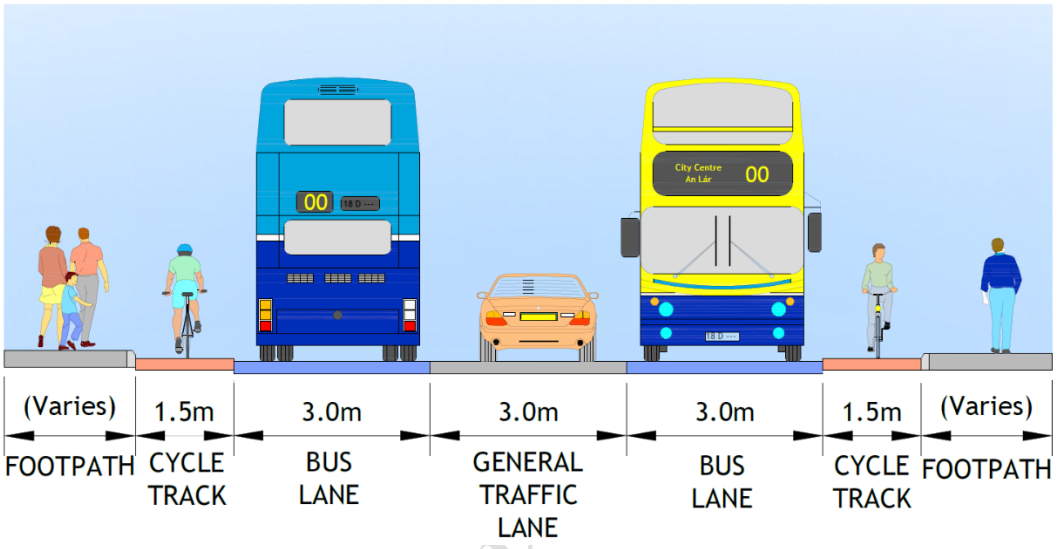


Figure 6.62: Cross-Section C-C (relevant to RG2)

Additional cycle facilities would be provided on Terenure Road North and Harold's Cross Road to cater for city bound cyclists. A general traffic lane in each direction would be maintained along this section of the route. The removal of some on-street parking would be required to deliver these additional cycle facilities. The proposed cross-section on this portion of the route is presented in **Figure 6.63**.

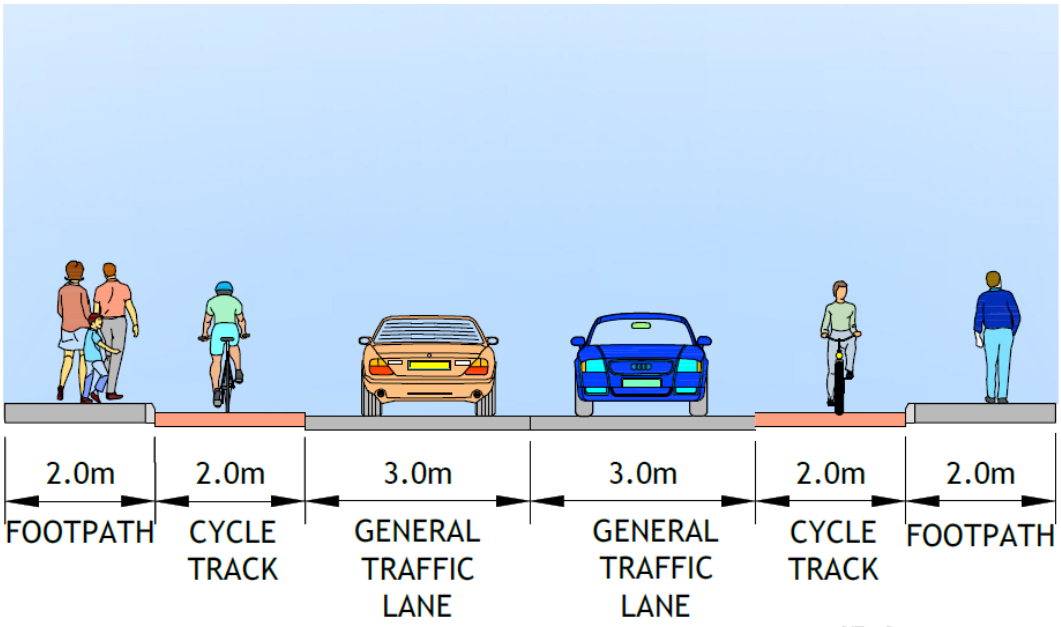


Figure 6.63: Cross-Section D-D (relevant to RG2 & RG4)

A short section of outbound cycle track would also be provided on Bushy Park Road, in addition to a quiet street treatment on Wasdale Park, Wasdale Grove, Victoria Road and Zion Road linking to proposed cycle tracks on Orwell Road. This facility would provide a secondary east-west link between the CBC on Rathfarnham Road and Rathgar Village northwards. A general traffic lane in each direction would be maintained along this section of the route. Typical cross-sections on this portion of the route are presented in **Figure 6.64** and **Figure 6.65**.

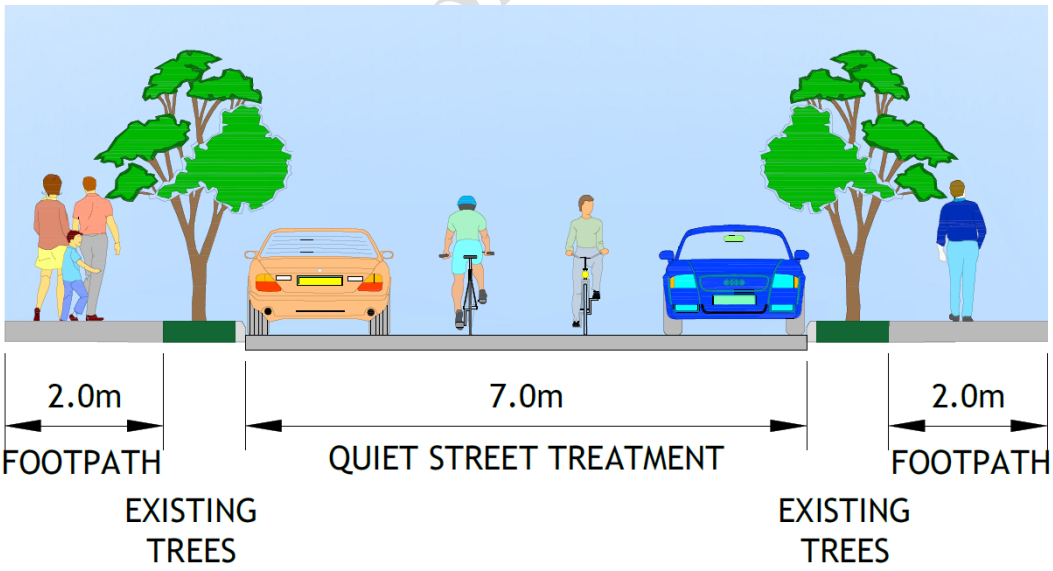


Figure 6.64: Cross-Section F-F (relevant to RG2 & RG4)

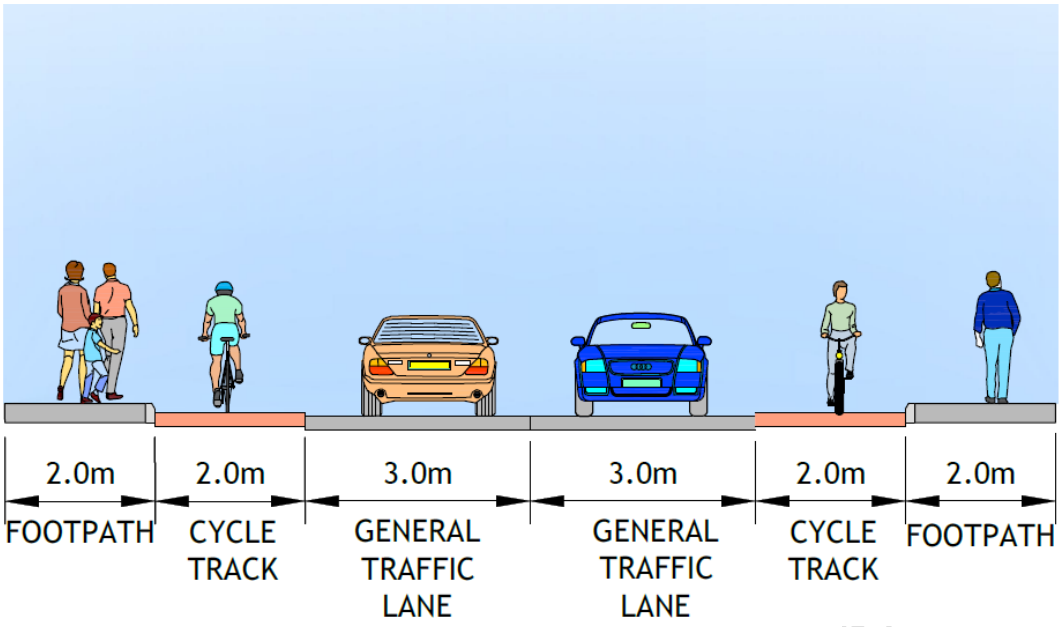


Figure 6.65: Cross-Section G-G (relevant to RG2 & RG4)

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Bus priority managed through bus priority signals between Terenure Cross and St. Joseph's Church;
- Bus lanes in each direction between St. Joseph's Church and Grosvenor Road;
- 1.5m wide cycle tracks in each direction between Highfield Road and Grosvenor Road;
- Additional 2.0m wide cycle tracks on Terenure Road North and Harold's Cross Road from Terenure Cross to Harold's Cross Park, linking the Kimmage to City Centre CBC; and
- Additional section of outbound cycle track on Bushy Park Road, quiet street treatment on Wasdale Park, Wasdale Grove, Victoria Road and Zion Road linking to additional 2.0m wide cycle tracks on Orwell Road.

Junctions:

There are three signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.61** and discussed below:

1. **Terenure Road East/Rathgar Road/Rathgar Avenue/ Orwell Road/Highfield Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;

2. **Rathgar Road/Leicester Avenue/Frankfort Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;

3. **Rathgar Road/Grosvenor Road:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction.

   Outbound traffic at this junction would not be permitted to turn onto Rathgar Road, but would instead be directed to Grosvenor Road. There is also a possible requirement to relocate/provide new signal equipment.

4. **Orwell Road/Zion Road**: Adjustments to the junction layout would be required to facilitate the cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.2.1.2.4 Route Option RG3

Route Description

Route option RG3 is presented in **Figure 6.66**.

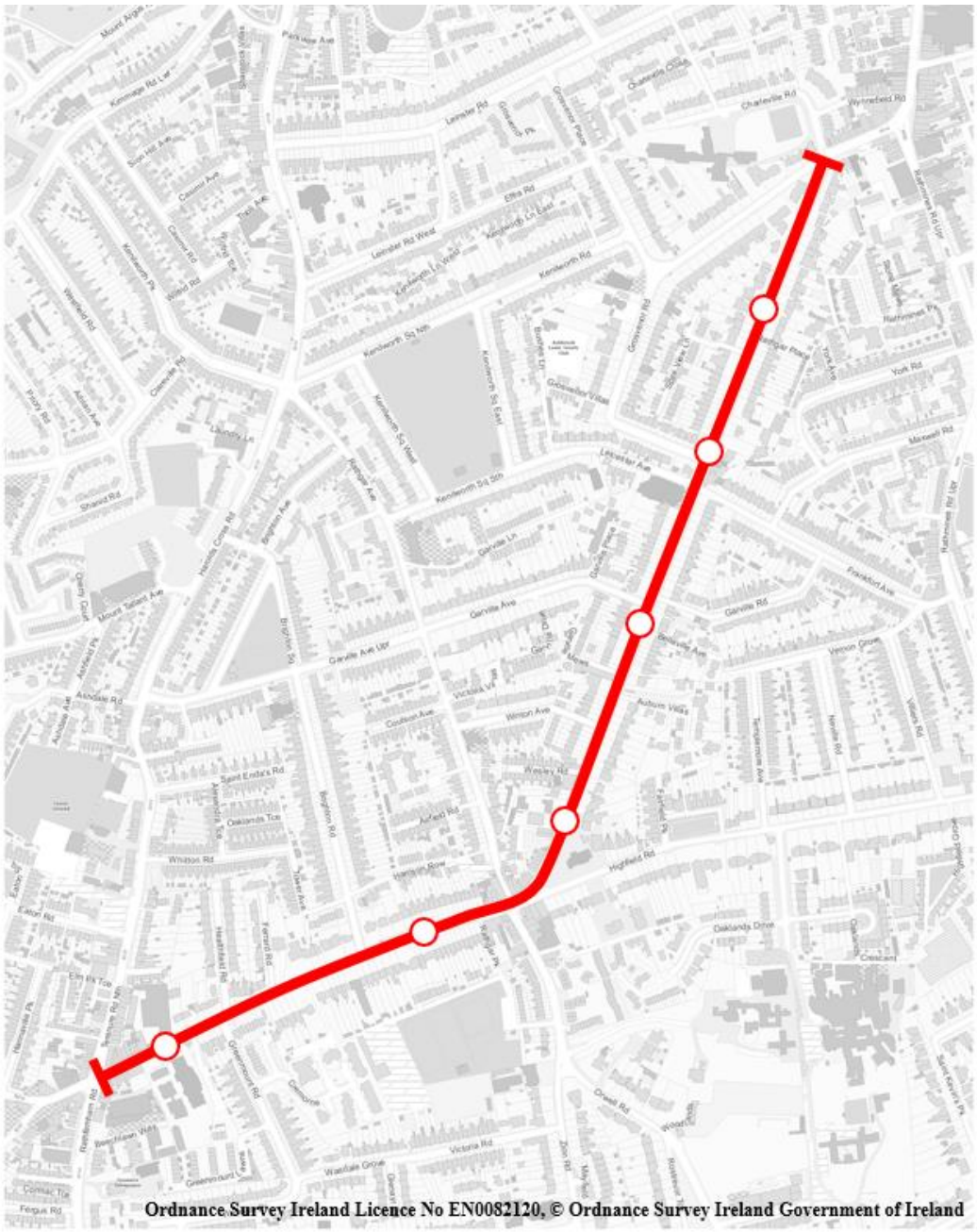


Figure 6.66: Route Option RG3

Inbound: This section of the route would commence on Terenure Road East at Terenure Cross. The CBC Route would proceed along Terenure Road East and Rathgar Road. This route section ends at the junction of Rathgar Road and Grosvenor Road.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of six stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.67 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

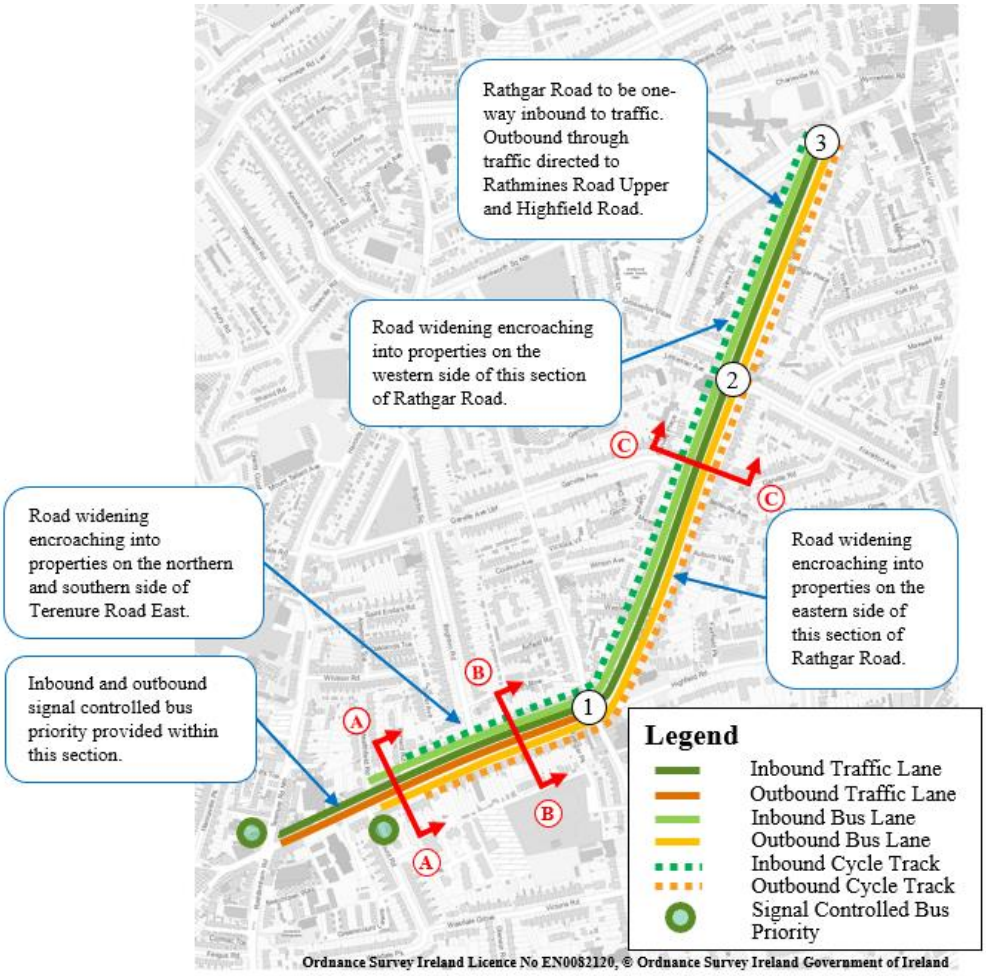


Figure 6.67: Route Option RG3 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

Between Terenure Cross and Rathgar Village the infrastructure to be provided is as described in Option RG1. Between Rathgar Village and Grosvenor Road the infrastructure to be provided is as described in Option RG2. The proposed cross-section on this portion of the route is presented in **Figure 6.57**, **Figure 6.58** and **Figure 6.68**.

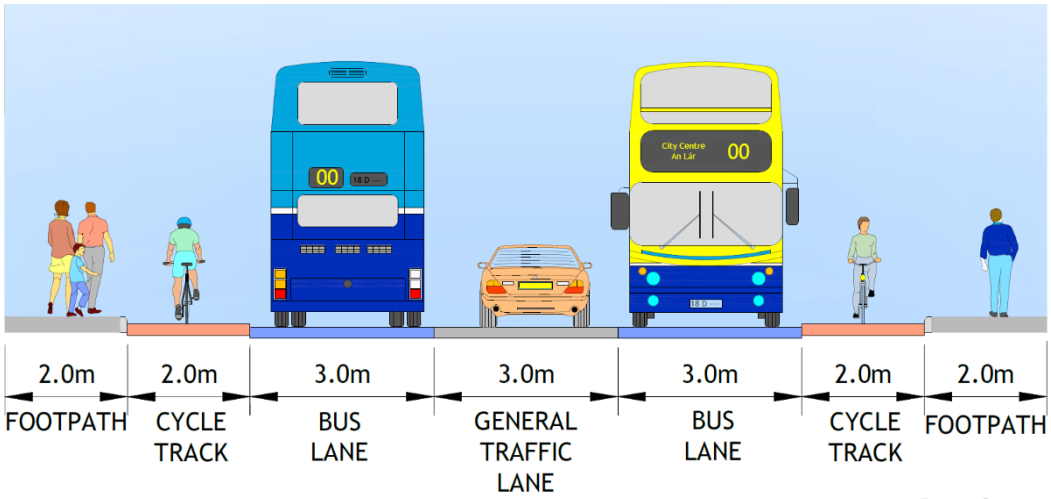


Figure 6.68: Cross Section C-C (Relevant to RG3)

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Bus priority managed through bus priority signals between Terenure Cross and St. Joseph's Church;
- Bus lanes in each direction between St. Joseph's Church and Grosvenor Road;
- One-way inbound traffic on Rathgar Road; and
- 2.0m wide cycle tracks in each direction between Ferrard Road and Grosvenor Road.

Junctions:

There are three signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.67** and discussed below:

1. **Terenure Road East/Rathgar Road/Rathgar Avenue/ Orwell Road/Highfield Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
2. **Rathgar Road/Leicester Avenue/Frankfort Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
3. **Rathgar Road/Grosvenor Road:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. Outbound traffic at this junction would not be permitted to turn onto Rathgar Road, but would instead be directed to Grosvenor Road. There is also a possible requirement to relocate/provide new signal equipment.

6.2.1.2.5 Route Option RG4

Route Description

Route option RG4 is presented in **Figure 6.69**.

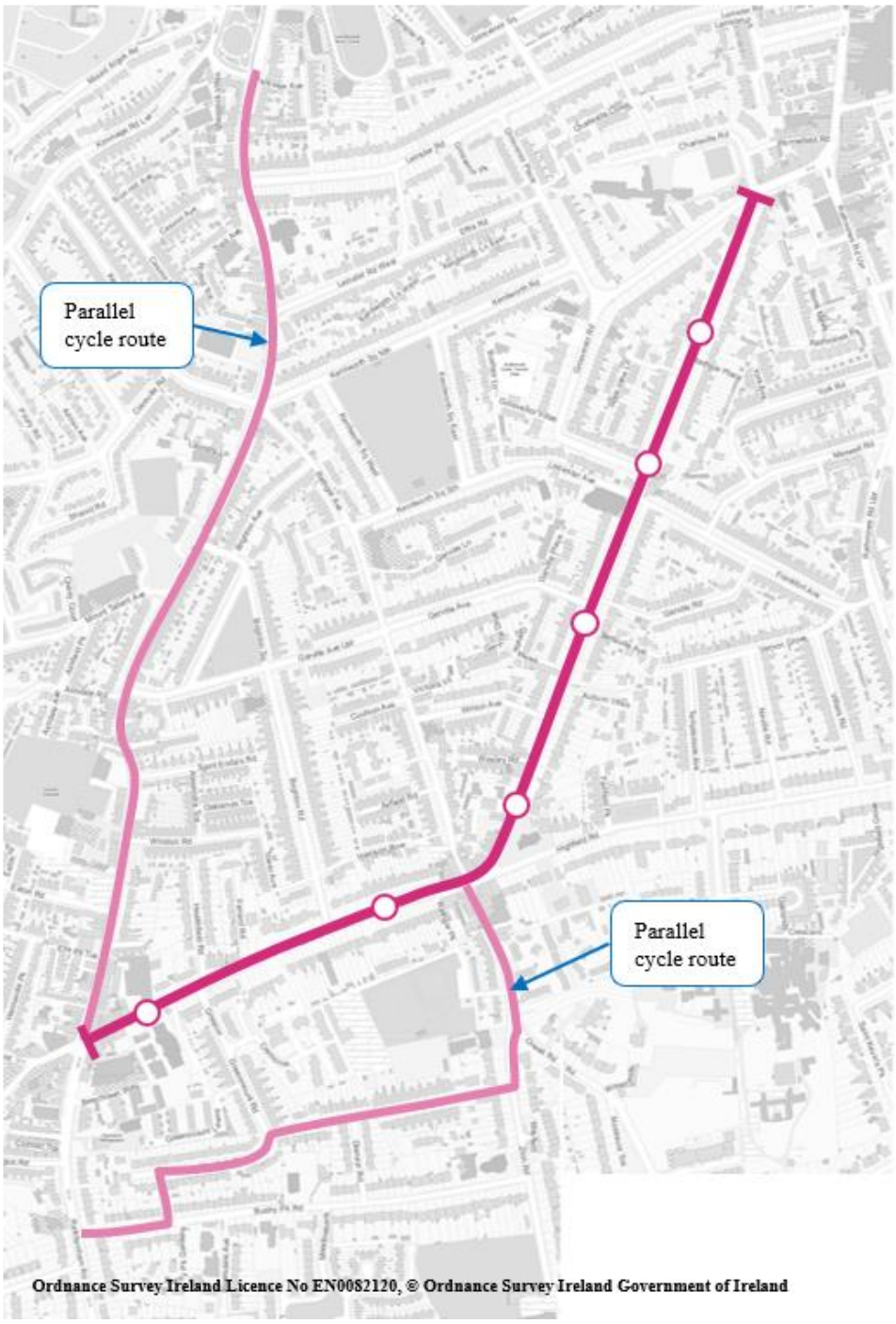


Figure 6.69: Route Option RG4

Inbound: This section of the route would commence on Terenure Road East at Terenure Cross. The CBC Route would proceed along Terenure Road East to and Rathgar Road.

This route section ends at the junction of Rathgar Road and Grosvenor Road. Alternative cycle facilities would be provided on Terenure Road North and Harold's Cross Road, linking to the Kimmage to City Centre CBC at Harold's Cross, as well as on Bushy Park Road, Wasdale Park, Wasdale Grove, Victoria Road, Zion Road and Orwell Road, linking back to the CBC at Rathgar Village.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of six stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.70 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

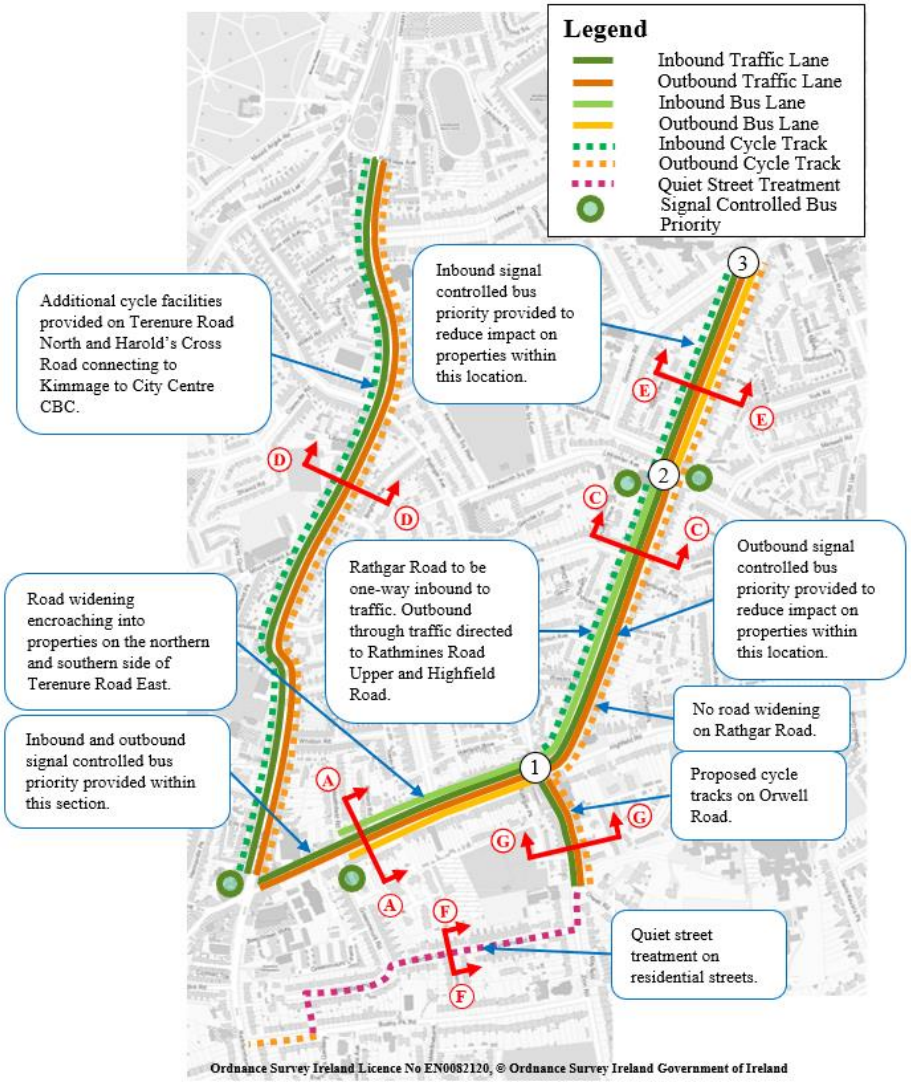


Figure 6.70: Route Option RG4 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

This section of the route commences on Terenure Road East at Terenure Cross. Between Terenure Cross and Rathgar Village, the infrastructure to be provided would be as per Option RG2. The proposed cross-section along this section of Terenure Road East is presented in **Figure 6.57**.

1.5m wide inbound and outbound cycle tracks would be provided along Rathgar Road.

A dedicated inbound bus lane would be provided between Highfield Road and Frankfort Avenue with signal controlled bus priority provided. No road widening would be required on Rathgar Road to deliver this cross-section, significantly reducing the impact on protected structures, private garden trees and resulting in reduced land acquisition when compared with options requiring road widening. This proposed cross-section is presented in **Figure 6.71**.

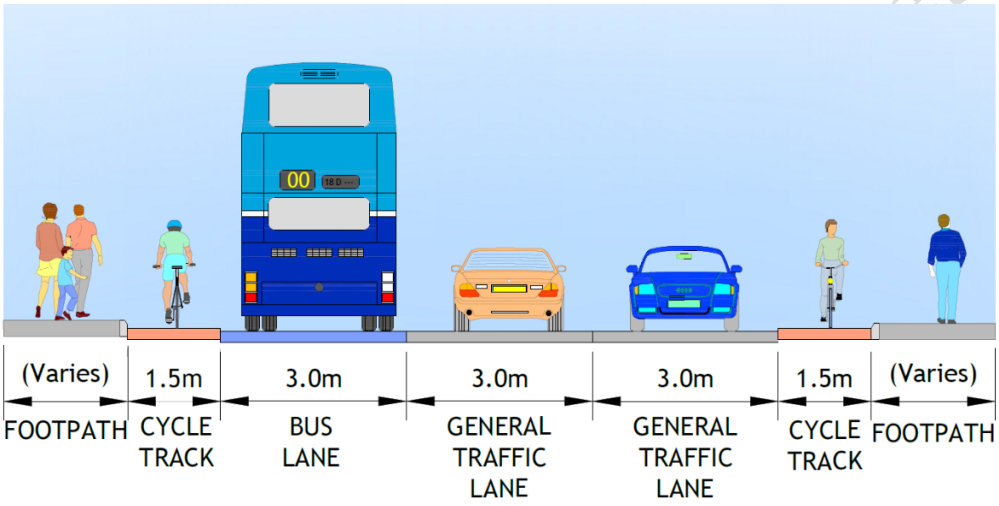


Figure 6.71: Route Option RG4 Cross-Section C-C

A dedicated outbound bus lane would be provided between Frankfort Avenue and Grosvenor Road with Signal controlled bus priority provided. This proposed cross-section is presented in **Figure 6.72**.

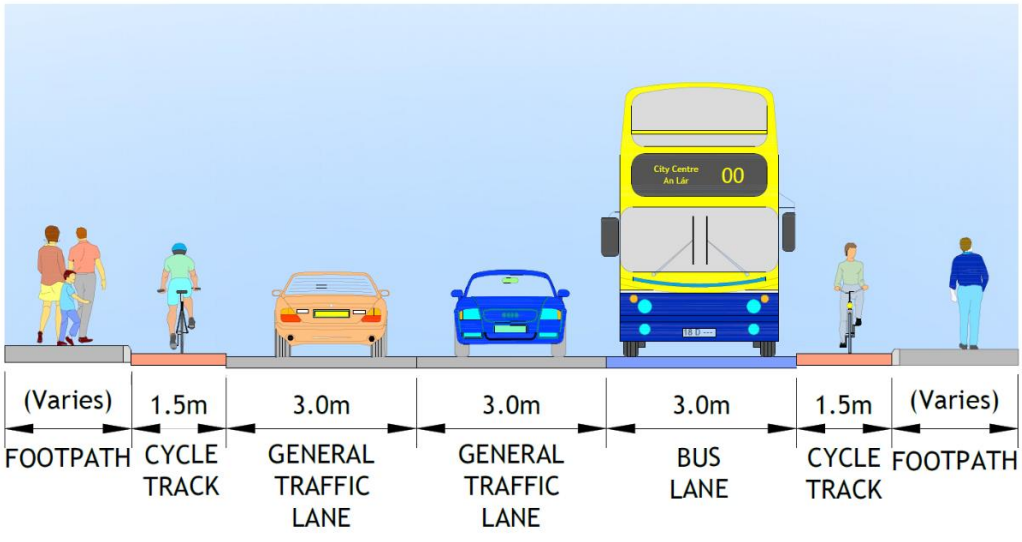


Figure 6.72: Route Option RG4 Cross-Section E-E

As per Option RG2, additional cycle facilities would be provided on Terenure Road North and Harold's Cross Road to cater for city bound cyclists. The proposed cross-section on this portion of the route is presented in **Figure 6.63.**

As per Option RG2, a short section of outbound cycle track would also be provided on Bushy Park Road, in addition to a quiet street treatment on Wasdale Park, Wasdale Grove, Victoria Road and Zion Road linking to proposed cycle tracks on Orwell Road. This facility would provide a secondary east-west link between the CBC on Rathfarnham Road and Rathgar Village northwards. A general traffic lane in each direction would be maintained along this section of the route. Typical cross-sections on this portion of the route are presented in **Figure 6.64** and **Figure 6.65**.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Bus priority managed through bus priority signals between Terenure Cross and St. Joseph's Church;
- Bus lanes in each direction between St. Joseph's Church and Orwell Road;
- A combination of bus lanes and signal controlled priority along Rathgar Road, with Signal controlled bus priority provided;
- 1.5m wide cycle tracks in each direction between Highfield Road and Grosvenor Road;
- Additional 2.0m wide cycle tracks on Terenure Road North and Harold's Cross Road from Terenure Cross to Harold's Cross Park, linking to the Kimmage to City Centre CBC; and
- Additional section of outbound cycle track on Bushy Park Road, quiet street treatment on Wasdale Park, Wasdale Grove, Victoria Road and Zion Road linking to additional 2.0m wide cycle tracks on Orwell Road.

Junctions:

There are three signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.70** and discussed below:

1. **Terenure Road East/Rathgar Road/Rathgar Avenue/ Orwell Road/Highfield Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
2. **Rathgar Road/Leicester Avenue/Frankfort Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
3. **Rathgar Road/Grosvenor Road:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. Outbound traffic at this junction would not be permitted to turn

onto Rathgar Road, but would instead be directed to Grosvenor Road. There is also a possible requirement to relocate/provide new signal equipment.

4. **Orwell Road/Zion Road**: Adjustments to the junction layout would be required to facilitate cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.2.1.2.6 Route Option RG5

Route Description

Route option RG5 is presented in **Figure 6.73**.

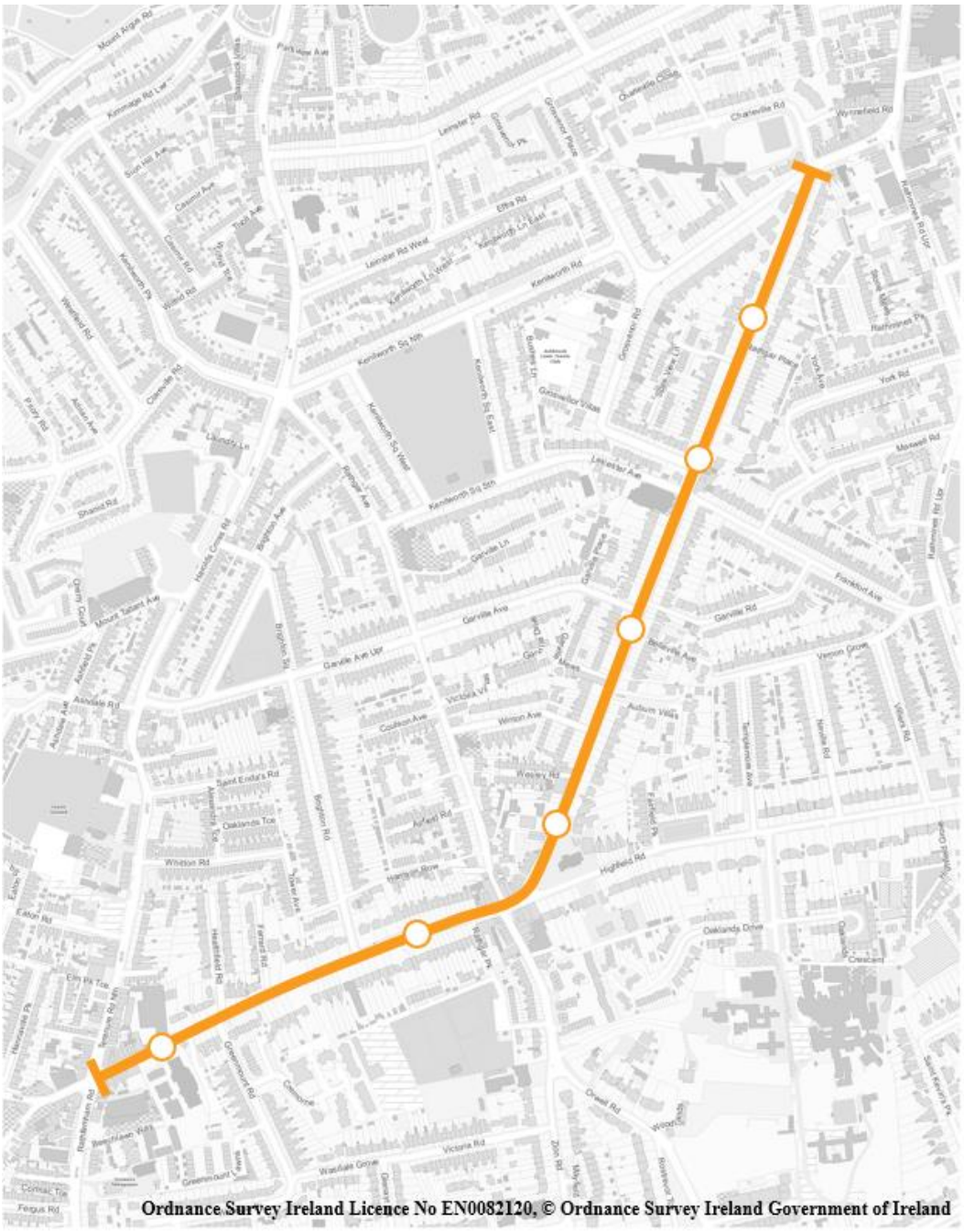


Figure 6.73: Route Option RG5

Inbound: This section of the route would commence on Terenure Road East at Terenure Cross. The CBC Route would proceed with buses sharing the general traffic lane and bus priority provided by bus priority signals from Terenure Cross as far as St. Joseph's Church where a dedicated bus lane would be developed.

From here, a dedicated inbound bus lane is provided as far as the junction with Frankfort Avenue.

Between Frankfort Avenue and Grosvenor Road, signal controlled bus priority would be provided with buses sharing the general traffic lane. A dedicated inbound general traffic lane would be provided throughout this section of the route. No dedicated inbound cycle facilities would be provided between Terenure Cross and Ferrard Road, however, at this point a dedicated 2.0m wide cycle track would be developed and provided as far as Grosvenor Road.

Outbound: The outbound route follows the same route as the inbound route. A dedicated bus lane would be provided from Grosvenor Road to Frankfort Avenue. Between Frankfort Avenue and Highfield Road, bus priority would be managed through bus priority signals with buses sharing the general traffic lane. A dedicated bus lane would be provided between Highfield Road and St Joseph's Church. From this point to Terenure Cross, bus priority would be managed through bus priority signals, with buses sharing the general traffic lane. A dedicated outbound general traffic lane would be provided throughout this section of the route. A dedicated 2.0m wide cycle track would be provided between Grosvenor Road and Ferrard Road. No dedicated outbound cycle facilities would be provided from this point to Terenure Cross.

