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Clondalkin  
to Drimnagh

# Draft Preferred Route Options Report

November 2020



Project Ireland 2040  
*Building Ireland's Future*

# BUS CONNECTS

SUSTAINABLE TRANSPORT FOR A BETTER CITY.

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Work in Progress - Draft



# Glossary of Technical Terms

**Signal Controlled Bus Priority** - Signal Control 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 'Clondalkin to Drimnagh' Core Bus Corridor (CBC) as well as describing the options assessed, and changes made to the scheme since the public consultation in 2019.

The aim of delivering the Clondalkin to Drimnagh 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 Clondalkin to Drimnagh CBC commences at the Woodford Walk / Nangor road junction and then follows the Nangor Road to the junction with the Naas Road. It then follows the Naas Road to the junction with Kilemore Road, before turning along Walkinstown Avenue to the junction with the Long Mile Road. It then follows the Long Mile Road where it joins the Greenhills to City Centre CBC at Drimnagh Road.

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 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:

- Confirmation of routing the CBC direct via the Kilemore Luas Station (Naas Road and Walkinstown Avenue); and
- Provision of a grade-separated pedestrian and cyclist crossing at the Nangor Road / Long Mile Road / Naas Road junction in order to reduce conflicts with vehicular traffic.

## 1.1 Introduction

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**

- 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.

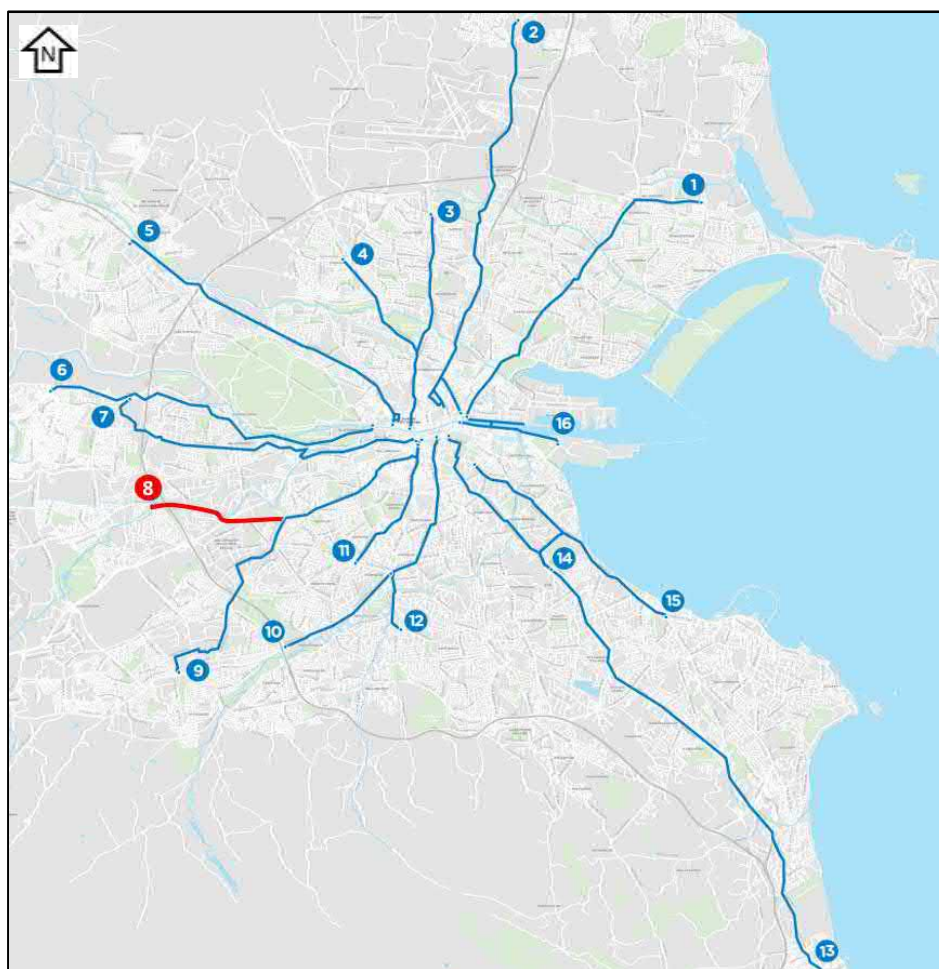
## 1.2 Background

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 'Clondalkin to Drimnagh CBC' is identified in this document as forming part of the radial Core Bus Network. 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 'Clondalkin to Drimnagh Core Bus Corridor CBC Option Study Feasibility Report', henceforth referred to as the 'Feasibility Report', 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 4<sup>th</sup> March 2020 and ran until the 17<sup>th</sup> 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 Clondalkin to Drimnagh 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 Clondalkin to Drimnagh CBC (the CBC), which will build on the previous 'Clondalkin to Drimnagh Core Bus Corridor Feasibility Study and Options Assessment Report'.



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 'Clondalkin to Drimnagh Core Bus Corridor 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 'Clondalkin to Drimnagh 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 'Clondalkin to Drimnagh Core Bus Corridor CBC Feasibility 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.

The Appendix contains background information for this corridor including the Route Feasibility and Options Assessment Report (see Appendix D) and the Emerging Preferred Route Brochure (see Appendix C).

## 2. Planning and Policy Context

This chapter reviews the proposed road project in the context of national, regional and local transport and planning policy for Clondalkin to Drimnagh CBC, hereafter referred to as the proposed development.

Specific details for each of the policies and how the proposed road development complies with these, and more local and regional policies, are outlined below.

### National Policy

Project Ireland 2040 – National Planning Framework

Department of Transport: Statement of Strategy, 2016 - 2019

Smarter Travel: A Sustainable Transport Future (2009 – 2020)

National Cycle Policy Framework (2009)

Road Safety Strategy (2013 – 2020)

Building on Recovery: Infrastructure and Capital Investment, 2016 - 2021

The Sustainable Development Goals National Implementation Plan 2018-2020

Climate Action Plan (2019)

### Regional Policy

Transport Strategy for the Greater Dublin Area, 2016-2035

Greater Dublin Area Cycle Network Plan

Regional Spatial and Economic Strategy Eastern and Midlands Region (2019 -2031)

South Dublin County Council Development Plan 2016-2022

Dublin City Council Development Plan 2016-2022

### Local Policy

Naas Roads Lands Local Area Plan

## 2.1 Project Ireland 2040 – National Planning Framework

Project Ireland 2040 was launched by the Government in February 2018 and includes two elements:

the National Planning Framework (2018), and

the National Development Plan (2018- 2027).

Project Ireland 2040 will provide the framework for future development and investment in Ireland

It is the overall Plan from which other, more detailed plans will take their lead, hence the title, National Planning 'Framework', including city and county development plans and regional strategies. The National Planning Framework will be a tool to assist the achievement of more effective regional development. The National Planning Framework also has statutory backing.

### 2.1.1 National Planning Framework

The National Planning Framework now represents the overarching national planning policy document, of direct relevance to the planning functions of regional and planning authorities, including An Bord Pleanála.

The National Planning Framework is the successor to The National Spatial Strategy, published in November 2002 and has a statutory basis. The National Planning Framework is a planning framework to guide development and investment over the coming years.

The National Planning Framework states that the key future growth enablers for Dublin include

*“...The development of an improved bus-based system, with better orbital connectivity and integration with other transport networks...”*

*“...Delivery of the metropolitan cycle network set out in the Greater Dublin Area Cycle Network Plan inclusive of key commuter routes and urban greenways on the canal, river and coastal corridors ...”*;

It is a policy of the National Planning Framework (Objective 74) to secure the alignment of the National Planning Framework and the National Development Plan through delivery of the National Strategic Outcomes. National Strategic Outcome 4, ‘Sustainable Mobility, includes for the delivery of “key public transport objectives of the Transport Strategy for the Greater Dublin Area 2016-2035 by investing in projects such as New Metro Link, DART Expansion Programme, BusConnects in Dublin”. It also allows for the development of “a comprehensive network of safe cycling routes in metropolitan areas to address travel needs”.

## 2.1.2 National Development Plan

The National Development Plan 2018 – 2027 sets out the investment priorities that will underpin the implementation of the National Planning Framework, through a total investment of approximately €116 billion. This represents a very substantial commitment of resources and is expected to move Ireland close to the top of the international league table for public investment.

This level of capital spending will ensure ongoing employment maintenance and creation with appropriate regional development. It will also provide clarity to the construction sector, allowing the industry to provide the capacity and capability required to deliver Government’s long-term investment plans.

The NDP also illustrates the commitment to reforming how public investment is planned and delivered. This is being achieved through a decisive shift to integrated regional investment plans, stronger co-ordination of sectoral strategies and more rigorous selection and appraisal of projects to secure value-for-money.

The NDP states that investment in public transport infrastructure will be accelerated to support the development of an integrated and sustainable national public transport system consistent with the National Planning Framework National Strategic Outcomes of Sustainable Mobility as well as Compact Growth.

It outlines that the programmes and underlying projects proposed for delivery during the period to 2027 includes:

*“Delivery of the full BusConnects programme for all of Ireland’s cities (inclusive of ticketing systems, bus corridors, additional capacity, new bus stops and bus shelters etc.” and*

*“Delivery of comprehensive cycling and walking network for Ireland’s cities”.*

## 2.2 Department of Transport: Statement of Strategy, 2016 - 2019

This strategy sets out objectives and actions which are designed to support continuing economic recovery, fiscal consolidation, job creation and social development. It notes that “Ireland’s land transport system – comprising our road and rail networks, together with bus, rail and taxi services – is of fundamental importance to both societal and economic wellbeing”

The strategy includes an action for “appropriate public spending and investment in efficient, sustainable, integrated and accessible land transport networks and services”.

The strategy supports the Implement the Road Safety Strategy 2013-2020 and the remaining safety actions in the National Cycling Framework 2009-2020.