Stops: A total of six stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.74 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

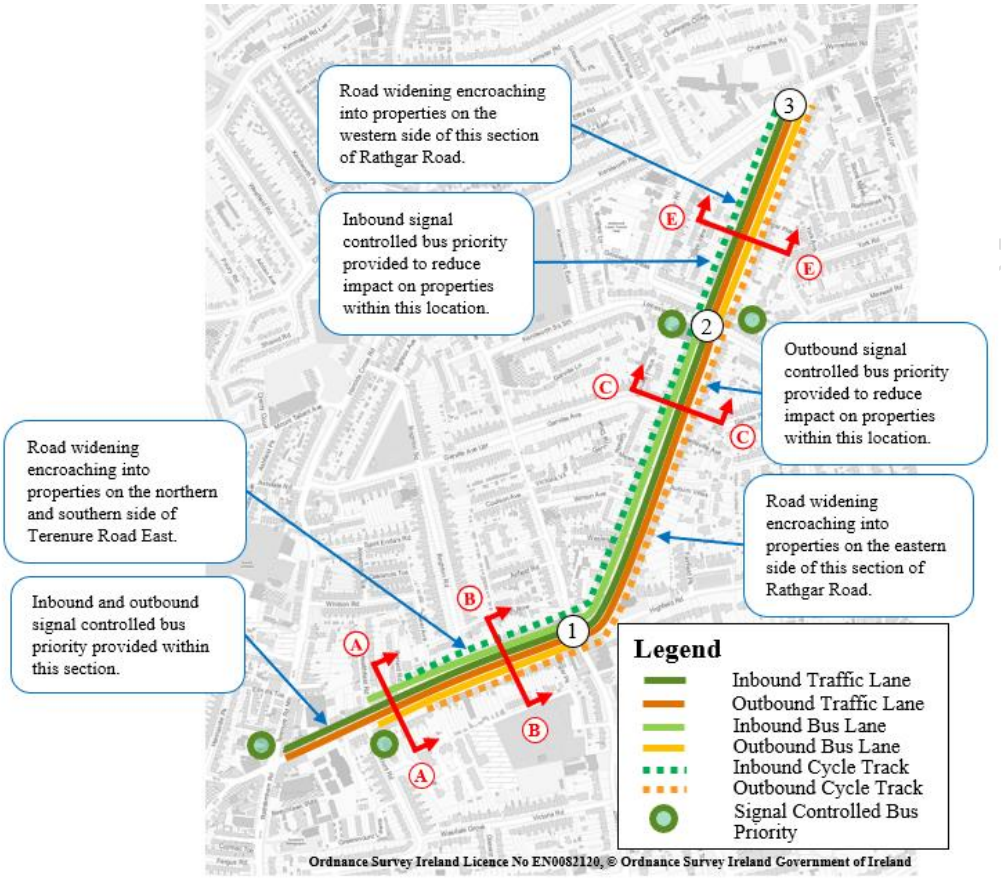


Figure 6.74: Route Option RG5 Indicative Scheme Design (refer to earlier report sections for duplicate cross-sections)

This section of the route commences on Terenure Road East at Terenure Cross. Between Terenure Cross and Rathgar Village the infrastructure provided would be as described in Option RG1. The proposed cross-sections along this section of Terenure Road East are presented in **Figure 6.57** and **Figure 6.58**.

A dedicated inbound bus lane would be provided between Highfield Road and Frankfort Avenue with outbound bus priority managed through signal controlled bus priority. This proposed cross-section is presented in **Figure 6.75**.

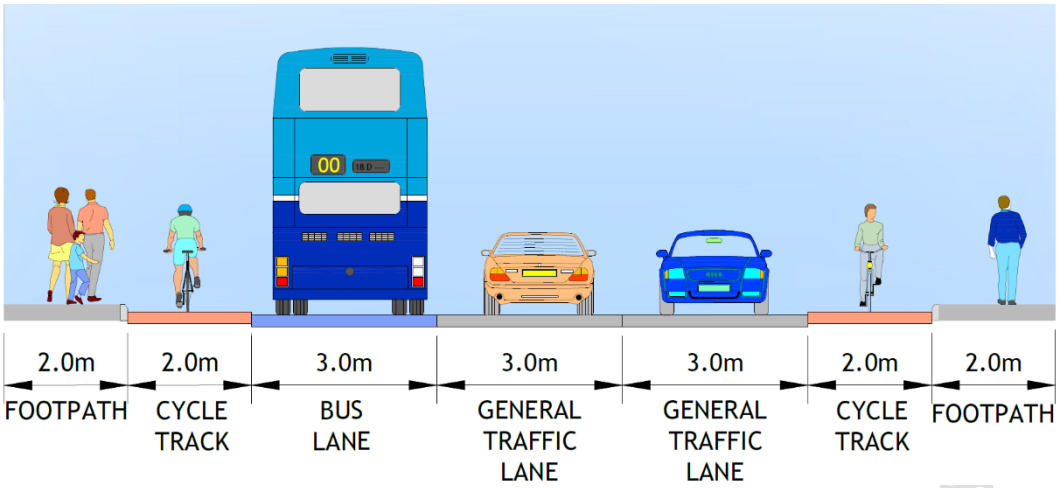


Figure 6.75: Cross-Section C-C (Relevant to RF5)

A dedicated outbound bus lane would be provided between Frankfort Avenue and Grosvenor Road with outbound bus priority managed through signal controlled bus priority. This proposed cross-section is presented in **Figure 6.76**. This cross-section would result in widening into adjacent properties on Rathgar Road.

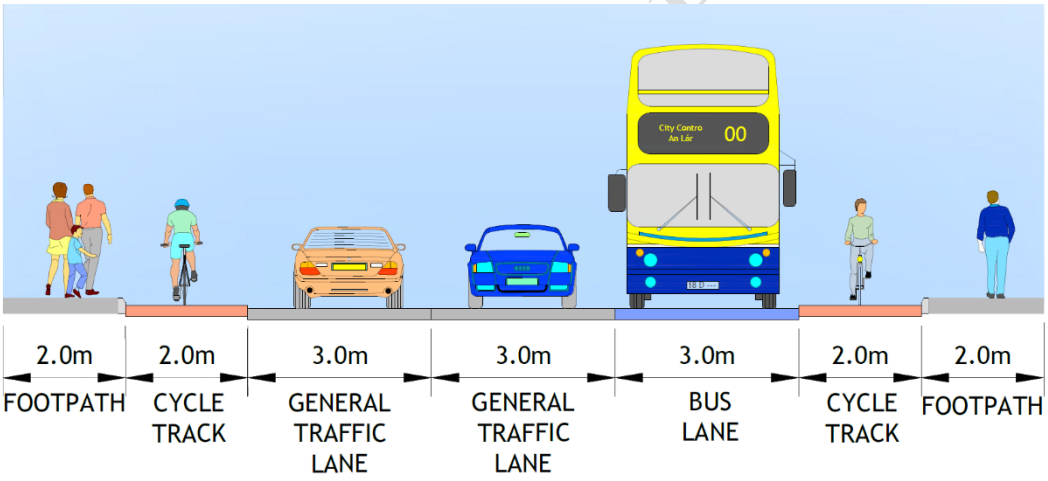


Figure 6.76: Cross-Section E-E (Relevant to RF5)

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Bus priority managed through bus priority signals between Terenure Cross and St. Joseph's Church;
- Bus lanes in each direction between St. Joseph's Church and Orwell Road;
- A combination of bus lanes and signal controlled priority along Rathgar Road, with bus priority provided through signal controlled bus priority; and
- 2.0m wide cycle tracks in each direction between Ferrard Road and Grosvenor Road.

Junctions:

There are three signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.74** and discussed below:

1. **Terenure Road East/Rathgar Road/Rathgar Avenue/ Orwell Road/Highfield Road:** Adjustments to the junction layout would be required to facilitate the outbound bus lane and the cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
2. **Rathgar Road/Leicester Avenue/Frankfort Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
3. **Rathgar Road/Grosvenor Road:** Adjustments to the junction layout would be required to facilitate the bus lanes and cycle tracks on approach to the junction. Outbound traffic at this junction would not be permitted to turn onto Rathgar Road, but would instead be directed to Grosvenor Road. There is also a possible requirement to relocate/provide new signal equipment.

6.2.1.3 Section 2a Route Options Assessment

Details of the route options assessment undertaken for the Terenure Road East and Rathgar Road study area section are presented in Appendix B. The relative ranking of route options against the scheme assessment sub-criteria is summarised in **Table 6.6**.

Table 6.6: Section 2a Route MCA Summary

Appraisal Criteria	Sub-Criteria	Option RG1	Option RG2	Option RG3	Option RG4	Option RG5
1 Economy	1A Capital Cost					
	1B Transport Quality & Reliability					
2 Integration	2A Land Use Policy					
	2B Residential Population and Employment Catchments					
	2C Transport Network Integration					
	2D Cycle Network integration					
	2E Traffic Network Integration					
3 Accessibility & Social Inclusion	3A Key Trip Attractors					
	3B Deprived Geographic Areas					
4 Safety	4A Road Safety					
	4B Pedestrian Safety					
5 Environment	5A Archaeology & Cultural Heritage					
	5B Architectural Heritage					
	5C Flora & Fauna					
	5D Soils, Geology & Hydrogeology					
	5E Landscape & Visual					
	5F Air Quality					
	5G Noise & Vibration					
	5H Land Use Character					

In terms of Capital Cost, Option RG1 is by far the most expensive option in terms of capital cost due to the significant land acquisition costs associated with it. Options RG2 and RG4 have the lowest capital costs due to the fact that significantly less private land acquisition is required to deliver them. Options RG3 and RG5 also perform well under this sub-criterion due to lower land acquisition costs compared with RG1.

In terms of Transport Quality and Reliability, Options RG1, RG2 and RG3 perform well as full physical bus priority is provided throughout, with the exception of a short section of Terenure Road East near Terenure Cross. Options RG4 and RG5 perform slightly worse under this criterion due to buses being required to share the general traffic lane for substantial sections of Rathgar Road.

All options serve the same catchments and as such are ranked equally in relation to land use policy and residential population catchments and employment catchments. Similarly, in terms of transport network integration, as all options follow the same route, the opportunity for interchange with other routes is equal.

In terms of cycle network integration, Options RG1, RG3 and RG5 provide high quality cycle facilities along Primary Route 10 in the GDA cycle network plan, with the exception of a short section of Terenure Road East near Terenure Cross. Options RG2 and RG4 do not provide cycle facilities on Terenure Road East, and cycle facilities of a reduced cross-section are proposed on Rathgar Road, however to compensate for this, additional high-quality facilities are proposed on Terenure Road North and Harold's Cross Road linking to the Kimmage to City Centre CBC and delivering more of the cycle network (a section of Secondary Route 9B from the GDA Cycle Network Plan) and providing a continuous segregated cycle route for cyclists into the city centre. As such, all options perform equally under this sub-criterion.

All options rank equally under accessibility and social inclusion as they all follow the same route.

All options rank equally under safety as they all require the same number of turning movements at junctions and footpath widths are the sane throughout.

Under the environment criterion, Option RG1 performs the worst due to the impact on the curtilage of protected structures, the impact on private garden trees and the requirement for significant land acquisition. Options RG3 and RG5 perform marginally better in this regard due to reduced land impact, however these options still result in impacts on a substantial number of protected structure curtilages and the removal of private garden trees. Options RG2 and RG4 performs the best under this criterion, due to significantly reduced impacts on protected structures, private garden trees and the requirement for significantly less land acquisition compared to other options.

A summary of the assessment and relative ranking of route options against the five main assessment criteria is presented in **Table 6.7**.

Table 6.7: Section 2 Criteria MCA Summary

Appraisal Criteria	Option RG1	Option RG2	Option RG3	Option RG4	Option RG5
1 Economy					
2 Integration					
3 Accessibility & Social Inclusion					
4 Safety					
5 Environment					

6.2.1.4 Section 2a Conclusion and Draft Preferred Option

Based on the assessment undertaken, route Option RG2 offers more benefits over other options. It performs well under all criteria, with the exception of Integration due to the fact that outbound traffic is diverted to alternative routes. Option RG2 is the draft preferred option for the Terenure Road East and Rathgar Road area for the following reasons:

- It provides physical bus priority throughout this section, with the exception of a short section of Terenure Road East at Terenure Cross due to the presence of built form in close proximity to the carriageway (valid for all options considered). It is proposed to manage bus priority through this short section using signal controlled bus priority;
- It has the lowest relative capital cost;
- It provides a continuous high-quality cycle facility from Terenure Cross linking to the city centre along Terenure Road North and Harold's Cross Road and via the Kimmage to City Centre CBC. High quality cycle facilities would also be provided on Primary Route 10 from the Cycle Network Plan along Rathgar Road;
- While it has an impact on traffic movements in the area, suitable diversion routes exist, and the length of diversions is reasonable (up to 0.5km for through traffic); and
- It minimises the impact on the curtilage of protected structures and private gardens and trees through the redirection of outbound traffic away from the CBC route along Rathgar Road.

6.2.2 Section 2b - Rathmines to Grand Canal

6.2.2.1 Introduction

Two options were presented for this scheme section as part of the EPR Option Public Consultation, then referred to as Option A and Option B. Numerous submissions received raised concerns about the standard of cycling provision throughout the scheme, with Rathmines Village attracting a large proportion of these submissions. In addition to this, access to Rathmines Village was also raised as a concern.

6.2.2.2 Options Considered

One alternative option has been developed with the objective of addressing the issues noted above. This option, in addition to the two options published in the EPR Option public consultation, are reconsidered in this assessment and are outlined in more detail below:

Option RM1: Two Bus lanes, one outbound traffic lane and two 1.5m wide cycle tracks through Rathmines Village. *(Previously EPR Option A)*

Option RM2: Two Bus lanes and two general traffic lanes through Rathmines Village with an alternative offline cycle route provided. The offline route commences by directing cyclists down Charleville Road and Wynnefield Road. It is proposed to run a cycleway access through Wynnefield Park connecting to Prince Arthur Terrace and on to Leinster Square. The cycle route would cross Leinster Road and down Louis Lane through a proposed entry point to the lands at the rear of DIT Conservatory of Music and Drama into William Park and Ardee Road. The proposed cycleway would then cross Military Road and across the sports ground in front of St. Mary's College Rathmines Senior School. The cycle lane would then be routed through Cathal Brugha Barracks around the boundary with the Lissenfield Development and the rear of the Grove Park properties. The proposed cycle route then crosses Grove Road onto a new canal crossing and continues on other streets to the city centre. *(Previously EPR Option B)*

Option RM3: Two general traffic lanes and two 2m wide cycle tracks through Rathmines Village with a bus gate located between Richmond Hill and Lissenfield.

6.2.2.2.1 Alternative Options Considered

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

6.2.2.2.2 Route Option RM1

Route Description

Route option RM1 is presented in **Figure 6.77**.

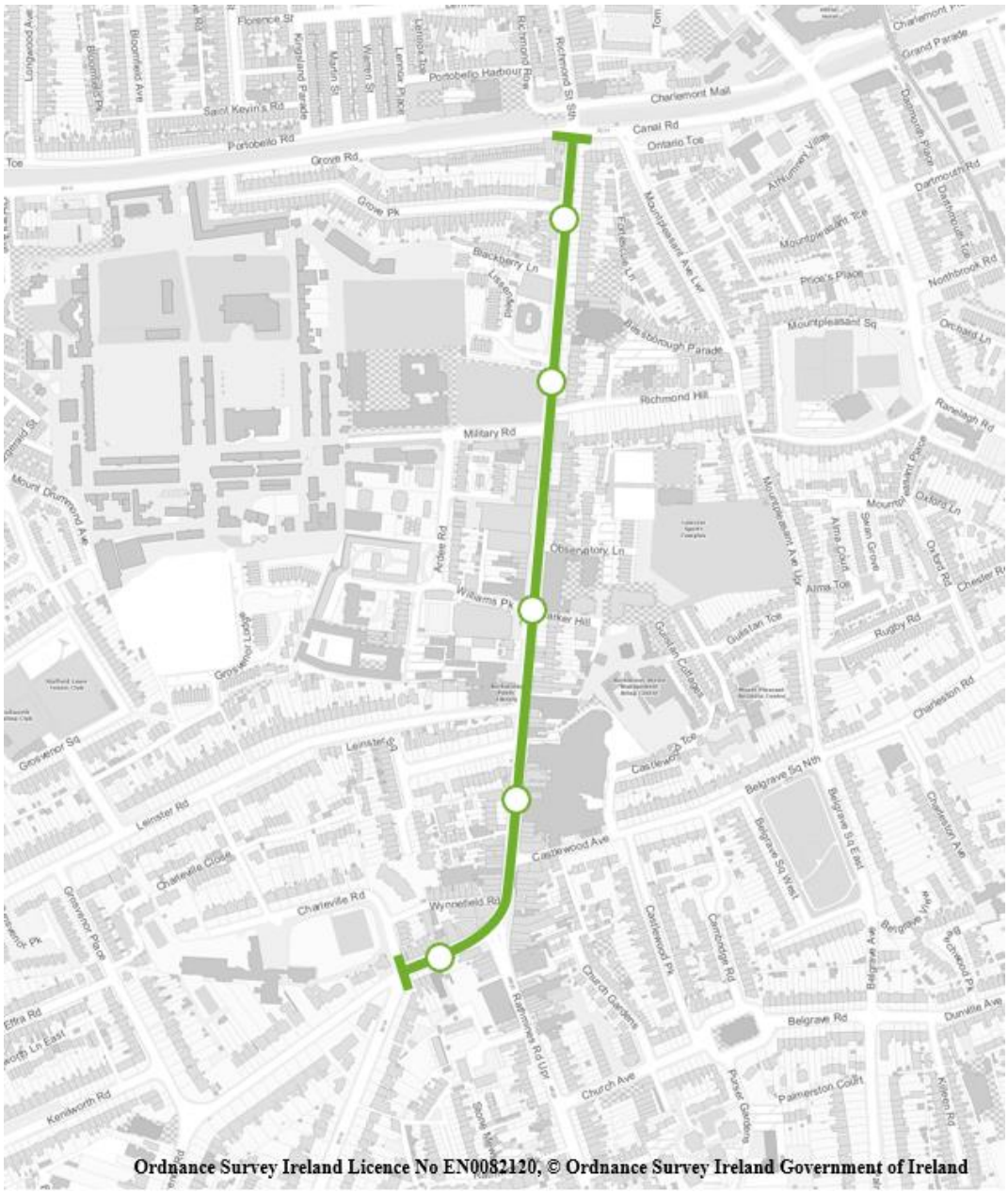


Figure 6.77: Route Option RM1

Inbound: This section of the route would commence on Rathgar Road at the junction of Charleville Road. The CBC Route would proceed from Rathgar Road onto Rathmines Road Lower. This section of the route ends at the junction of Rathmines Road Lower and Grove Road.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.78 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

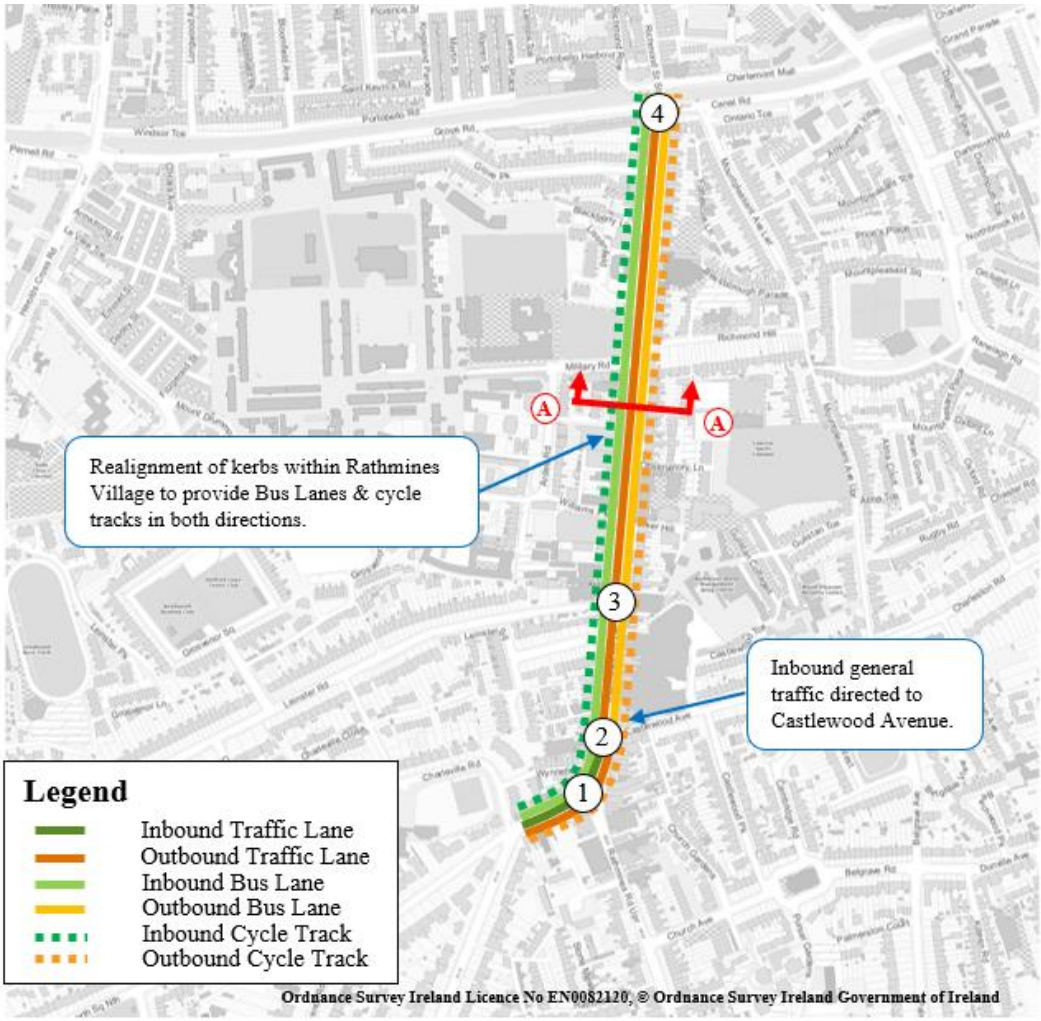


Figure 6.78: Route Option RM1 Indicative Scheme Design

This section of the route commences on Rathgar Road at the junction of Charleville Road. Between Charleville Road and Castlewood Avenue, a dedicated inbound bus lane, a general traffic lane in each direction and a cycle track in each direction are proposed.

Residual inbound general traffic would be redirected onto Castlewood Avenue, with a dedicated bus lane and cycle track continuing inbound on Rathmines Road Lower. From Castlewood Avenue to Grove Road, the cross-section would consist of, dedicated bus lanes in each direction, an outbound traffic lane and 1.5m wide cycle tracks in each direction.

This option would require that footpath widths be narrowed along this section. A cross-section on Rathmines Road Lower is presented in **Figure 6.79**.

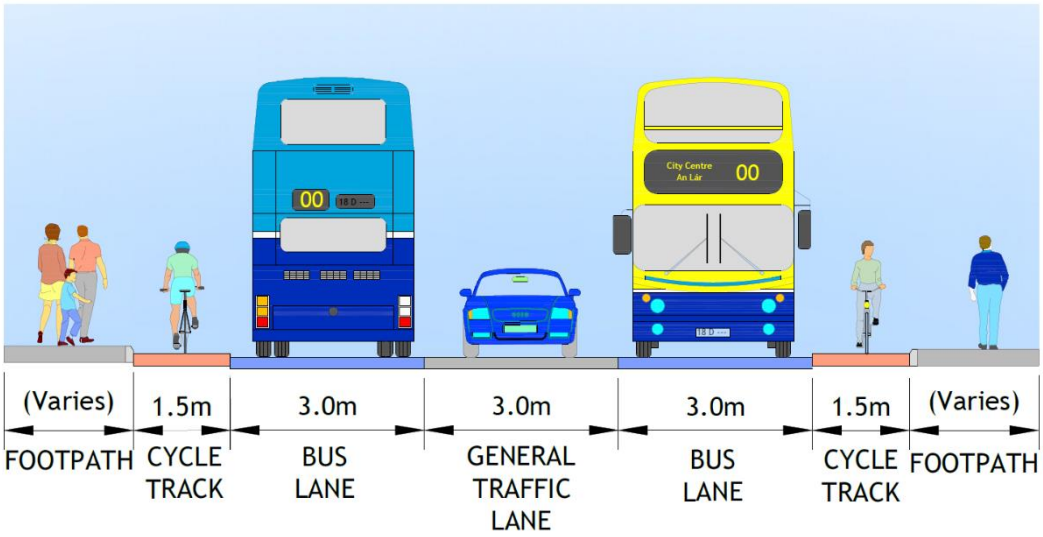


Figure 6.79: Route Option RM1 Cross-Section A-A

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- An inbound bus lane and cycle tracks in each direction between Charleville Road and Castlewood Avenue; and
- Bus lanes and cycle tracks in each direction between Castlewood Avenue and Grove Road.

Junctions:

There are four signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.78** and discussed below:

1. **Rathgar Road/Rathmines Road Upper/Rathmines Road Lower:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
2. **Rathmines Road Lower/Castlewood Avenue:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
3. **Rathmines Road Lower/Leinster Road:** Currently the right turn from Leinster Road onto Rathmines Road Upper is banned. The proposed route option RM1 would require that this turn ban be reversed, i.e. that the right turn be reinstated, and the left turn banned.

4. **Rathmines Road Lower/Grove Road:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction as well as the proposed one-way traffic arrangement from La Touch Bridge to Rathmines Road Lower. There is also a possible requirement to relocate/provide new signal equipment;

6.2.2.2.3 Route Option RM2

Route Description

Route option RM2 is presented in **Figure 6.80**.

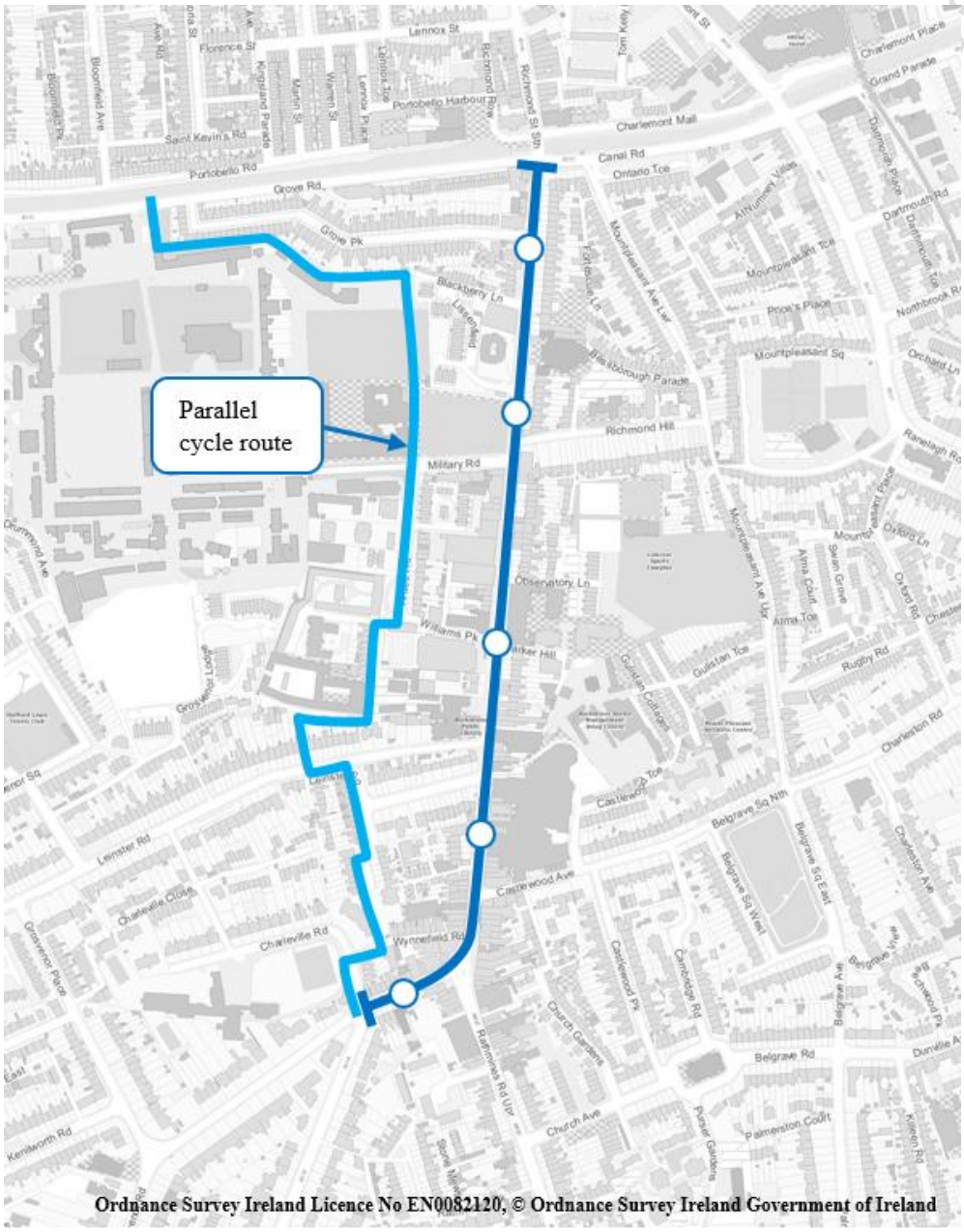


Figure 6.80: Route Option RM2

Inbound: This section of the route would commence on Rathgar Road at the junction of Charleville Road. The main CBC Route from Rathgar Road to Charleville Road and Rathmines Road Upper. This section of the route ends at the junction of Rathmines Road Lower and Grove Road.

Cyclists would be directed down Charleville Road and Wynnefield Road to an alternative cycle facility through Wynnefield Park connecting to Prince Arthur Terrace and on to Leinster Square. The cycle route would cross Leinster Road and down Louis Lane through a proposed entry point to the lands at the rear of DIT Conservatory of Music and Drama into William Park and Ardee Road.

The proposed cycleway would then cross Military Road and across the sports ground in front of St. Mary's College Rathmines Senior School. The cycle lane would then be routed through Cathal Brugha Barracks around the boundary with the Lissenfield Development and the rear of the Grove Park properties.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.81 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

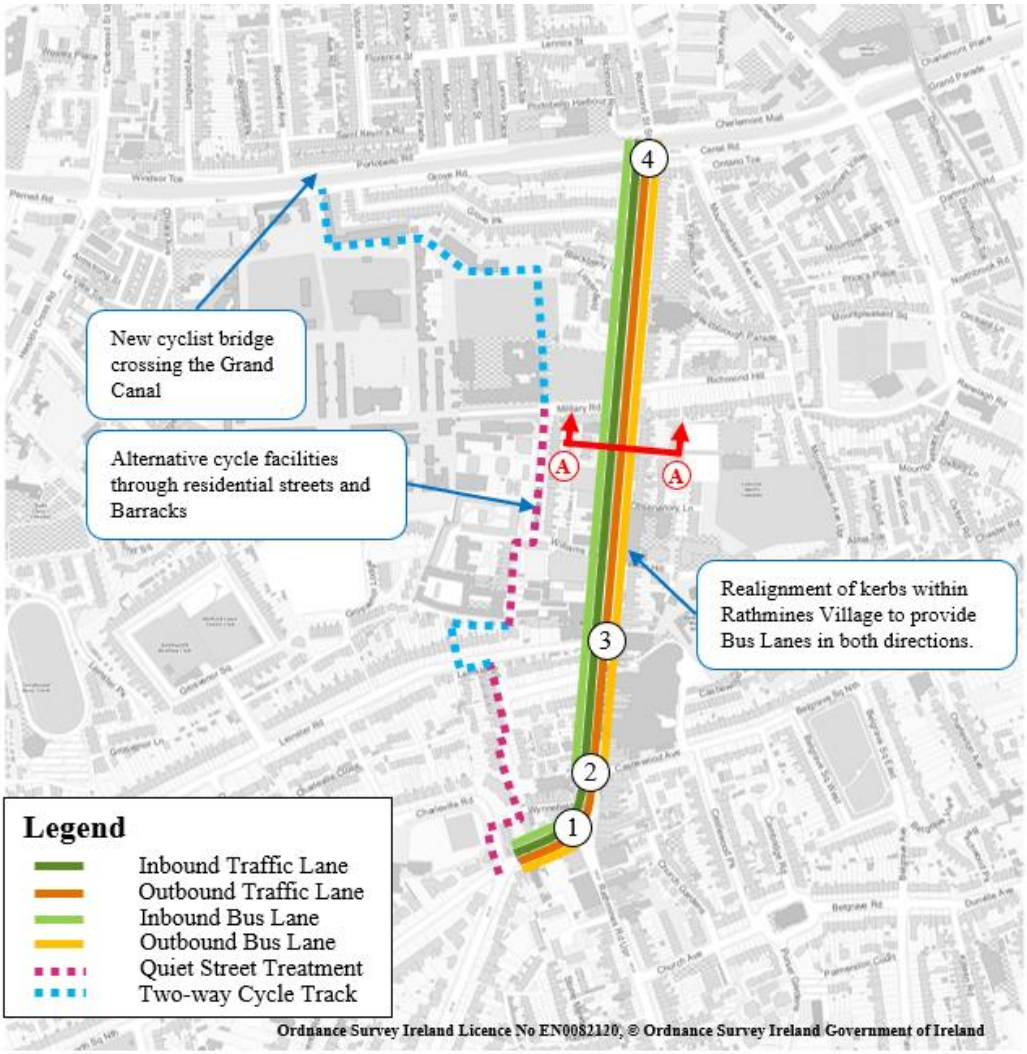


Figure 6.81: Route Option RM2 Indicative Scheme Design

This section of the route commences on Rathgar Road at the junction of Charleville Road. Between Charleville Road and Rathmines Road Upper, a dedicated bus lane in each direction and a general traffic lane in each direction are proposed.

Between Rathmines Road Upper and Castlewood Avenue ignal controlled bus priority would be provided, with no dedicated bus lane provided. A straight-ahead lane and a right-turn lane for traffic turning onto Castlewood Avenue would be provided. Between Castlewood Avenue and Grove Road, a dedicated bus lane and a general traffic lane would be provided in each direction. The proposed cross-section through Rathmines village is presented in **Figure 6.82**.

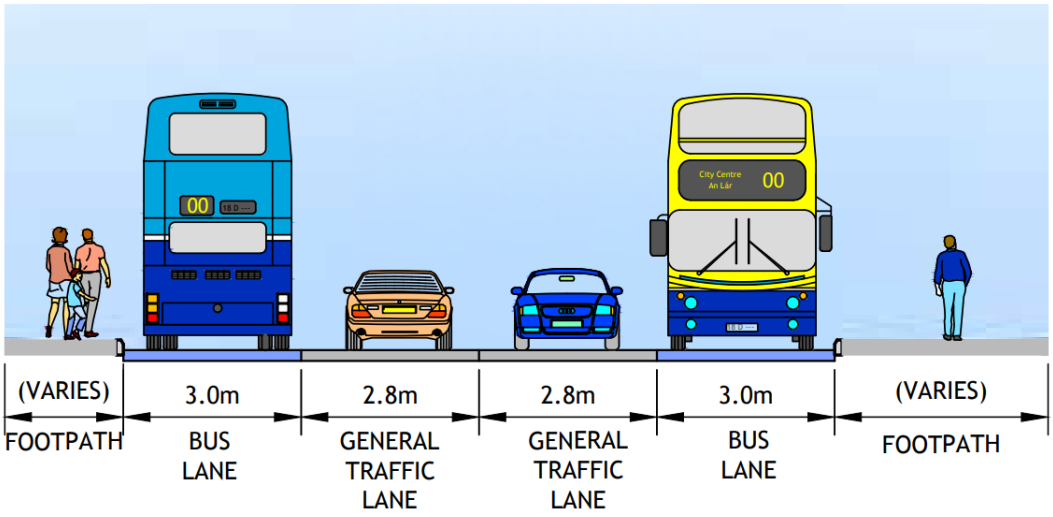


Figure 6.82: Route Option RM2 Cross-Section A-A

No dedicated online cycle facilities would be provided within this section of the scheme. Cyclists would be directed down Charleville Road and Wynnefield Road. It is proposed to run a cycleway access through Wynnefield Park connecting to Prince Arthur Terrace and on to Leinster Square. The cycle route would cross Leinster Road and down Louis Lane through a proposed entry point to the lands at the rear of DIT Conservatory of Music and Drama into Williams Park and Ardee Road. The proposed cycleway would then cross Military Road and across the sports ground in front of St. Mary's College Rathmines Senior School. The cycle lane would then be routed through Cathal Brugha Barracks around the boundary with the Lissenfield Development and the rear of the Grove Park properties.

General traffic would be permitted in both directions along Rathmines Road through Rathmines Village under this arrangement, with dedicated bus lanes provided in each direction. From Castlewood Avenue to Grove Road, the cross-section would consist of, dedicated bus lanes in each direction and 2.8m wide traffic lanes in each direction. This option would require that footpath widths be narrowed along this section.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- A bus lane in each direction between Charleville Road and Rathmines Road Lower;
- Two inbound traffic lanes and one outbound traffic lane between Rathmines Road Upper and Castlewood Avenue;
- A Bus lane each direction between Castlewood Avenue and Grove Road; and
- An alternative cycle facility between Charleville Road and Grove Road, as described above.

Junctions:

There are four signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.81** and discussed below:

1. **Rathgar Road/Rathmines Road Upper/Rathmines Road Lower:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
2. **Rathmines Road Lower/Castlewood Avenue:** Adjustments to the junction layout would be required to facilitate the outbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
3. **Rathmines Road Lower/Leinster Road:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
4. **Rathmines Road Lower/Grove Road:** Adjustments to the junction layout would be required to facilitate the bus lanes on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;

6.2.2.2.4 Route Option RM3

Route Description

Route option RM3 is presented in **Figure 6.83**.

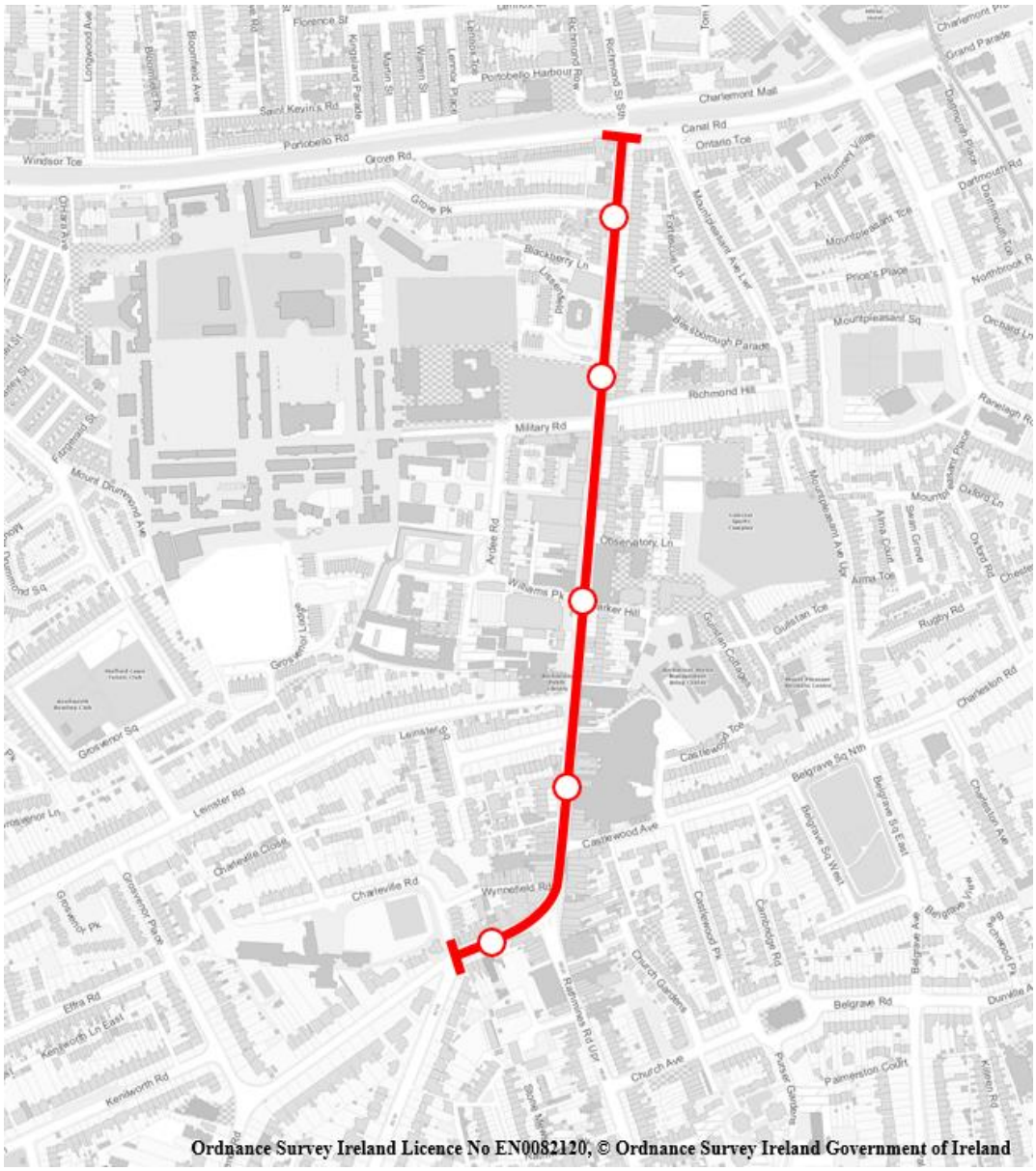


Figure 6.83: Route Option RM3

Inbound: This section of the route would commence on Rathgar Road at the junction of Charleville Road. The CBC Route would proceed from Rathgar Road onto Rathmines Road Lower. This section of the route ends at the junction of Rathmines Road Lower and Grove Road.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of four stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.84 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

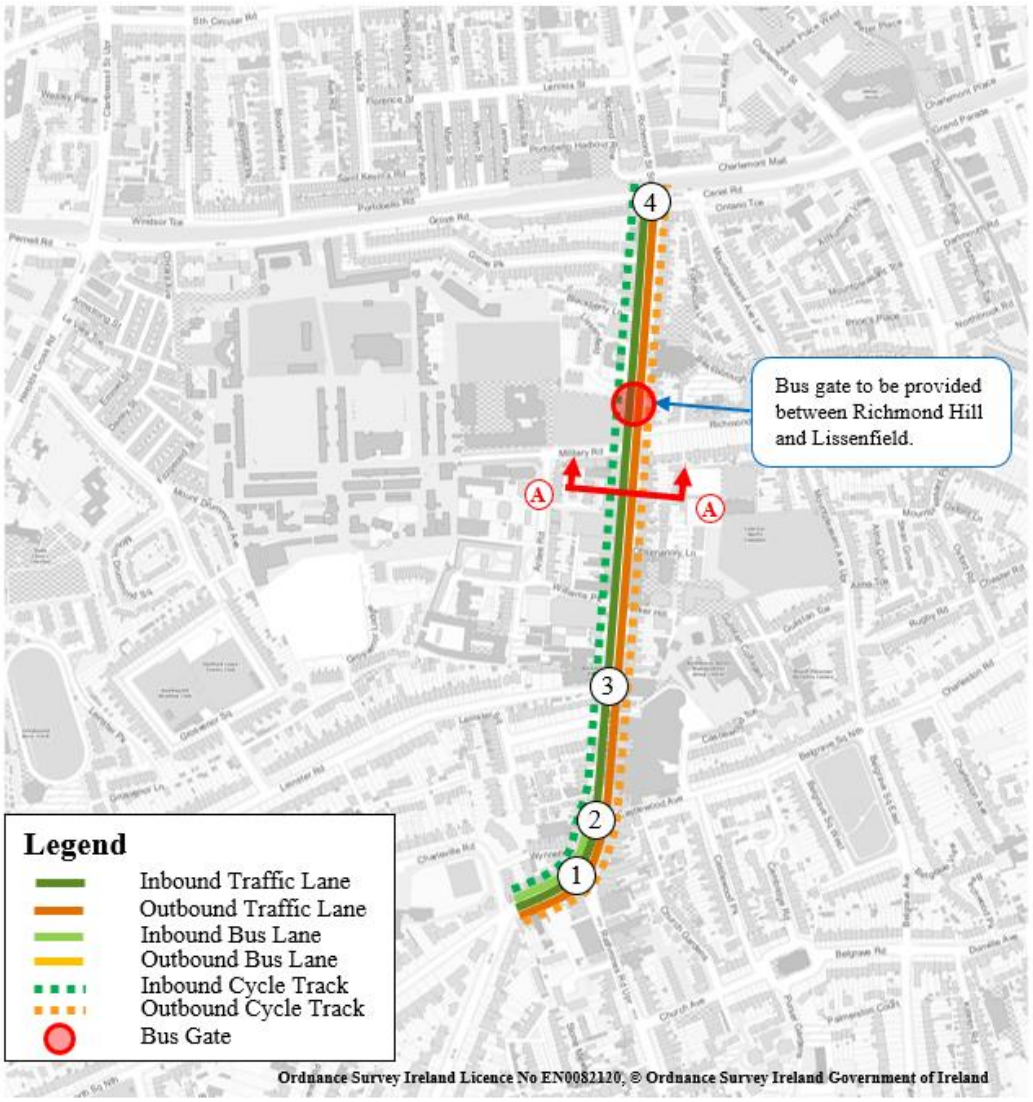


Figure 6.84: Route Option RM3 Indicative Scheme Design

This section of the route commences on Rathgar Road at the junction of Charleville Road. Between Charleville Road and Castlewood Avenue, a dedicated inbound bus lane, a cycle track and a general traffic lane in each direction are proposed. Between Rathmines Road Upper and Castlewood Avenue, an inbound bus lane is proposed whereas outbound bus priority would be provided through signal controlled bus priority, with no dedicated bus lane provided. Between Castlewood Avenue and Grove Road, a general traffic lane and a cycle track would be provided in each direction. A bus gate is proposed on Rathmines Road Lower, located between Richmond Hill and Lissenfield. The proposed cross-section through Rathmines Village is presented in **Figure 6.85**.