## 2.3 Smarter Travel: A Sustainable Transport Future (2009 – 2020)

Smarter Travel, A Sustainable Transport Future (2009 – 2020) presents an overall policy framework for sustainable transport in Ireland. The policy sets out a vision, goals and targets to be achieved, and outlines 49 actions that form the basis for achieving a more sustainable transport future. The relevant parts of this policy are set out in the following chapters:

### Chapter 4: Actions to Encourage Smarter Travel

*“Action 4 - The delivery of public transport, cycling and promotion of more sustainable travel patterns generally in many existing urban centres can only be achieved through retrofitting. We will require local authorities to prepare plans to retrofit areas towards creating sustainable neighborhoods so that walking and cycling can be the best options for local trips, for example to reach local facilities such as shops and schools”.*

### Chapter 5: Actions to Deliver Alternative Ways of Travelling

*“Action 12 - Implement more radical bus priority and traffic management measures to improve the punctuality and reliability of bus services and to support more efficient use of bus fleets. This may involve making some urban streets car-free, creating tram-like priorities in others and making greater use of roads/hard shoulders by buses”.*

The proposed development will directly support this action in providing improvements to pedestrian and cycle amenities along the proposed route, whilst also providing greater reliability for road based public transport.

## 2.4 National Cycle Policy Framework (2009)

In support of the Smarter Travel policy, the National Cycle Policy Framework was also adopted by Government in 2009 and includes the following statements and commitments, as stated in the Executive Summary:

### Vision / Reasons to Promote Cycling

*“The mission is to promote a strong cycling culture in Ireland. The vision is that all cities, towns, villages and rural areas will be bicycle friendly. Cycling will be a normal way to get about, especially for short trips. Cycling contributes to improved quality of life and quality of the public realm, a stronger economy and business environment, and an enhanced environment. A culture of cycling will have developed in Ireland to the extent that 10% of all trips will be by bike by 2020”.*

Under the Interventions – Planning and Infrastructure chapter, it goes on to state that:

*“Transportation infrastructure designs need to be cycle friendly”.*

*“The focus needs to be on [...] Reducing volumes of through traffic, especially HGVs, in city and town centres and especially in the vicinity of schools and colleges.”*

The proposed development will support the objectives of the National Cycling Policy Framework primarily through the provision of segregated and offline cycling facilities.

## 2.5 Road Safety Strategy (2013 – 2020)

The Road Safety Authority Road Safety Strategy (2013 – 2020), sets out targets to be achieved in terms of road safety in Ireland as well as policy to achieve these targets. The primary target of this strategy is defined as follows:

*“A reduction of road collision fatalities on Irish roads to 25 per million population or less by 2020 is required to close the gap between Ireland and the safest countries. This means reducing deaths from 162 in 2012 to 124 or fewer by 2020. A provisional target for the reduction of serious injuries by 30% from 472 (2011) to 330 or fewer by 2020 or 61 per million population has also been set” (p. 1).*

*The Strategy states that:*

*“the attractiveness of walking depends strongly on the safety of the infrastructure provided. Collisions involving pedestrians account for 1 in 5 fatalities annually” and that “collisions involving cyclists account for 1 in 25 road deaths annually, and many collisions involving cyclists lead to serious head injuries.”*

The document sets out strategies for engineering and infrastructure in terms of the benefits that they can have in reducing collisions. The provision of the proposed development furthers this strategy in terms of improving the road infrastructure and helping achieving reduction in collisions.

## 2.6 Building on Recovery: Infrastructure and Capital Investment Plan 2016-2021

This Capital Plan was published by the Department of Public Expenditure and Reform in September 2015. It presented the findings of a Government-wide review of infrastructure and capital investment policy and outlined the Government's commitment to ensuring that the country's stock of infrastructure is capable of facilitating economic growth.

This report identifies the need to improve public transport facilities noting:

*“It is therefore essential that road, rail and public transport networks are developed and maintained to the standard required to ensure the safe and efficient movement of people and freight. In addition, getting people out of cars and onto public transport has a key role to play in reducing Ireland's carbon emissions, by providing a viable, less polluting alternative to car and road transport for many journeys.”*

The transport capital allocation in this Capital Plan is largely framed by the recommendations and priorities set out in the 2015 Department of Transport, Tourism and Sport (DTTAS) *Strategic Investment Framework for Land Transport*, which centre on:

maintaining and renewing the strategically important elements of the existing land transport system;  
addressing urban congestion; and  
maximise the contribution of land transport networks to our national development.

The Capital Plan incorporates the following key objectives relevant to this proposed development:

€3.6 billion of Public Transport Investment including further upgrading of Quality Bus Corridors,

The proposed development is consistent with these recommendations, priorities and objectives as set out in the DTTAS 2015 investment framework, and the Capital Plan.

## 2.7 The Sustainable Development Goals National Implementation Plan 2018-2020

In September 2015, Transforming Our World, the 2030 Agenda for Sustainable Development (the 2030 Agenda) was adopted by all 193 Member States of the United Nations (UN). The 2030 Agenda aims to deliver a more sustainable, prosperous and peaceful future for the entire world, and sets out a framework for how to achieve this by 2030. This framework is made up of 17 Sustainable Development Goals which cover the social, economic and environmental requirements for a sustainable future.



Figure 2-1: Sustainable Development Goals

The Sustainable Development Goals National Implementation Plan 2018 - 2020 is in direct response to the 2030 Agenda for Sustainable Development and provides a whole-of-government approach to implement the 17 Sustainable Development Goals.

The Plan also sets out 19 specific actions to implement over the duration of this first Sustainable Development Goals National Implementation Plan.

The proposed development aligns with Goals 9 and 11 as they include the following targets:

Table 2-1: Sustainable Development Goals and Targets aligned with the proposed development

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	
Target 9.1	Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human wellbeing, with a focus on affordable and equitable access for all
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable	
Target 11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.

## 2.8 Climate Action Plan (2019)

The Climate Action Plan was published in November 2019 by the Department of the Taoiseach. This document sets out the strategy of the Irish government for tackling the climate change crisis and seeks to achieve a zero-carbon energy systems objective for Irish society and in the process, create a resilient, vibrant and sustainable country.

A central pillar of this plan is the role that transport can play in reducing our carbon footprint and improving air quality in our towns and cities. The plan acknowledges that the delivery of improved public transport will lead to a modal shift away from unsustainable transport choices and go a large way to the decarbonization challenge that lies ahead. BusConnects, and improvements to the bus fleet, are identified in the Climate Action Plan as being a central component of this objective as noted in the following actions which are extracted from the plan.

*Implement major sustainable-mobility projects such as DART Expansion, Metro Link, and the BusConnects Programme. BusConnects targets a 50% increase in bus passenger numbers over the lifetime of the project in our major cities.*

*Expand sustainable-travel measures, including a comprehensive cycling and walking network for metropolitan areas of Ireland's cities, with a particular emphasis on safety of cyclists. We shall also expand greenways, and develop over 200km of new cycling network under BusConnects.*

*Establish a new fare structure in BusConnects which will encourage flexible use of an integrated public transport network. We committed to transition to Low-Emission Vehicles, including electric buses, for the urban public bus fleet, with no diesel-only purchases from 1 July 2019, and will set a roadmap for all public PSO urban bus fleets to become LEVs by 2035.*

## 2.9 Transport Strategy for the Greater Dublin Area, 2016-2035

The NTA published the Transport Strategy for the Greater Dublin Area, 2016 – 2035 at the beginning of 2016. 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.

The 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 Clondalkin to Drimnagh CBC is identified as part of Bus Connects as shown in Figure 2-2 below as route 8, connecting with the Greenhills to City Centre CBC at Drimnagh.

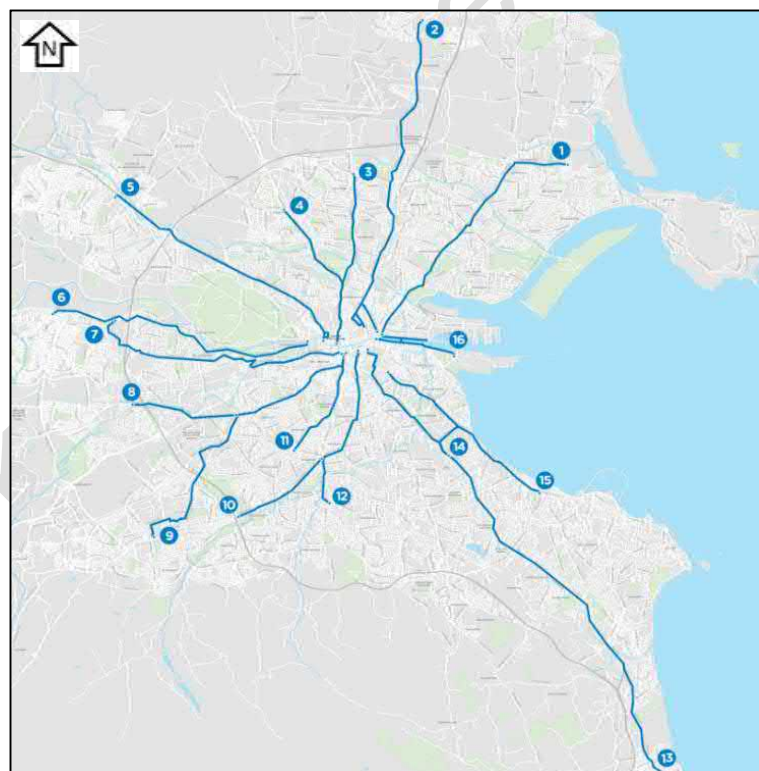


Figure 2-2: Radial Core Bus Corridors



## 2.10 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.

The Clondalkin scheme interacts with various existing and proposed cycle routes, these include the primary corridor 7B in addition to secondary corridors (8C2, 7D, S04 and 8C). The route also meets with the N10 Greenway around the Nangor Road.

During the course of the analysis carried out to identify the preferred CBC, the provision of these cycle routes was considered at all stages. Therefore, as part of the analysis, any upgrading of infrastructure to provide bus priority also provides cycling infrastructure, where practical, to the appropriate level and quality of service (as defined by the NTA National Cycle Manual) required for primary and secondary cycle routes.