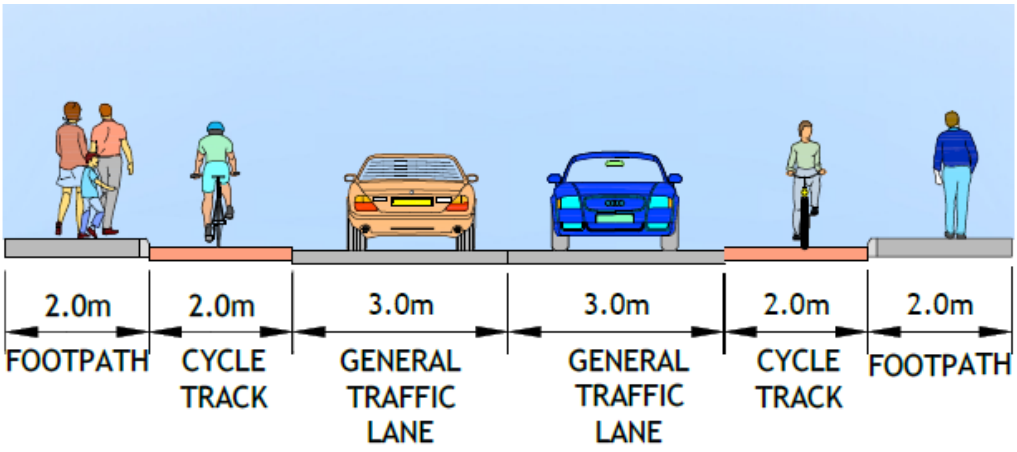


Figure 6.85: Route Option RM3 Cross-Section A-A

Local access would be permitted in both directions along Rathmines Road through Rathmines Village under this arrangement, however through traffic would be directed to other corridors by the presence of the bus gate. Any residual city centre traffic would be redirected to Castlewood Avenue. Additional traffic management measures would be considered on Mountpleasant Avenue to mitigate against traffic bypassing the bus gate in this location. The flow of traffic on Williams Park would also be reversed to provide an option for traffic reaching the bus gate to use Military Road, Ardee Road and Williams Park to return in a southbound direction. From Castlewood Avenue to Grove Road, the cross-section would consist of a traffic lane and a 2m wide cycle track in each direction. This option would allow footpath widths to be increased slightly along this section.

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- An inbound bus lane and a cycle track in each direction between Charleville Road and Castlewood Avenue;
- A general traffic lane and a cycle track in each direction between Castlewood Avenue and Grove Road; and
- A Bus Gate on Rathmines Road Lower, located between Richmond Hill and Lissenfield.

Junctions:

There are four signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.84** and discussed below:

1. **Rathgar Road/Rathmines Road Upper/Rathmines Road Lower:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;

2. **Rathmines Road Lower/Castlewood Avenue:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment;
3. **Rathmines Road Lower/Leinster Road:** No major adjustments would be required at this junction; and
4. **Rathmines Road Lower/Grove Road:** Adjustments to the junction layout would be required to facilitate the proposed one-way traffic arrangement from La Touch Bridge to Rathmines Road Lower. There is also a possible requirement to relocate/provide new signal equipment;

6.2.2.3 Section 2b Route Option Assessment

Details of the route options assessment undertaken for the Rathmines Village study area section are presented in Appendix C. The relative ranking of route options against the scheme assessment sub-criteria is summarised in **Table 6.8**.

Table 6.8: Section 2b Route Options Assessment Summary (Sub-Criteria)

Appraisal Criteria	Sub-Criteria	Option RM1	Option RM2	Option RM3
1 Economy	1A Capital Cost			
	1B Transport Quality & Reliability			
2 Integration	2A Land Use Policy			
	2B Residential Population and Employment Catchments			
	2C Transport Network Integration			
	2D Cycle Network integration			
	2E Traffic Network Integration			
3 Accessibility & Social Inclusion	3A Key Trip Attractors			
	3B Deprived Geographic Areas			
4 Safety	4A Road Safety			
	4B Pedestrian Safety			
5 Environment	5A Archaeology & Cultural Heritage			
	5B Architectural Heritage			
	5C Flora & Fauna			
	5D Soils, Geology & Hydrogeology			
	5E Landscape & Visual			
	5F Air Quality			
	5G Noise & Vibration			

Appraisal Criteria	Sub-Criteria	Option RM1	Option RM2	Option RM3
	5H Land Use Character			

In terms of Capital Cost, Option RM2 is by far the most expensive option due to the significant land acquisition and infrastructure costs to deliver the alternative cycle route, including the cost of a new structure over the Grand Canal.

In terms of delivering physical bus priority and journey time reliability, Options RM1 and RM2 perform marginally better as Option RM3 does not provide physical bus lanes, instead providing virtual bus priority through the provision of a bus gate.

All options serve the same catchments and as such are ranked equally in relation to land use policy and residential population catchments and employment catchments. Similarly, in terms of transport network integration, as all options follow the same route, the opportunity for interchange with other routes is equal.

In terms of cycle network integration, Option RM3 performs significantly better than other options as high-quality cycle facilities are proposed along Primary Route 10 from the GDA cycle network plan. Option RM1 provides facilities along this route, however the cycle tracks would be less than optimal in terms of quality of service provided. Option RM2 performs poorly in this regard as it does not provide cycle facilities along this route and the alternative route proposed is considered neither direct nor attractive.

All options rank equally under accessibility and social inclusion as they all follow the same route.

In terms of safety, all options perform the same with respect to road safety as the route is the same for each and the number of junctions and turning movements is equal. Option RM3 performs marginally better in terms of pedestrian safety as it allows for existing footpaths to be widened, whereas the other options require existing footpaths to be narrowed.

In terms of environment, Option RM3 performs marginally better than the other options as it does not require the removal of any trees whereas, due to footpath widening, Options RM1 and RM2 may require the removal of a small number of trees. In terms of air quality and noise and vibration, Option RM2 performs the worst as all traffic movements are retained on the CBC. Option RM1 also requires the diversion of inbound traffic onto alternative routes, and so performs slightly worse than Option RM2 in this regard.

A summary of the assessment and relative ranking of route options against the five main assessment criteria is presented in **Table 6.9**.

Table 6.9: Section 3 Criteria MCA Summary

Appraisal Criteria	Option RM1	Option RM2	Option RM3
1 Economy			
2 Integration			
3 Accessibility & Social Inclusion			
4 Safety			
5 Environment			

6.2.2.4 Section 2b Conclusion and Draft Preferred Option

Based on the assessment undertaken, route Option RM3 offers more benefits over other options and it performs well under all criteria. Option RM3 is the draft preferred option for the Rathmines area for the following reasons:

- It provides appropriate bus priority measures through the implementation of a bus gate, while also allowing local access for residents and acknowledging the urban village function of Rathmines Village;
- It provides high-quality cycle facilities on Primary Route 10 from the GDA Cycle Network Plan, serving the urban village of Rathmines which is a significant trip attractor and cycling destination;
- It allows for the widening of footpaths and public realm improvements within Rathmines Village, while maintaining existing parking and loading; and
- It has the lowest environmental impacts of any of the options.

6.3 Section 3 Options Assessment: Grand Canal to Christchurch Place

6.3.1 Introduction

The EPR Option noted that additional cycle facilities along this section of the scheme would be considered as part of the next stage of design development. Additionally, numerous submissions received as part of the public consultation raised concerns about the provision for cyclists along the CBC.

6.3.2 Options Considered

One alternative option has been developed with the objective of addressing the issues noted above. This option, in addition to the two options published in the EPR Option public consultation, are reconsidered in this assessment and are outlined in more detail below:

Option CS1: Option CS1 consists of providing a traffic lane in each direction along the entirety of this scheme section, as well as dedicated bus lanes in each direction, with the exception of a short section between Cuffe Street and Montague Street where no outbound bus lane would be provided. No dedicated cycle facilities would be provided along the CBC under this option *(Previously EPR Option A).*

Option CS2: Option CS2 consists of providing a traffic lane in each direction along the entirety of this scheme section, as well as dedicated bus lanes in each direction, with the exception of a short section between Cuffe Street and Montague Street where no outbound bus lane would be provided. A parallel cycle route would be provided along Martin Street, Lennox Street, Stamer Street, Heytesbury Street and New Bride Street *(Previously EPR Option B).*

Option CS3: Option CS3 consists of a one-way outbound traffic arrangement on Camden Street and Wexford Street in this section, with inbound traffic diverted to Harcourt Street. 1.5m wide cycle tracks would be provided along the CBC, as well as dedicated bus lanes in each direction, with the exception of a short section between Cuffe Street and Montague Street where no outbound bus lane would be provided.

6.3.2.1 Alternative Options Considered

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

6.3.2.2 Route Option CS1

Route Description

Route option CS1 is presented in **Figure 6.86**.

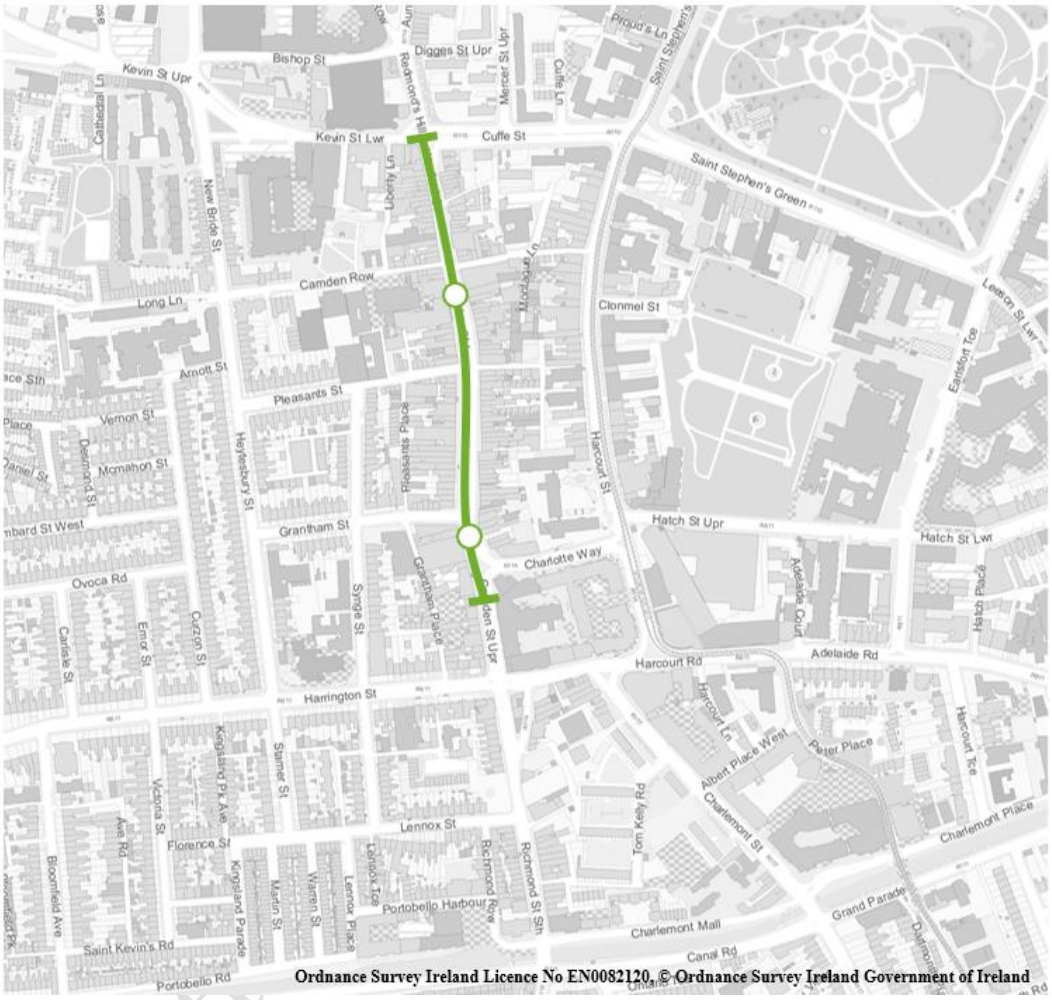


Figure 6.86: Route Option CS1

Inbound: This section of the route would commence on Camden Street at the junction with Charlotte Way. The CBC Route would proceed along Camden Street and Wexford Street, ending at the junction with Cuffe Street.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of two stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.87 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

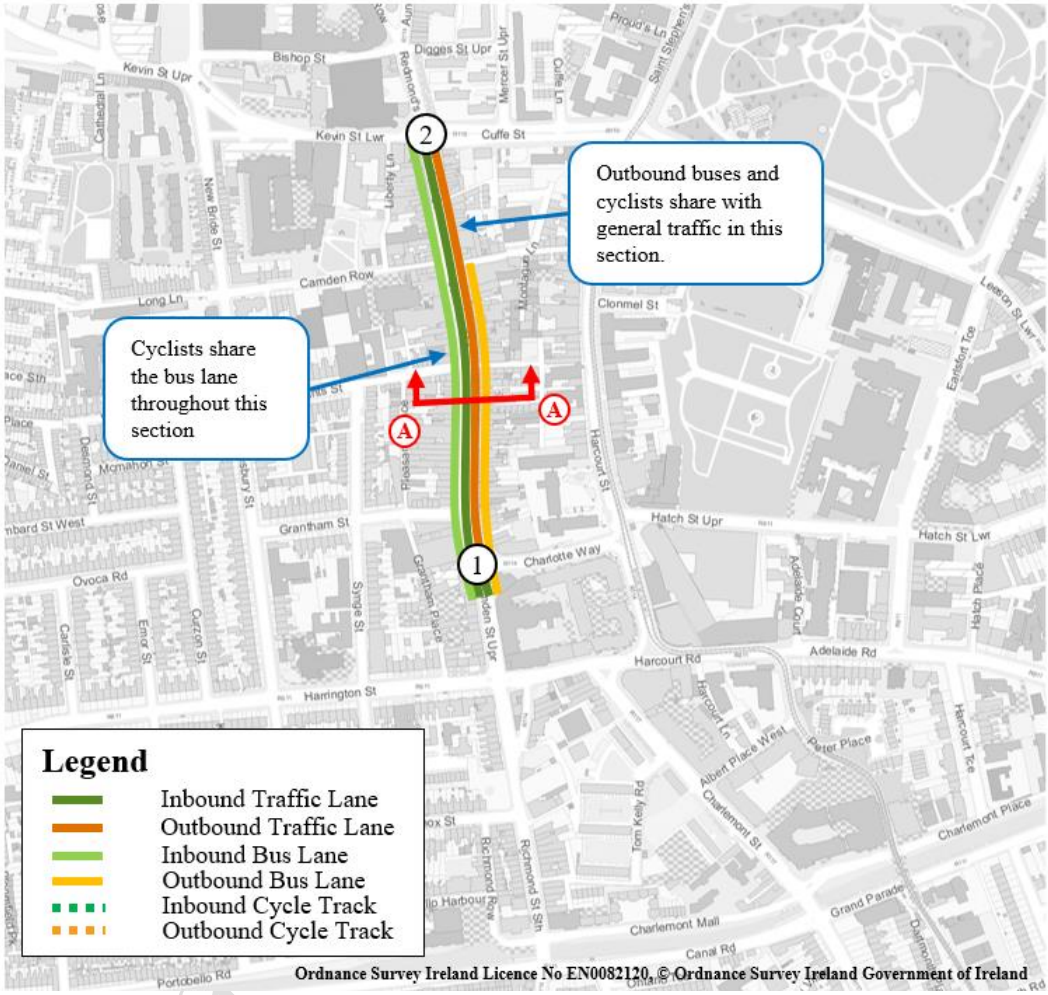


Figure 6.87: Route Option CS1 Indicative Scheme Design

This section of the route commences on Camden Street at the junction with Charlotte Way. Between Charlotte Way and Montague Street the cross-section would consist of a dedicated bus lane and a general traffic lane in each direction. On-street parking and loading would be retained where feasible.

North of Montague Street, outbound buses would share with the general traffic lane over a short section. Bus priority through this section would be managed through signal controlled bus priority at the Cuffe Street junction. The proposed cross-section along this section of Camden Street is presented in **Figure 6.88**.

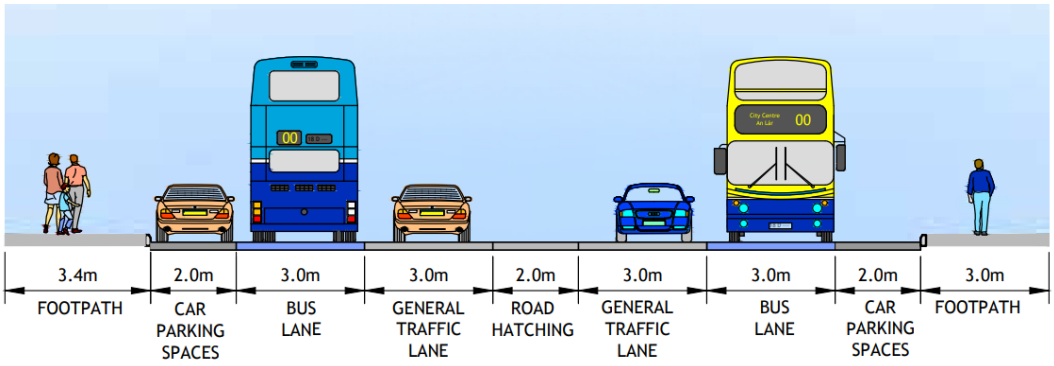


Figure 6.88: Route Option CS1 Cross-Section A-A

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Bus lanes in each direction between Charlotte Way and Montague Street;
- An inbound bus lane between Montague Street and Cuffe Street, outbound bus priority through this section to be managed through signal controlled bus priority ; and
- No dedicated cycle facilities would be provided through this section of the scheme.

Junctions:

There are two signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.87** and discussed below:

1. **Camden Street/Charlotte Way:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
2. **Wexford Street/Cuffe Street:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.3.2.3 Route Option CS2

Route Description

Route option CS2 is presented in **Figure 6.89**.

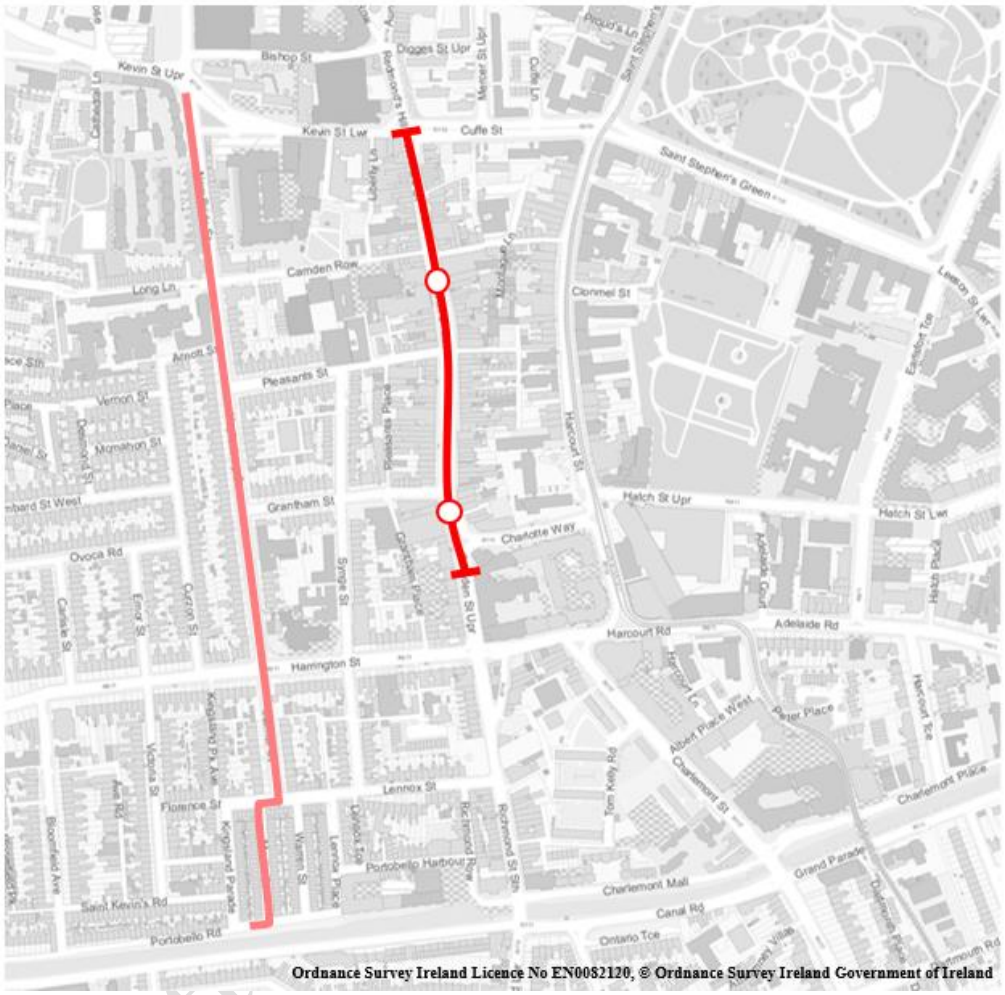


Figure 6.89: Route Option CS2

Inbound: This section of the route would commence on Camden Street at the junction with Charlotte Way. The CBC Route would proceed along Camden Street and Wexford Street, ending at the junction with Cuffe Street. A parallel cycle route would be provided along Martin Street, Lennox Street, Stamer Street, Heytesbury Street and New Bride Street.

Outbound: The outbound route follows the same route as the inbound route.

Stops: A total of two stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.90 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

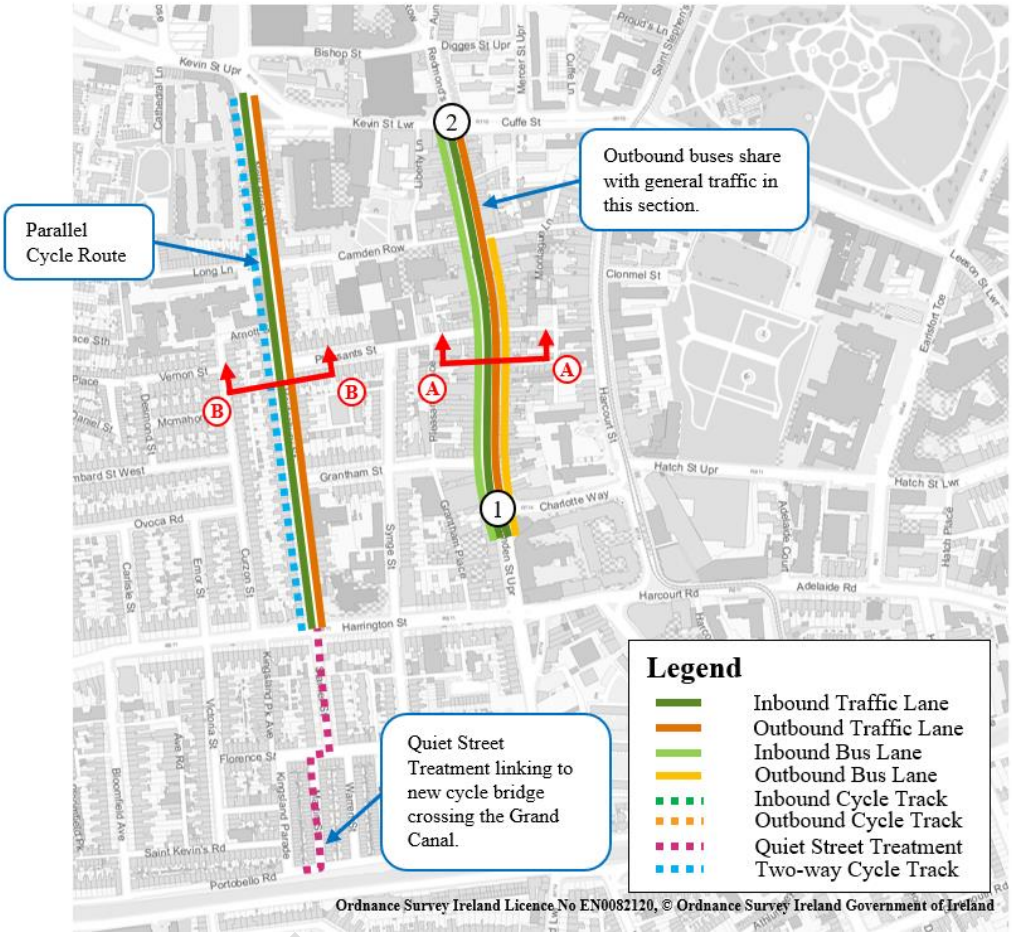


Figure 6.90: Route Option CS2 Indicative Scheme Design

This section of the route commences on Camden Street at the junction with Charlotte Way. Between Charlotte Way and Montague Street the cross-section would consist of a dedicated bus lane and a general traffic lane in each direction. On-street parking and loading would be retained where feasible.

North of Montague Street, outbound buses would share with the general traffic lane over a short section. Bus priority through this section would be managed through signal controlled bus priority at the Cuffe Street junction. The proposed cross-section along this section of Camden Street is presented in **Figure 6.91**.

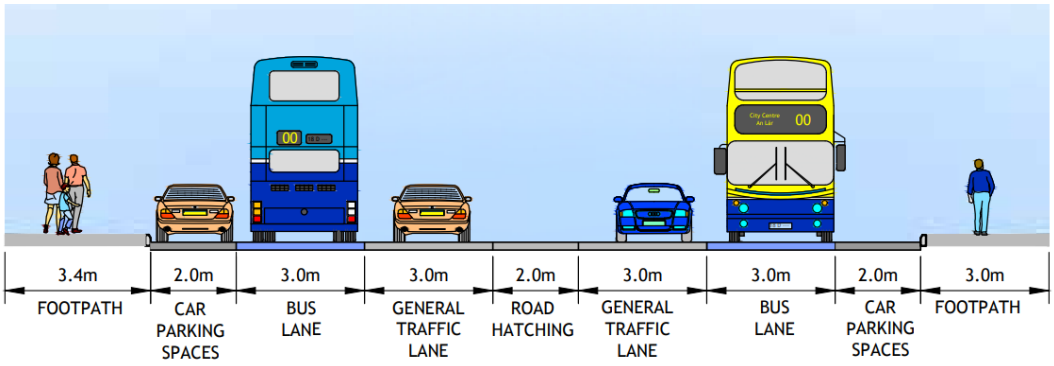


Figure 6.91: Route Option CS2 Cross-Section A-A

A parallel cycle route would be provided consisting of a quiet street treatment on Martin street and Stamer street, and a two-way cycle track on Heytesbury Street and New Bride Street. The proposed cross-section along this portion of the scheme is indicated in **Figure 6.92**. This parallel cycle facility would connect to a new cycle bridge crossing the Grand Canal at its southern end.

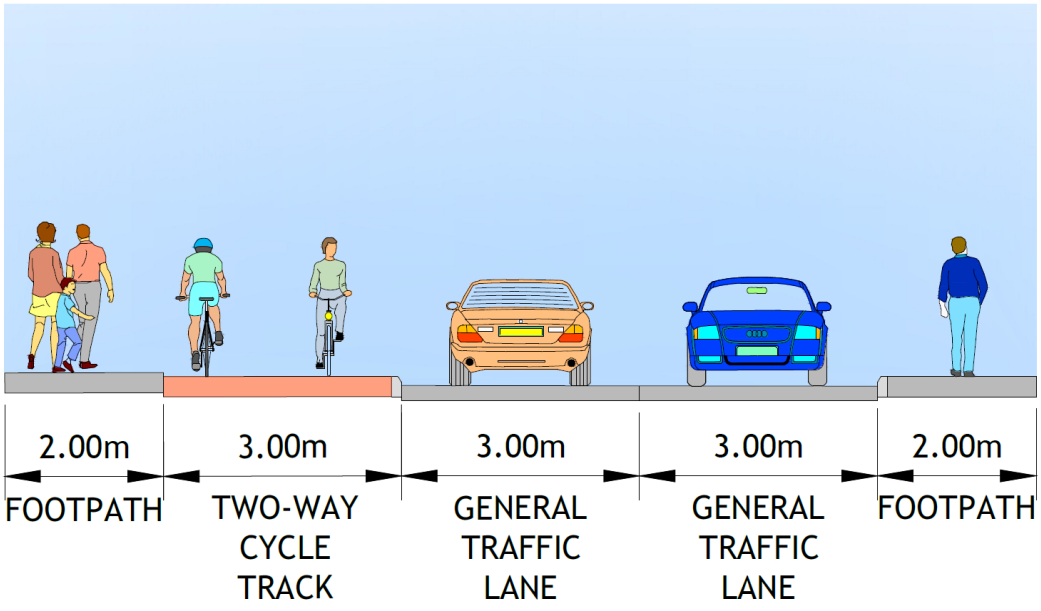


Figure 6.92: Route Option CS2 Cross-Section B-B

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Bus lanes in each direction between Charlotte Way and Montague Street;
- An inbound bus lane between Montague Street and Cuffe Street, outbound bus priority through this section to be managed through signal controlled bus priority;
- A quiet street treatment on Martin Street and Stamer Street; and
- A two way cycle track on Heytesbury Street and New Bride Street.

Junctions:

There are two signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.90** and discussed below:

1. **Camden Street/Charlotte Way:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.
2. **Wexford Street/Cuffe Street:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.3.2.4 Route Option CS3

Route Description

Route option CS3 is presented in **Figure 6.93**.

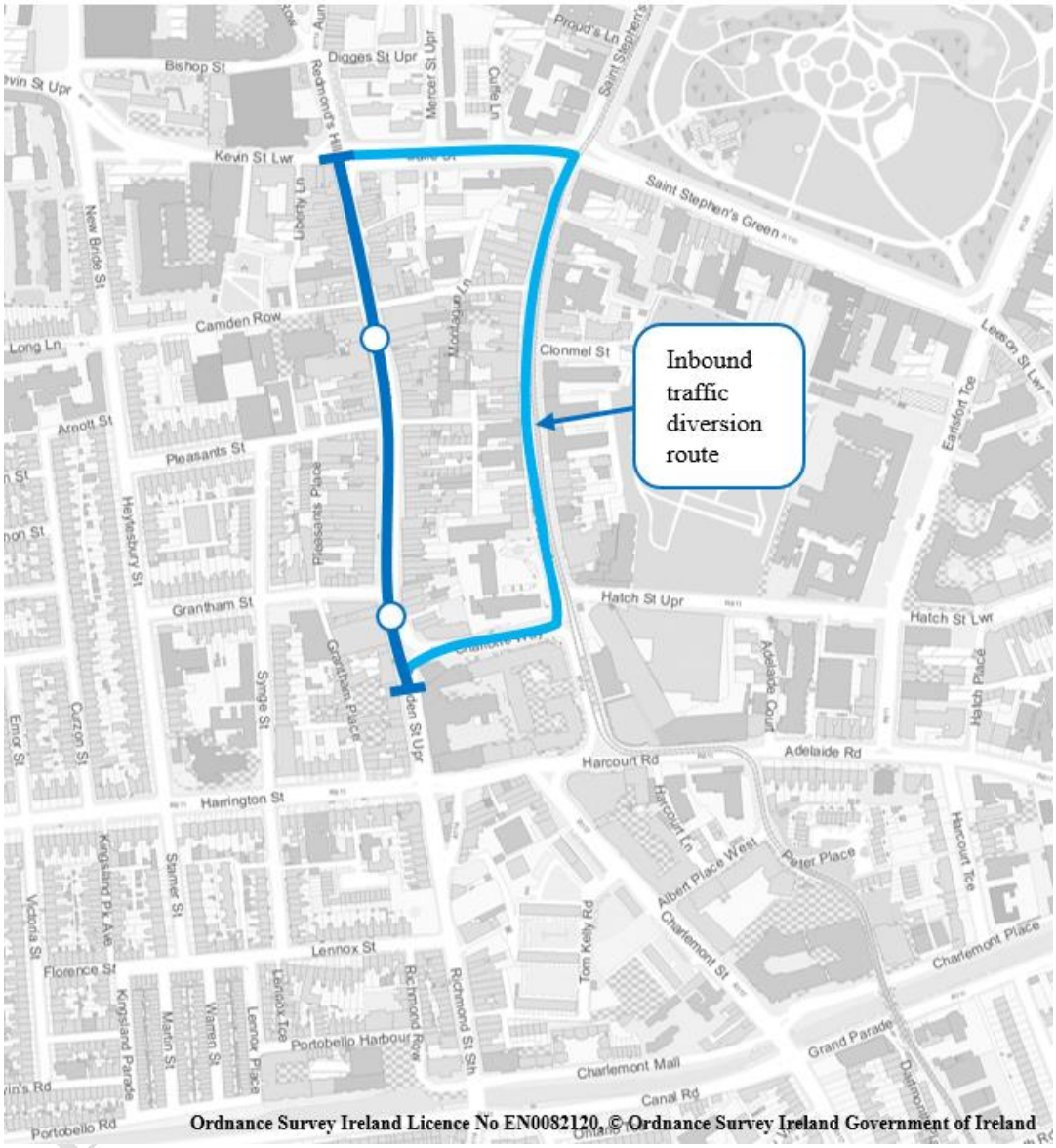


Figure 6.93: Route Option CS3

Inbound: This section of the route would commence on Camden Street at the junction with Charlotte Way. The CBC Route would proceed along Camden Street and Wexford Street, ending at the junction with Cuffe Street. Inbound general traffic would be directed via Charlotte Way to Harcourt Street, linking back to the CBC route via Cuffe Street.

Outbound: The outbound route follows the same route as the inbound route. Outbound general traffic would still be permitted on the CBC.

Stops: A total of two stops would likely be provided in each direction along this route section.

Indicative Scheme Design

Figure 6.94 illustrates the indicative scheme design for this route option. The location of cross-sections and junctions referenced in subsequent sections describing this route option are also presented in this figure.

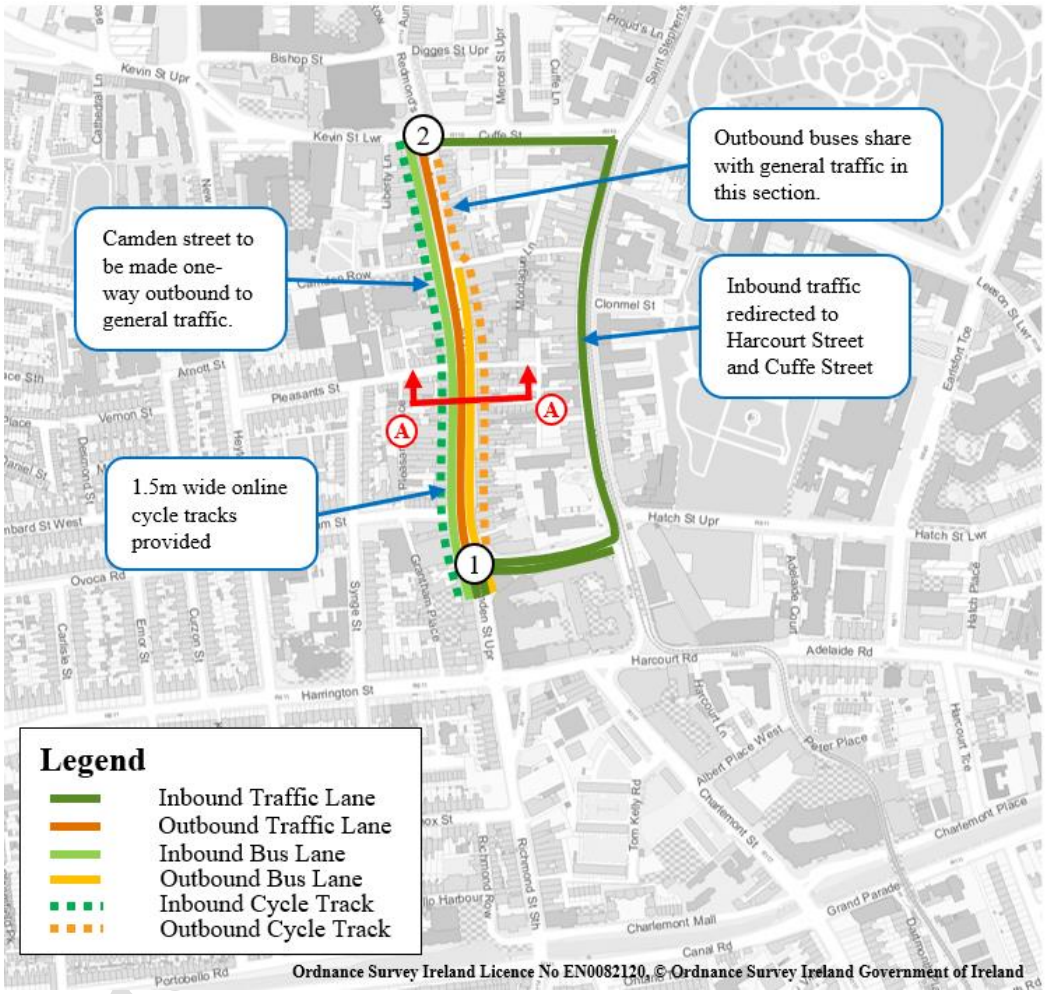


Figure 6.94: Route Option CS3 Indicative Scheme Design

This section of the route commences on Camden Street at the junction with Charlotte Way. Between Charlotte Way and Montague Street the cross-section would consist of a dedicated bus lane and a cycle track in each direction and an outbound general traffic lane. On-street parking and loading would be retained where feasible.