## 2.11 Regional Spatial and Economic Strategy - Eastern and Midlands Regional Assembly (2019-2031)

The Regional Spatial and Economic Strategy sets out a 12-year strategic development framework for the Eastern and Midlands Region. The Strategy's aim is to support the National Planning Framework Ireland 2040 and sets out a development framework to guide development in the region.

The Regional Spatial and Economic Strategy replaces the Regional Planning Guidelines. The objective of the Regional Spatial and Economic Strategy is to support the implementation of the National Planning Framework – Ireland 2040 and the economic policies and objectives of the Government by providing a long-term planning and economic framework which is consistent with the National Planning Framework. The Regional Spatial and Economic Strategy provides a long-term regional level strategic planning and economic framework for the Eastern and Midlands Region.

The elected members of the Eastern and Midlands Region Authority agreed to make the Regional Spatial and Economic Strategy 2019-2031, on June 28th 2019. The Regional Spatial and Economic Strategy includes a Metropolitan Area Strategic Plan for Dublin as set out in Project Ireland 2040 – National Planning Framework. The Metropolitan Area Strategic Plan provides, for the first time, a 12 to 20 year strategic planning and investment framework for the Dublin metropolitan area. The vision of the Dublin Metropolitan Area Strategic Plan will be to:

*“build on our strengths to become a smart, climate resilient and global city region, expanding access to social and economic opportunities and improved housing choice, travel options and quality of life for people who live, work, study in or visit the metropolitan area”*

To achieve the vision, the Metropolitan Area Strategic Plan identifies nine Guiding Principles for the sustainable development of the Dublin Metropolitan Area. The proposed development aligns with the Metropolitan Area Strategic Plan under the following principle;

*“Integrated Transport and Land use – To focus growth along existing and proposed high quality public transport corridors and nodes on the expanding public transport network and to support the delivery and integration of ‘BusConnects’, DART expansion and LUAS extension programmes, and Metro Link, while maintaining the capacity and safety of strategic transport networks”.*

A number of Regional Policy Objectives are included in the Regional Spatial and Economic Strategy which support the proposed development

*RPO 5.2: Support the delivery of key sustainable transport projects including Metrolink, DART and LUAS expansion programmes, BusConnects and the Greater Dublin Metropolitan Cycle Network and ensure that future development maximises the efficiency and protects the strategic capacity of the metropolitan area transport network, existing and planned.*

*RPO 8.9: The Regional Spatial and Economic Strategy supports delivery of the bus projects set out in Table 8.3 (Figure 2-3) subject to the outcome of appropriate environmental assessment and the planning process.*

Table 8.3: Bus Projects for the Region
Core Bus Corridors comprising 16 radial routes and 3 orbital routes in Dublin
Regional Bus Corridors connecting the major regional settlements to Dublin
Dublin Metropolitan Bus Network Review
Network reviews for the largest settlements across EMRA, with a view to providing local bus services
Review of bus services between settlements
Review of local bus services throughout EMRA, including services to small towns and villages and the rural transport programme
New interchange and bus hub facilities
New fare structures
Enhanced passenger information
Improvements to bus waiting facilities
Integrated timetabling of bus and rail into a coherent national and regional network

Figure 2-3: Bus Projects for the Region

## 2.12 South Dublin County Council Development Plan 2016-2022

The South Dublin County Council (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 provisions have been identified in the County Development Plan which support the proposed development:

**Table 2-2: SDCC Development Plan Overarching Objectives aligned with the proposed development**

Transport and Mobility Policy 1 Overarching	
TM1 Objective 1:	<i>To support and guide national agencies in delivering major improvements to the transport network.</i>
TM1 Objective 2:	<i>To spatially arrange activities around, and improve access to, existing and planned public transport infrastructure and services.</i>
TM1 Objective 3:	<i>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.</i>
TM1 Objective 5:	<i>To balance the needs of road users and the local community with the need to support the development of a sustainable transportation network.</i>
TM1 Objective 6:	<i>To support the delivery of sufficient public transport and road capacity to facilitate sustainable new development in the County.</i>

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 2-3: SDCC Development Plan Objectives for Public Transport aligned with the proposed development**

Transport and Mobility Policy 2 Public Transport	
TM2 Objective 1:	<i>To secure the implementation of major public transport projects as identified within the relevant public transport strategies and plans for the Greater Dublin Area....</i>
TM2 Objective 2:	<i>To establish future public transport routes that will support the County's medium to long term development, in particular orbital routes</i>
TM2 Objective 3:	<i>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</i>
TM2 Objective 4:	<i>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</i>

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 2-4: SDCC Development Plan Objectives for walking and cycling aligned with the proposed development**

<i>Transport and Mobility Policy 3 Walking and Cycling</i>	
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.

The Development Plan provides maps of the area indicating the proposed zoning. The western portion of the Clondalkin scheme falls within Map 5. From this map it has been identified that the proposed route interacts with the following items of note;

- Along Nangor Road, from the start of the scheme to the M50 overbridge the route runs adjacent to lane zoned RES, to protect and/or improve residential amenity to the north and land which is zoned EE, to provide for enterprise and employment related uses to the south.
- From Nangor Road at the M50 overbridge to Naas Road the route runs through land which is zoned EE, to provide for enterprise and employment related uses.
- From Naas Road to the east the scheme falls within the Dublin City Council Development Plan.

## 2.13 Dublin City Council Development Plan 2016-2022

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

Effective integration of land-use and transportation, and the management of access and mobility.

Pro-active engagement and collaboration with communities to bring about further modal shift and effective mobility management.

The expansion of the strategic cycle network along all major water bodies including the River Liffey and the canals.

Improving the city centre environment for pedestrians through public realm enhancements and through improvement of the strategic pedestrian network.

Ensuring maximum benefits are achieved from public transport improvements including Luas cross-city and the anticipated Bus Rapid Transit network.

Managing city centre road-space to best address the competing needs of public transport, pedestrians, cyclists, and the private car.

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

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



**Table 2-5: DCC Development Plan Objectives for Modal Change and Active Travel aligned with the proposed development**

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

**Table 2-6: DCC Development Plan Objectives for Public Transport aligned with the proposed development**

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

Volume 3 of the Dublin City Development Plan (2016-2022) provides maps of the Dublin Metropolitan area indicating the proposed zoning. The eastern section of the Clondalkin scheme falls across Maps G and K. It has been identified that the proposed route interacts with the following items of note:

- Map G – the route runs through an area which has been designated as Zoning Objective Z14 – to seek the social, economic and physical development and/or rejuvenation of an area with mixed use of which residential and “Z6” would be the predominant uses. Zoning Objective Z6 is to provide for the creation and protection of enterprise and facilitate opportunities for employment creation.
- Map K – the route runs through Key District Centre 6 which is within Strategic Development and Regeneration Area 5.

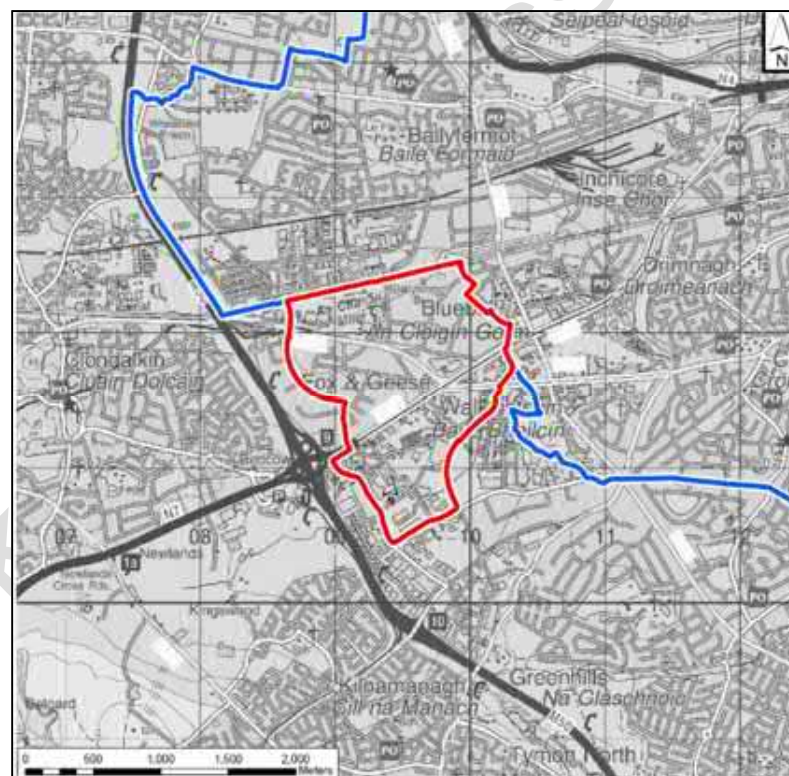
The Dublin City Council (DCC) Development Plan recognises the challenge that Transport has in making an important contribution to make towards achieving a sustainable city. These key challenges for the City are outlined as follows:

- *Effective integration of land-use and transportation, and the management of access and mobility.*
- *Pro-active engagement and collaboration with communities to bring about further modal shift and effective mobility management.*
- *The expansion of the strategic cycle network along all major water bodies including the River Liffey and the canals.*
- *Improving the city centre environment for pedestrians through public realm enhancements and through improvement of the strategic pedestrian network.*

- Ensuring maximum benefits are achieved from public transport improvements including Luas cross-city and the anticipated Bus Rapid Transit network.
- Managing city centre road-space to best address the competing needs of public transport, pedestrians, cyclists, and the private car.
- Increasing significantly the existing mode share for active modes, i.e. walking and cycling, and supporting the forthcoming National Policy Framework for Alternative Fuels Infrastructure.

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

South Dublin County Council proposed revisions to the zoning in the Ballymount/ Naas Road area in 2018 and it was adopted as a variation to the Development Plan in May 2019. The Proposed Variation No.3 is required to align the Development Plan with the National Planning Framework and the Draft Regional Spatial and Economic Strategy to create the conditions for redevelopment of the area in partnership with DCC. Given the complexity of the challenges to regenerating this area, Proposed Variation No 3 to the Development Plan was required to provide an amended Development Plan policy framework for SDCC to proceed with the regeneration of the area. The proposed zoning for the subject lands is Regeneration (REGEN) with an objective 'To facilitate enterprise and/or residential-led regeneration'.



**Figure 2-4: Area Considered for Revised Zoning**  
(Source: SDCC Rezoning Report).

The subject lands have significant locational advantages, including:

- Located inside the M50, within 6km of Dublin City Centre;

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

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

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

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

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

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

In support of the KDC, to encourage a core of mixed uses including higher order retailing in the specified KDC core positioned between Naas Road and Long Mile Road incorporating quality public realm along new access routes.

To promote investment, economic and employment growth in the area through the attraction of commercial office development within the KDC along the main transport routes, whilst supporting existing industrial enterprise and employment uses on Z6 lands.

To develop a new sustainable neighbourhood inclusive of residential development at sustainable densities, underpinned by quality social infrastructure all within a high-quality public domain.

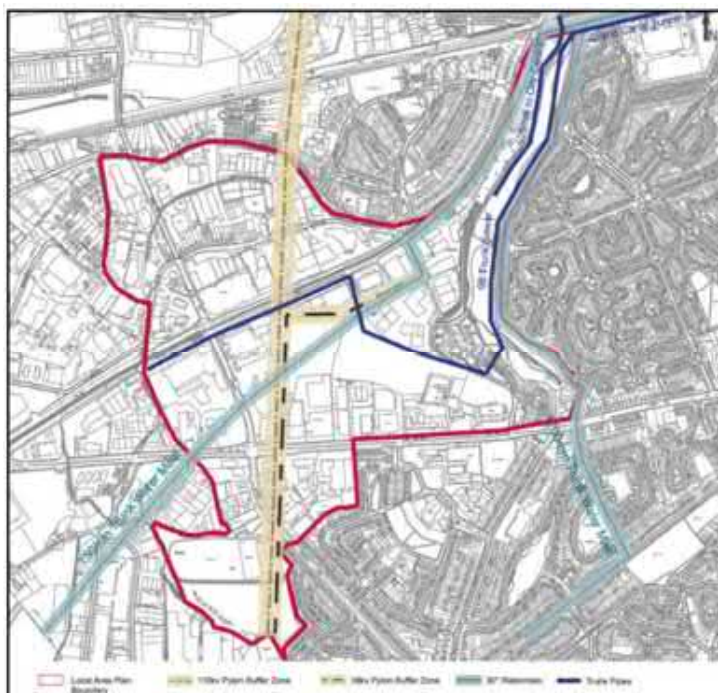


Figure 2-5: Naas Road LAP Lands (Source: DCC LAP).

## 2.16 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.

## 2.17 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.

Work in Progress - Draft



## 3. Background and Public Consultation

### 3.1 Existing Bus Services

The Clondalkin Corridor, between Drimnagh and Woodford Walk, is primarily used by Dublin Bus Route 151. This route currently runs at a 20-minute headway between the docklands and Foxborough in Lucan, Figure 3-1 indicates the route. The proposed corridor effectively follows the route of the South Clondalkin Quality Bus Corridor (QBC) which has been in place for almost 20 years. The last QBC monitoring report for this corridor (NTA QBC Monitoring Report 2017) indicates that the bus travels at an average speed of less than 15kph during both peak periods, significantly below the desirable speed for these corridors of 20kph.

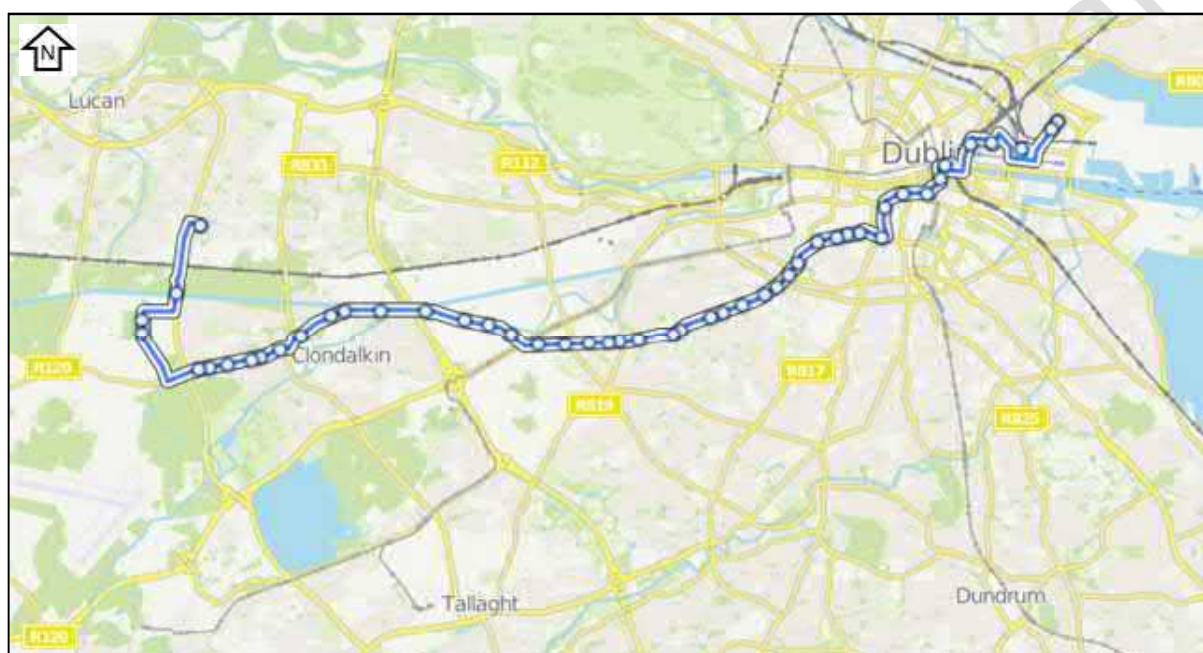


Figure 3-1: Dublin Bus Route 151 (Source: Moveitapp.com)

The primary Bus Routes using this corridor are as follows:

- Route 151 – Docklands to Foxborough Estate – 20-minute frequency – Operates 100% of the Corridor; and
- Route 18 – Sandymount to Palmerstown – 20-minute frequency – Operates 30% of the Corridor.

Other routes also use sections of this corridor, mainly on Naas Road, with Dublin Bus Route 13, 68 and 69 using approximately 20% of this corridor.

Currently the route has bus lanes over most of its routing west of Drimnagh Road. Figure 3-2 and Figure 3-3 uses information obtained from the Bus Routes Automatic Vehicle Location (AVL) data over a typical period in 2019. This illustrates that there is a reasonably consistent journey time along this corridor, however there is some noticeable variation in journey time on the approach to Naas Road/Long Mile Road during both peak periods, which is consistent with observations on site and the lack of bus priority on the approach and through this highly congested junction.