North of Montague Street, outbound buses would share with the general traffic lane over a short section. Bus priority through this section would be managed through signal controlled bus priority at the Cuffe Street junction. The proposed cross-section along this section of Terenure Road East is presented in **Figure 6.95**.

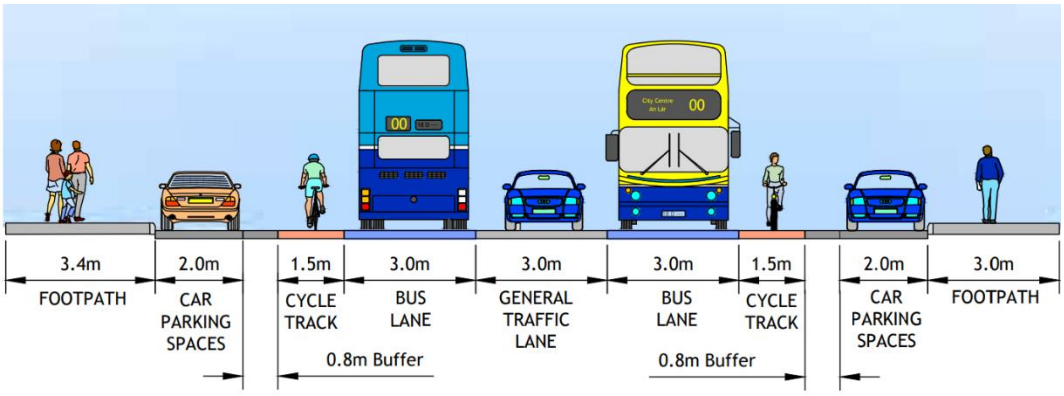


Figure 6.95: Route Option CS3 Cross-Section A-A

In summary, this route option would, subject to confirmation at the scheme design stage, result in the following characteristics:

- Bus lanes in each direction between Charlotte Way and Montague Street;
- An inbound bus lane between Montague Street and Cuffe Street, outbound bus priority through this section to be managed through signal controlled bus priority;
- Dedicated 1.5m wide cycle tracks would be provided through this section of the scheme; and
- Inbound general traffic would be redirected to Charlotte Way, Harcourt Street and Cuffe Street.

Junctions:

There are two signalised junctions along this route option, some of which would require upgrading to facilitate bus priority. The locations of these junctions are presented in **Figure 6.94** and discussed below:

1. **Camden Street/Charlotte Way:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction as well as to redirect inbound general traffic to Charlotte Way. There is also a possible requirement to relocate/provide new signal equipment.
2. **Wexford Street/Cuffe Street:** Adjustments to the junction layout would be required to facilitate the inbound bus lane on approach to the junction. There is also a possible requirement to relocate/provide new signal equipment.

6.3.3 Section 3 Route Option Assessment

Details of the route options assessment undertaken for the Rathmines Village study area section are presented in Appendix C. The relative ranking of route options against the scheme assessment sub-criteria is summarised in **Table 6.10**.

Table 6.10: Section 3 Route Options Assessment Summary (Sub-Criteria)

Appraisal Criteria	Sub-Criteria	Option CS1	Option CS2	Option CS3
1 Economy	1A Capital Cost			
	1B Transport Quality & Reliability			
2 Integration	2A Land Use Policy			
	2B Residential Population and Employment Catchments			
	2C Transport Network Integration			
	2D Cycle Network Integration			
	2E Traffic Network Integration			
3 Accessibility & Social Inclusion	3A Key Trip Attractors			
	3B Deprived Geographic Areas			
4 Safety	4A Road Safety			
	4B Pedestrian Safety			
5 Environment	5A Archaeology & Cultural Heritage			
	5B Architectural Heritage			
	5C Flora & Fauna			
	5D Soils, Geology & Hydrogeology			
	5E Landscape & Visual			
	5F Air Quality			
	5G Noise & Vibration			
	5H Land Use Character			

In terms of Capital Cost, both CS1 and CS3 options require similar levels of infrastructure upgrades, while Option CS2 is slightly more expensive due to the additional works required to construct the parallel cycle facility. In terms of transport quality and reliability, Option CS1 performs marginally worse under this criterion due to the fact that cyclists would have to share the bus lane which may lead to delays.

All options serve the same catchments and as such are ranked equally in relation to land use policy and residential population catchments and employment catchments. Similarly, in terms of transport network integration, as all options follow the same route, the opportunity for interchange with other routes is equal.

In terms of cycle network integration, Option CS3 performs significantly better than Options CS1 and CS2 as high-quality cycle facilities are proposed along Primary Route 10 from the GDA cycle network plan. Option CS1 does not provide for any dedicated cycle facilities through this section of the scheme and as such performs the worst under this criterion.

Options CS1 and CS2 perform marginally better than Option CS3 under the criterion of Traffic network integration, as all inbound traffic movements on Camden Street and Wexford Street are retained.

Option CS3 would result in diversions for motorists, however due to the existing one-way regime on Harcourt street and the city centre context of this scheme section, this is not considered a significant impact.

All options rank equally under accessibility and social inclusion as they all follow the same route.

In terms of safety, all options perform the same with respect to road safety as the route is the same for each and the number of junctions and turning movements is equal. Similarly, all options provide for pedestrian footpaths and crossings and perform equally in terms of pedestrian safety.

In terms of environment, Option CS3 performs marginally better due to traffic being redirected away from the CBC.

A summary of the assessment and relative ranking of route options against the five main assessment criteria is presented in **Table 6.11**.

Table 6.11: Section 3 Criteria MCA Summary

Appraisal Criteria	Option CS1	Option CS2	Option CS3
1 Economy			
2 Integration			
3 Accessibility & Social Inclusion			
4 Safety			
5 Environment			

6.3.4 Section 3 Conclusion and Draft Preferred Option

Based on the assessment undertaken, route Option CS3 offers more benefits over other options. It performs well under all criteria. Option CS3 is the draft preferred option for the Camden Street and Wexford Street area for the following reasons:

- It provides physical bus priority throughout this section, with the exception of a short section Wexford Street due to the presence of built form in close proximity to the carriageway (valid for all options considered).

- It provides on high-quality cycle facilities on Primary Route 10 from the GDA Cycle Network Plan, serving the urban village of Camden Street which is a significant trip attractor and cycling destination;
- It retains approximately 20 parking spaces and 8 loading bay spaces of the existing 30 parking spaces and 14 loading bay spaces; and
- The impact of redirecting inbound traffic to Harcourt Street is not considered significant.

7 Draft Preferred Route Option

7.1 Introduction

Chapter 6 of this report presented an appraisal of all route options considered for the Rathfarnham to City Centre CBC. Following this appraisal, the draft preferred options have been incorporated into the route from the 'Rathfarnham to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' to form an end-to-end draft PRO. This chapter of the report presents and describes the draft preferred route option identified and the draft preferred route option scheme design.

7.2 Draft Preferred Route Description

The draft Preferred Route is presented in **Figure 7.1** below:

Figure 7.1: CBC Draft Preferred Route Option

The CBC commences/terminates on the R821 Grange Road at the junction with Nutgrove Avenue. The CBC is routed along the Grange Road, Rathfarnham Road, Terenure Road East, Rathgar Road, Rathmines Road Lower, Richmond Street South, Camden Street Upper and Lower, and Wexford Street to its junction with Kevin Street Lower and Cuffe Street where priority bus lanes end.

From Cuffe Street to Dame Street along Redmond's Hill, Aungier Street and South Great George's Street, the route will involve a traffic lane and a cycle track in both directions where it will join the existing traffic management regime in the city centre.

7.3 Draft Preferred Route Option Scheme Design Description

7.3.1 Section 1: Nutgrove Avenue to Terenure Road North – Grange Road, Rathfarnham Road

The CBC commences at the junction of Grange Road and Nutgrove Avenue, where it will tie into the Grange Road Cycle scheme. Between this junction and the Castleside Drive junction it is intended to provide a single bus lane alongside general traffic lanes and cycle tracks in both directions, as per the EPR Option. To accommodate the road layout, it is proposed to utilise limited land-take from the following properties:

- Private properties in Rathfarnham Wood development;
- Rathfarnham Credit Union; and
- Green space in Rathfarnham Castle Park.

In the EPR Option proposal, land-take was proposed from the Village Court development. However, through the design changes this land-take has been mitigated.

On the section of Rathfarnham Road between Castleside Drive and Dodder Park Road, the road is not wide enough to provide a cycle lane in either direction in addition to bus and traffic lanes. Instead, the proposal provides an alternative cycle facility linking to St. Mary's Avenue where a Quiet Street Treatment would be provided.

From here, two structures are proposed crossing the Owendoher River to facilitate a new shared pedestrian and cyclist track adjacent to the river, tying into the proposed Dodder Greenway. This facility would link to a new bridge structure crossing the Dodder River and connecting to Rathdown Park, where a Quiet Street Treatment would be provided. This facility is proposed to connect to Rathfarnham Road at the junction with Rathdown Park and is proposed to replace the EPR Option proposal to divert cyclists to Brookvale Downs. Feedback received as part of the first round of consultation along with topographical survey information have identified the connection to Brookvale Downs as a significant pinch-point and have driven this proposed design change.

To accommodate new bus lanes on Rathfarnham Road between Castleside Drive and Dodder Park Road, it is proposed to utilise land-take from adjacent properties on both sides of the road.

The EPR Option proposal only envisaged land-take on the western side of Rathfarnham Road between Crannagh Road and Rathfarnham Park.

However according to new information provided by the topographical survey, widening the road on one side only would create steeper driveways on the widened side. To mitigate this issue and provide less steep driveway gradients, it is proposed to raise the level of the road which would impact on properties both sides of the road. With this in mind the most appropriate solution is to split this impact evenly between both sides of the road.

To maintain bus priority through the Dodder Park Road and Rathfarnham Road junction, it is intended to provide Signal Controlled Priority on the southern and northern approaches to the junction. The junction will be upgraded with Toucan Crossings at all four approaches.

Between Dodder Park Road and Rathdown Park, it is proposed to maintain a bus lane and a general traffic lane in both directions. Between Rathdown Park and Bushy Park Road, it is intended to maintain bus priority by providing Signal Controlled Priority in both directions and managing traffic queues in this area. This represents a reduction in the cross-section compared to the EPR Option and results in reduced land-take from adjacent properties.

From Bushy Park Road to Terenure Road North it is proposed to provide cycle tracks, bus lanes and traffic lanes in both directions. To accommodate these new bus lanes on this section of Rathfarnham Road, it is proposed to acquire land from adjacent properties. At the Terenure Road North junction it is intended to extend the existing bus lane and proposed cycle track as far as the junction stop line, as per the EPR Option. Bus movements through this junction will be managed with Signal Controlled Priority.

7.3.2 Section 2: Terenure Road North to Charleville Road – Terenure Road East, Rathgar Road

Between the Terenure Road North junction and St. Joseph's Church, it is proposed to provide a single general traffic lane in each direction. Bus priority will be provided through this section by Signal Controlled Priority. In the EPR Option it was proposed to provide for an outbound bus lane and two general traffic lanes on this section, however, information distilled from the topographical survey has identified that this arrangement was not feasible. The proposed layout will allow for the footpaths to be widened, and provide opportunity for urban realm improvements.

Between St. Joseph's Church and the Rathgar Avenue junction it is intended to provide a bus lane and general traffic lane in both directions. The EPR Option proposed to provide a cycle track in each direction between Ferrard Road and Rathgar Avenue. However, due to the width constraints along this section of the corridor it is now proposed to provide an alternative cycle facility consisting of cycle tracks in each direction along Terenure Road North and Harold's Cross Road, connecting to the Kimmage to City Centre CBC at Harold's Cross. An additional alternative cycle facility is proposed along Bushy Park Road, Wasdale Park, Wasdale Grove, Victoria Road, Zion Road and Orwell Road to provide a secondary east-west route for cyclists travelling between the CBC on Rathfarnham Road and Rathgar Road.

At Rathgar Avenue, it is proposed to maintain bus priority through the junction with Signal Controlled Priority. This will require land-take on Terenure Road East, between St. Joseph's Church and Brighton Road.

Along Rathgar Road it is proposed to provide bus lanes and cycle tracks in each direction and a one-way inbound general traffic lane only, where the EPR Option previously proposed two-way traffic along this section. Local access for residents on Rathgar Road and adjoining streets can be maintained through the surrounding road network via Rathgar Avenue or Rathmines Road Upper including Frankfort Avenue, Leicester Avenue, Garville Avenue, Garville Road, and Highfield Road. It is proposed to remove the current right turn ban from Rathmines Road Upper to Highfield Road as well as the right turn ban from Highfield Road onto Rathgar Road. No land acquisition or tree removal is required on Rathgar Road due to these design revisions.

7.3.3 Section 3: Charleville Road to Dame Street

As part of the first round of consultation, two options were presented as part of the EPR Option for this section of the CBC, namely;

- Option A – Online cycleway through Rathmines Road, Richmond Street and Camden Street Upper, following Primary Cycle Route 10 and connecting to Primary Cycle Route 11. This option also identified that a Secondary Cycle Route 10 along Camden Street and Wexford Street would be developed as part of the next design development stage.
- Option B – Offline cycleway through side streets adjacent to Rathmines Road with a new canal crossing and a quiet cycle route through Martin Street, Stamer Street, Heytesbury Street and New Bride Street.

Further to concerns raised during the first round of consultation, the current proposal consists of providing a single inbound bus lane, two general traffic lanes and cycle tracks between Charleville Road and Castlewood Avenue. Between Castlewood Avenue and Grove Road, a general traffic lane and a cycle track in each direction are proposed, with the provision of a Bus Gate between Richmond Hill and Lissenfield which will restrict general traffic movements. This proposal also allows for some increase to footpath widths through Rathmines and the provision of 2m wide cycle tracks in each direction through the village.

On Richmond Street South, it is proposed to maintain the outbound traffic lane with a bus lane and cycle tracks in both directions. Immediately south of the junction of Harrington Street/Harcourt Road/Richmond Street South, it is intended to have bus lanes in both directions with no general traffic lanes.

On Camden Street between Harcourt Road and Charlotte Way, one bus lane in each direction and two inbound general traffic lanes are proposed, with an inbound cycle track. Between Grantham Street and Cuffe Street it is proposed to provide bus lanes in each direction and a single outbound general traffic lane. This represents a change to the EPR Option, which provided for two-way traffic on this section of Camden Street. Under this proposal, inbound traffic would reroute to Harcourt Street to get to Cuffe Street and beyond.

Between Cuffe Street and Dame Street it is proposed to provide one general traffic lane and one cycle lane in both directions. No bus lanes will be provided on this section of the route. Where possible, on-street parking bays and loading bays will be retained. The CBC ties into the existing road network on Dame Street.

Traffic management measures such as turning restrictions at junctions or road closures will also be considered on adjoining residential streets along the corridor at suitable locations to prevent through traffic diverting inappropriately.

7.4 Summary

7.4.1 Infrastructure Provision

The draft PRO is approximately 6.2 km long from end to end. The updated concept scheme design drawings show the extent of the infrastructure proposed to deliver this CBC. 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) *(16% physical – 5% virtual)*
- *47*% Existing bus priority (citybound) *(46% physical – 1% virtual)*
- *84*% Proposed bus priority (outbound) *(60% physical – 14% virtual)*
- *88*% Proposed bus priority (citybound) *(72% physical – 16% virtual)*
- *69*% Existing cycle priority (outbound) (40% mandatory cycle lane – 25% advisory cycle lane - 4% cycle track)
- *22*% Existing cycle priority (citybound) (7% mandatory cycle lane – 22% advisory cycle lane)
- *75*% Proposed cycle priority* (outbound) (75% cycle track)
- *77*% Proposed cycle priority* (citybound) (77% cycle track)

*Alternative cycle facilities are proposed for sections where the provision of cycle infrastructure is not feasible along the CBC.

Virtual bus priority measures are proposed at the following locations:

1. Rathfarnham Road between Rathdown Park and Bushy Park Road (inbound and outbound) – Approximately 50m length;
2. Terenure Road East between Terenure Cross and St. Joseph's Church (inbound) – Approximately 150m length;
3. Rathfarnham Road and Terenure Road East between St. Joseph's Church and Beechlawn Way (outbound) – Approximately 250m length;
4. Rathmines Road Lower between Castlewood Avenue and Grove Road (inbound) – Approximately 850 length;
5. Rathmines Road Lower between Grove Road and Charleville Road (outbound) – Approximately 1km length; and

6. Wexford Street between Kevin Street and Montague street (outbound) – Approximately 100m length.

7.4.2 Material Scheme Changes

The following list highlights the material scheme changes between the published EPR Option and the draft PRO.

- In lieu of the EPR Option proposal to provide an alternative cycle facility connecting to Brookvale Downs, the current proposal includes an alternative cycle route consisting of quiet street treatment to St. Mary's Avenue, a new shared pedestrian and cyclist track adjacent to the Owendoher river, connecting to the proposed Dodder Greenway, a new structure across the Dodder river connecting to a quiet street treatment at Rathdown Park, linking to the CBC at the junction of Rathdown Park and Rathfarnham Road.
- Land-take on Rathfarnham Road between Brookvale Road and Rathfarnham Park split between both sides of the road and road level raised to avoid non-compliant driveway gradients.
- Signal controlled bus priority proposed between Rathdown Park and Bushy Park Road, reducing land-take along this section.
- Signal controlled bus priority proposed through Terenure Cross to minimise impacts on parking and loading, which will also allow urban realm improvements.
- Alternative cycle facilities proposed on Terenure Road North and Harold's Cross Road connecting to the Kimmage to City Centre CBC at Harold's Cross.
- Additional alternative cycle facilities proposed on Bushy Park Road, Wasdale Park, Wasdale Grove, Victoria Road, Zion Road and Orwell Road. No cycle facilities proposed on Terenure Road East, and 1.5m cycle tracks proposed on Rathgar Road. This will reduce the impact on trees and properties on Terenure Road East whilst maintaining a high level of service for cyclists travelling to and from the city centre.
- Signal controlled bus priority proposed through Rathgar Village to minimise impacts on parking and loading, which will also allow urban realm improvements.
- One-way inbound traffic regime proposed on Rathgar Road, removing the need for land-take on this section.
- Two general traffic lanes, and 2m cycle track in each direction proposed between Castlewood Avenue and Grove Road with a Bus Gate between Richmond Hill and Lissenfield. This will allow for wider footpaths and urban realm improvements through the village.
- One-way traffic regime and 1.5m cycle track in each direction proposed between Charlotte Way and Cuffe Street. This will enhance the cycle facilities along this section of the scheme while maintaining commercial loading where feasible.

In developing the Draft PRO, consideration has been given to the carbon generated by the scheme during construction. Many of the changes made to the scheme design since the EPR proposal have resulted in a change in the construction carbon generated by the scheme. Notable changes include the following:

- Signal controlled bus priority proposed between Rathdown Park and Bushy Park Road, reducing land-take and construction footprint along this section.
- Alternative cycle facilities proposed on Terenure Road North and Harold's Cross Road connecting to the Kimmage to City Centre CBC at Harold's Cross. Additional alternative cycle facilities proposed on Bushy Park Road, Wasdale Park, Wasdale Grove, Victoria Road, Zion Road and Orwell Road. No cycle facilities proposed on Terenure Road East, and 1.5m cycle tracks proposed on Rathgar Road. This will reduce the impact on trees and properties on Terenure Road East and by minimising the construction footprint.
- One-way inbound traffic regime proposed on Rathgar Road, removing the need for land-take and construction impact on this section, and reducing the impact on trees.

7.4.3 Scheme Benefits

7.4.3.1 Bus Journey Times

Through the provision of increased bus priority infrastructure, the proposed scheme would improve both the overall journey times for buses along the route and their journey time reliability. This can help to realise the objectives of the scheme as set out in Section 2.5 of this report.

The facilitation of bus priority along the CBC, through the delivery of dedicated bus lanes and virtual bus priority measures such as bus gates and signal controlled bus priority, is forecast to reduce bus journey times along the CBC. In addition to this, journey reliability is forecast to be improved, by largely removing interaction between bus traffic and general traffic.

7.4.3.2 Walking & Cycling

In addition to the improvements to bus journey time and journey time reliability as discussed in section 7.4.3.1, the proposed scheme would provide benefits for cyclists and pedestrians. The provision of dedicated cycling infrastructure along the CBC as well as on parallel routes in some cases, would improve the level of service provided for cyclists along the route, making cycling trips safer and more attractive.

The scheme would deliver substantial elements of the GDA Cycle Network Plan as outlined in Section 4.5, as well as linking with other proposed cycling schemes, contributing towards the development of a comprehensive cycling network for Dublin.

The scheme would also provide improved facilities for pedestrians along the route. Improved crossing facilities will 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.

8 Next Steps

This report has identified a draft PRO for the bus infrastructure along the CBC for which an updated concept design has been developed.

It has been determined by NTA that a third non-statutory public consultation is to be conducted prior to finalising the PRO. This public consultation is to commence in November 2020, when submissions will once again be invited from the public on the draft PRO.

Following the non-statutory public consultations and subsequent review of the submissions received therein, the Draft PRO designs for the CBC will be further developed to form a Preliminary Design.

This next stage (the development of a Preliminary Design) will further refine and update the concept design along the route. Further account will be taken of likely public transport service levels, particularly the bus service patterns and any changes to the overall bus network which may arise from the separate bus network review process. The proposals will be amended, if and as required, to integrate any resultant changes. The Preliminary Design will define the final practically achievable scheme for the CBC, considering more detailed studies of constraints, impacts and environmental assessment required at a local level.

This Preliminary Design will form the basis of the planning consent process for the scheme, which will require a development consent application to be made directly to An Bord Pleanála, due to the nature and extent of the proposed works.

Appendix A

Section 1 Route Option Assessment MCA Tables

Table A1.1: Dodder Bridge MCA

Appraisal Criteria	Option DC1 (Bridge Connecting to Rathdown Park)	Option DC2 (Bridge Connecting to Rathdown Crescent)
1 Capital Cost	***Indicative Scheme Infrastructure Works Costs*** - 5.0m wide shared pedestrian and cyclist bridge - 50m main span - Additional approach spans on southern side of River Dodder ***Land Acquisition Cost*** 100 sqm Private Land 1 Property affected	***Indicative Scheme Infrastructure Works Costs*** - 5.0m wide shared pedestrian and cyclist bridge - 60m main span - Additional approach spans on southern side of River Dodder ***Land Acquisition Cost*** 0 sqm Private Land 0 Properties affected
Rank		
2 Constructability and Engineering Constraints	- Main span of approximately 50m. - Steep slope may require stability measures - Less complex construction due to shorter span resulting in smaller sections.	- Main span of approximately 60m. - Steep slope may require stability measures - More complex construction due to longer span resulting in deeper and heavier sections.
Rank		
3 Cycle Connectivity	- South of the Dodder, cyclists would utilise the Dodder Greenway - North of the Dodder, cyclists would share with vehicles along Rathdown Park for approximately 260m before joining Rathfarnham Road, passing through 1 junction along the way	- South of the Dodder, cyclists would utilise the Dodder Greenway - North of the Dodder, cyclists would share with vehicles along Rathdown Park for approximately 380m before joining Rathfarnham Road, passing through 2 roundabouts along the way
Rank		
4 Impact on Private Property	Impact on 1 private property	No impact on private property
Rank		
5 Impact on Flora and Fauna	Requires the removal of approximately **19** trees.	Requires the removal of approximately **28** trees.
6 Landscape and Visual Impacts	Potential negative impacts associated with constructing the bridges over the River Dodder.	Potential negative impacts associated with constructing the bridges over the River Dodder.
Rank		

Table A1.2: Parallel Cycle Route MCA

Appraisal Criteria	Option PC1 (EPR Option Proposal)	Option PC2 (EPR Option + Rathdown)	Option PC3 (Brookvale Road + Boardwalk)	Option PC4 (Brookvale Road + Rathdown)	Option PC5 (Butterfield + Boardwalk)	Option PC6 (Butterfield + Rathdown)	Option PC7 (St. Mary's + Boardwalk)	Option PC8 (St. Mary's + Rathdown)	Option PC9 (Butterfield + Bushy Park)	Option PC10 (St. Mary's + Bushy Park)
1 Capital Cost	***Indicative Scheme Infrastructure Works Costs*** - Cycle track on Rathfarnham Road between Willbrook Road and pedestrian laneway - Dedicated two-way cycle track north of Dodder View Road - Construction of new boardwalk - Cycle tracks north of Pearse Bridge Total Length of cycle Route: 1.30km ***Land Acquisition Cost*** 1,774 sqm Private Land 61 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - New bridge connecting to Rathdown Park. - Minimal Land Acquisition, garden at Rathdown park. Total Length of cycle Route: 1.32km ***Land Acquisition Cost*** 1,456 sqm Private Land 62 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Land acquisition along Rathfarnham Road south of Dodder and north of Dodder. - Construction of new boardwalk Total Length of cycle Route: 1.32km ***Land Acquisition Cost*** 2,298 sqm Private Land 68 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - New bridge connecting to Rathdown Park. - Land acquisition along Rathfarnham Road south of Dodder and garden at Rathdown park Total Length of cycle Route: 1.32km ***Land Acquisition Cost*** 1,849 sqm Private Land 70 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Land Acquisition along Owendoher river and north of Dodder. - New bridge over Owendoher river. - Land acquisition north of dodder - Construction of new boardwalk Total Length of cycle Route: 1.53km ***Land Acquisition Cost*** 2,262 sqm Private Land 63 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Land Acquisition along Owendoher river and north of Dodder. - New bridge over Owendoher river. - Land acquisition north of dodder - Construction of new boardwalk Total Length of cycle Route: 1.51km ***Land Acquisition Cost*** 1,813 sqm Private Land 64 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Land Acquisition along Owendoher river and north of Dodder. - 2 new bridges over Owendoher river. - Land acquisition on Rathfarnham Road north of dodder - Construction of new boardwalk Total Length of cycle Route: 1.49km ***Land Acquisition Cost*** 2,690 sqm Private Land 63 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Land Acquisition along Owendoher river and north of Dodder. - 2 new bridges over Owendoher river. - New bridge over Dodder. - Acquisition of garden at Rathdown park Total Length of cycle Route: 1.48km ***Land Acquisition Cost*** 2,242 sqm Private Land 62 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - ***Land*** *Acquisition along Owendoher river.* - *New bridge over Owendoher river.* - ***Land*** *acquisition north of dodder* - *Construction of new boardwalk* *Total Length of cycle Route: 1.51km* ***Land Acquisition Cost*** *1,813 sqm Private Land 64 Properties affected*	***Indicative Scheme Infrastructure Works Costs*** - Land Acquisition along Owendoher river and north of Dodder. - 2 new bridges over Owendoher river. - Acquisition of garden at Rathdown park Total Length of cycle Route: 1.48km ***Land Acquisition Cost*** 2,086 sqm Private Land 61 Properties affected
Rank										

Appraisal Criteria	**Option PC1** (EPR Option Proposal)	**Option PC2** (EPR Option + Rathdown)	**Option PC3** (Brookvale Road + Boardwalk)	**Option PC4** (Brookvale Road + Rathdown)	**Option PC5** (Butterfield + Boardwalk)	**Option PC6** (Butterfield + Rathdown)	**Option PC7** (St. Mary's + Boardwalk)	**Option PC8** (St. Mary's + Rathdown)	**Option PC9** (Butterfield + Bushy Park)	**Option PC10** (St. Mary's + Bushy Park)
2 Road Safety	4 Turn Movements Required at junctions (inbound 2 right turns and 2 left turns, outbound 2 right turns and 2 left turns) 3 Major junctions to traverse. Segregated cycle route in both directions for 880m. Quiet Street Treatment for 420m. 68% of the total route is segregated.	2 Turn Movements Required at junctions (inbound 1 right turn and 1 left turn, outbound 1 right turn and 1 left turn) 2 Major junctions to traverse. Segregated cycle route in both directions for 630m. Quiet Street Treatment for 670m. 48% of the facilities are segregated.	4 Turn Movements Required at junctions (inbound 2 right turns and 2 left turns, outbound 2 right turns and 2 left turns) 3 Major junctions to traverse. Segregated cycle route in both directions for 1020m. Quiet Street Treatment for 280m. 78% of the facilities are segregated	4 Turn Movements Required at junctions (inbound 2 right turns and 2 left turns, outbound 2 right turns and 2 left turns) 2 Major junctions to traverse. Segregated cycle route in both directions for 760m. Quiet Street Treatment for 540m. 58% of the facilities are segregated	4 Turn Movements Required at junctions (inbound 2 right turns and 2 left turns, outbound 2 right turns and 2 left turns) 3 Major junctions to traverse. Segregated cycle route in both directions for 1,326m. Quiet Street Treatment for 160m. 89% of the facilities are segregated	4 Turn Movements Required at junctions (inbound 2 right turns and 2 left turns, outbound 2 right turns and 2 left turns) 2 Major junctions to traverse. Segregated cycle route in both directions for 1,074m. Quiet Street Treatment for 420m. 71% of the facilities are segregated	4 Turn Movements Required at junctions (inbound 2 right turns and 2 left turns, outbound 2 right turns and 2 left turns) 1 Major junction to traverse. Segregated cycle route in both directions for 1,169m. Quiet Street Treatment for 255m. 82% of the facilities are segregated	4 Turn Movements Required at junctions (inbound 2 right turns and 2 left turns, outbound 2 right turns and 2 left turns) 0 Major junctions to traverse. Segregated cycle route in both directions for 917m. Quiet Street Treatment for 515m. 64% of the facilities are segregated	4 Turn Movements Required at junctions (inbound 2 right turns and 2 left turns, outbound 2 right turns and 2 left turns) 1 Major junctions to traverse. Two minor roundabout junctions to traverse. Segregated cycle route in both directions for 900m. Quiet Street Treatment for 800m. 53% of the facilities are segregated.	3 Turn Movements Required at junctions (inbound 2 right turns and 1 left turns, outbound 1 right turns and 2 left turns) 0 Major junctions to traverse. Two minor roundabout junctions to traverse. Segregated cycle route in both directions for 850m. Quiet Street Treatment for 900m. 49% of the facilities are segregated.
Rank										
3 Coherence	This route largely aligns with the route of Primary Route 10 apart from a short 400m section where a close parallel route is provided. The route passes adjacent Rathfarnham Village.	This route aligns with the route of Primary Route 10 apart from a 650m section where a close parallel route is provided. This route would allow for connectivity to secondary Route 9B. The route passes adjacent Rathfarnham Village.	This route largely aligns with the route of Primary Route 10 apart from a short 200m section where a close parallel route is provided. The route passes adjacent Rathfarnham Village.	This route aligns with the route of Primary Route 10 apart from a 500m section where a close parallel route is provided. This route would allow for connectivity to secondary Route 9B. The route passes adjacent Rathfarnham Village.	This route largely does not align with the route of Primary Route 10. The Route aligns with a section of the Dodder Greenway, connecting this to Primary Route 10. The route passes adjacent Rathfarnham Village.	This route largely does not align with the route of Primary Route 10. The Route aligns with a section of the Dodder Greenway, connecting this to Primary Route 10. This route would allow for connectivity to secondary Route 9B. The route passes adjacent	This route largely does not align with the route of Primary Route 10. The Route aligns with a section of the Dodder Greenway, connecting this to Primary Route 10. The route passes adjacent Rathfarnham Village.	This route largely does not align with the route of Primary Route 10. The Route aligns with a section of the Dodder Greenway, connecting this to Primary Route 10. This route would allow for connectivity to secondary Route 9B. The route passes adjacent	This route largely does not align with the route of Primary Route 10. The Route connects the Dodder Greenway to Primary Route 10. This route would allow for connectivity to secondary Route 9B. The route passes adjacent Rathfarnham Village.	This route largely does not align with the route of Primary Route 10. The Route connects the Dodder Greenway to Primary Route 10. This route would allow for connectivity to secondary Route 9B. The route passes adjacent Rathfarnham Village.

Appraisal Criteria	Option PC1 (EPR Option Proposal)	Option PC2 (EPR Option + Rathdown)	Option PC3 (Brookvale Road + Boardwalk)	Option PC4 (Brookvale Road + Rathdown)	Option PC5 (Butterfield + Boardwalk)	Option PC6 (Butterfield + Rathdown)	Option PC7 (St. Mary's + Boardwalk)	Option PC8 (St. Mary's + Rathdown)	Option PC9 (Butterfield + Bushy Park)	Option PC10 (St. Mary's + Bushy Park)
						Rathfarnham Village.		Rathfarnham Village.		
Rank										
4 Directness	No. of Junctions: 3 Total Length: 1.3km Length of parallel route: 500m 800m of the cycle route is on the CBC. Short diversion required compared to overall length of route. Less likely to be used by cyclists compared to other options	No. of Junctions: 3 Length: 1.3km Length of parallel route: 800m 500m of the cycle route is on the CBC. Moderate diversion required compared to overall length of route. Less likely to be used by cyclists compared to other options	No. of Junctions: 3 Length: 1.3km Length of parallel route: 390m 910m of the cycle route is on the CBC. Short diversion required compared to overall length of route. Less likely to be used by cyclists compared to other options	No. of Junctions: 3 Length: 1.3km Length of parallel route: 660m 640m of the cycle route is on the CBC. Moderate diversion required compared to overall length of route. Less likely to be used by cyclists compared to other options	No. of Junctions: 3 Length: 1.5km Length of parallel route: 1100m 400m of the cycle route is on the CBC. Significant diversion required compared to overall length of route. More likely to be used by cyclists compared to other options	No. of Junctions: 3 Length: 1.5km Length of parallel route: 1380m 120m of the cycle route is on the CBC. Significant diversion required compared to overall length of route. More likely to be used by cyclists compared to other options	No. of Junctions: 3 Length: 1.45km Length of parallel route: 1150m 250m of the cycle route is on the CBC. Significant diversion required compared to overall length of route. More likely to be used by cyclists compared to other options	No. of Junctions: 2 Length: 1.45km Length of parallel route: 1450m None of the cycle route is on the CBC. Entire route diverted from CBC route. More likely to be used by cyclists compared to other options	This route largely does not align with the route of Primary Route 10. The Route connects the Dodder Greenway to Primary Route 10. This route would allow for connectivity to secondary Route 9B. The route passes adjacent Rathfarnham Village.	This route largely does not align with the route of Primary Route 10. The Route connects the Dodder Greenway to Primary Route 10. This route would allow for connectivity to secondary Route 9B. The route passes adjacent Rathfarnham Village.

Appraisal Criteria	**Option PC1** (EPR Option Proposal)	**Option PC2** (EPR Option + Rathdown)	**Option PC3** (Brookvale Road + Boardwalk)	**Option PC4** (Brookvale Road + Rathdown)	**Option PC5** (Butterfield + Boardwalk)	**Option PC6** (Butterfield + Rathdown)	**Option PC7** (St. Mary's + Boardwalk)	**Option PC8** (St. Mary's + Rathdown)	**Option PC9** (Butterfield + Bushy Park)	**Option PC10** (St. Mary's + Bushy Park)
5 Attractiveness	Segregated cycle route in both directions for 880m. Quiet Street Treatment for 420m. Brookvale Downs is not considered an attractive alternative route. The diversion length is also short so it is unlikely that cyclists would divert. Narrow laneway not attractive	Segregated cycle route in both directions for 630m. Quiet Street Treatment for 670m. The new cycle bridge is considered an attractive alternative route. And the length of diversion is long enough to attract cyclists. Narrow laneway not attractive	Segregated cycle route in both directions for 1020m. Quiet Street Treatment for 280m. Brookvale Downs is not considered an attractive alternative route. The diversion length is also very short, so it is unlikely that cyclists would divert.	Segregated cycle route in both directions for 760m. Quiet Street Treatment for 540m. The new cycle bridge is considered an attractive alternative route. the length of diversion is not considered long enough to attract cyclists.	Segregated cycle route in both directions for 1,326m. Quiet Street Treatment for 160m. The Dodder Greenway is considered an attractive alternative.	Segregated cycle route in both directions for 1,074m. Quiet Street Treatment for 420m. The Dodder Greenway with the new cycle bridge is considered a very attractive alternative.	Segregated cycle route in both directions for 1,169m. Quiet Street Treatment for 255m. The Dodder Greenway is considered an attractive alternative.	Segregated cycle route in both directions for 917m. Quiet Street Treatment for 515m. The Dodder Greenway with the new cycle bridge is considered a very attractive alternative.	Segregated cycle route in both directions for 900m. Quiet Street Treatment for 800m. The Dodder Greenway with the new cycle bridge is considered an attractive alternative.	Segregated cycle route in both directions for 850m. Quiet Street Treatment for 900m. The Dodder Greenway with the new cycle bridge is considered an attractive alternative.
Rank										
6 Comfort	Segregated cycle route in both directions for 880m. Quiet Street Treatment for 420m. Narrow Laneway	Segregated cycle route in both directions for 630m. Quiet Street Treatment for 670m. Narrow Laneway	Segregated cycle route in both directions for 1020m. Quiet Street Treatment for 280m.	Segregated cycle route in both directions for 760m. Quiet Street Treatment for 540m.	Segregated cycle route in both directions for 1,326m. Quiet Street Treatment for 160m.	Segregated cycle route in both directions for 1,074m. Quiet Street Treatment for 420m.	Segregated cycle route in both directions for 1,169m. Quiet Street Treatment for 255m.	Segregated cycle route in both directions for 917m. Quiet Street Treatment for 515m.	Segregated cycle route in both directions for 900m. Quiet Street Treatment for 800m. Significant gradients to overcome within Bushy Park.	Segregated cycle route in both directions for 850m. Quiet Street Treatment for 900m. Significant gradients to overcome within Bushy Park.