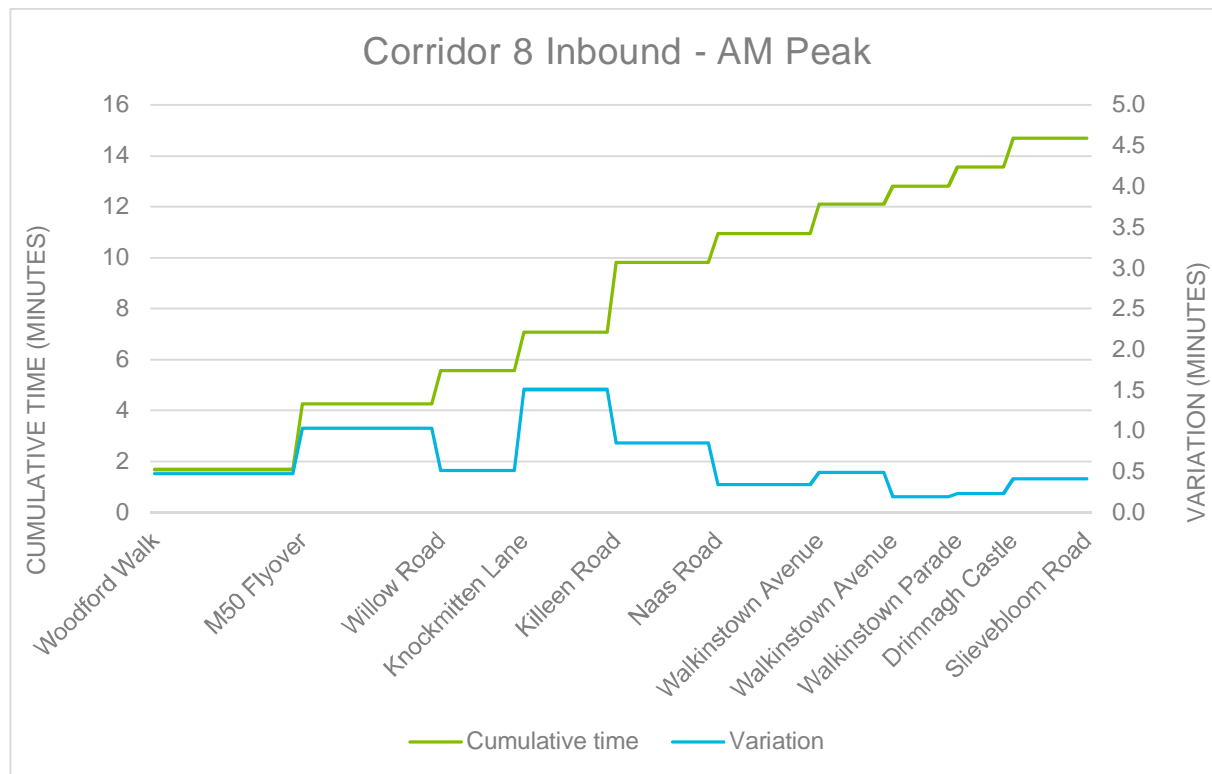


Figure 3-2: Clondalkin to Drimnagh, Inbound AVL AM Peak Times for Buses

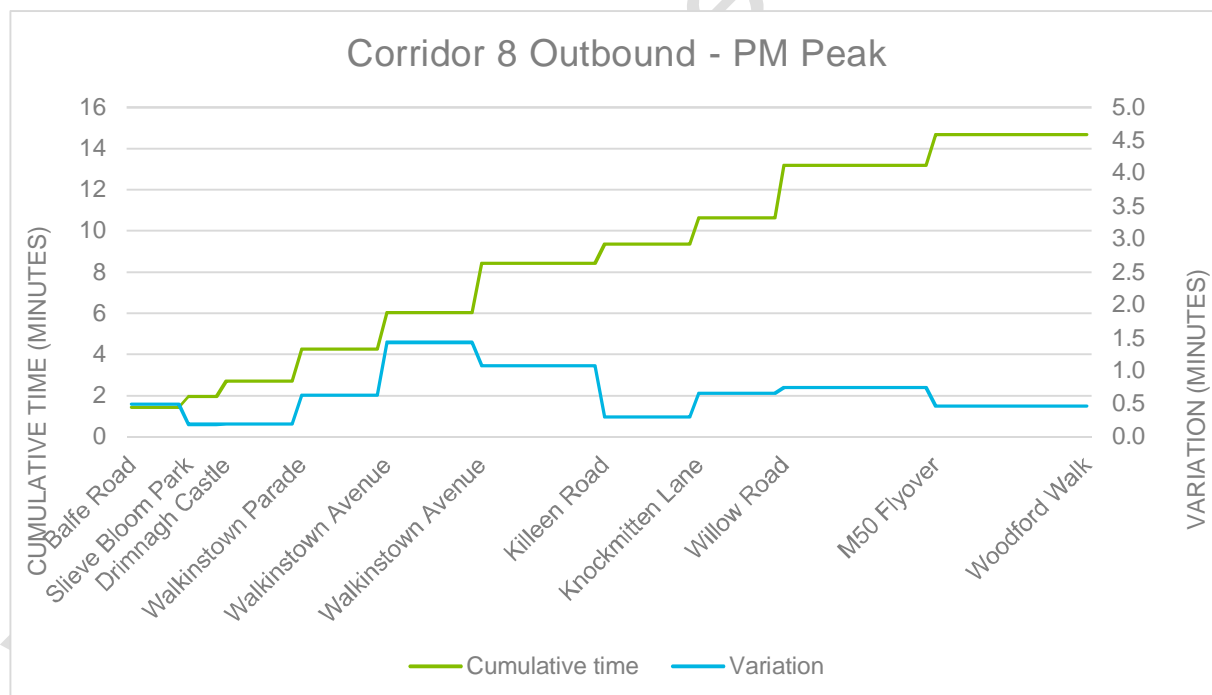


Figure 3-3: Clondalkin to Drimnagh, Outbound AVL AM Peak Times for Buses

## 3.2 Clondalkin to Drimnagh CBC Feasibility Study and Option Assessment Report & Emerging Preferred Route Option

The Clondalkin to City Centre Core Bus Corridor Feasibility Study and Options Assessment Report was undertaken by appointed consultants DBFL Consulting Engineers. The resulting findings were reported in the Feasibility Report, which was published in December 2017, prior to the first public consultation. This previous report and the Concept Scheme drawings are available on the BusConnects website.

## 3.3 Dublin Area Revised Bus Network

In 2017, the NTA began work on reviewing the Dublin Area Bus Network, in collaboration with Bus Operators and other stakeholders (incl. local authorities). Jarrett Walker and Associates, a transport planning practice with specific expertise in bus network redesign, was appointed to provide advice and technical support. The “Dublin Area Bus Network Redesign” project was launched by the NTA, which looked at the existing bus network and the radial Core Bus Network identified in the GDA Transport Strategy. The output from the Bus Network Review was published and available for public comment in August 2018 and again in October 2019.

Figure 3-4 indicates the final output from this study and illustrates that the D-Spine (D1,D2,D3,D4,D5) runs from the City Centre to the South West, serving areas along the Greenhills and Clondalkin Corridor. From the City Centre to Drimnagh Road/ Walkinstown Road junction, Routes D1 to D5 will follow the same corridor, with bus headways of less than 5 minutes envisaged. West of the Drimnagh Road/ Walkinstown Road Junction the D1 and D3 routes will follow the Clondalkin to Drimnagh CBC.

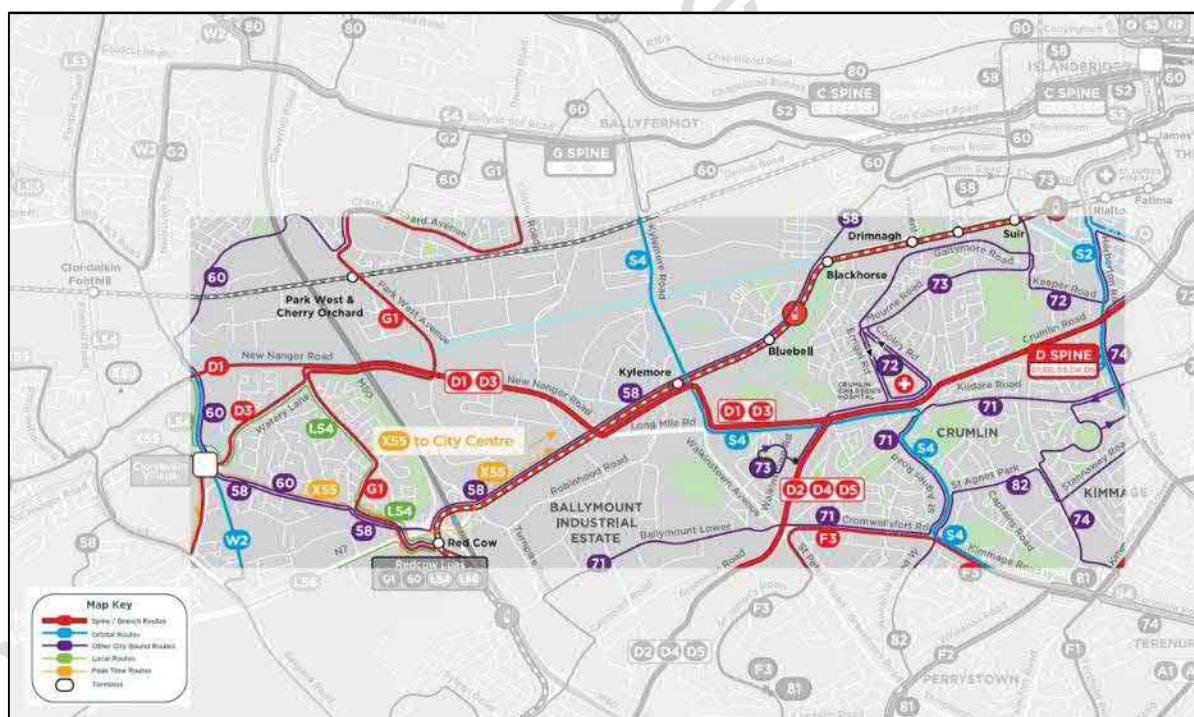


Figure 3-4: Revised Bus Network – West.



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

The first non-statutory Public Consultation on the BusConnects Core Bus Corridor Emerging Preferred Route Options 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. This CBC was part of the second phase of consultation.

Following the conclusion of the consultation period on the 31st of May 2019, the National Transport Authority (NTA)'s appointed Engineering Designers (ED's) considered all feedback received and undertook a review of the proposed design. AECOM, in association with Mott MacDonalds, was appointed as designer for the Clondalkin to Drimnagh CBC. A summary report of the consultation is available on the BusConnects website.

The responses received provided a wide spectrum of views, with many of the views raising concern with the scheme or specific elements. The following points were extracted to summarise the core observations raised in the consultation responses:

- Cyclist safety;
- Left turn slip lanes;
- Accessibility and disability requirements;
- Pedestrian safety;
- Bus route issues;
- Predominance of Heavy Goods Vehicles (HGV's)
- Environmental impacts; and
- New Ideas and suggestions.

The issues raised during the first public consultation have been considered as part of the route options assessment process in determining the Draft Preferred Route Option. The Emerging Preferred Route Option proposals were amended to address some of the issues raised in submissions, including incorporating suggestions and recommendations from local residents, community groups and stakeholders.

## 3.5 Development of Preferred Route Option

Following the 1st Public Consultation process, the submissions were reviewed and considered as part of the design preparation for the Preferred Route Option for the Clondalkin to Drimnagh CBC. The Emerging Preferred Route Option proposals were subsequently amended to address some of the issues raised in submissions, including incorporating suggestions and recommendations from local residents, community groups and stakeholders.

Additional design options have been considered during the development of the Preferred Route Option. These have been assessed against the previously identified Emerging Preferred Route Option, or the full list of options in the previous Multi Criteria Analyses which are discussed in Chapter 5 and 6 based on:

- Feedback from public consultations, one to one meeting's, and community forum meetings;
- Further design development resulting from the availability of more detailed information, such as topographical survey's; and
- Additional option development and assessment.

Following the Public Consultation, and further design developments, the key scheme route amendments undertaken during the development of the Preferred Route Option are detailed below:

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

### 3.6 Second Public Consultation – Draft Preferred Route Option

The draft PRO was published in March 2020 and a second round of public consultation commenced on 4<sup>th</sup> March 2020 and ran until the 17<sup>th</sup> 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 just 7 submissions for the Clondalkin to Drimnagh CBC. The submissions received ranged from personal submissions from residents and commuters to detailed proposals from public bodies, specialists, various associations and private sector businesses. These submissions comprised emails, letters and meeting notes recorded by the NTA.

A summary of the observations raised in the 7 submissions received for the Clondalkin to Drimnagh CBC are as follows:

- Cyclist safety – raised tables & continuity;
- Pedestrian safety at crossings;
- Bus stop Conflicts;
- Disability Access – junctions generally, tactile paving and bus stops;
- Pedestrian Priority Zone – width of provision; and
- Suggestions and New Ideas.

The observations 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. Study Area

### 4.1 Introduction

In the previously completed Feasibility and Options Assessment Report, the defined study area extended from the Outer Ring Road (R136) to the City Centre. This study area was divided into 3 sub areas, as shown in Figure 4.1. The study area took into consideration the presence of other existing transport infrastructure services such as other adjacent CBC's and the Luas Red Line.

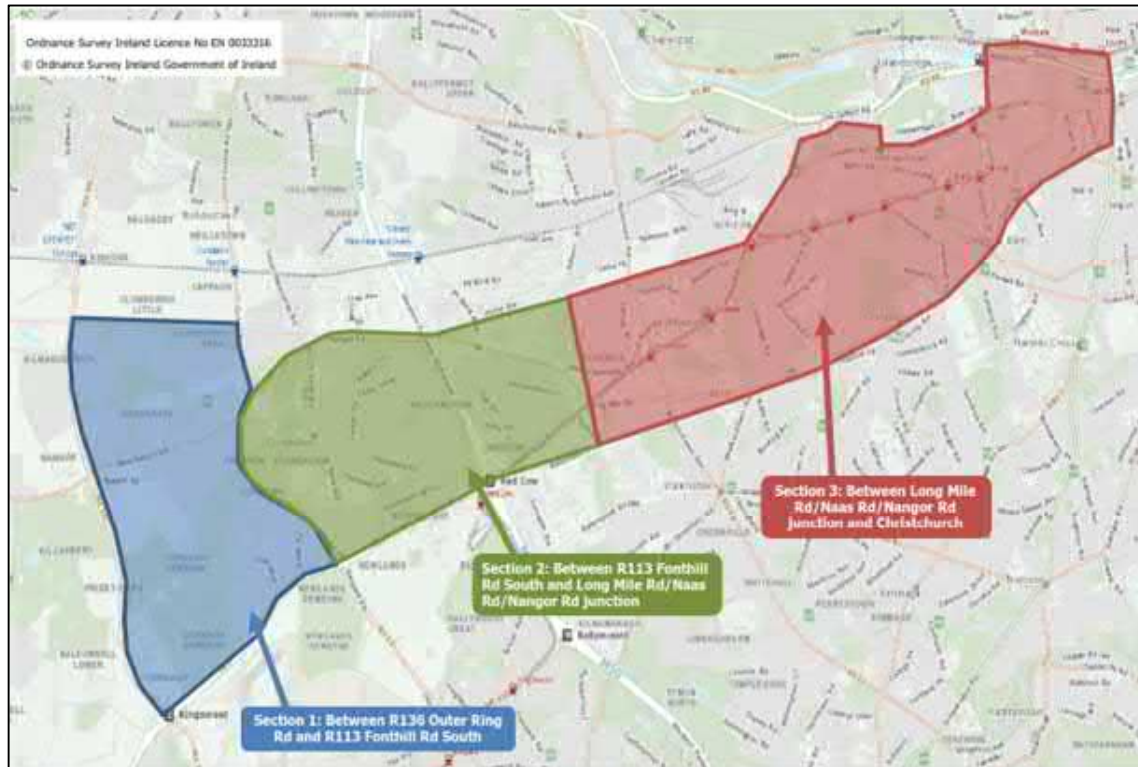


Figure 4-1: Study Area

### 4.2 Study Area Sections

The Feasibility study area was divided into three sections:

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

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

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

In Section 3 it was concluded that the optimum routing to the City Centre is to link this corridor to the Greenhills to City Centre CBC at Drimnagh Road. Unlike the current South Clondalkin QBC the route

is now to follow the Naas Road to the Luas Red Line at Kylemore Station to increase accessibility in this Regeneration Area.

### 4.3 Physical Constraints and Opportunities

There are a number of constraints and opportunities, both natural (i.e. existing natural environment) and physical (the built environment), which constrain route options for the proposed scheme within the defined study area including:

- The Grand Canal acts as a constraint to the northern extents of the study area.
- The M50 overbridge acts as a width constraint to provision of bus priority and cycle tracks on Nangor Road.
- The Long Mile Road/ Naas Road signal controlled junction is a highly complex and congested and one of the critical junctions in the area with limited scope to be modified.

Opportunities within this study area includes:

- The Kylemore Luas stop acts as an opportunity for integration between modes of transport; and
- The proposed regeneration of this area from low density employment to residential and other more intensive uses will increase the catchment area population.

### 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. The Emerging Preferred Route Option was developed to provide improved existing, or new, interchange opportunities with other transport services, including:

- The Luas Red Line at Kylemore station;
- Existing bus services at numerous locations along the route, for example along Naas Road where the corridor shares bus stops with Bus Eireann routes to the south of the County, along Drimnagh Road where it links to Tallaght via the 27 and 77a routes, orbital routes such as the 18 (Palmerstown to Sandymount) or other radial route such as the 13, Harristown to Grangecastle; and
- Future orbital bus routes S4, UCD to Liffey Valley, the G1 branch line towards Ballyfermot, and the F and G spine which this D Spine (east of Drimnagh Road) interfaces with as it approached the City Centre.

### 4.5 Compatibility with Other Road Users

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

As referenced earlier, the Greater Dublin Area Cycle Network Plan was adopted by the NTA in early 2014 and there are a large number of cycle routes (primary route 7B and secondary routes 8C2, 7D, 8C) identified along this CBC route. The route also connects with the Grand Canal Greenway. During the course of the analysis carried out to identify the preferred CBC, the provision of these cycle routes was considered at all stages.





Figure 4-2: Extract for the GDA Cycle Network Plan for the Study Area

Where it is considered impractical to construct pedestrian or cycle facilities along a section of the CBC route, such facilities need to be provided along a suitable alternative route. Where segregated cycle facilities cannot be provided along the CBC route and there is no suitable routing alternative, it may be possible for cyclists to share the bus lane with other vehicles. However, such proposals need careful consideration and design to ensure the safety of cyclists, with additional mitigation measures, such as traffic calming measures and other urban realm design solutions possibly required.

General traffic flow and local access will be maintained along the CBC although it is inevitable that there will be impacts on traffic capacity along the route associated with the reallocation of road space to CBC priority and cycle facilities and the introduction of turning movement restrictions. Any reductions in traffic carrying capacity of the road network may need to be considered in the context of the overall planned significant increase in quality and level of service of other modes (including increased capacity provision) on the CBC route once implemented.

## 5. Review of Previous Feasibility Study and Options Assessment Report

### 5.1 Introduction

Following a comprehensive review of the potential route options within the study area a 2-stage assessment process was used to narrow down the number of routes available to one optimal route per study area. These 2 routes then converged to form the overall concept scheme, which developed into the Emerging Preferred Route Option which was presented at public consultation for information and feedback.

As part of the consultation process, the preparation of the Feasibility Study and Options Assessment Report served to give the public a greater insight to how the process took place in addition to providing a transparency to the process of elimination used to determine the optimal route, given the information available and best engineering judgement.

This chapter provides a summary of the outcome of the options assessment also outlines the main material changes. These are: changes as a result of the topographical survey, changes due to public consultation (first and second rounds) and community engagement, inconsistencies in the previous assessment, and additional option assessment and development.

### 5.2 Assessment Methodology

The development of the Emerging Preferred Option during the feasibility stage was carried out in 2 stages. The first stage was a high-level route options assessment or 'sifting' process which appraised several potentially viable route options.

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

A 'spider's web' of route options was produced that would accommodate the objectives of the CBC for the study area as shown in Figure 5.1 below.

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

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

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

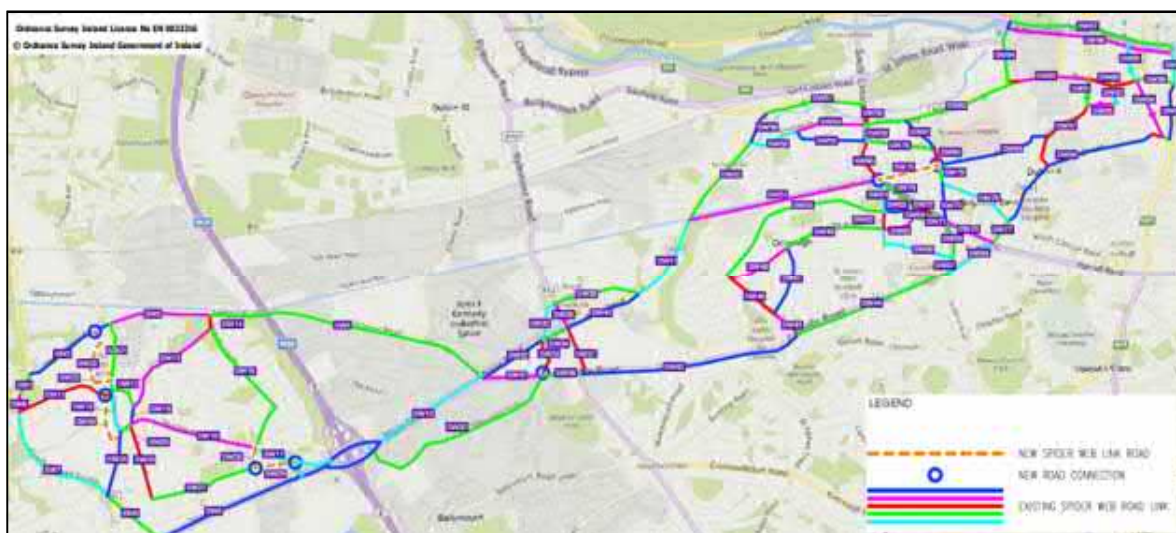


Figure 5-1: Spiders Web of Route Options

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

Following completion of Stage 1, the remaining potentially viable options were progressed to Stage 2 of the assessment process. This process involved a more detailed qualitative and quantitative assessment using criteria established to compare the route options. The indicative scheme for each route option was then progressed to a multi-criteria assessment. The 'Common Appraisal Framework for Transport Projects and Programmes' published by the Department of Transport, Tourism and Sport (DTTAS), March 2016, requires schemes to undergo a 'Multi-Criteria Analysis' (MCA) under the following criteria;

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

Physical Activity was scoped out of the multi-criteria assessment at this stage. This was due to all route options carried forward, promote physical activity equally and as such it was not considered to be a key differentiator between route options.