Appraisal Criteria	**Option PC1** (EPR Option Proposal)	**Option PC2** (EPR Option + Rathdown)	**Option PC3** (Brookvale Road + Boardwalk)	**Option PC4** (Brookvale Road + Rathdown)	**Option PC5** (Butterfield + Boardwalk)	**Option PC6** (Butterfield + Rathdown)	**Option PC7** (St. Mary's + Boardwalk)	**Option PC8** (St. Mary's + Rathdown)	**Option PC9** (Butterfield + Bushy Park)	**Option PC10** (St. Mary's + Bushy Park)
7 Environmental	Land acquisition required from **61** properties. Impact on driveway gradients. Requires the removal of **27** trees in public areas and **13** trees in private areas. Total trees impacted: **40**	Land acquisition required from **62** properties. Potential significant environmental impacts in delivering new bridge over Dodder. Requires the removal of **28** trees in public areas and **13** trees in private areas. Total trees impacted: **41**	Land acquisition required from **68** properties. Impact on driveway gradients. Requires the removal of **26** trees in public areas and **14** trees in private areas. Total trees impacted: **40**	Land acquisition required from **70** properties. Potential significant environmental impacts in delivering new bridge over Dodder. Requires the removal of **28** trees in public areas and **15** trees in private areas. Total trees impacted: **43**	Land acquisition required from **63** properties. Impact on driveway gradients. Potential significant environmental impacts in delivering new bridge over Owendoher River. Requires the removal of **30** trees in public areas and **17** trees in private areas. Total trees impacted: **49**	Land acquisition required from **64** properties. Impact on driveway gradients. Potential significant environmental impacts in delivering new bridge over Owendoher River and Dodder River. Requires the removal of **31** trees in public areas and **20** trees in private areas. Total trees impacted: **51**	Land acquisition required from **63** properties. Potential significant environmental impacts in delivering new bridges over Owendoher River. Requires the removal of **30** trees in public areas and **23** trees in private areas. Total trees impacted: **53**	Land acquisition required from **62** properties. Potential significant environmental impacts in delivering new bridges over Owendoher River and Dodder River. Requires the removal of **31** trees in public areas and **26** trees in private areas. Total trees impacted: **57**	Land acquisition required from **61** properties. Requires the removal of **32** trees in public areas and **13** trees in private areas. Total trees impacted: **45**	Land acquisition required from **61** properties. Requires the removal of **38** trees in public areas and **13** trees in private areas. Potential significant environmental impacts in delivering new bridges over Owendoher River. Total trees impacted: **51**
Rank										

Table A1.3: Rathfarnham Road MCA

Sub-Criteria	**Option RF1** (Current proposal)	**Option RF2** (Alternative Dodder Greenway Cycles)	**Option RF3** (One Way with online cycles)	**Option RF4** (One Way with offline cycles)	**Option RF5** (Combination of bus lanes and signal controlled priority with online cycles)	**Option RF6** (Combination of bus lanes and signal controlled priority with offline cycles)
1A Capital Cost	***Indicative Scheme Infrastructure Works Costs*** - Dedicated cycle track on Rathfarnham Road between Willowbrook Road and Brookvale Downs pedestrian laneway - Dedicated two-way cycle track on north of Dodder View Road - Construction of new boardwalk at Pearse Bridge - Dedicated cycle tracks on each side of the road north of Pearse Bridge ***Land Acquisition Cost*** 1,774 sqm Private Land 61 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Land Acquisition along Owendoher river and north of Dodder. - 2 new bridges over Owendoher river. - New bridge over Dodder. - Acquisition of garden at Rathdown park ***Land Acquisition Cost*** *2,242 sqm Private Land* *62 Properties affected*	***Indicative Scheme Infrastructure Works Costs*** - Some land-take south of the Dodder as well as north. - Would require road raising and driveway reprofiling. ***Land Acquisition Cost*** 1,464 sqm Private Land 63 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Land Acquisition North of the Dodder. - Land Acquisition along Owendoher river and north of Dodder. - 2 new bridges over Owendoher river. - New bridge over Dodder. - Acquisition of garden at Rathdown park. ***Land Acquisition Cost*** 667 sqm Private Land 15 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Some land-take south of the Dodder as well as north. - Would require road raising and driveway reprofiling. - Additional signalling required for signal controlled priority. ***Land Acquisition Cost*** 1,464 sqm Private Land 63 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Land Acquisition North of the Dodder. - Land Acquisition along Owendoher river and north of Dodder. - 2 new bridges over Owendoher river. - New bridge over Dodder. - Acquisition of garden at Rathdown park. ***Land Acquisition Cost*** 667 sqm Private Land 15 Properties affected
Rank						
1B Transport Quality & Reliability	Journey Time Inbound: 3.7 mins Journey Time Outbound: 3.7 mins Length: 1.13 km No. of Junctions: 3 No. of Pedestrian Crossings: 1 Full physical bus priority provided throughout. Parallel cycle route not considered highly	Journey Time Inbound: 3.4 mins Journey Time Outbound: 3.4 mins Length: 1.13 km No. of Junctions: 3 No. of Pedestrian Crossings: 1 Full physical bus priority provided throughout.	Journey Time Inbound: 3.7 mins Journey Time Outbound: 3.7 mins Length: 1.13 km No. of Junctions: 3 No. of Pedestrian Crossings: 1 Full physical bus priority provided south of the dodder with virtual priority provided north of	Journey Time Inbound: 3.4 mins Journey Time Outbound: 3.4 mins Length: 1.13 km No. of Junctions: 3 No. of Pedestrian Crossings: 1 Full physical bus priority provided throughout.	Journey Time Inbound: 4.4 mins Journey Time Outbound: 4.4 mins Length: 1.13 km No. of Junctions: 3 No. of Pedestrian Crossings: 1 Virtual bus priority provided by bus priority signalling north and south of the dodder.	Journey Time Inbound: 4.4 mins Journey Time Outbound: 4.4 mins Length: 1.13 km No. of Junctions: 3 No. of Pedestrian Crossings: 1 Virtual bus priority provided by bus priority signalling north and south of the dodder.

Sub-Criteria	Option RF1 (Current proposal)	Option RF2 (Alternative Dodder Greenway Cycles)	Option RF3 (One Way with online cycles)	Option RF4 (One Way with offline cycles)	Option RF5 (Combination of bus lanes and signal controlled priority with online cycles)	Option RF6 (Combination of bus lanes and signal controlled priority with offline cycles)
	attractive which may impact on bus priority		the dodder through bus priority signalling.			
Rank						
2A Land Use Policy	Serves Rathfarnham village which is zoned VC in the SDCC Development Plan 'to protect, improve, provide for the future development of Village Centres'.	Serves Rathfarnham village which is zoned VC in the SDCC Development Plan 'to protect, improve, provide for the future development of Village Centres'.	Serves Rathfarnham village which is zoned VC in the SDCC Development Plan 'to protect, improve, provide for the future development of Village Centres'.	Serves Rathfarnham village which is zoned VC in the SDCC Development Plan 'to protect, improve, provide for the future development of Village Centres'.	Serves Rathfarnham village which is zoned VC in the SDCC Development Plan 'to protect, improve, provide for the future development of Village Centres'.	Serves Rathfarnham village which is zoned VC in the SDCC Development Plan 'to protect, improve, provide for the future development of Village Centres'.
Rank						
2B Residential Population and Employment Catchments	**Residential Population Catchments** - 5 minute walk catchment of approximately 3,500 - 10 minute walk catchment of approximately 8,600 **Employment catchments** - 10 minute walk catchment of approximately 1,544	**Residential Population Catchments** - 5 minute walk catchment of approximately 3,500 - 10 minute walk catchment of approximately 8,600 **Employment catchments** - 10 minute walk catchment of approximately 1,544	**Residential Population Catchments** - 5 minute walk catchment of approximately 3,500 - 10 minute walk catchment of approximately 8,600 **Employment catchments** - 10 minute walk catchment of approximately 1,544	**Residential Population Catchments** - 5 minute walk catchment of approximately 3,500 - 10 minute walk catchment of approximately 8,600 **Employment catchments** - 10 minute walk catchment of approximately 1,544	**Residential Population Catchments** - 5 minute walk catchment of approximately 3,500 - 10 minute walk catchment of approximately 8,600 **Employment catchments** - 10 minute walk catchment of approximately 1,544	**Residential Population Catchments** - 5 minute walk catchment of approximately 3,500 - 10 minute walk catchment of approximately 8,600 **Employment catchments** - 10 minute walk catchment of approximately 1,544

Sub-Criteria	**Option RF1** (Current proposal)	**Option RF2** (Alternative Dodder Greenway Cycles)	**Option RF3** (One Way with online cycles)	**Option RF4** (One Way with offline cycles)	**Option RF5** (Combination of bus lanes and signal controlled priority with online cycles)	**Option RF6** (Combination of bus lanes and signal controlled priority with offline cycles)
Rank						
2C Transport Network Integration	Potential for interchange with local bus services. Potential for interchange with CBC bus service running along the Finglas/Dundrum Core Orbital Corridor along the Dodder River. Potential for interchange with both the Marley Park – Rathmines and the Tallaght – Rathfarnham - Terenure Core Radial Corridors.	Potential for interchange with local bus services. Potential for interchange with CBC bus service running along the Finglas/Dundrum Core Orbital Corridor along the Dodder River. Potential for interchange with both the Marley Park – Rathmines and the Tallaght – Rathfarnham - Terenure Core Radial Corridors.	Potential for interchange with local bus services. Potential for interchange with CBC bus service running along the Finglas/Dundrum Core Orbital Corridor along the Dodder River. Potential for interchange with both the Marley Park – Rathmines and the Tallaght – Rathfarnham - Terenure Core Radial Corridors.	Potential for interchange with local bus services. Potential for interchange with CBC bus service running along the Finglas/Dundrum Core Orbital Corridor along the Dodder River. Potential for interchange with both the Marley Park – Rathmines and the Tallaght – Rathfarnham - Terenure Core Radial Corridors.	Potential for interchange with local bus services. Potential for interchange with CBC bus service running along the Finglas/Dundrum Core Orbital Corridor along the Dodder River. Potential for interchange with both the Marley Park – Rathmines and the Tallaght – Rathfarnham - Terenure Core Radial Corridors.	Potential for interchange with local bus services. Potential for interchange with CBC bus service running along the Finglas/Dundrum Core Orbital Corridor along the Dodder River. Potential for interchange with both the Marley Park – Rathmines and the Tallaght – Rathfarnham - Terenure Core Radial Corridors.
Rank						
2D Cycle Network integration	The route deviates from primary route 10 for a short section. This is not considered an attractive diversion	The route deviates from primary route 10 for a long section. This offers the potential to integrate with secondary route 9B. This is considered a high quality facility.	Cycle facilities delivered along primary route 10.	The route deviates from primary route 10 for a long section. This offers the potential to integrate with secondary route 9B. This is considered a high quality facility.	Cycle facilities delivered along primary route 10.	The route deviates from primary route 10 for a long section. This offers the potential to integrate with secondary route 9B. This is considered a high quality facility. Cyclists continuing on the CBC would be required to cycle in a general traffic lane.
Rank						
2E Traffic Network Integration	All traffic movements retained as per current arrangement.	All traffic movements retained as per current arrangement.	Outbound traffic restricted on Rathfarnham road. Long local diversions (~2km)	Outbound traffic restricted on Rathfarnham road. Long local diversions (~2km)	Traffic restricted by signalling in order to provide bus priority.	Traffic restricted by signalling in order to provide bus priority.
Rank						
3A Key Trip Attractors	**Education** - Loreto Primary School - Loreto High School Beaufort	**Education** - Loreto Primary School - Loreto High School Beaufort	**Education** - Loreto Primary School - Loreto High School Beaufort	**Education** - Loreto Primary School - Loreto High School Beaufort	**Education** - Loreto Primary School - Loreto High School Beaufort	**Education** - Loreto Primary School - Loreto High School Beaufort

Sub-Criteria	Option RF1 (Current proposal)	Option RF2 (Alternative Dodder Greenway Cycles)	Option RF3 (One Way with online cycles)	Option RF4 (One Way with offline cycles)	Option RF5 (Combination of bus lanes and signal controlled priority with online cycles)	Option RF6 (Combination of bus lanes and signal controlled priority with offline cycles)
	- St. Mary's National School **Retail / Leisure** - Rathfarnham Village - Rathfarnham Castle - Rathfarnham Castle Park - Church of Annunciation **Employment** - Rathfarnham Village - Rathfarnham Castle - Loreto Primary School - Loreto High School Beaufort - St. Mary's National School	- St. Mary's National School **Retail / Leisure** - Rathfarnham Village - Rathfarnham Castle - Rathfarnham Castle Park - Church of Annunciation **Employment** - Rathfarnham Village - Rathfarnham Castle - Loreto Primary School - Loreto High School Beaufort - St. Mary's National School	- St. Mary's National School **Retail / Leisure** - Rathfarnham Village - Rathfarnham Castle - Rathfarnham Castle Park - Church of Annunciation **Employment** - Rathfarnham Village - Rathfarnham Castle - Loreto Primary School - Loreto High School Beaufort - St. Mary's National School	- St. Mary's National School **Retail / Leisure** - Rathfarnham Village - Rathfarnham Castle - Rathfarnham Castle Park - Church of Annunciation **Employment** - Rathfarnham Village - Rathfarnham Castle - Loreto Primary School - Loreto High School Beaufort - St. Mary's National School	- St. Mary's National School **Retail / Leisure** - Rathfarnham Village - Rathfarnham Castle - Rathfarnham Castle Park - Church of Annunciation **Employment** - Rathfarnham Village - Rathfarnham Castle - Loreto Primary School - Loreto High School Beaufort - St. Mary's National School	- St. Mary's National School **Retail / Leisure** - Rathfarnham Village - Rathfarnham Castle - Rathfarnham Castle Park - Church of Annunciation **Employment** - Rathfarnham Village - Rathfarnham Castle - Loreto Primary School - Loreto High School Beaufort - St. Mary's National School
Rank						
3B Deprived Geographic Areas	Route option serves area of Affluent means from the Pobal Deprivation Index.	Route option serves area of Affluent means from the Pobal Deprivation Index.	Route option serves area of Affluent means from the Pobal Deprivation Index.	Route option serves area of Affluent means from the Pobal Deprivation Index.	Route option serves area of Affluent means from the Pobal Deprivation Index.	Route option serves area of Affluent means from the Pobal Deprivation Index.
Rank						
4A Road Safety	No. of junctions: 3 No turn movements required.	No. of junctions: 3 No turn movements required.	No. of junctions: 3 No turn movements required.	No. of junctions: 3 No turn movements required.	No. of junctions: 3 No turn movements required.	No. of junctions: 3 No turn movements required.
Rank						
4B Pedestrian Safety	Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road. Similar ratio of pedestrian	Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road. Similar ratio of pedestrian	Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road. Similar ratio of pedestrian	Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road. Similar ratio of	Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road. Similar ratio of	Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road. Similar ratio of pedestrian

Sub-Criteria	**Option RF1** (Current proposal)	**Option RF2** (Alternative Dodder Greenway Cycles)	**Option RF3** (One Way with online cycles)	**Option RF4** (One Way with offline cycles)	**Option RF5** (Combination of bus lanes and signal controlled priority with online cycles)	**Option RF6** (Combination of bus lanes and signal controlled priority with offline cycles)
	crossing facilities to route length across the options.	crossing facilities to route length across the options.	crossing facilities to route length across the options.	pedestrian crossing facilities to route length across the options.	pedestrian crossing facilities to route length across the options.	crossing facilities to route length across the options.
Rank						
5A Archaeology & Cultural Heritage	There are two recorded monuments within the study area, Pearse Bridge and a water mill adjacent to the bridge. This option requires the construction of a boardwalk adjacent to the Bridge.	There are two recorded monuments within the study area, Pearse Bridge and a water mill adjacent to the bridge. This option does not involve any impact on the bridge	There are two recorded monuments within the study area, Pearse Bridge and a water mill adjacent to the bridge. This option requires the construction of a boardwalk adjacent to the Bridge.	There are two recorded monuments within the study area, Pearse Bridge and a water mill adjacent to the bridge. This option does not involve any impact on the bridge	There are two recorded monuments within the study area, Pearse Bridge and a water mill adjacent to the bridge. This option requires the construction of a boardwalk adjacent to the Bridge.	There are two recorded monuments within the study area, Pearse Bridge and a water mill adjacent to the bridge. This option does not involve any impact on the bridge
Rank						
5B Architectural Heritage	There is one protected structure within the study area, Pearse Bridge. This option requires the construction of a boardwalk adjacent to the Bridge.	There is one protected structure within the study area, Pearse Bridge. This option does not involve any impact on the bridge	There is one protected structure within the study area, Pearse Bridge. This option requires the construction of a boardwalk adjacent to the Bridge.	There is one protected structure within the study area, Pearse Bridge. This option does not involve any impact on the bridge	There is one protected structure within the study area, Pearse Bridge. This option requires the construction of a boardwalk adjacent to the Bridge.	There is one protected structure within the study area, Pearse Bridge. This option does not involve any impact on the bridge
Rank						
5C Flora & Fauna	Requires the removal of **27** trees in public areas and **13** trees in private areas. Total trees impacted: **40**	Requires the removal of **40** trees in public areas and **26** trees in private areas. Total trees impacted: **66**	Requires the removal of **27** trees in public areas and **8** trees in private areas. Total trees impacted: **35**	Requires the removal of **40** trees in public areas and **18** trees in private areas. Total trees impacted: **58**	Requires the removal of **27** trees in public areas and **8** trees in private areas. Total trees impacted: **35**	Requires the removal of **40** trees in public areas and **18** trees in private areas. Total trees impacted: **58**
Rank						
5D Soils, Geology & Hydrology	No appreciable impact	No appreciable impact	No appreciable impact	No appreciable impact	No appreciable impact	No appreciable impact
Rank						

Sub-Criteria	**Option RF1** (Current proposal)	**Option RF2** (Alternative Dodder Greenway Cycles)	**Option RF3** (One Way with online cycles)	**Option RF4** (One Way with offline cycles)	**Option RF5** (Combination of bus lanes and signal controlled priority with online cycles)	**Option RF6** (Combination of bus lanes and signal controlled priority with offline cycles)
5E Landscape & Visual	Land acquisition required from **61** properties.	Potential negative impacts associated with constructing two cyclist bridges over the Owendoher River and Dodder bridge. Land acquisition required from **62** properties.	Land acquisition required from **63** properties.	Potential negative impacts associated with constructing two cyclist bridges over the Owendoher River and Dodder bridge. Land acquisition required from **15** properties.	Land acquisition required from **63** properties.	Potential negative impacts associated with constructing two cyclist bridges over the Owendoher River and Dodder bridge. Land acquisition required from **15** properties.
Rank						
5F Air Quality	Increased proximity of vehicles to residential properties due to road widening.	Increased proximity of vehicles to residential properties due to road widening.	Improved air quality on the CBC as outbound traffic redirected to alternative routes.	Improved air quality on the CBC as outbound traffic redirected to alternative routes.	Increased proximity of vehicles to residential properties due to road widening.	Increased proximity of vehicles to residential properties due to road widening.
Rank						
5G Noise & Vibration	Increased proximity of vehicles to residential properties due to road widening.	Increased proximity of vehicles to residential properties due to road widening.	Reduced traffic on Rathfarnham Road in proximity to residential properties. Traffic redirected to regional routes. Increased proximity of vehicles to residential properties due to road widening	Reduced traffic on Rathfarnham Road in proximity to residential properties. Traffic redirected to regional routes. Increased proximity of vehicles to residential properties due to road widening	Increased proximity of vehicles to residential properties due to road widening	Increased proximity of vehicles to residential properties due to road widening
Rank						
5H Land Use Character	The land-take required on Rathfarnham would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.	The land-take required on Rathfarnham would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.	The land-take required on Rathfarnham would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.	The land-take required on Rathfarnham would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.	The land-take required on Rathfarnham would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.	The land-take required on Rathfarnham would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.
Rank						

Appendix B

Section 2 Route Options Assessment MCA Tables

Table B1.1: Rathgar Road MCA

Appraisal Criteria	Sub-Criteria	Option RG1 Full Cross Section (EPR Proposal)	Option RG2 One-way inbound, 1.5m cycle track on Rathgar Road, Parallel Cycle in Harold's Cross & Orwell	Option RG3 One-way inbound, 2m cycle track	Option RG4 Combination of bus lanes and signal controlled priority, 1.5m cycle track, Parallel Cycle in Harold's Cross & Orwell	Option RG5 Combination of bus lanes and signal controlled priority, 2m cycle track
1 Economy	1A Capital Cost	***Indicative Scheme Infrastructure Works Costs*** - Section without cycle track on Terenure Road East at Pinch point. - Dedicated cycle tracks on Rathgar Road - Dedicated Bus Lanes on Rathgar Road. - Approx. 4m of land-take from properties along Rathgar Road. ***Land Acquisition Cost*** 5,429 sqm Private Land 108 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Inbound Traffic only on Rathgar Road. - No cycle facilities provided on Terenure Road East. - Bus Priority Signals on Terenure Road East at pinch point. - Dedicated cycle tracks on Terenure Road North and Harold's Cross Road connecting to the Kimmage to City Centre CBC. - Dedicated Bus Lanes on Rathgar Road. - 1.5m cycle tracks on Rathgar Road. - Minimal land-take from properties along Rathgar Road. - Outbound cycle track on Bushy Park Road. Quiet street treatment on Wasdale Park, Wasdale Grove, Victoria Road and Zion Road. Dedicated cycle tracks on Orwell Road. ***Land Acquisition Cost*** 799 sqm Private Land 28 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Inbound Traffic only on Rathgar Road. - Dedicated 2m cycle tracks on Rathgar Road - Dedicated Bus Lanes on Rathgar Road. - Approx. 1m of land-take from properties along Rathgar Road. ***Land Acquisition Cost*** 2,703sqm Private Land 95 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - A combination of bus lanes and signal controlled priority provided on Rathgar Road - No cycle facilities provided on Terenure Road East. - Bus Priority Signals on Terenure Road East at pinch point. - Dedicated cycle tracks on Terenure Road North and Harold's Cross Road connecting to the Kimmage to City Centre CBC. - Dedicated Bus Lanes on Rathgar Road. - 1.5m cycle tracks on Rathgar Road. - Minimal land-take from properties along Rathgar Road. - Outbound cycle track on Bushy Park Road. Quiet street treatment on Wasdale Park, Wasdale Grove, Victoria Road and Zion Road. Dedicated cycle tracks on Orwell Road. ***Land Acquisition Cost*** 799 sqm Private Land 28 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - A combination of bus lanes and signal controlled priority provided on Rathgar Road. - Dedicated 2m cycle tracks on Rathgar Road - Dedicated Bus Lanes on Rathgar Road. - Approx. 1m of land-take from properties along Rathgar Road. ***Land Acquisition Cost*** 2,703 sqm Private Land 95 Properties affected
	Rank					

Appraisal Criteria	Sub-Criteria	Option RG1 Full Cross Section (EPR Proposal)	Option RG2 One-way inbound, 1.5m cycle track on Rathgar Road, Parallel Cycle in Harold's Cross & Orwell	Option RG3 One-way inbound, 2m cycle track	Option RG4 Combination of bus lanes and signal controlled priority, 1.5m cycle track, Parallel Cycle in Harold's Cross & Orwell	Option RG5 Combination of bus lanes and signal controlled priority, 2m cycle track
	1B Transport Quality & Reliability	Journey Time Inbound: 4.6 mins Journey Time Outbound: 4.6 mins Length: 1.79 km No. of Junctions: 2 No. of Pedestrian Crossings: 1 Full Physical Bus Priority provided throughout.	Journey Time Inbound: 4.6 mins Journey Time Outbound: 4.6 mins Length: 1.79 km No. of Junctions: 2 No. of Pedestrian Crossings: 1 Full Physical Bus Priority provided throughout.	Journey Time Inbound: 4.6 mins Journey Time Outbound: 4.6 mins Length: 1.79 km No. of Junctions: 2 No. of Pedestrian Crossings: 1 Full Physical Bus Priority provided throughout.	Journey Time Inbound: 5.6 mins Journey Time Outbound: 5.6 mins Length: 1.79 km No. of Junctions: 2 No. of Pedestrian Crossings: 1 Bus priority provided through signalling with buses sharing the lane with traffic for large portions of Rathgar Road.	Journey Time Inbound: 5.6 mins Journey Time Outbound: 5.6 mins Length: 1.79 km No. of Junctions: 2 No. of Pedestrian Crossings: 1 Bus priority provided through signalling with buses sharing the lane with traffic for large portions of Rathgar Road.
	Rank					
2 Integration	2A Land Use Policy	Integrates with existing residential, educational & leisure uses in this established area.	Integrates with existing residential, educational & leisure uses in this established area.	Integrates with existing residential, educational & leisure uses in this established area.	Integrates with existing residential, educational & leisure uses in this established area.	Integrates with existing residential, educational & leisure uses in this established area.
	Rank					
	2B Residential Population and Employment Catchments	Similar Catchment for all route options.	Similar Catchment for all route options.	Similar Catchment for all route options.	Similar Catchment for all route options.	Similar Catchment for all route options.
	Rank					
	2C Transport Network Integration	Potential for interchange with local bus services.	Potential for interchange with local bus services.	Potential for interchange with local bus services.	Potential for interchange with local bus services.	Potential for interchange with local bus services.
	Rank					
	2D Cycle Network integration	High quality Cycle facilities provided along Primary Route 10 in the GDA Cycle network plan.	Cycle facilities provided along Primary Route 10 in the GDA Cycle network plan but of reduced cross section. Additional facilities provided in Harold's Cross to compensate delivering more of cycle network. In addition, a secondary east-west facility	High quality Cycle facilities provided along Primary Route 10 in the GDA Cycle network plan.	Cycle facilities provided along Primary Route 10 in the GDA Cycle network plan but of reduced cross section. Additional facilities provided in Harold's Cross to compensate delivering more of cycle network In addition, a secondary east-west facility	High quality Cycle facilities provided along Primary Route 10 in the GDA Cycle network plan.

Appraisal Criteria	Sub-Criteria	Option RG1 Full Cross Section (EPR Proposal)	Option RG2 One-way inbound, 1.5m cycle track on Rathgar Road, Parallel Cycle in Harold's Cross & Orwell	Option RG3 One-way inbound, 2m cycle track	Option RG4 Combination of bus lanes and signal controlled priority, 1.5m cycle track, Parallel Cycle in Harold's Cross & Orwell	Option RG5 Combination of bus lanes and signal controlled priority, 2m cycle track
			would be provided adjacent Terenure Road East in lieu of facility on Terenure Road East		would be provided adjacent Terenure Road East in lieu of facility on Terenure Road East	
	Rank					
	2E Traffic Network Integration	All traffic movements retained as per current arrangement.	Outbound traffic diverted to suitable alternative routes.	Outbound traffic diverted to suitable alternative routes.	All traffic movements retained as per current arrangement, however traffic priority to be reduced in order to achieve virtual bus priority.	All traffic movements retained as per current arrangement, however traffic priority to be reduced in order to achieve virtual bus priority
	Rank					
3 Accessibility & Social Inclusion	3A Key Trip Attractors	All routes service the same trip attractors.	All routes service the same trip attractors.	All routes service the same trip attractors.	All routes service the same trip attractors.	All routes service the same trip attractors.
	Rank					
	3B Deprived Geographic Areas	Route option serves area of Marginally Above Average to Very Affluent means from the Pobal Deprivation Index.	Route option serves area of Marginally Above Average to Very Affluent means from the Pobal Deprivation Index.	Route option serves area of Marginally Above Average to Very Affluent means from the Pobal Deprivation Index.	Route option serves area of Marginally Above Average to Very Affluent means from the Pobal Deprivation Index.	Route option serves area of Marginally Above Average to Very Affluent means from the Pobal Deprivation Index.
	Rank					
4 Safety	4A Road Safety	No. of junctions: 1 No turn movements required.	No. of junctions: 1 No turn movements required.	No. of junctions: 1 No turn movements required.	No. of junctions: 1 No turn movements required.	No. of junctions: 1 No turn movements required.
	Rank					
	4B Pedestrian Safety	Footpaths provided throughout. Signalised crossings at all major junctions.	Footpaths provided throughout. Signalised crossings at all major junctions.	Footpaths provided throughout. Signalised crossings at all major junctions.	Footpaths provided throughout. Signalised crossings at all major junctions.	Footpaths provided throughout. Signalised crossings at all major junctions.
	Rank					
5 Environment	5A Archaeology & Cultural Heritage	No recorded monuments within the study area.	No recorded monuments within the study area.	No recorded monuments within the study area.	No recorded monuments within the study area.	No recorded monuments within the study area.
	Rank					

Appraisal Criteria	Sub-Criteria	Option RG1 Full Cross Section (EPR Proposal)	Option RG2 One-way inbound, 1.5m cycle track on Rathgar Road, Parallel Cycle in Harold's Cross & Orwell	Option RG3 One-way inbound, 2m cycle track	Option RG4 Combination of bus lanes and signal controlled priority, 1.5m cycle track, Parallel Cycle in Harold's Cross & Orwell	Option RG5 Combination of bus lanes and signal controlled priority, 2m cycle track
	5B Architectural Heritage	Impact on the boundary of a significant number of protected structures. (4m land acquisition)	Minimal impact on protected structures.	Impact on the boundary of a significant number of protected structures. (1m land acquisition)	Minimal impact on protected structures.	Impact on the boundary of a significant number of protected structures. (1m land acquisition)
	Rank					
	5C Flora & Fauna	Requires the removal of **0** trees in public areas and **87** trees in private areas. Total trees impacted: **87**	Requires the removal of **0** trees in public areas and **19** trees in private areas. Total trees impacted: **19**	Requires the removal of **0** trees in public areas and **60** trees in private areas. Total trees impacted: **60**	Requires the removal of **0** trees in public areas and **19** trees in private areas. Total trees impacted: **19**	Requires the removal of **0** trees in public areas and **60** trees in private areas. Total trees impacted: **60**
	Rank					
	5D Soils, Geology & Hydrology	No appreciable impact	No appreciable impact	No appreciable impact	No appreciable impact	No appreciable impact
	Rank					
	5E Landscape & Visual	Land Acquisition required from 108 properties along Rathgar Road and Terenure Road East.	Land Acquisition required from 28 properties along Rathgar Road and Terenure Road East.	Land Acquisition required from 95 properties along Rathgar Road and Terenure Road East.	Land Acquisition required from 28 properties along Rathgar Road and Terenure Road East.	Land Acquisition required from 95 properties along Rathgar Road and Terenure Road East.
	Rank					
	5F Air Quality	Increased proximity of vehicles to residential properties due to road widening. (4m)	Improved air quality on CBC due to redirection of traffic to alternative routes.	Increased traffic on alternative routes due to traffic diversions. Increased proximity of vehicles to residential properties due to road widening. (1m)	No appreciable impact.	Increased proximity of vehicles to residential properties due to road widening. (1m)
	Rank					
	5G Noise & Vibration	Increased proximity of vehicles to residential properties due to road widening. (4m)	Decreased noise & vibration on the CBC due to redirection of traffic to alternative routes.	Increased traffic on alternative routes due to traffic diversions. Increased proximity of vehicles to residential properties due to road widening. (1m)	No appreciable impact.	Increased proximity of vehicles to residential properties due to road widening. (1m)

Appraisal Criteria	Sub-Criteria	Option RG1 Full Cross Section (EPR Proposal)	Option RG2 One-way inbound, 1.5m cycle track on Rathgar Road, Parallel Cycle in Harold's Cross & Orwell	Option RG3 One-way inbound, 2m cycle track	Option RG4 Combination of bus lanes and signal controlled priority, 1.5m cycle track, Parallel Cycle in Harold's Cross & Orwell	Option RG5 Combination of bus lanes and signal controlled priority, 2m cycle track
	Rank					
	5H Land Use Character	The land-take required on Rathgar road would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.	The land-take required on Rathgar road would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided. Loss of 12 formal car parking spaces and 28 clearway spaces for parallel cycle route.	The land-take required on Rathgar road would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.	The land-take required on Rathgar road would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided. Loss of 12 formal car parking spaces and 28 clearway spaces for parallel cycle route.	The land-take required on Rathgar road would not have great effect on the viability of the residential properties from being used for their intended use. Sufficient access and parking space will still be provided.
	Rank					

Table B1.2: Rathmines MCA

Appraisal Criteria	Sub-Criteria	Option RM1 One Way Outbound with Bus Lanes and Cycle Tracks (EPR Proposal)	Option RM 2 Two Way traffic with Bus Lanes and Parallel cycle route	Option RM3 Bus Gate
1 Economy	1A Capital Cost	***Indicative Scheme Infrastructure Works Costs*** Segregated Bus lanes provided through Rathmines Village Dedicated cycle tracks through Rathmines Village One Way outbound traffic only from Grange Road to Castlewood Avenue. ***Land Acquisition Cost*** 0 sqm Private Land 0 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Segregated Bus lanes provided through Rathmines Village - Alternative parallel cycle route provided - Two Way outbound traffic from Grange Road to Castlewood Avenue. ***Land Acquisition Cost*** 2,227 sqm Private Land 0 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Bus Gate provided through Rathmines Village - Dedicated cycle tracks through Rathmines Village - Two Way local traffic access. ***Land Acquisition Cost*** 0 sqm Private Land 0 Properties affected
	Rank			
	1B Transport Quality & Reliability	Physical bus priority provided through Rathmines Village with the provision of fully segregated Bus Lanes.	Physical bus priority provided through Rathmines Village with the provision of fully segregated Bus Lanes.	Virtual bus priority provided through the provision of a bus gate.
	Rank			
2 Integration	2A Land Use Policy	Integrates with existing residential, educational & leisure uses in this established area.	Integrates with existing residential, educational & leisure uses in this established area.	Integrates with existing residential, educational & leisure uses in this established area.
	Rank			
	2B Residential Population and Employment Catchments	Similar Catchment for all route options.	Similar Catchment for all route options.	Similar Catchment for all route options.
	Rank			

Appraisal Criteria	Sub-Criteria	Option RM1 One Way Outbound with Bus Lanes and Cycle Tracks (EPR Proposal)	Option RM 2 Two Way traffic with Bus Lanes and Parallel cycle route	Option RM3 Bus Gate
	2C Transport Network Integration	Potential for interchange with local bus services.	Potential for interchange with local bus services.	Potential for interchange with local bus services.
	Rank			
	2D Cycle Network integration	Less than optimal cycle facilities provided along Primary Route 10 from the GDA cycle network plan.	No cycle facilities provided along Primary Route 10 from the GDA cycle network plan.	Optimal cycle facilities provided along Primary Route 10 from the GDA cycle network plan.
	Rank			
	2E Traffic Network Integration	Inbound traffic restricted from entering Rathmines Village or passing through	Full traffic Access	Local access provided to all Rathmines Village. Through Traffic restricted through the village.
	Rank			
3 Accessibility & Social Inclusion	3A Key Trip Attractors	All routes service the same trip attractors.	All routes service the same trip attractors.	All options serve the same trip attractors.
	Rank			
	3B Deprived Geographic Areas	Route option serves area of Marginally Above Average to Very Affluent means from the Pobal Deprivation Index.	Route option serves area of Marginally Above Average to Very Affluent means from the Pobal Deprivation Index.	Route option serves area of Marginally Above Average to Very Affluent means from the Pobal Deprivation Index.
	Rank			
4 Safety	4A Road Safety	No. of junctions: 2 No turn movements required.	No. of junctions: 2 No turn movements required.	No. of junctions: 2 No turn movements required.
	Rank			
	4B Pedestrian Safety	Footpaths provided throughout. Signalised crossings at all major junctions. Footpaths	Footpaths provided throughout. Signalised crossings at all major junctions. Footpaths	Footpaths provided throughout. Signalised crossings at all major junctions. Footpaths

Appraisal Criteria	Sub-Criteria	Option RM1 One Way Outbound with Bus Lanes and Cycle Tracks (EPR Proposal)	Option RM 2 Two Way traffic with Bus Lanes and Parallel cycle route	Option RM3 Bus Gate
		narrower than existing	narrower than existing	slightly wider than existing.
	Rank			
5 Environment	5A Archaeology & Cultural Heritage	No recorded Monuments identified within the study area.	No recorded Monuments identified within the study area.	No recorded Monuments identified within the study area.
	Rank			
	5B Architectural Heritage	No impact on protected structures.	No impact on protected structures.	No impact on protected structures.
	Rank			
	5C Flora & Fauna	Requires the removal of **2** trees in public areas and **0** trees in private areas. Total trees impacted: **2**	Requires the removal of **2** trees in public areas and **0** trees in private areas. Total trees impacted: **2**	Requires the removal of **0** trees in public areas and **0** trees in private areas. Total trees impacted: **0**
	Rank			
	5D Soils, Geology & Hydrogeology	No appreciable impact	No appreciable impact	No appreciable impact
	Rank			
	5E Landscape & Visual	No appreciable impact	No appreciable impact	No appreciable impact
	Rank			
	5F Air Quality	Air quality on the CBC improved as inbound traffic diverted onto alternative routes, some residential in nature.	No traffic diversions	Air quality on the CBC improved as all through traffic diverted to alternative routes
	Rank			
	5G Noise & Vibration	Noise & vibration on the CBC improved as inbound traffic diverted to alternative routes	No traffic diversions	Noise & vibration on the CBC improved as all through traffic diverted to alternative routes
	Rank			

Appraisal Criteria	Sub-Criteria	Option RM1 One Way Outbound with Bus Lanes and Cycle Tracks (EPR Proposal)	Option RM 2 Two Way traffic with Bus Lanes and Parallel cycle route	Option RM3 Bus Gate
	5H Land Use Character	No appreciable impact	No appreciable impact	No appreciable impact
	Rank			

Appendix C

Section 3 Route Options Assessment MCA Tables

Table C1.1: Camden Street MCA

Appraisal Criteria	Sub-Criteria	Option CS1 Two-way traffic with cyclists sharing bus lane (EPR Proposal)	Option CS2 Two-way traffic with Parallel Cycle Route	Option CS2 One-way traffic with online cyclists
1 Economy	1A Capital Cost	***Indicative Scheme Infrastructure Works Costs*** - Segregated Bus lanes provided along Camden Street - No cycle lanes provided. - Two Way traffic regime. ***Land Acquisition Cost*** 0 sqm Private Land 0 sqm Public Land 0 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Segregated Bus lanes provided along Camden Street - Parallel cycle facilities along Martin street, Stamer Street, Heytesbury Street & New Bride Street. - Two Way traffic regime. ***Land Acquisition Cost*** 0 sqm Private Land 0 sqm Public Land 0 Properties affected	***Indicative Scheme Infrastructure Works Costs*** - Segregated Bus lanes provided along Camden Street - Segregated cycle lanes provided. - One Way outbound traffic regime. ***Land Acquisition Cost*** 0 sqm Private Land 0 sqm Public Land 0 Properties affected
	Rank			
	1B Transport Quality & Reliability	Journey Time Inbound: 2.3 mins Journey Time Outbound: 2.3 mins Length: 0.56 km No. of Junctions: 1 No. of Pedestrian Crossings: 2 Full Physical Bus Priority provided throughout with the exception of a short section. Additional delay anticipated due to cyclists sharing the bus lane.	Journey Time Inbound: 2.0 mins Journey Time Outbound: 2.0 mins Length: 0.56 km No. of Junctions: 1 No. of Pedestrian Crossings: 2 Full Physical Bus Priority provided throughout with the exception of a short section.	Journey Time Inbound: 2.0 mins Journey Time Outbound: 2.0 mins Length: 0.56 km No. of Junctions: 1 No. of Pedestrian Crossings: 2 Full Physical Bus Priority provided with the exception of a short section.
	Rank			
2 Integration	2A Land Use Policy	Enhancement of Richmond Street which is a DCC objective within the six years' period of the development plan (2016-2022) subject to the availability of funding and environmental requirements (MT027).	Enhancement of Richmond Street which is a DCC objective within the six years' period of the development plan (2016-2022) subject to the availability of funding and environmental requirements (MT027).	Enhancement of Richmond Street which is a DCC objective within the six years' period of the development plan (2016-2022) subject to the availability of funding and environmental requirements (MT027).