Table 5-1 presents a summary of the CBC assessment criteria and sub-criteria used as part of the Stage 2 detailed route options assessment process.

**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
3. Accessibility & Social Inclusion	3.a. Key Trip Attractors (Education/Health/Commercial/Employment)
	3.b. Deprived Geographic Areas
4. Safety	4.a. Road User 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

**Table 5-2: Assessment Ranking**

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

Following the application of the MCA the Emerging Preferred Route Option was carried forward to the 1<sup>st</sup> Public Consultation.

## 5.3 Study Area Section 1: R136 Outer Ring Road to R113 Fonthill Road South

As described in Section 4.1, the Feasibility Report concluded that the existing high quality of bus infrastructure within the area, as well as modest potential for development leading to increased demand for public transport, meant that there was limited benefit to be had in starting the route within this area. Therefore, the Emerging Preferred Route (EPR) Option commenced at the start of Section 2.



## 5.4 Study Area Section 2: R113 Fonthill Road South to Long Mile Road / Naas Road / Nangor Road junction

### 5.4.1 EPR Option

In Section 2 the CBC commenced at the Woodford Walk / Nangor Road junction, continuing along Nangor Road until the Nangor Road / Long Mile Road / Naas Road junction. It is proposed to provide continuous bus along the length of Nangor Road, with cycle facilities provided on both sides of the road over its full length.

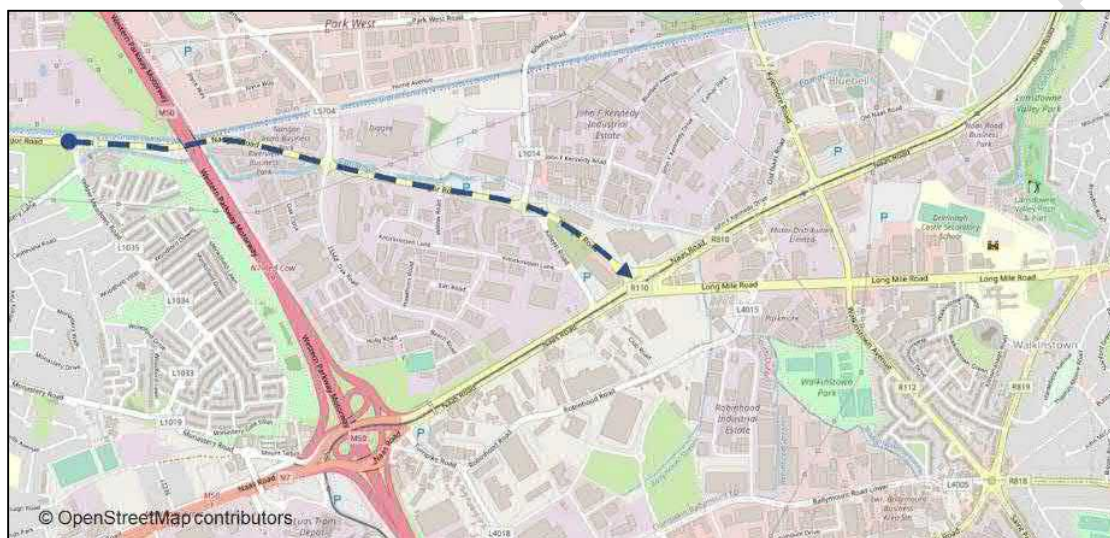


Figure 5-2: EPR for Section 2 of the Clondalkin CBC

The EPR Option proposed to upgrade the existing roundabout at Riverview Business Park to a signal controlled junction with pedestrian crossing facilities. Other signalised junctions on Nangor Road are proposed to be retained, with carriageway widening on approaches to these junctions. Cycle facilities, including lanes through the junction and pockets for right turning cyclists were also proposed.

### 5.4.2 Areas Identified for Re-examination

Table 5-3 indicates the results of the MCA undertaken as part of the Feasibility and Options Study for the options Woodford Road and Long Mile Road, along Nangor Road. Following the initial public consultation and review of the previous assessment no changes are proposed to the Emerging Preferred Route Option for this Section of the Clondalkin to Drimnagh Corridor.

**Table 5-3: Section 2 Woodford to Long Mile Road**  
**Summary for Preferred Route Option MCA Assessment.**

Assessment Criteria	Nangor Road Option 2-3
Economy	
Integration	
Accessibility & Social Inclusion	
Safety	
Environment	

This option is the clear Preferred Route Option, with significant advantages over the other options for all MCA Criteria's and is thus the optimum route option for the following reasons:

- It delivers end to end bus lanes through Section 2 of the study area providing improved journey time reliability;
- It serves a high level of existing and proposed residential and employment catchments; and
- It provides a variety of cycle facilities in line with the GDA Cycle Network Plan.

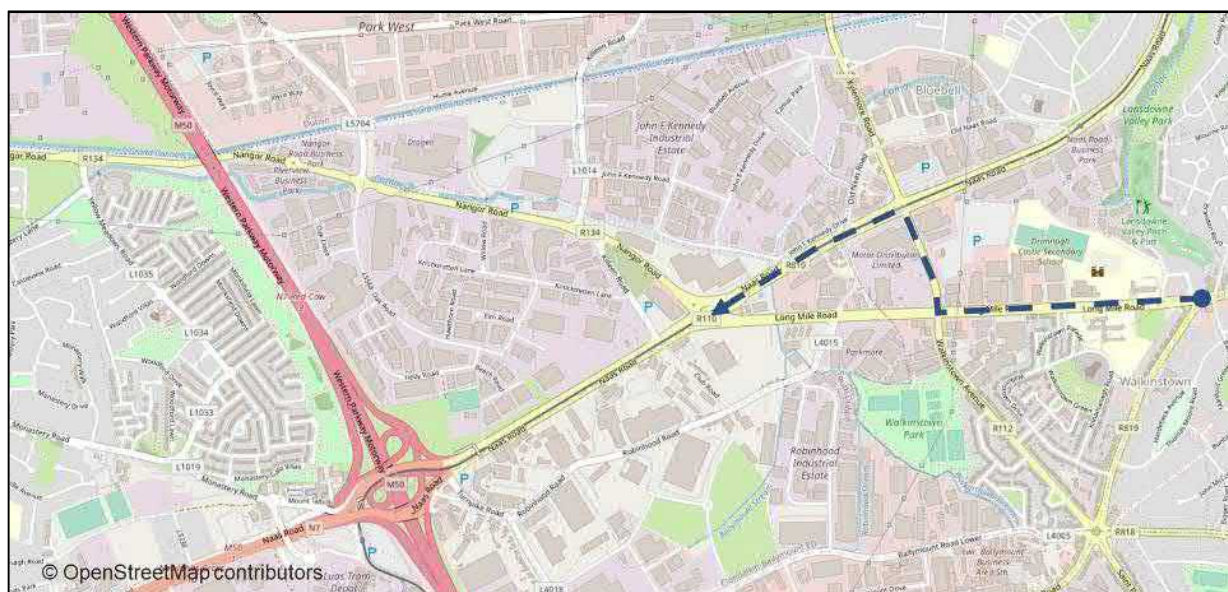
No rating have changed for any of these options, as such this route is taken forward as the Preferred Route Option for this Section of the Clondalkin to Drimnagh Corridor.

Some design changes have been considered as a result of the first stage public consultation, with a number of concerns raised with regard to safety for cyclists and pedestrians at junctions. The proposed use of left turn slip lanes at signalised junctions was a particular cause for concern. A revised layout has been considered to reduce this hazard and is shown in the revised drawings. In addition, some modifications to the EPR Option proposals were required at the M50 overbridge as the topographical survey indicated there was less space available under the bridge than was initially thought. Both of these design changes do not impact on the route selection and therefore have no impact on the outcome of this report.

## 5.5 Study Area Section 3: Long Mile Road / Naas Road / Nangor Road junction to Drimnagh

### 5.5.1 EPR Option

At the Nangor Road / Long Mile Road / Naas Road junction the route turns Left towards the Kylemore Luas Stop and returns to the Long Mile Road via Walkinstown Avenue. The route continues along the Long Mile Road to the Junctions of Drimnagh Road/ Walkinstown Road where it joins the Greenhills CBC and uses this corridor to access the City Centre. The EPR Option is indicated in Figure 5-3 below.



**Figure 5-3: EPR for Section 2 of the Clondalkin CBC**

As noted previously the EPR Option is different to that assessed as part of the Feasibility and Options Assessment Study, where the Preferred Route Option continued straight along the Long Mile Road at the Naas Road/Nangor Road junction. The route was primarily directed towards the Kylemore Luas Station to improve integration with the Luas line.

### 5.5.2 Areas identified for Re-examination

While the proposed EPR Option routing did not raise any objections during public consultation, in fact the integration with the Luas Red Line at Kylemore Road was welcomed, it is necessary to undertake a Stage 2 assessment of the variation to ensure that this route is in fact the optimum routing along this corridor.

While not a proposal that will impact on the route selection it is also proposed to assess the provision of a grade-separated cycle/pedestrian bridge at the Long Mile Road/ Naas Road junction as it is a significant investment and needs to be carefully considered

The outcome of these reviews will be outlined in Section 6.

Design changes being considered along this section include;

- Providing a large space for bus stops at the Kylemore Road, necessitating the modification of the Kylemore Road Naas Road junction; and
- Revised layout for some junctions to remove the cycle lanes that have been located outside of left turn lanes.