Appraisal Criteria	Sub-Criteria	Option CS1 Two-way traffic with cyclists sharing bus lane (EPR Proposal)	Option CS2 Two-way traffic with Parallel Cycle Route	Option CS2 One-way traffic with online cyclists
	Rank			
	2B Residential Population and Employment Catchments	**Residential Population Catchments** - 5 minute walk catchment of approximately 8,595 - 10 minute walk catchment of approximately 21,415 **Employment catchments** - 10 minute walk catchment of approximately 33,178	**Residential Population Catchments** - 5 minute walk catchment of approximately 8,595 - 10 minute walk catchment of approximately 21,415 **Employment catchments** - 10 minute walk catchment of approximately 33,178	**Residential Population Catchments** - 5 minute walk catchment of approximately 8,595 - 10 minute walk catchment of approximately 21,415 **Employment catchments** - 10 minute walk catchment of approximately 33,178
	Rank			
	2C Transport Network Integration	Potential for interchange with Luas Green Line/Cross City at Harcourt Street & Stephen's Green.	Potential for interchange with Luas Green Line/Cross City at Harcourt Street & Stephen's Green.	Potential for interchange with Luas Green Line/Cross City at Harcourt Street & Stephen's Green.
	Rank			
	2D Cycle Network integration	No segregated cycle facilities provided along Primary Route 10 from the GDA cycle network plan. No alternative cycle facilities provided.	No segregated cycle facilities provided along Primary Route 10 from the GDA cycle network plan. Alternative cycle facilities provided on a parallel route.	Segregated cycle facilities provided along Primary Route 10 from the GDA cycle network plan.
	Rank			
	2E Traffic Network Integration	All traffic movements accommodated on Camden Street.	All traffic movements accommodated on Camden Street.	Inbound traffic diverted to Harcourt street. Diversions for local traffic.
	Rank			
3 Accessibility & Social Inclusion	3A Key Trip Attractors	**Education** - Portobello College - DIT Aungier Street - DIT Kevin Street - Dublin Business School - Liffey College - Royal College of Surgeons - Trinity College	**Education** - Portobello College - DIT Aungier Street - DIT Kevin Street - Dublin Business School - Liffey College - Royal College of Surgeons - Trinity College	**Education** - Portobello College - DIT Aungier Street - DIT Kevin Street - Dublin Business School - Liffey College - Royal College of Surgeons - Trinity College

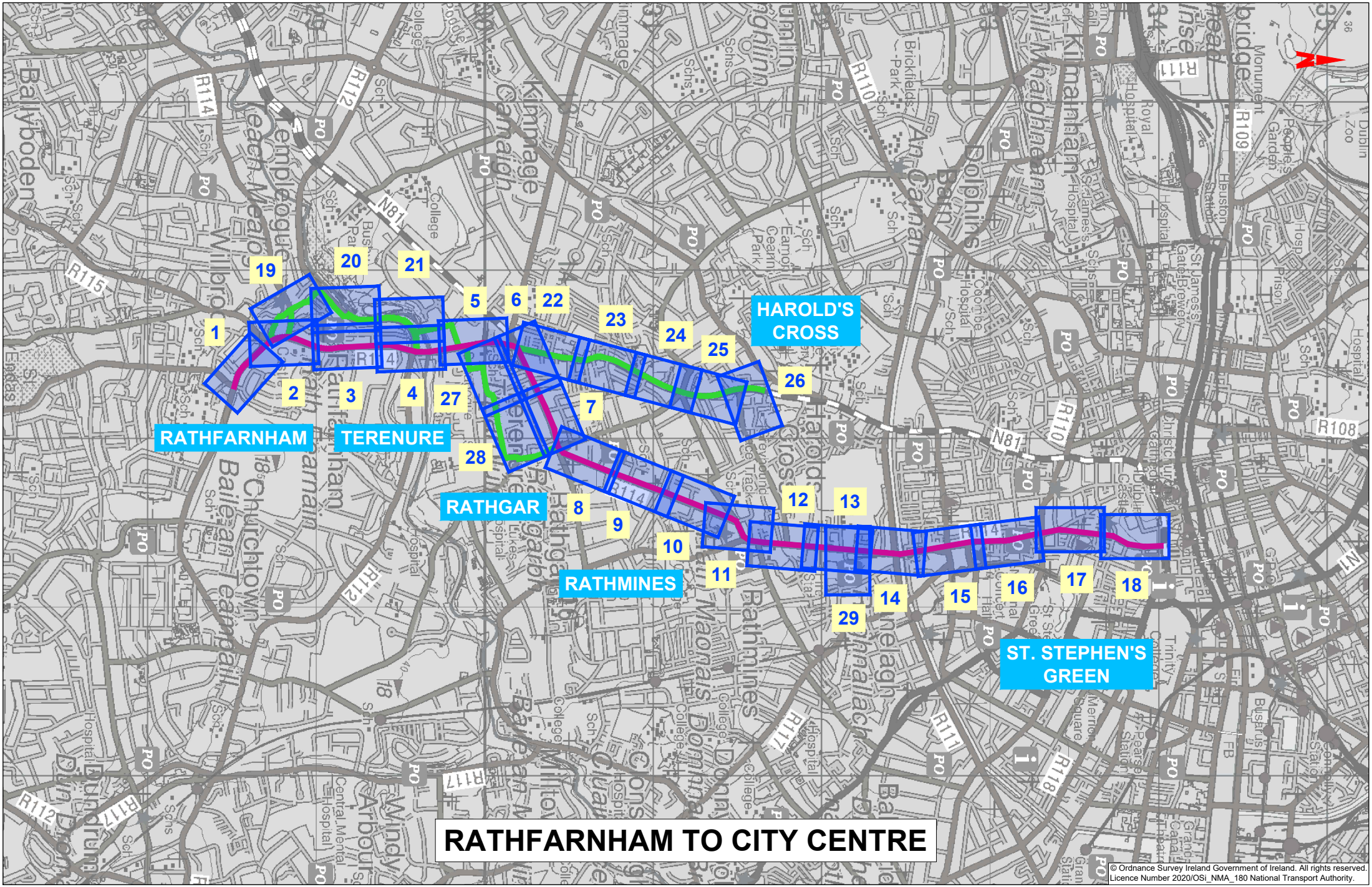
Appraisal Criteria	Sub-Criteria	Option CS1 Two-way traffic with cyclists sharing bus lane (EPR Proposal)	Option CS2 Two-way traffic with Parallel Cycle Route	Option CS2 One-way traffic with online cyclists
		Retail / Leisure - Portobello - St. Stephens Green Shopping Centre - Grafton Street Quarter - Dublin Garden - City Hall - Chester Beatty Library - Gaiety Theatre - St. Stephens Green - Ivy Gardens - Harcourt Street - Olympia Theatre - National Concert Hall - Christchurch Cathedral **Employment** - Portobello College - DIT Aungier Street - DIT Kevin Street - Dublin Business School - Liffey College - Royal College of Surgeons - St. Stephens Green - Grafton Street Quarter - Local businesses on Camden Street Georges Street etc. - St. Stephens Green Shopping Centre - Trinity College - Garda Siochana Headquarters (Harcourt Street) - Dublin City Council - Harcourt Street Business District	**Retail / Leisure** - Portobello - St. Stephens Green Shopping Centre - Grafton Street Quarter - Dublin Garden - City Hall - Chester Beatty Library - Gaiety Theatre - St. Stephens Green - Ivy Gardens - Harcourt Street - Olympia Theatre - National Concert Hall - Christchurch Cathedral **Employment** - Portobello College - DIT Aungier Street - DIT Kevin Street - Dublin Business School - Liffey College - Royal College of Surgeons - St. Stephens Green - Grafton Street Quarter - Local businesses on Camden Street Georges Street etc. - St. Stephens Green Shopping Centre - Trinity College - Garda Siochana Headquarters (Harcourt Street) - Dublin City Council - Harcourt Street Business District	**Retail / Leisure** - Portobello - St. Stephens Green Shopping Centre - Grafton Street Quarter - Dublin Garden - City Hall - Chester Beatty Library - Gaiety Theatre - St. Stephens Green - Ivy Gardens - Harcourt Street - Olympia Theatre - National Concert Hall - Christchurch Cathedral **Employment** - Portobello College - DIT Aungier Street - DIT Kevin Street - Dublin Business School - Liffey College - Royal College of Surgeons - St. Stephens Green - Grafton Street Quarter - Local businesses on Camden Street Georges Street etc. - St. Stephens Green Shopping Centre - Trinity College - Garda Siochana Headquarters (Harcourt Street) - Dublin City Council - Harcourt Street Business District
	Rank			
	3B Deprived Geographic Areas	Route option serves area of Marginally Below Average to Affluent means from the Pobal Deprivation Index.	Route option serves area of Marginally Below Average to Affluent means from the Pobal Deprivation Index.	Route option serves area of Marginally Below Average to Affluent means from the Pobal Deprivation Index.
	Rank			

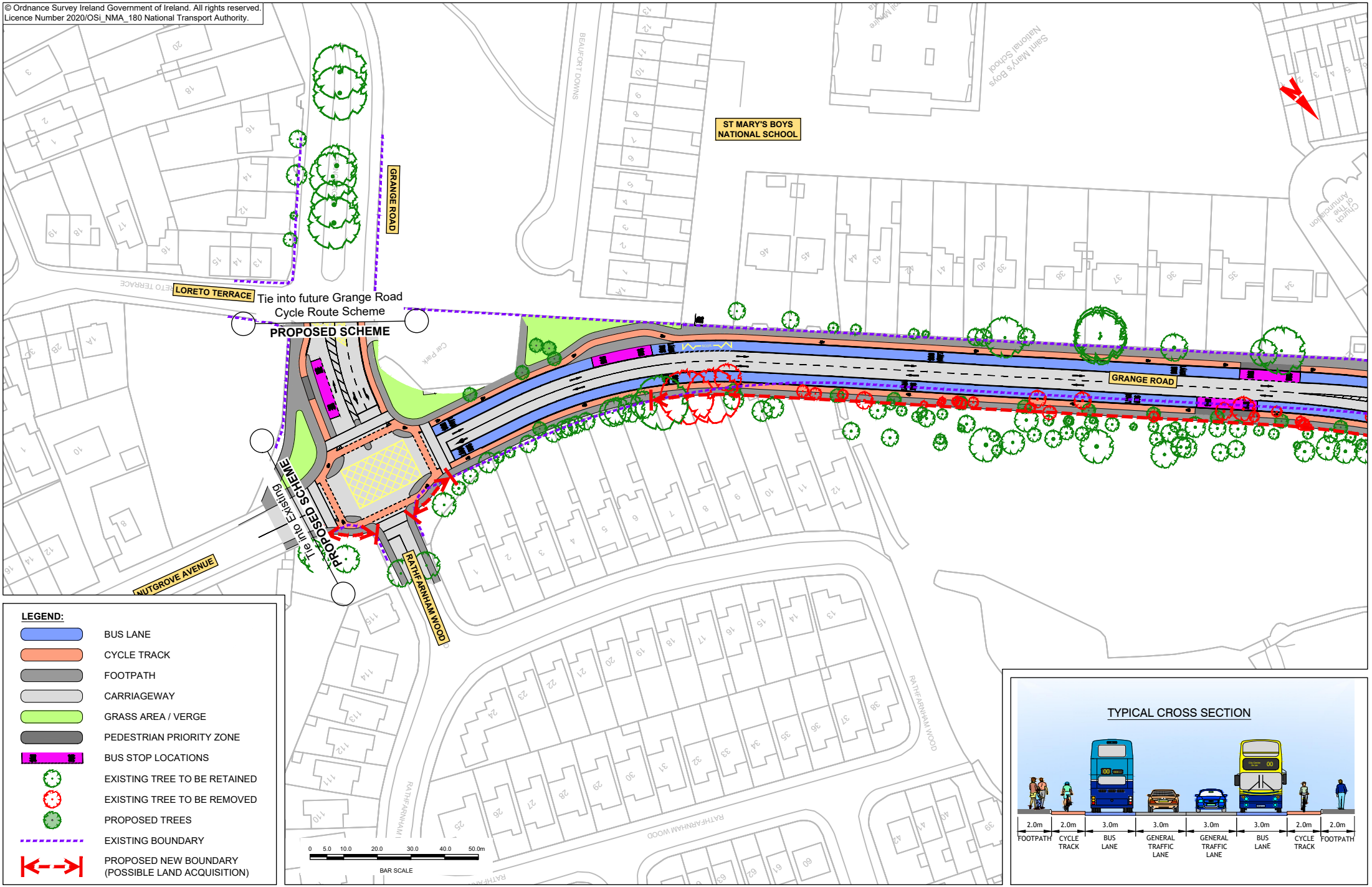
Appraisal Criteria	Sub-Criteria	Option CS1 Two-way traffic with cyclists sharing bus lane (EPR Proposal)	Option CS2 Two-way traffic with Parallel Cycle Route	Option CS2 One-way traffic with online cyclists
4 Safety	4A Road Safety	No. of junctions: 1 No turn movements required.	No. of junctions: 1 No turn movements required.	No. of junctions: 1 No turn movements required.
	Rank			
	4B Pedestrian Safety	Footpaths provided throughout. Signalised crossings at all major junctions. Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road.	Footpaths provided throughout. Signalised crossings at all major junctions. Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road.	Footpaths provided throughout. Signalised crossings at all major junctions. Pedestrian crossings are not located within 50m of most stops, additional pedestrian crossing will be required along the majority of the route. Footpaths are provided on both sides of the road.
	Rank			
5 Environment	5A Archaeology & Cultural Heritage	No land acquisition required at any Recorded Monuments.	No land acquisition required at any Recorded Monuments.	No land acquisition required at any Recorded Monuments.
	Rank			
	5B Architectural Heritage	No land acquisition required at any protected structure.	No land acquisition required at any protected structure.	No land acquisition required at any protected structure.
	Rank			
	5C Flora & Fauna	No appreciable impact	No appreciable impact	No appreciable impact
	Rank			
	5D Soils, Geology & Hydrology	No appreciable impact	No appreciable impact	No appreciable impact
	Rank			
	5E Landscape & Visual	No appreciable impact	No appreciable impact	No appreciable impact
	Rank			
	5F Air Quality	No appreciable impact	No appreciable impact	Inbound traffic redirected, improving air quality on the CBC.
	Rank			

Appraisal Criteria	Sub-Criteria	Option CS1 Two-way traffic with cyclists sharing bus lane (EPR Proposal)	Option CS2 Two-way traffic with Parallel Cycle Route	Option CS2 One-way traffic with online cyclists
	5G Noise & Vibration	No appreciable impact	No appreciable impact	Inbound traffic redirected, reducing noise & vibration on the CBC.
	Rank			
	5G Land Use Character	No appreciable impact	No appreciable impact	No appreciable impact
	Rank			

Appendix D

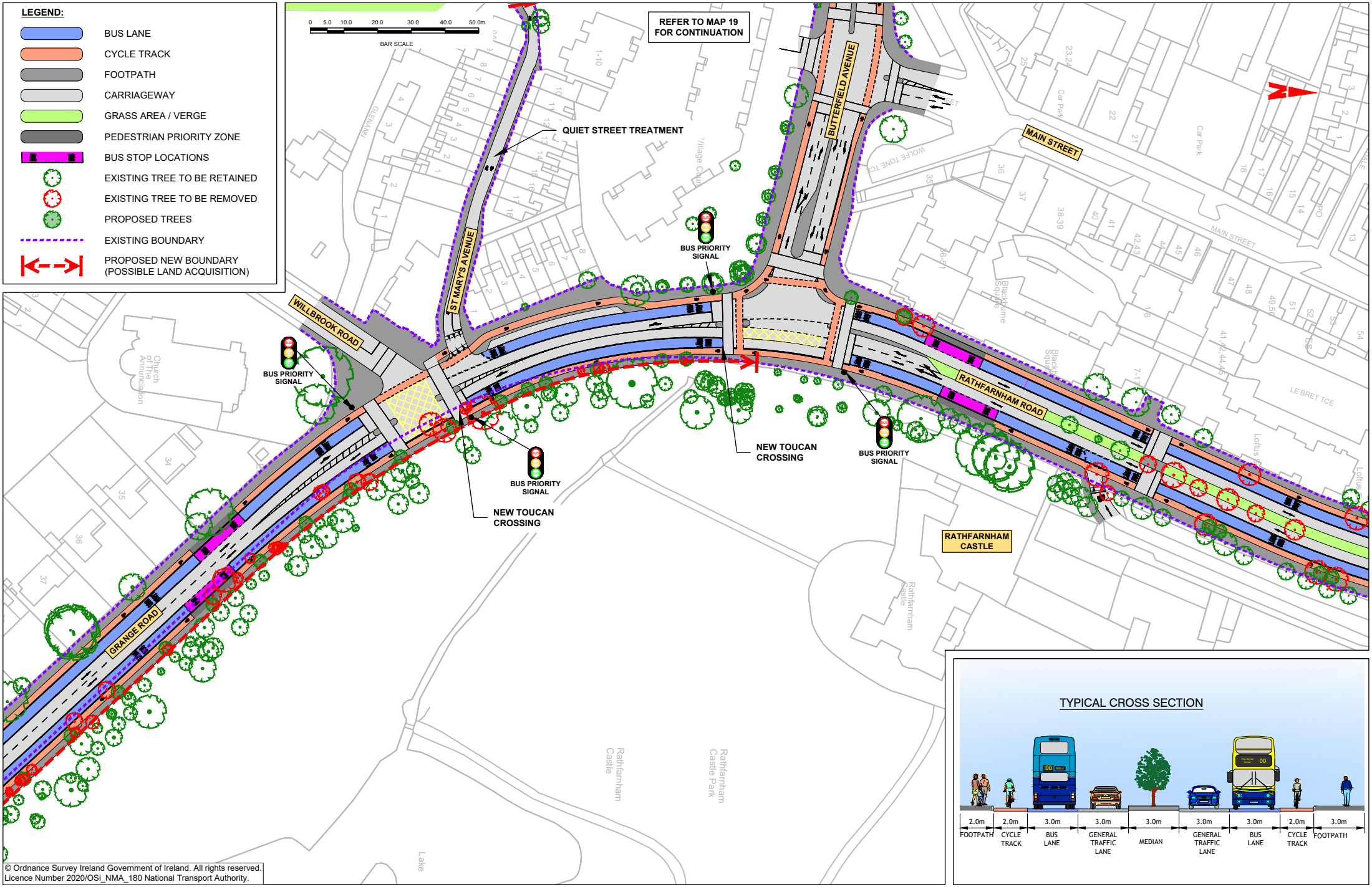
Updated Concept Scheme Drawings

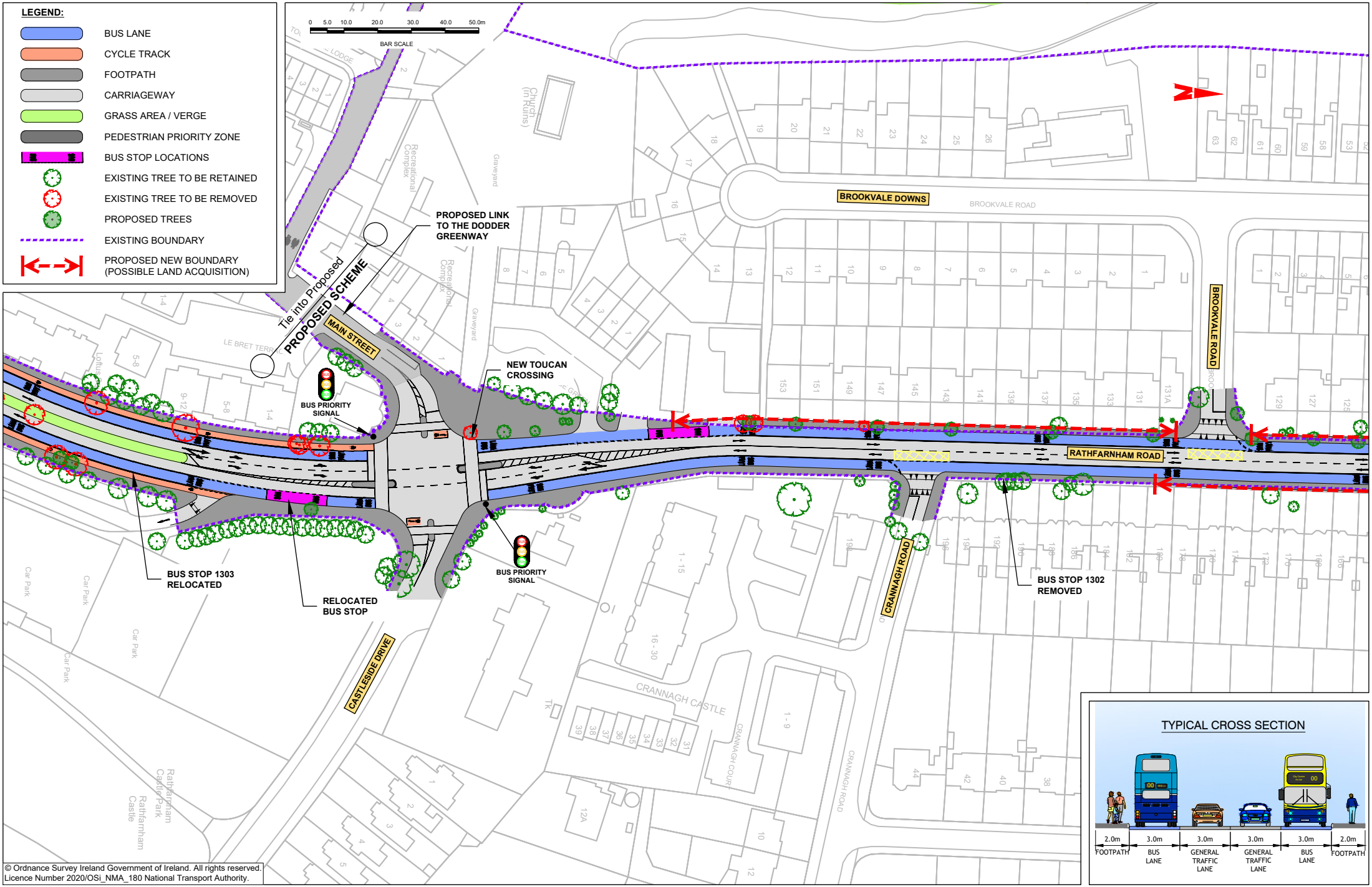


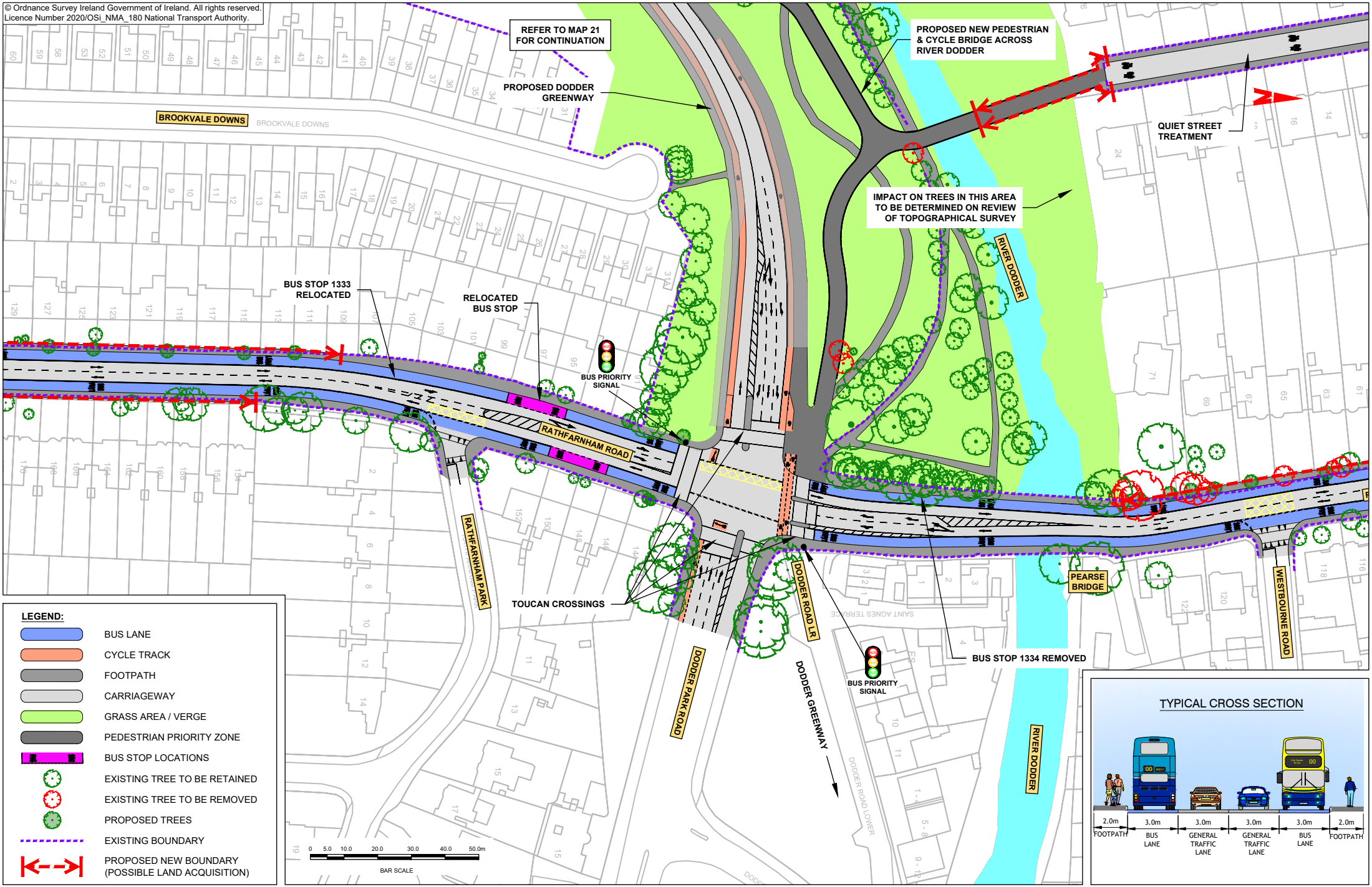


LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)



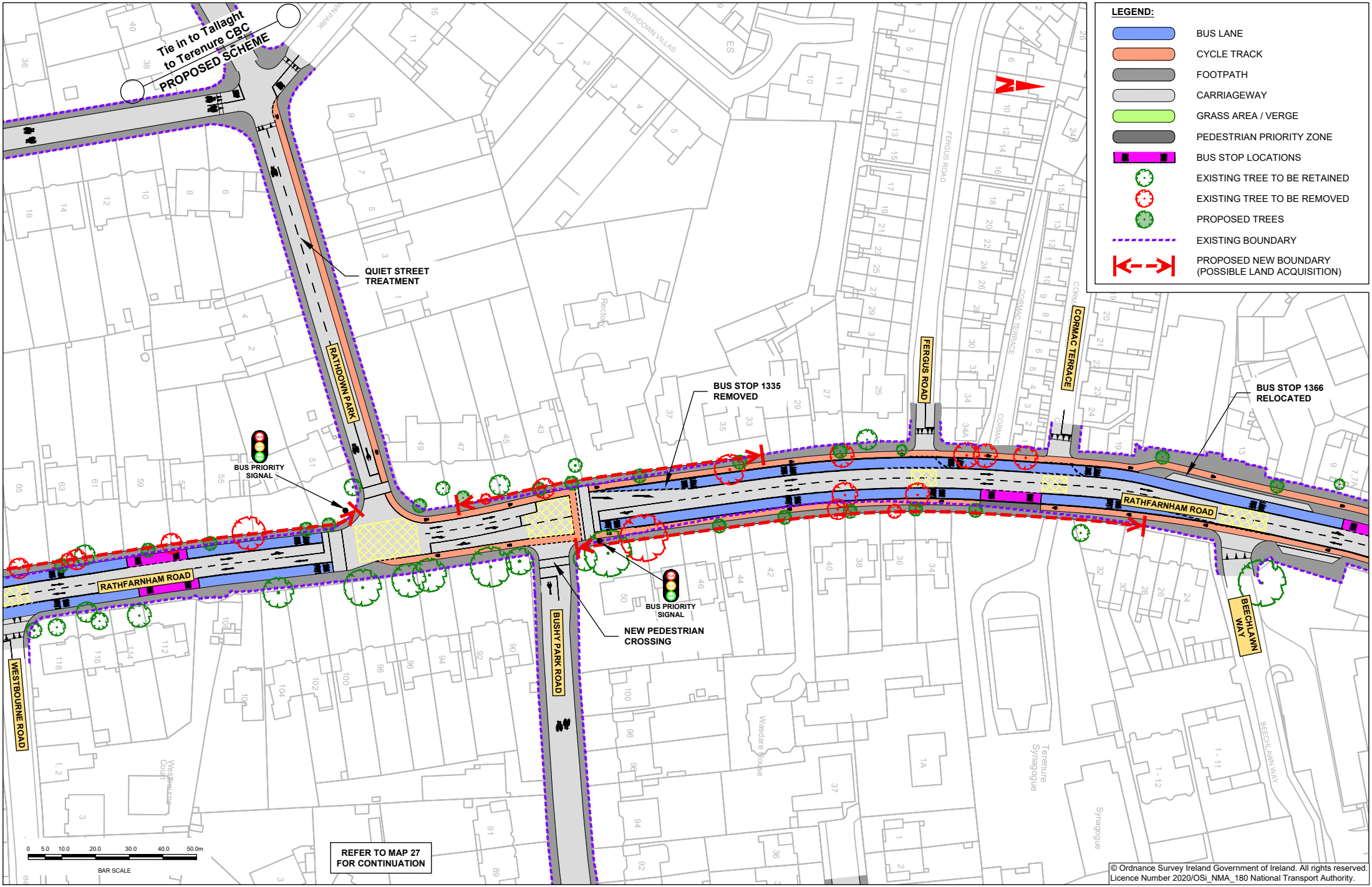


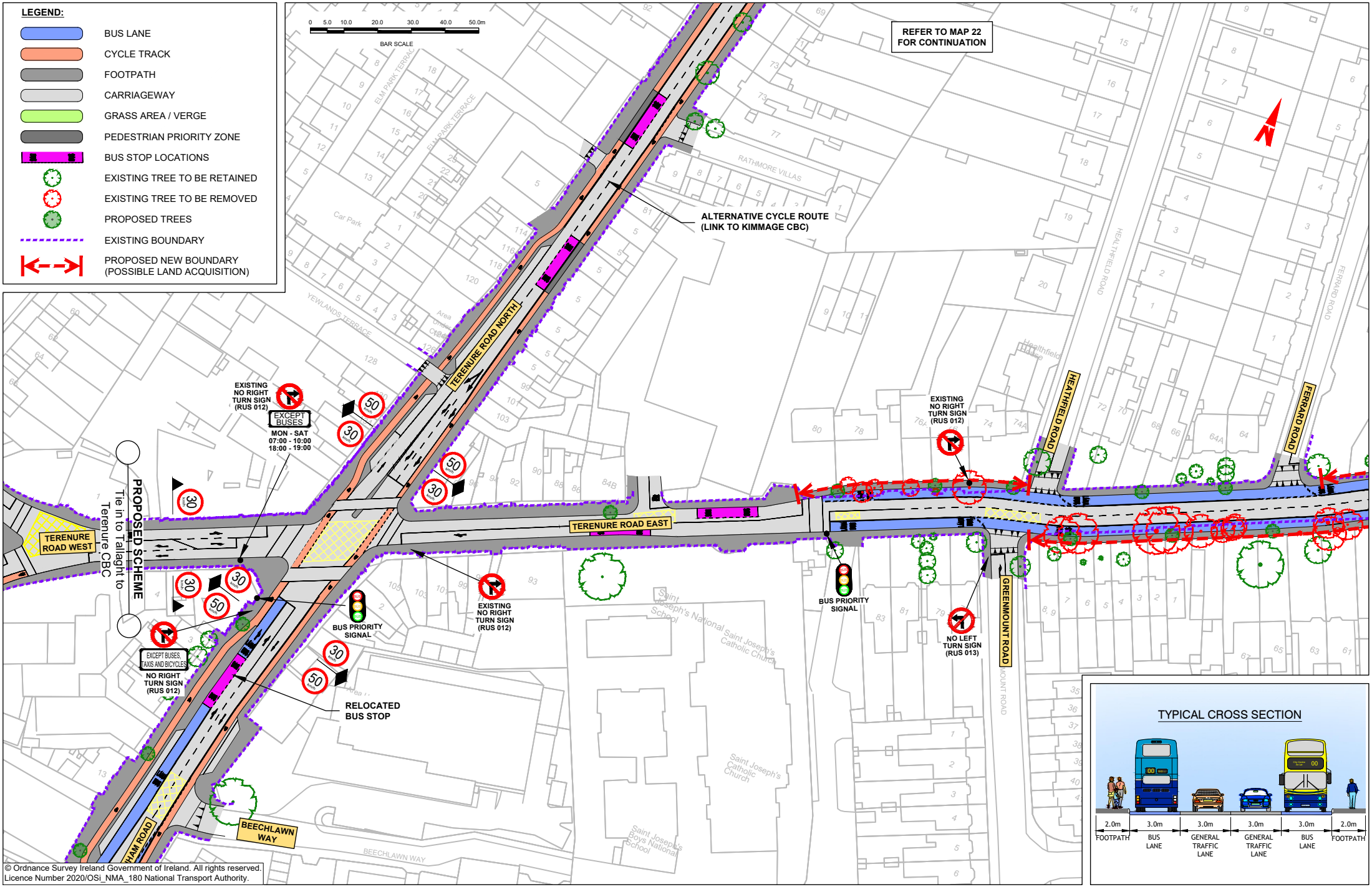


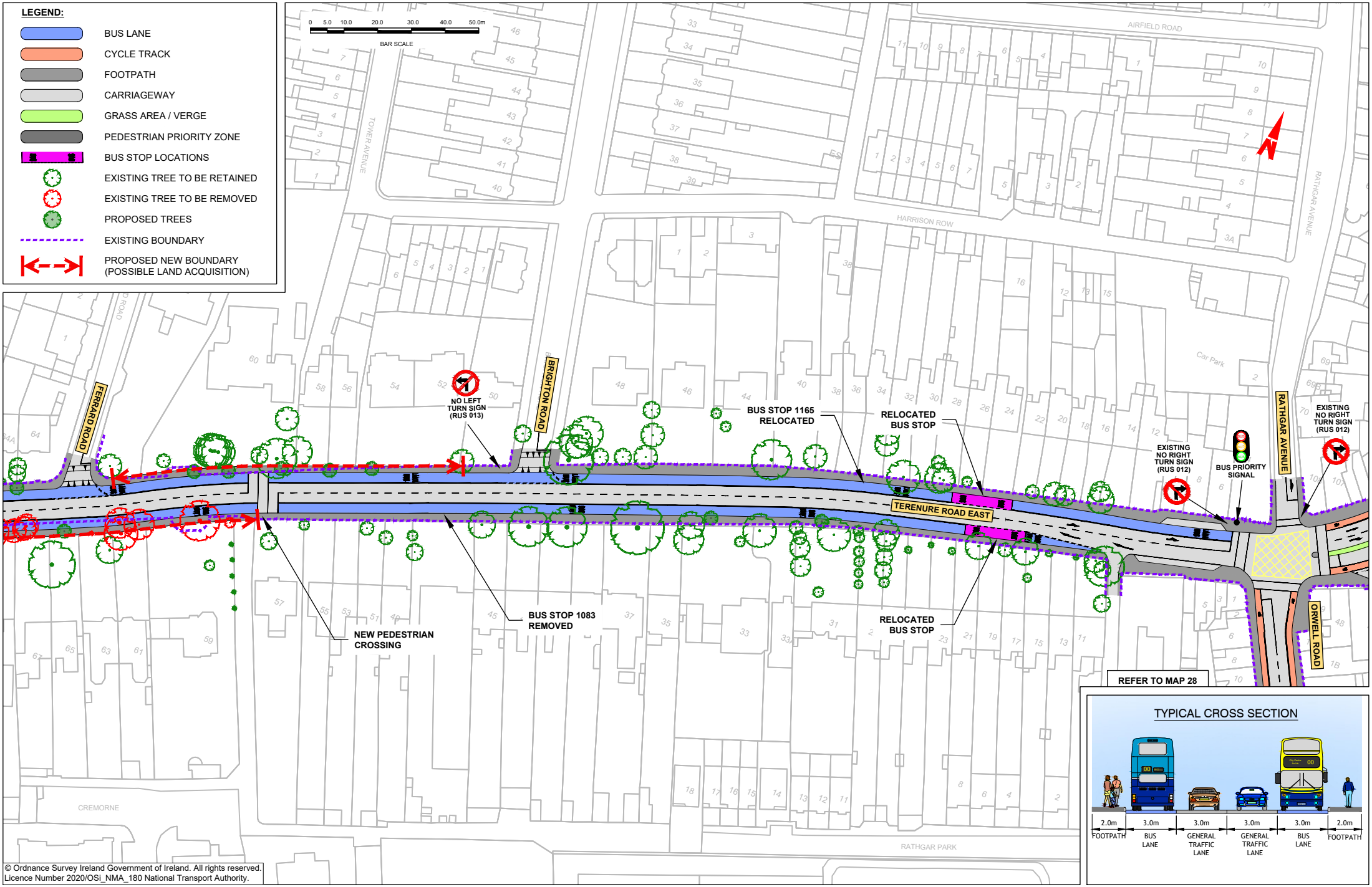
LEGEND:

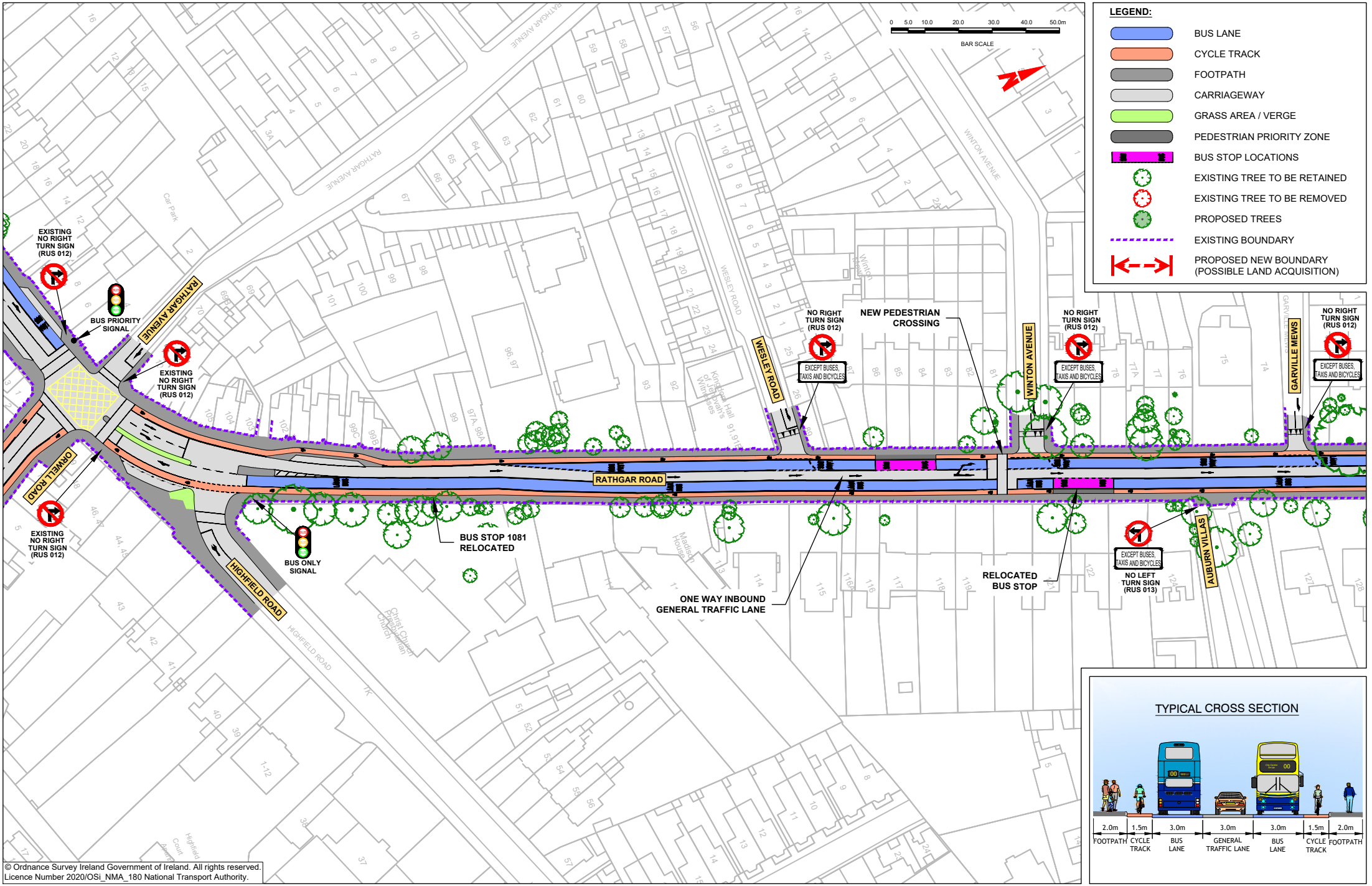
- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)

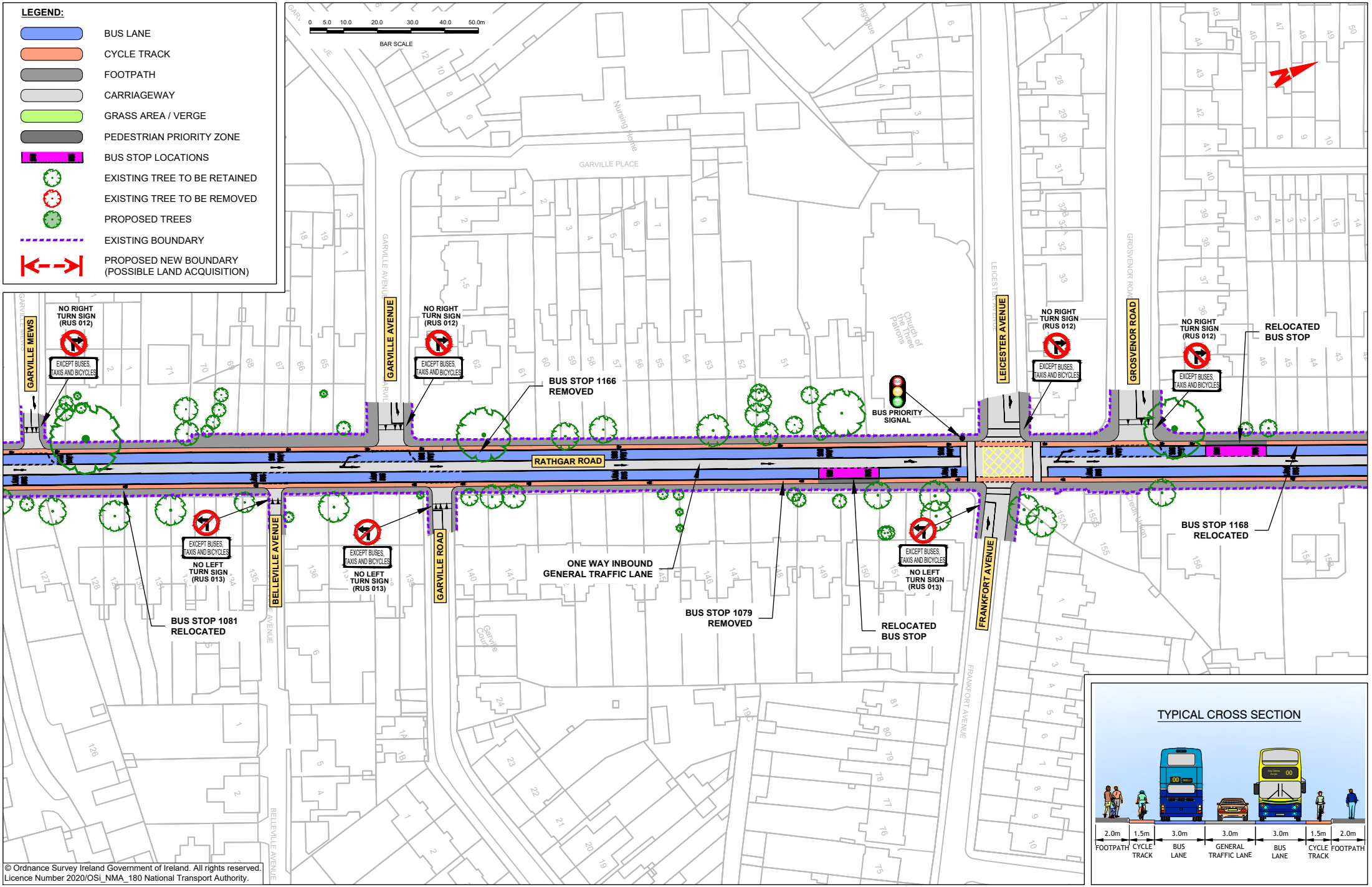
TYPICAL CROSS SECTION

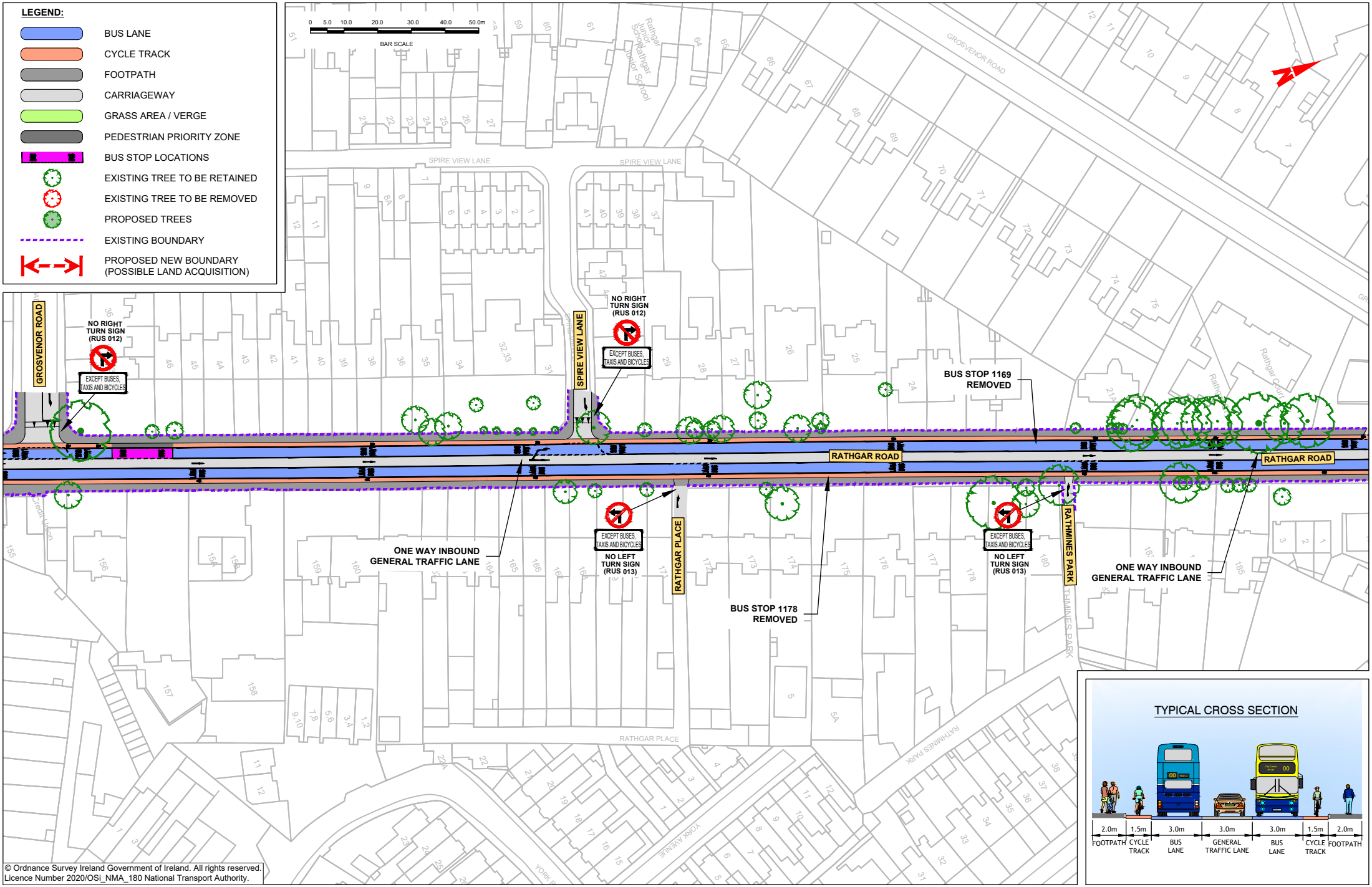


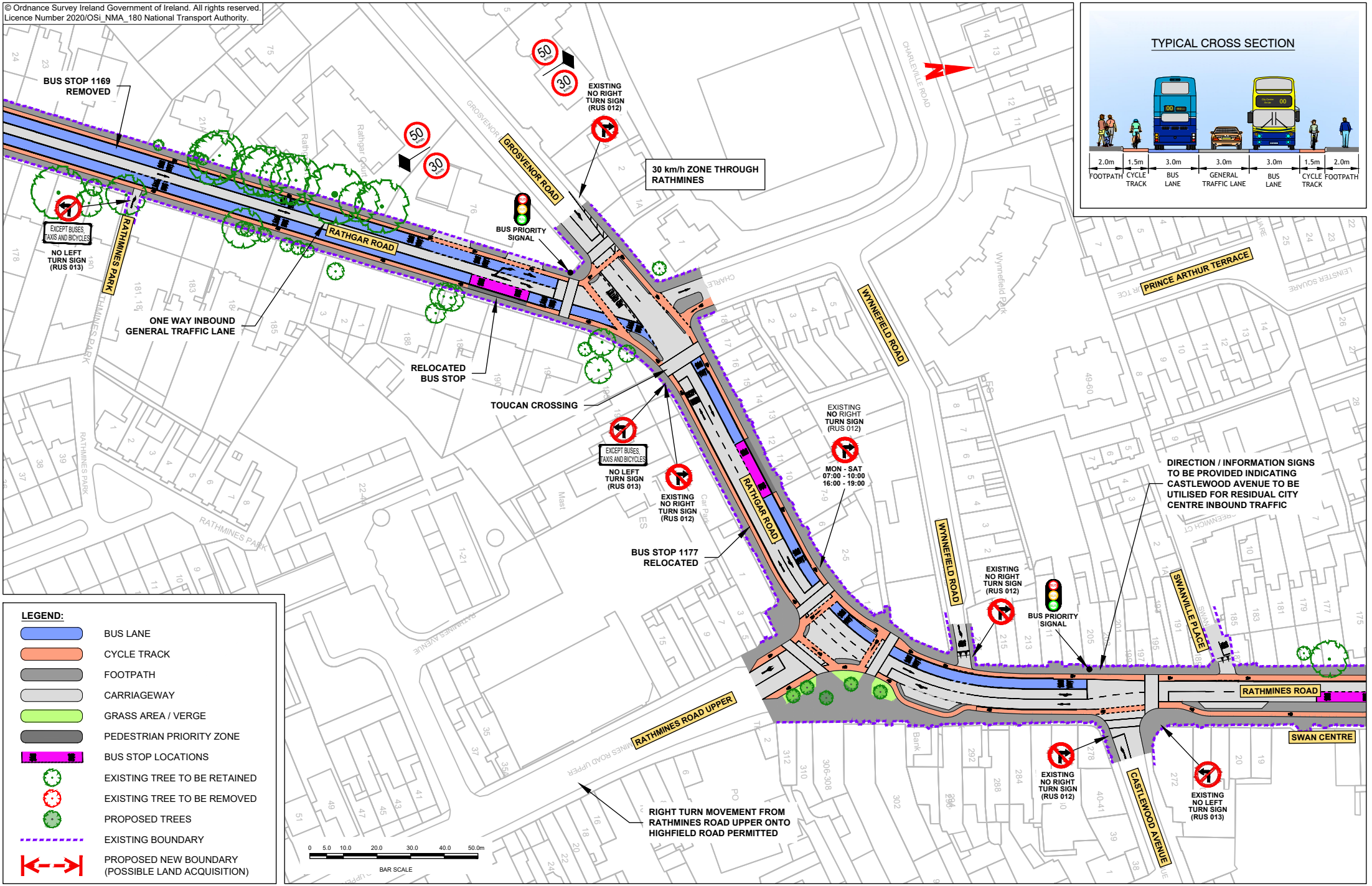






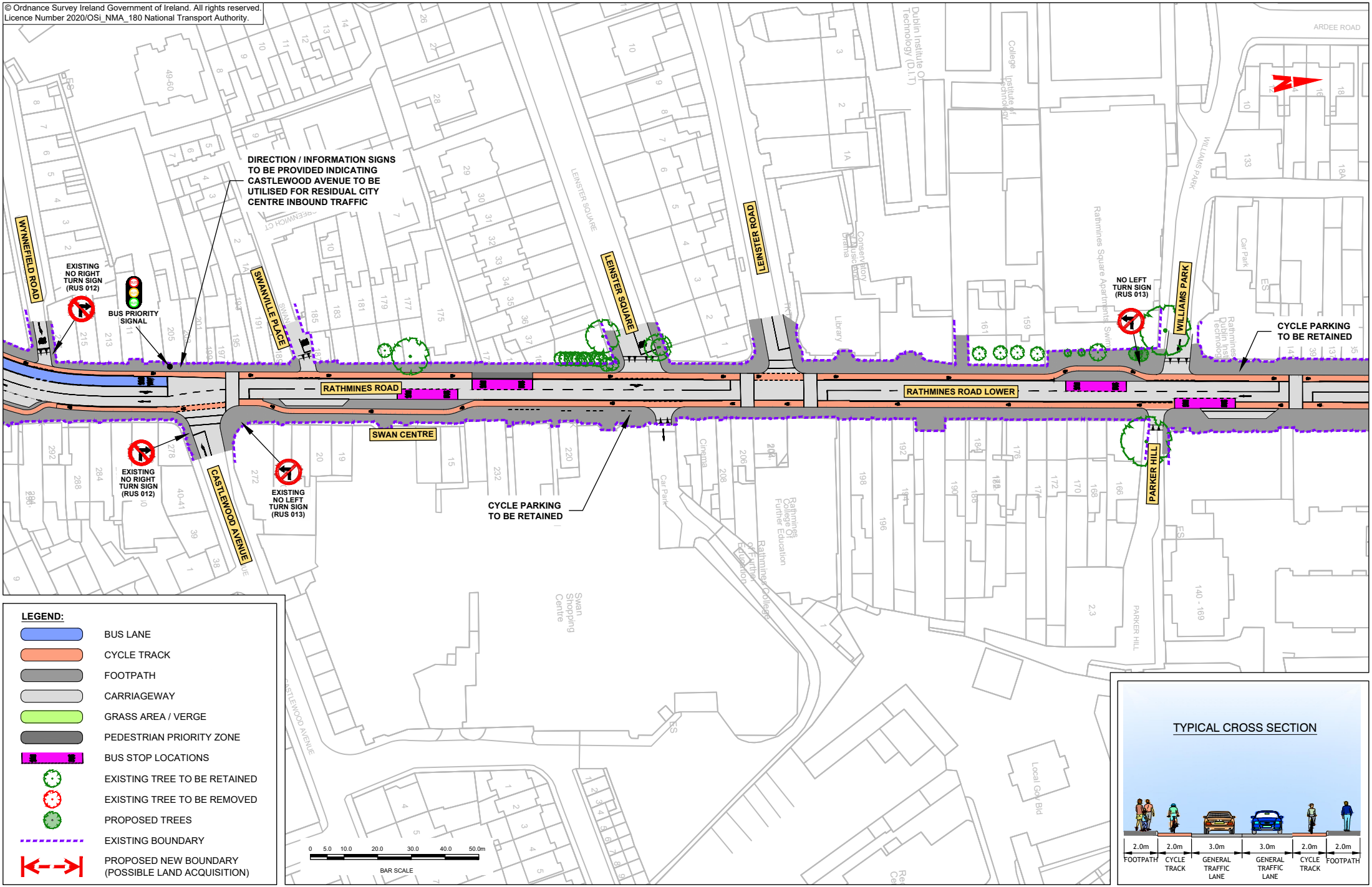






LEGEND:

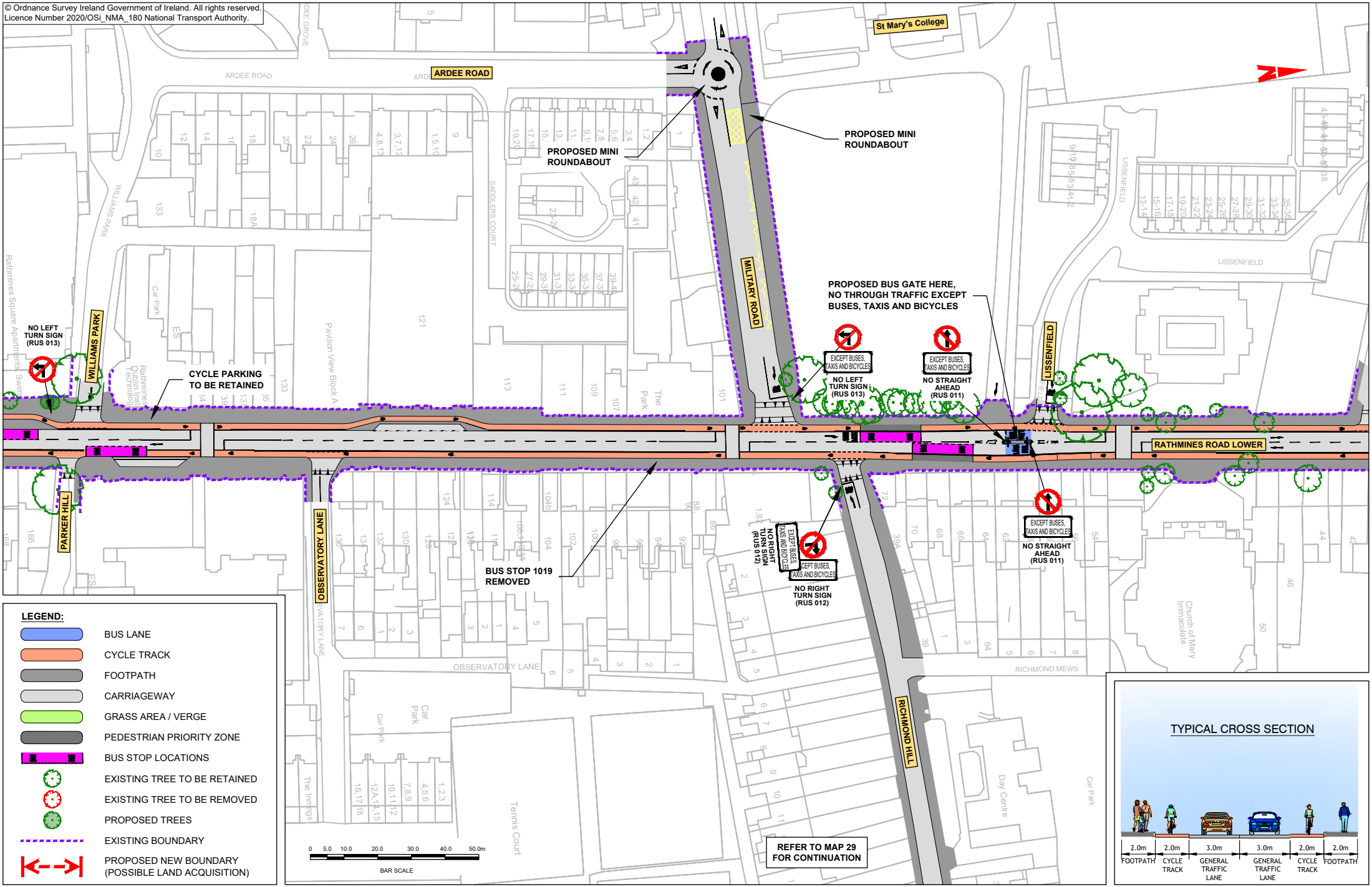
- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)



LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)

TYPICAL CROSS SECTION



LEGEND:

- BUS LANE
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- FOOTPATH
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- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
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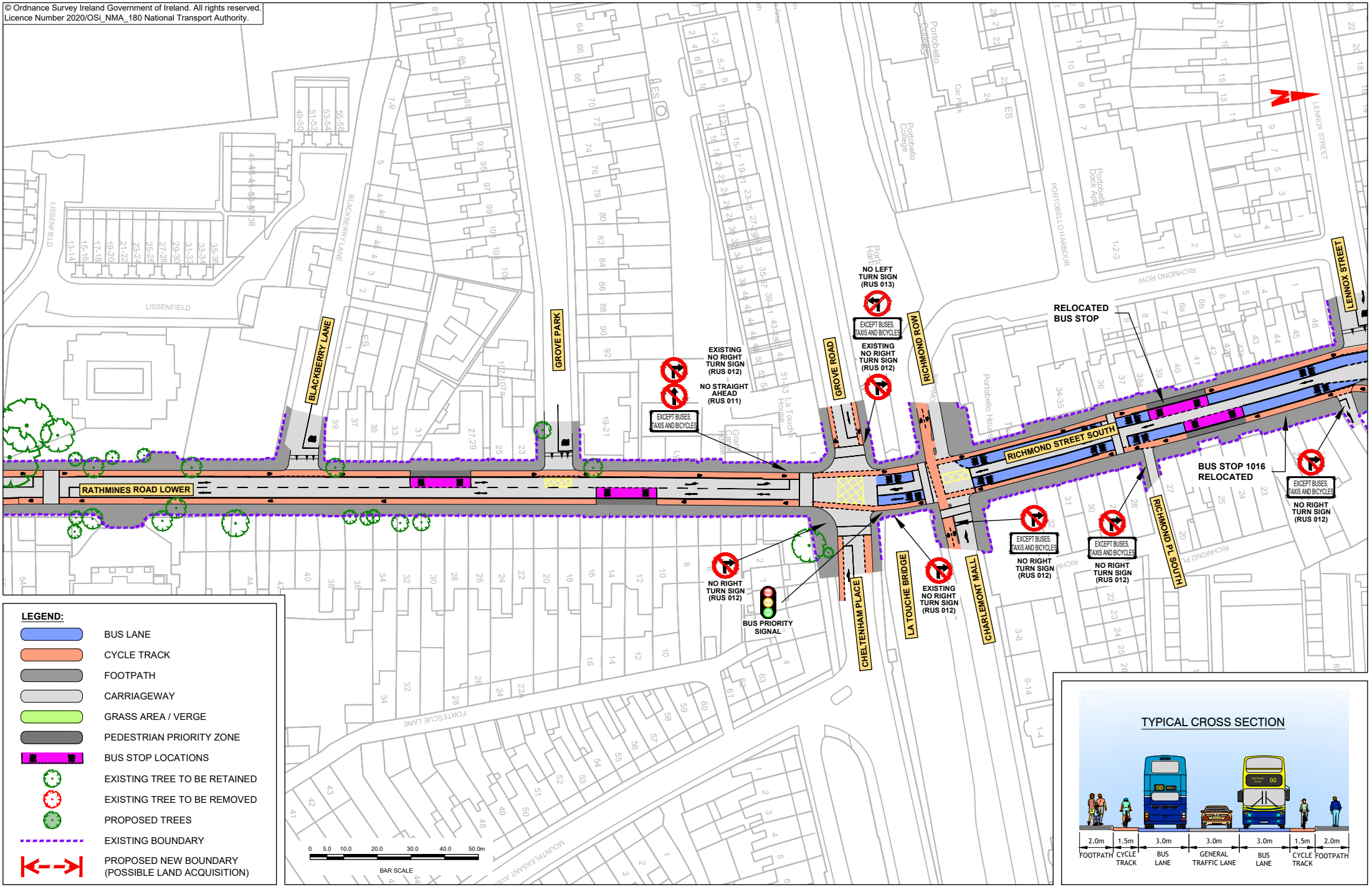
- EXISTING TREE TO BE REMOVED
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)

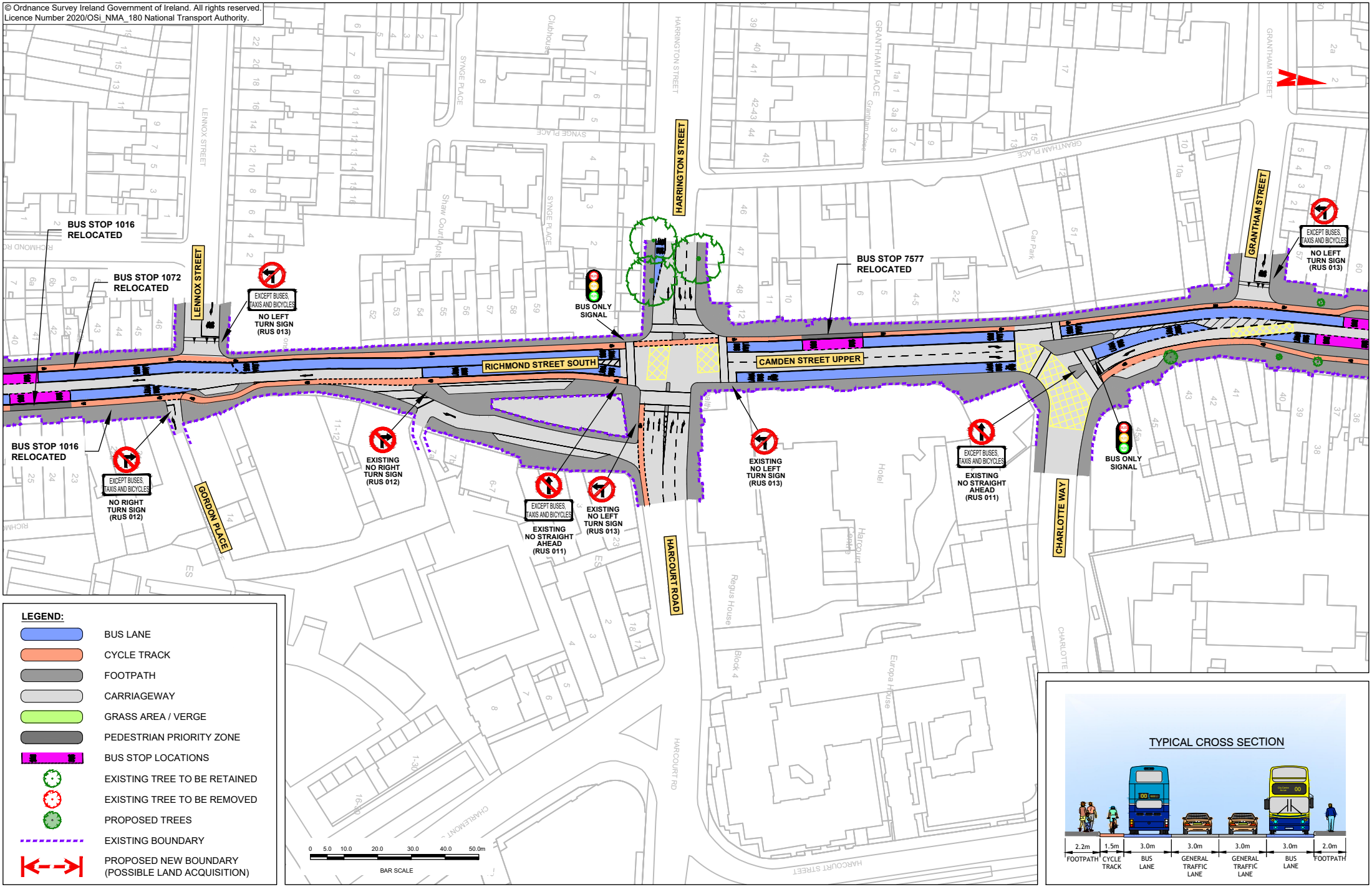


LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)

0 5.0 10.0 20.0 30.0 40.0 50.0m
BAR SCALE

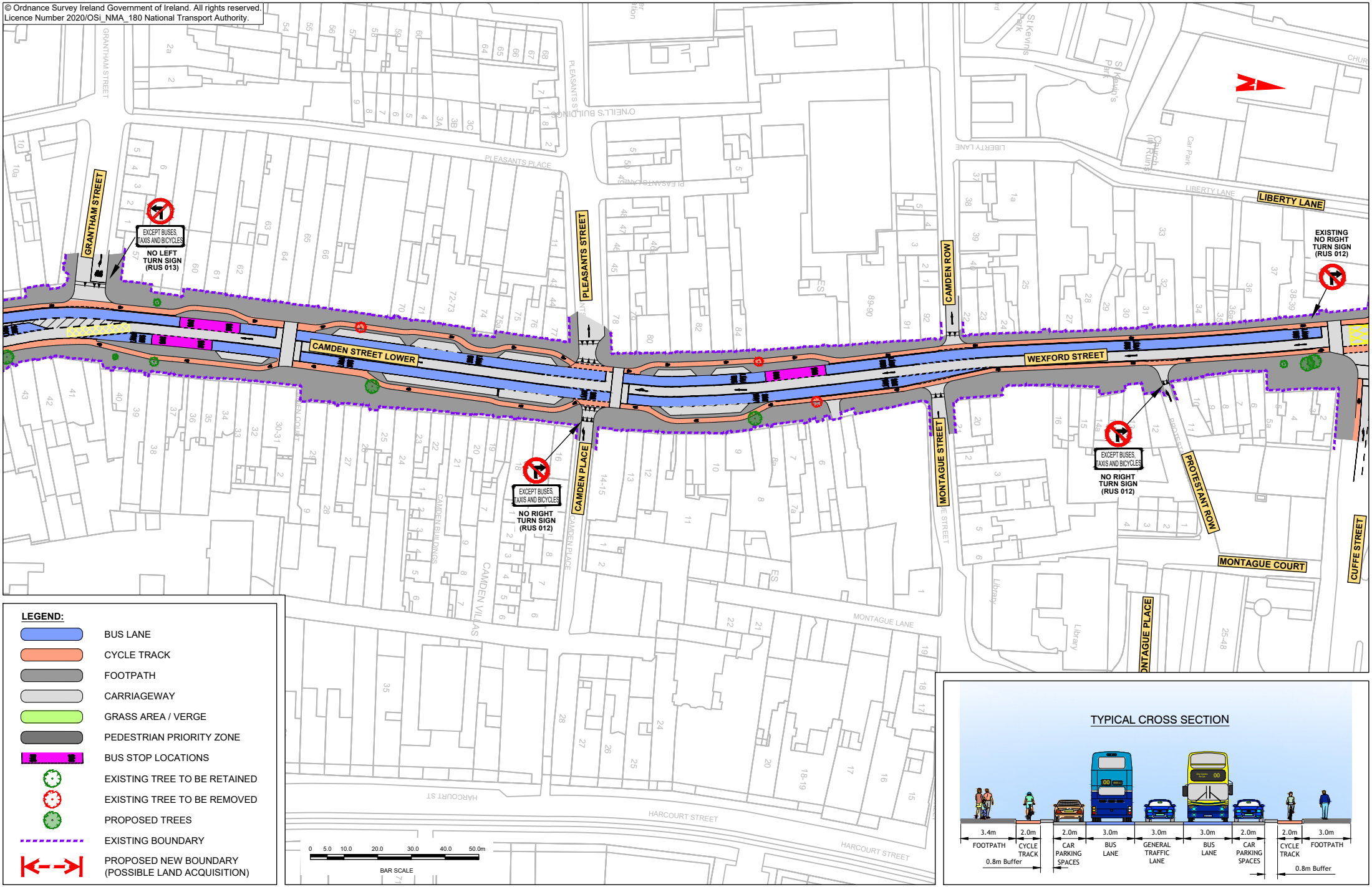
TYPICAL CROSS SECTION



LEGEND:

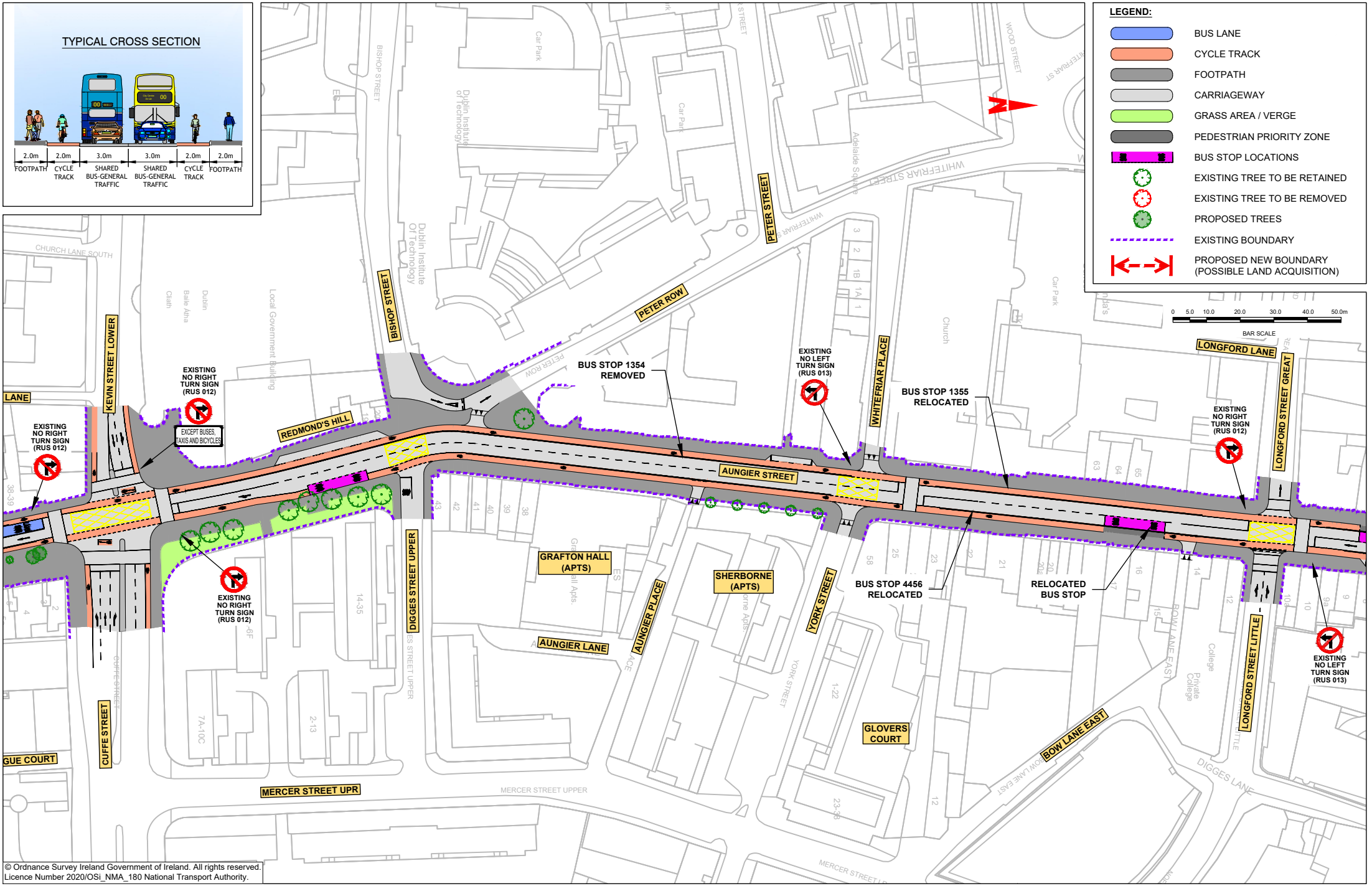
- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)

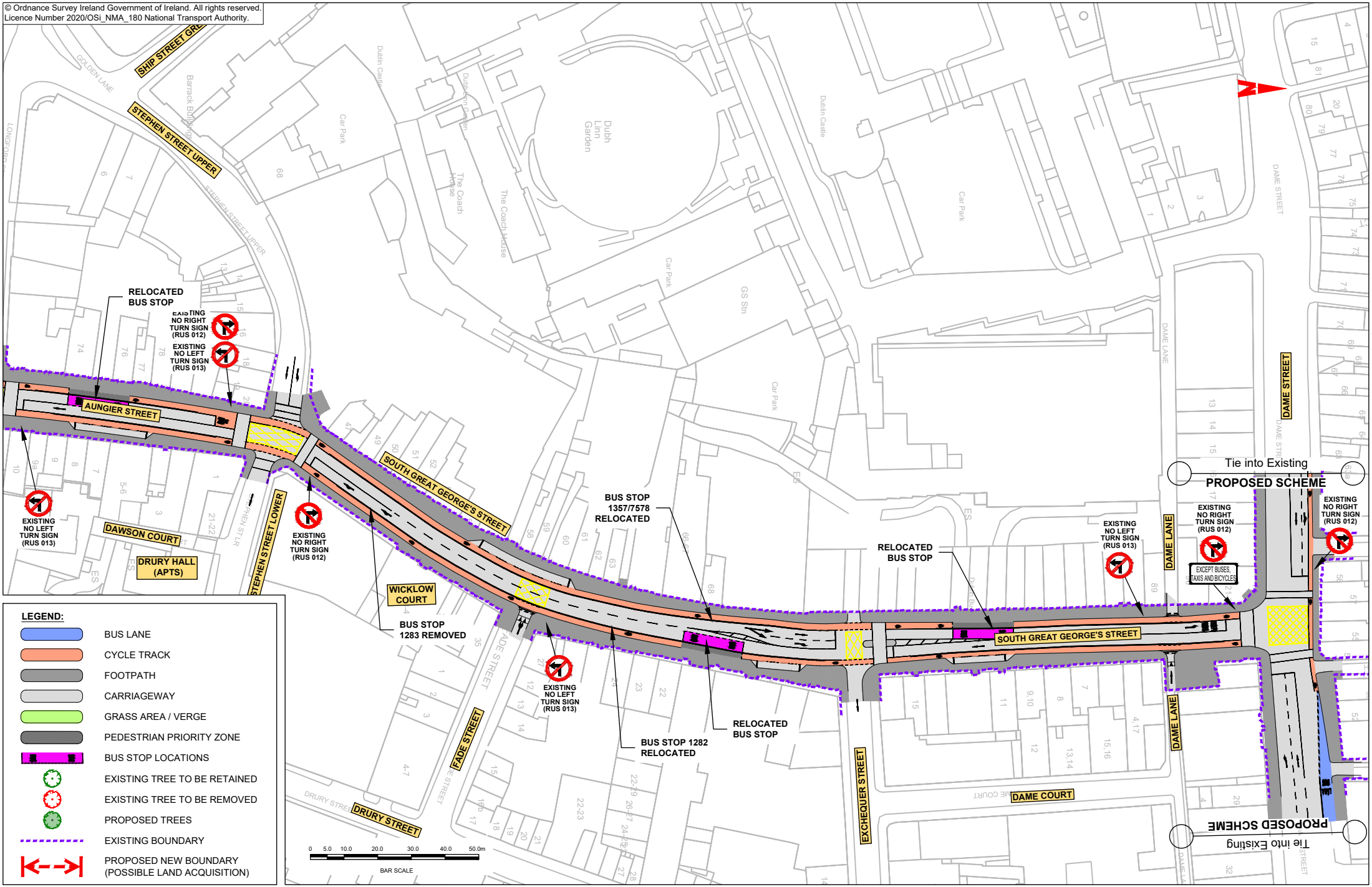
TYPICAL CROSS SECTION



LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)





LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
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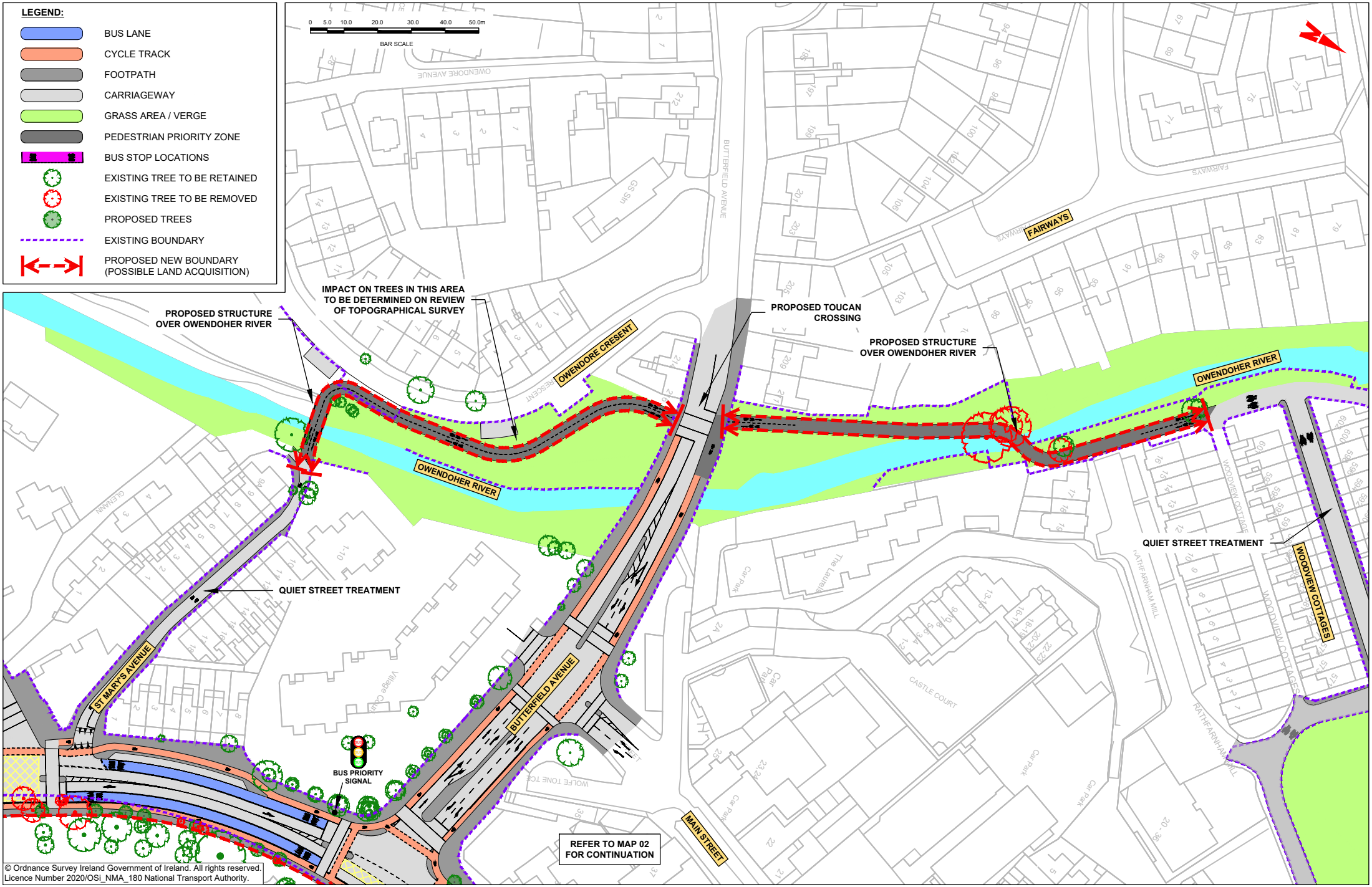
LEGEND:
BUS LANE
CYCLE TRACK
FOOTPATH
CARRIAGEWAY
GRASS AREA / VERGE
PEDESTRIAN PRIORITY ZONE
BUS STOP LOCATIONS
EXISTING TREE TO BE RETAINED
EXISTING TREE TO BE REMOVED
PROPOSED TREES
EXISTING BOUNDARY
PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)
0 5.0 10.0 20.0 30.0 40.0 50.0m
BAR SCALE
IMPACT ON TREES IN THIS AREA TO BE DETERMINED ON REVIEW OF TOPOGRAPHICAL SURVEY
PROPOSED STRUCTURE OVER OWENDOHER RIVER
PROPOSED TOUCAN CROSSING
PROPOSED STRUCTURE OVER OWENDOHER RIVER
OWENDORE CRESENT
OWENDOHER RIVER
OWENDOHER RIVER
QUIET STREET TREATMENT
QUIET STREET TREATMENT
ST MARY'S AVENUE
BUTTERFIELD AVENUE
BUS PRIORITY SIGNAL
MAIN STREET
WOODVIEW COTTAGES
FAIRWAYS
REFER TO MAP 02 FOR CONTINUATION
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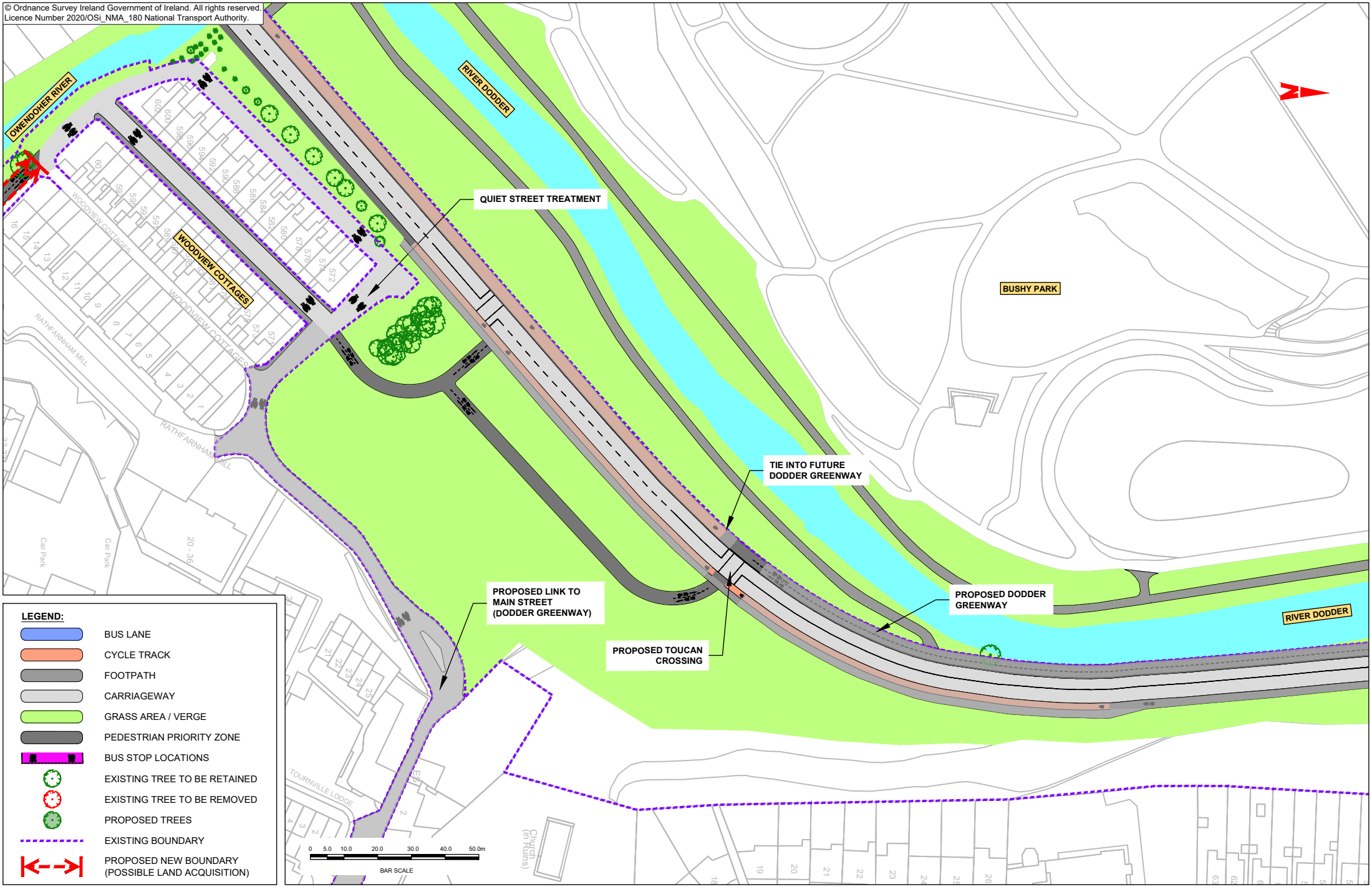

LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
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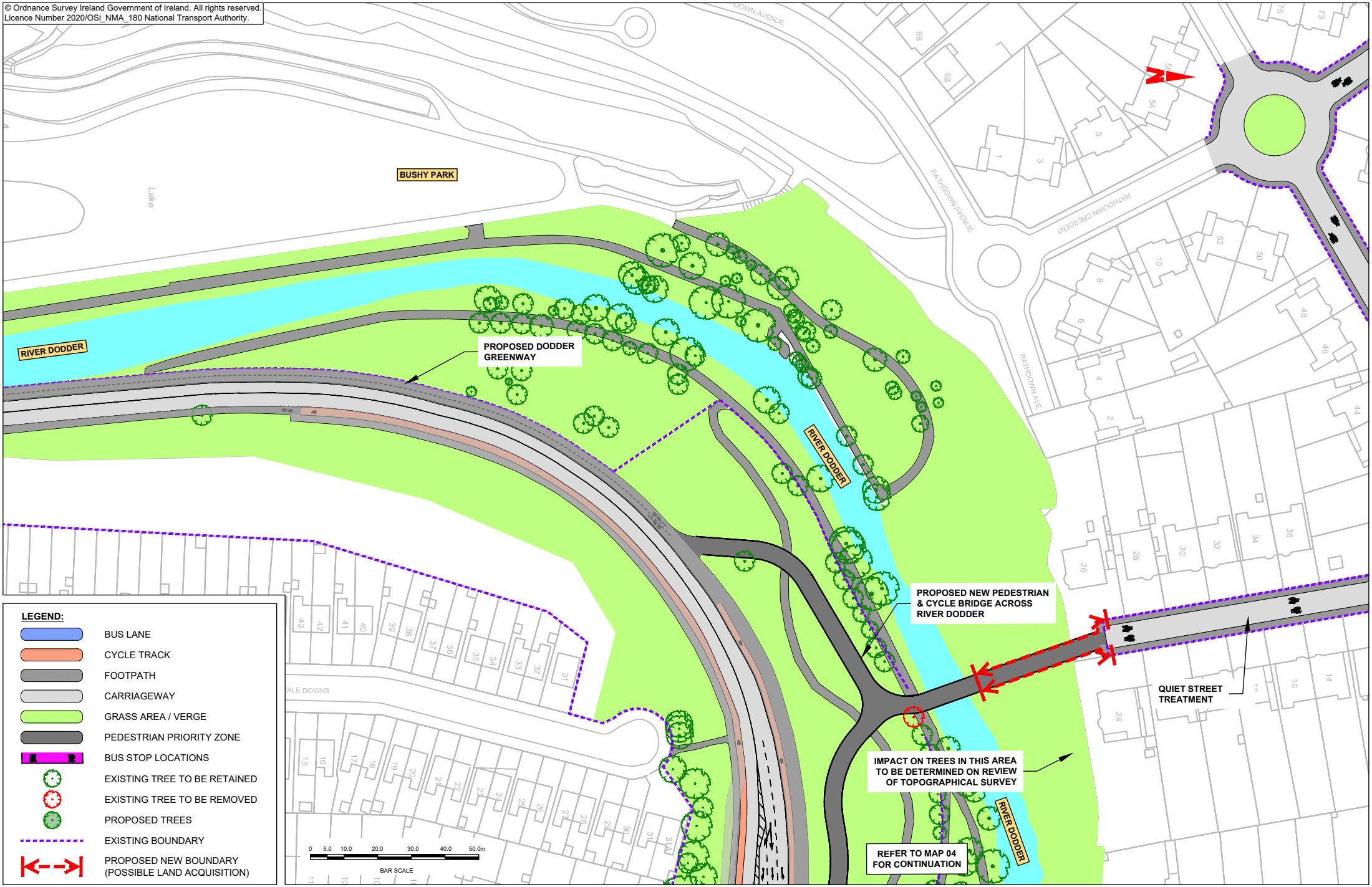
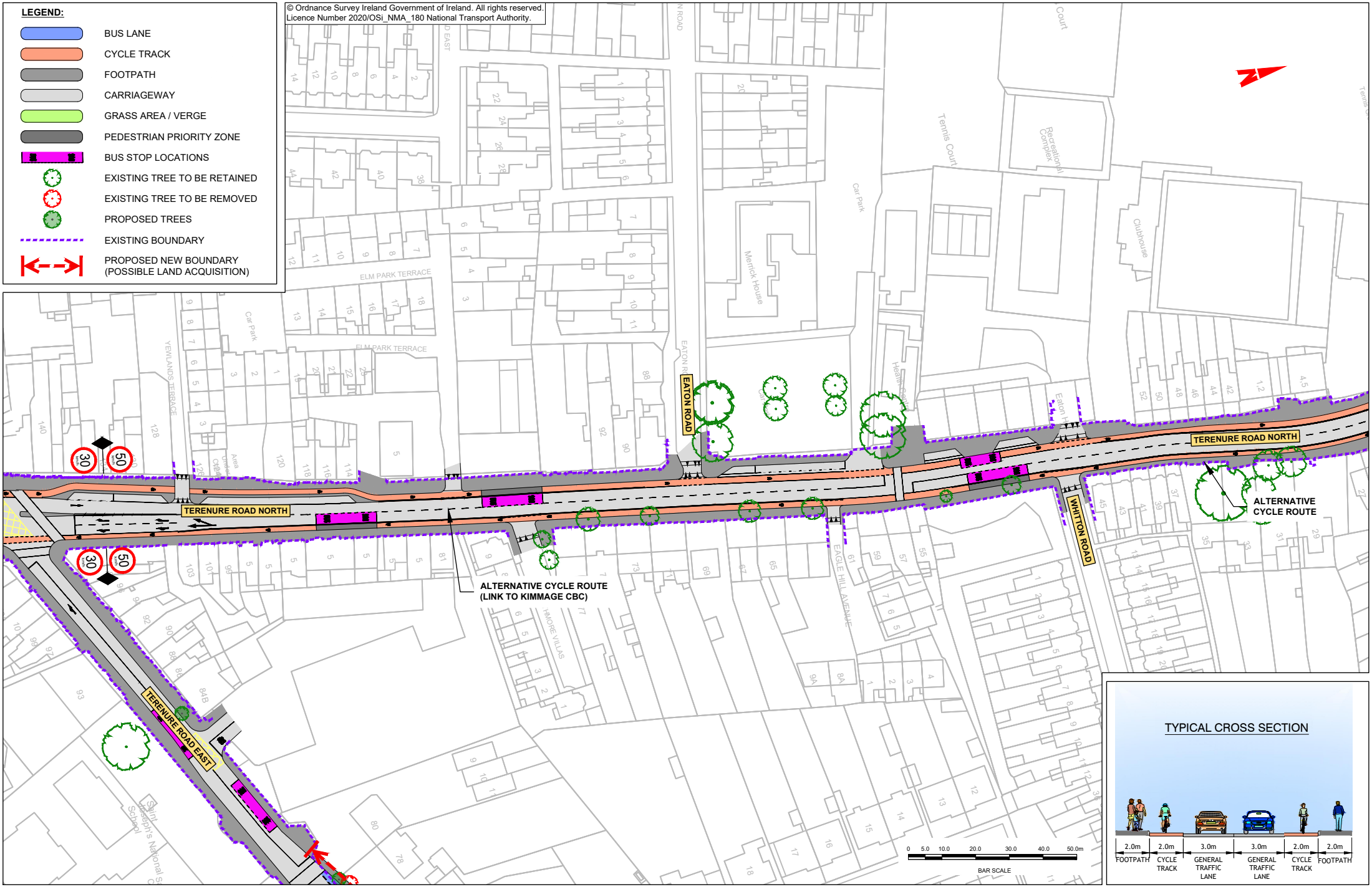
- PROPOSED TREES
- EXISTING BOUNDARY
- PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)




LEGEND:
BUS LANE
CYCLE TRACK
FOOTPATH
CARRIAGEWAY
GRASS AREA / VERGE
PEDESTRIAN PRIORITY ZONE
BUS STOP LOCATIONS
EXISTING TREE TO BE RETAINED
EXISTING TREE TO BE REMOVED
PROPOSED TREES
EXISTING BOUNDARY
PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)
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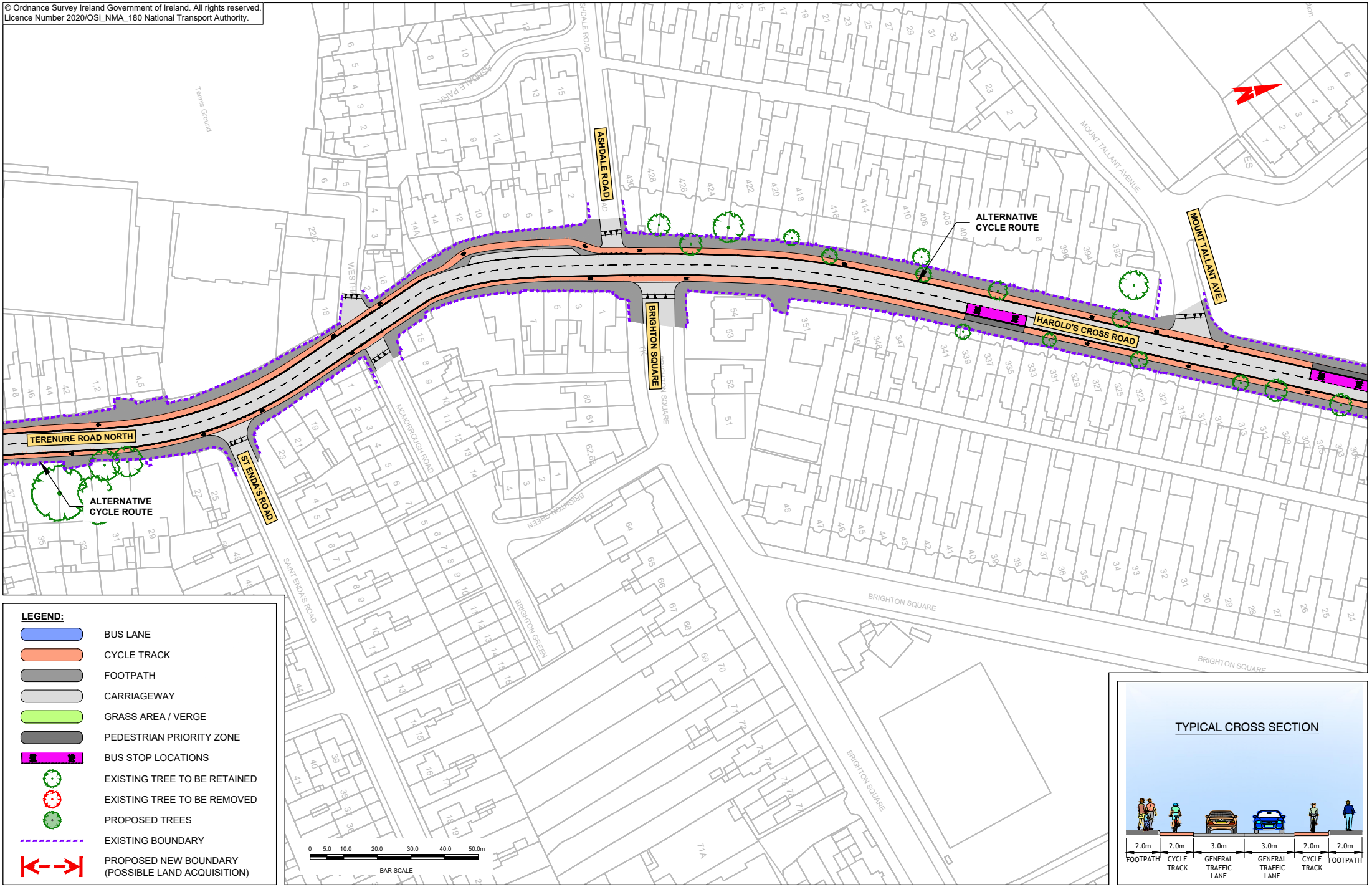
TERENURE ROAD NORTH
TERENURE ROAD EAST
EATON ROAD
WHITTON ROAD
ALTERNATIVE CYCLE ROUTE
ALTERNATIVE CYCLE ROUTE (LINK TO KIMMAGE CBC)
TYPICAL CROSS SECTION
2.0m FOOTPATH
2.0m CYCLE TRACK
3.0m GENERAL TRAFFIC LANE
3.0m GENERAL TRAFFIC LANE
2.0m CYCLE TRACK
2.0m FOOTPATH
0 5.0 10.0 20.0 30.0 40.0 50.0m
BAR SCALE



LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
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- PEDESTRIAN PRIORITY ZONE
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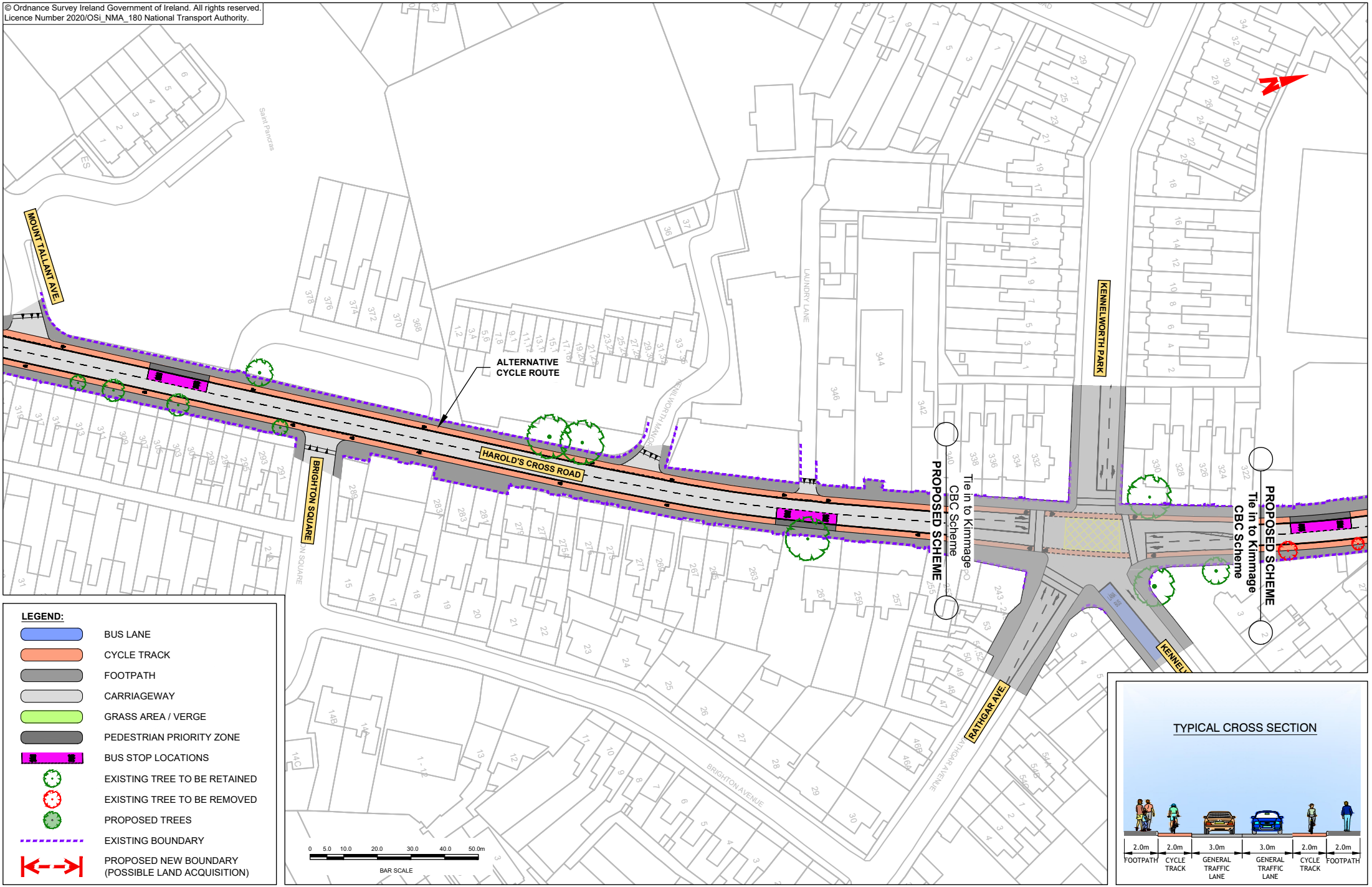

LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
- BUS STOP LOCATIONS
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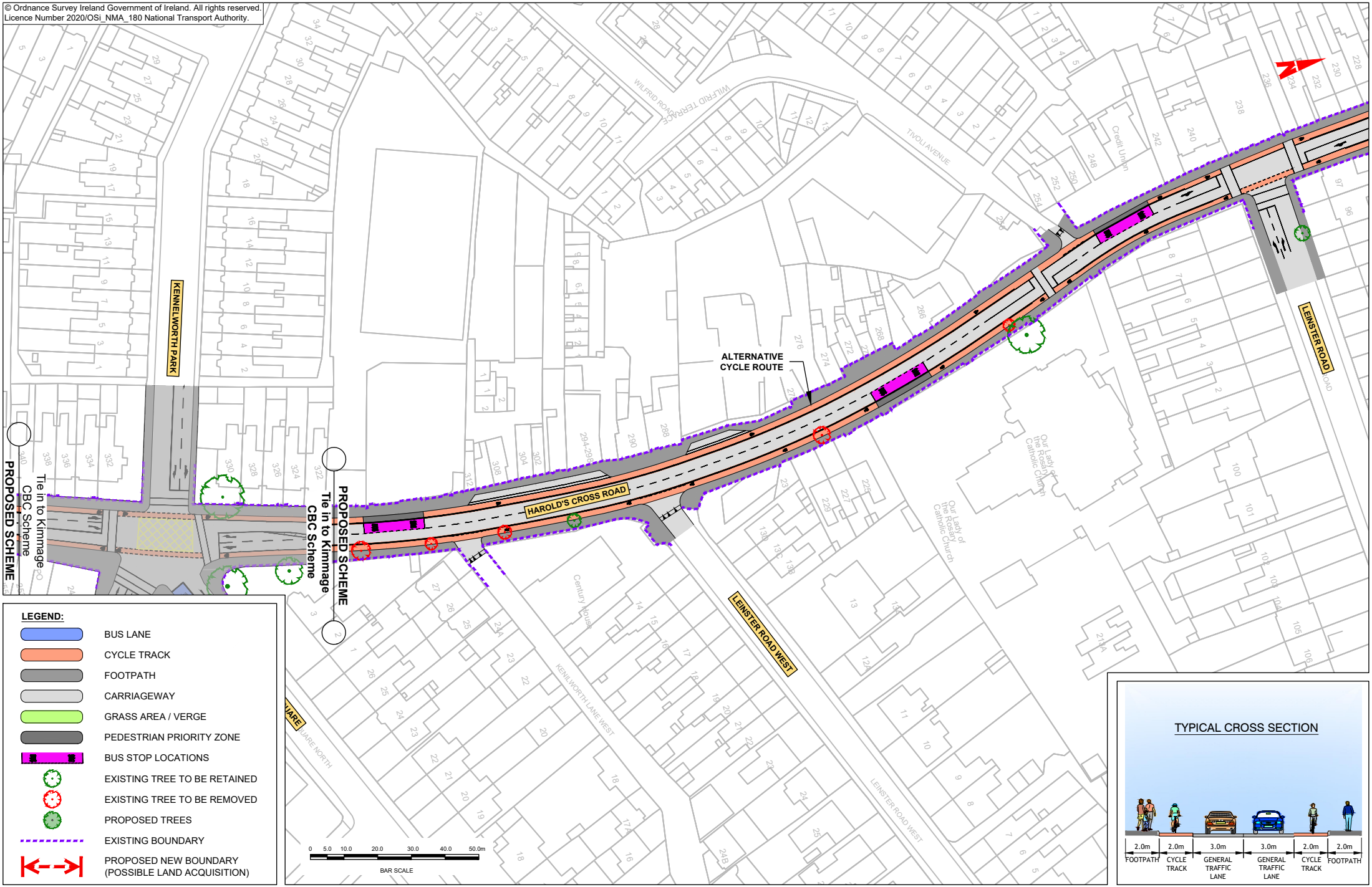

LEGEND:

- BUS LANE
- CYCLE TRACK
- FOOTPATH
- CARRIAGEWAY
- GRASS AREA / VERGE
- PEDESTRIAN PRIORITY ZONE
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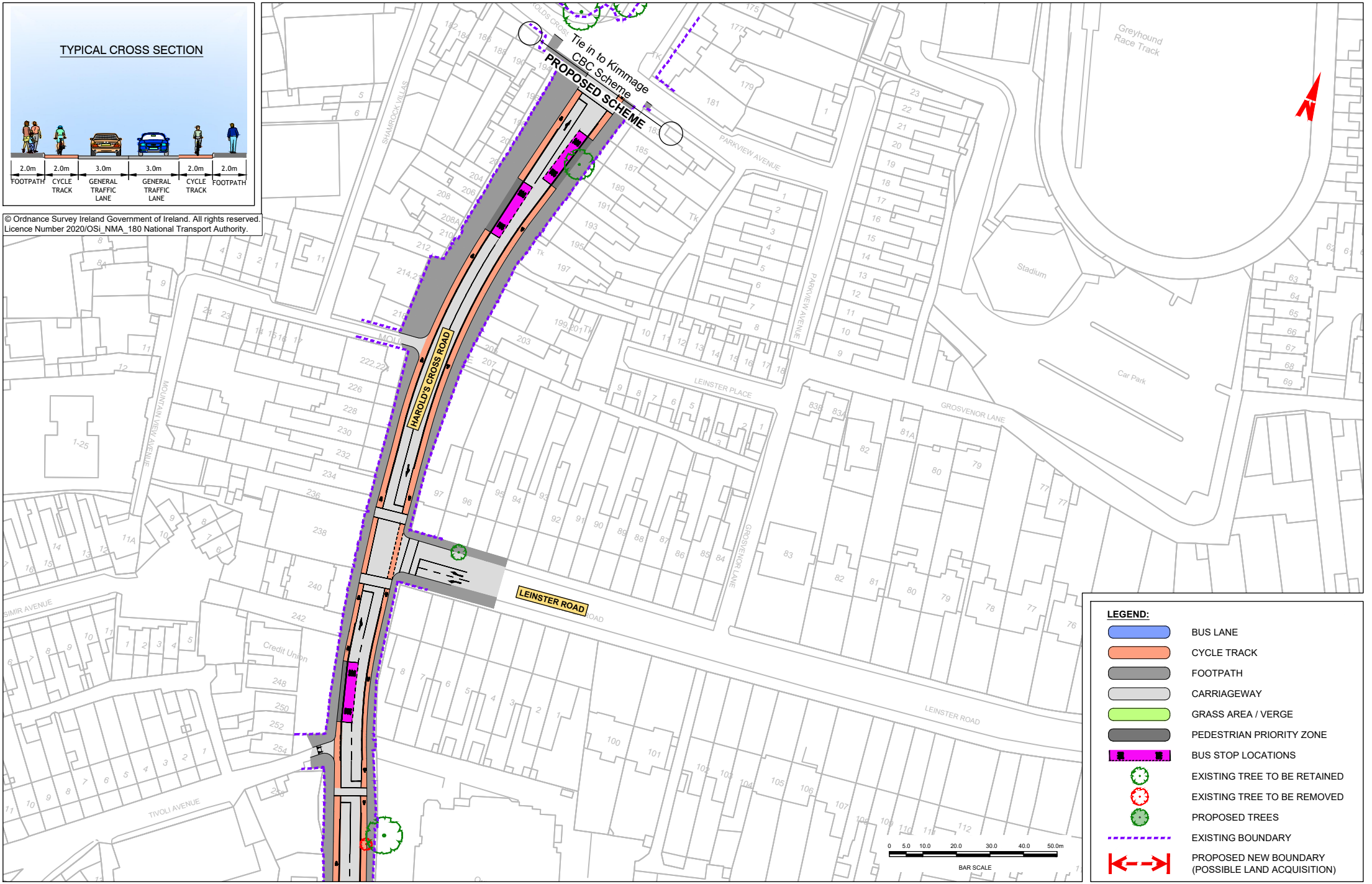
TYPICAL CROSS SECTION
2.0m FOOTPATH
2.0m CYCLE TRACK
3.0m GENERAL TRAFFIC LANE
3.0m GENERAL TRAFFIC LANE
2.0m CYCLE TRACK
2.0m FOOTPATH
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Tie in to Kimmage CBC Scheme
PROPOSED SCHEME
HAROLD'S CROSS ROAD
LEINSTER ROAD
PARKVIEW AVENUE
LEINSTER PLACE
GROSVENOR LANE
MOUNTAIN VIEW AVENUE
TIVOLI AVENUE
Greyhound Race Track
Stadium
Car Park
Credit Union
BAR SCALE
0 5.0 10.0 20.0 30.0 40.0 50.0m
LEGEND:
BUS LANE
CYCLE TRACK
FOOTPATH
CARRIAGEWAY
GRASS AREA / VERGE
PEDESTRIAN PRIORITY ZONE
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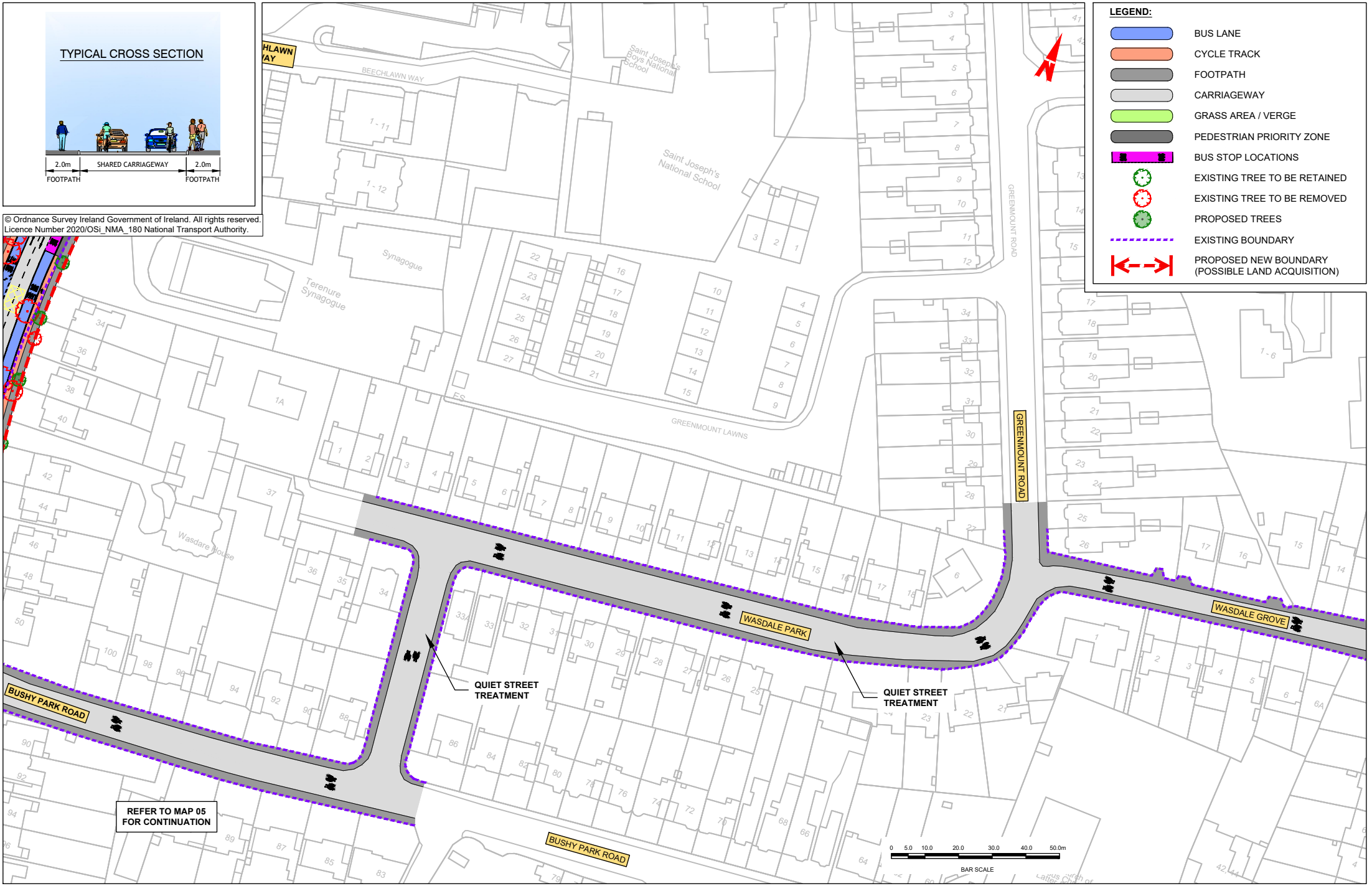

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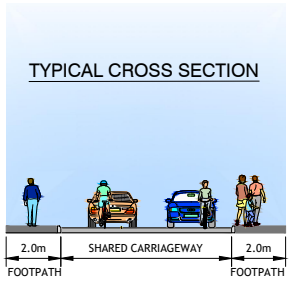


0 5.0 10.0 20.0 30.0 40.0 50.0m

BAR SCALE

WASDALE GROVE

VICTORIA ROAD

QUIET STREET TREATMENT

ZION ROAD

ORWELL ROAD

RATHGAR PARK

Sports Ground Multiple Use

Car Park

Clubhouse

Dublin Baile Átha Cliath

CREMORNE

Stratford College

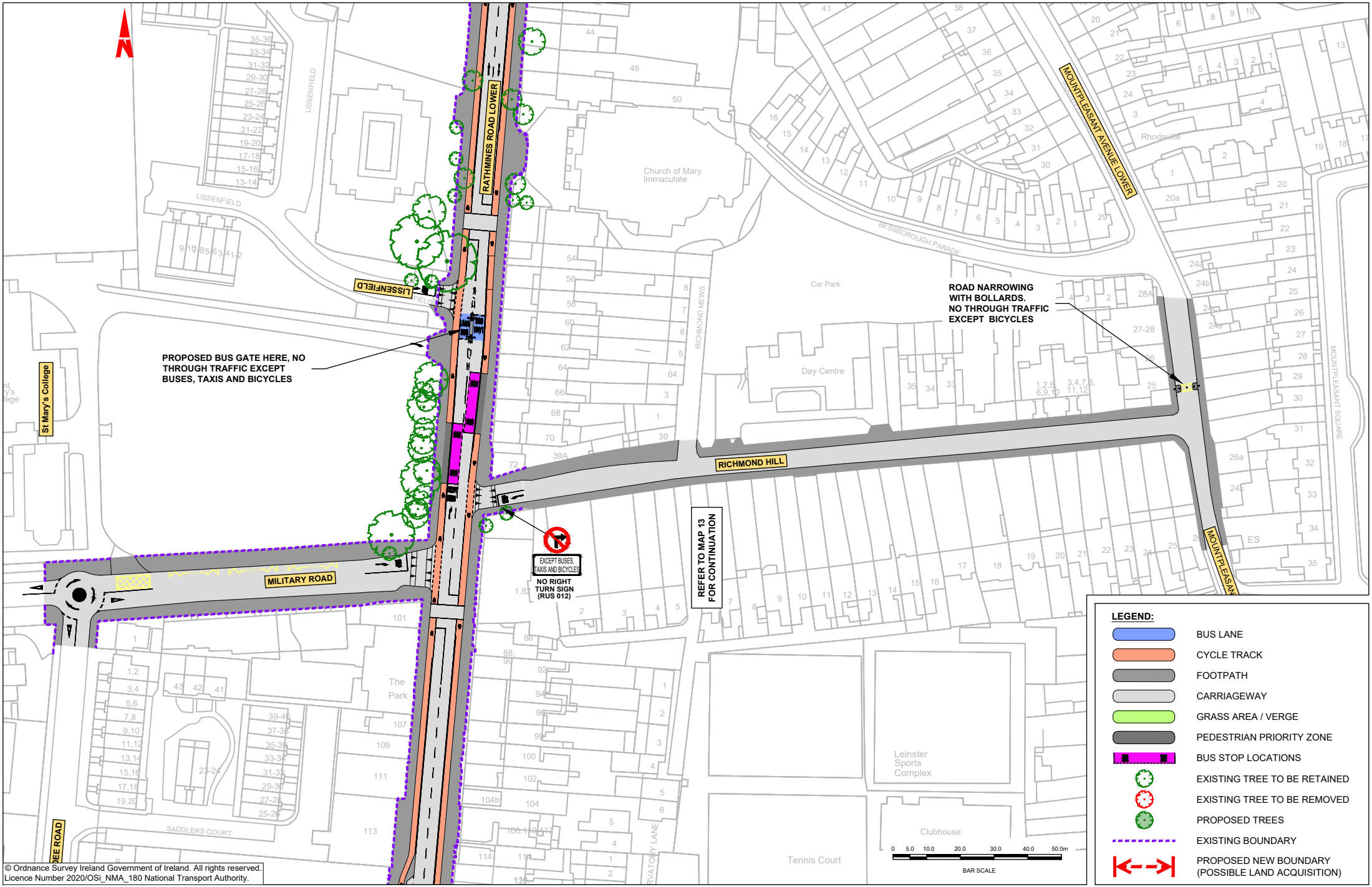
Stratford National School

The Ramparts

Lucena Clinic

St Peters Special School

REFER TO MAP 07 FOR CONTINUATION



Appendix E

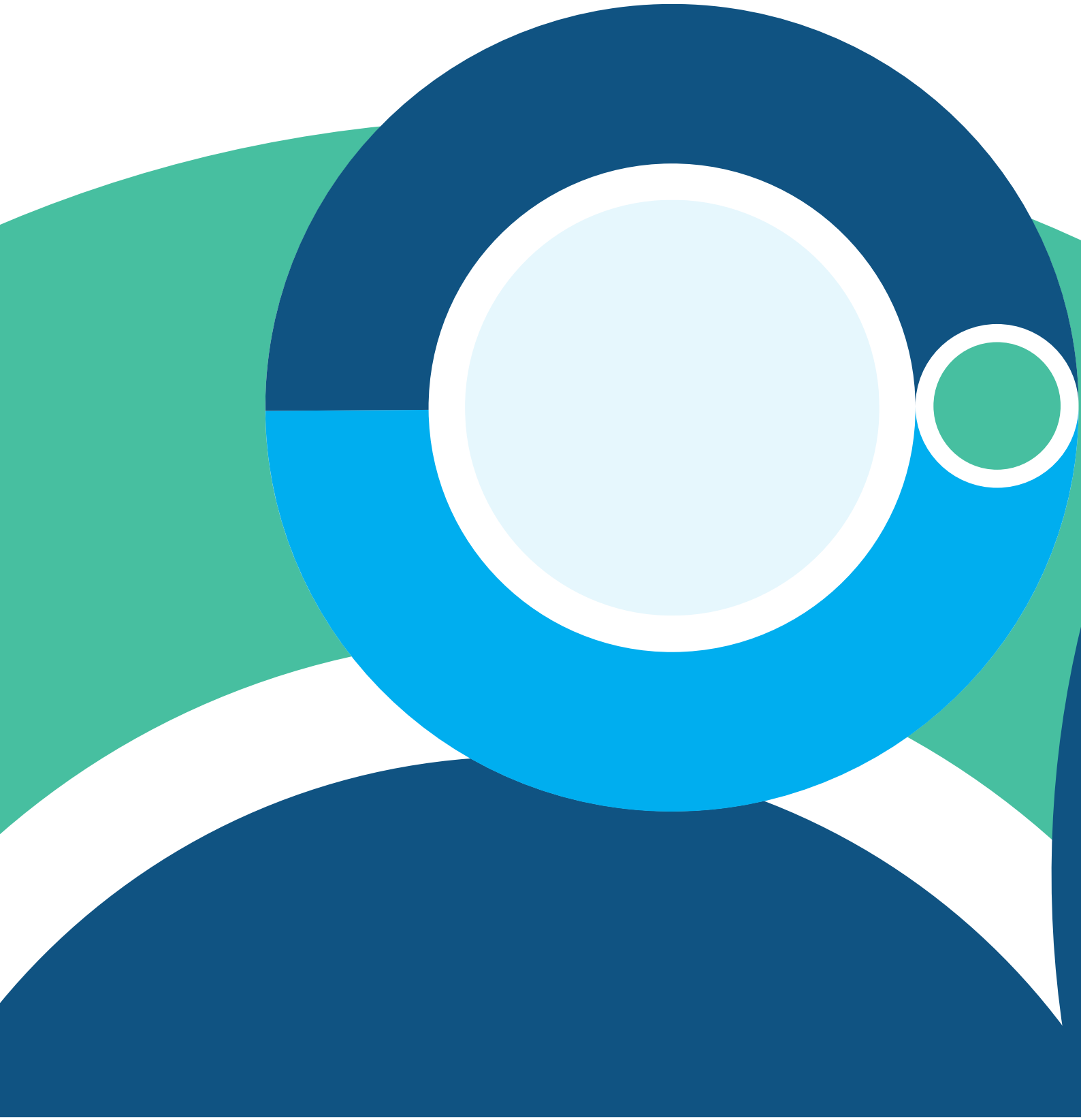
Rathfarnham to City Centre Core Bus Corridor - CBC Feasibility Study and Options Assessment Report

https://busconnects.ie/initiatives/core-bus-corridor-background-information/technical-documents/

Appendix F

Rathfarnham to City Centre Core Bus Corridor – Emerging Preferred Route Information Brochure

https://busconnects.ie/media/1453/12-busconnects-cbc-rathfarnham-to-city-centre-040119-fa.pdf



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National Transport Authority
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Jacobs ARUP SYSTRA