These design changes will not impact on the selection of the Preferred Route Option and therefore have no impact on the outcome of this report.



## 5.6 Summary

In reviewing the Emerging Preferred Route Option, it can be concluded that the routing for Section 2 is following the optimum routing and while it also appears that Section 3 is also following an optimum routing this needs to be confirmed due to changes made previously that have not been fully assessed. The outcome of this review will be outlined in the following Section 6.

Figure 5-4 indicates the section of the EPR Option in green which are now confirmed as the Preferred Route Option for the Clondalkin to Drimnagh Corridor.

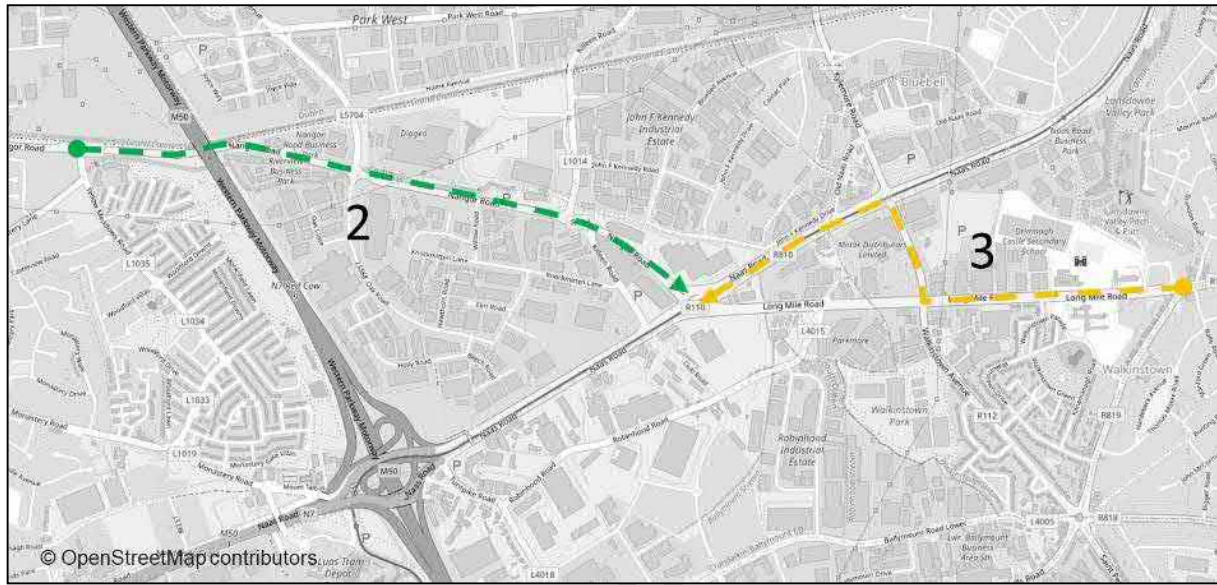


Figure 5-4: Emerging Preferred Route Option, highlighting sections that are confirmed in green

## 6. Options Assessment

### 6.1 Section 3: Long Mile Road / Naas Road / Nangor Road junction to Drimnagh

#### 6.1.1 Introduction

As described earlier, following the first public consultation and a review of the previous assessment, the key scheme route amendments to be assessed during the development of the Preferred Route Option are:

- Confirmation of routing of Section 3, direct along Long Mile Road or via the Kylemore Luas Station (Naas Road and Walkinstown Avenue); and
- Provision of a grade segregated pedestrian and cyclist crossing at the Nangor Road / Long Mile Road / Naas Road junction in order to reduce conflicts with vehicular traffic.

#### 6.1.2 Section 3 Route Options Assessment

Within Section 3 a variation of one of the route options required further assessment, and that is Route Option 3-1 which was selected in the Feasibility and Options Study as the Emerging Preferred Route Option. This option was selected as it provided high quality bus priority that links with the Greenhills Corridor at Drimnagh Road and thus provided the most cost-effective solution for linking Clondalkin to the City Centre.

The variation to this corridor is to reroute the bus towards the Kylemore Luas Stop on Naas Road and then back to Long Mile Road via Walkinstown Avenue. This allows the CBC to interact directly with the Luas Line and provide for better integration between the modes and passenger interchange. While this option was presented as the Emerging Preferred Route Option during the first round of public consultation a comparison between the options was not undertaken previously.

Details of Option 3-1 are included in the Feasibility and Options Report. In summary it included upgrade of the existing bus facilities between Naas Road and Walkinstown Avenue. In addition, cycle lanes were to be provided on both sides of the road and the junction of Walkinstown Avenue/ Long Mile Road was to be upgraded. The variation on this option 3-1:1 is shown in Figure 6-1 below. This option will include an upgrade to the existing bus lanes on the Naas Road and the provision of new bus lanes in each direction on Walkinstown Avenue. Segregated cycle facilities are proposed along the length of this route, as well as significant upgrades to the Kylemore Road/ Naas Road and Walkinstown Avenue/ Long Mile Road junctions. Parallel to the Kylemore station large bus stops are to be provided to enable passengers to move easily between bus and Luas. This alternative routing is approximately 300m longer than the direct route on Long Mile Road.

Typical cross sections for the Naas Road and Walkinstown Avenue are shown in Figures 6-2 and 6-3 below.



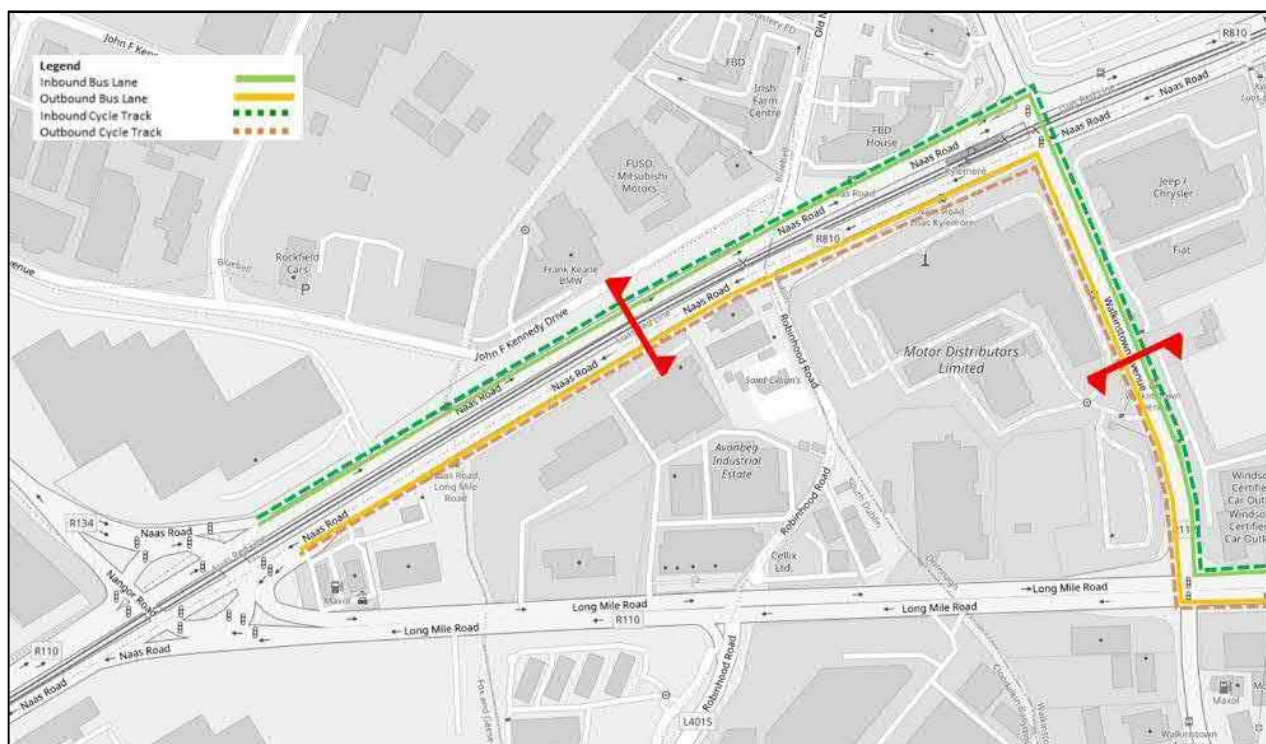


Figure 6-1: Route Option S3-1:1 Indicative Design

(Source: © OpenStreetMap Contributors)

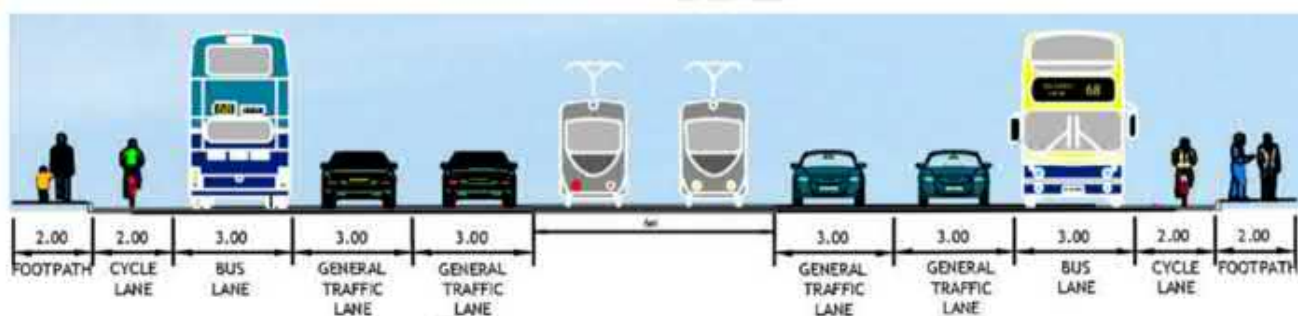


Figure 6-2: S3-1:1 Cross Section on Naas Road

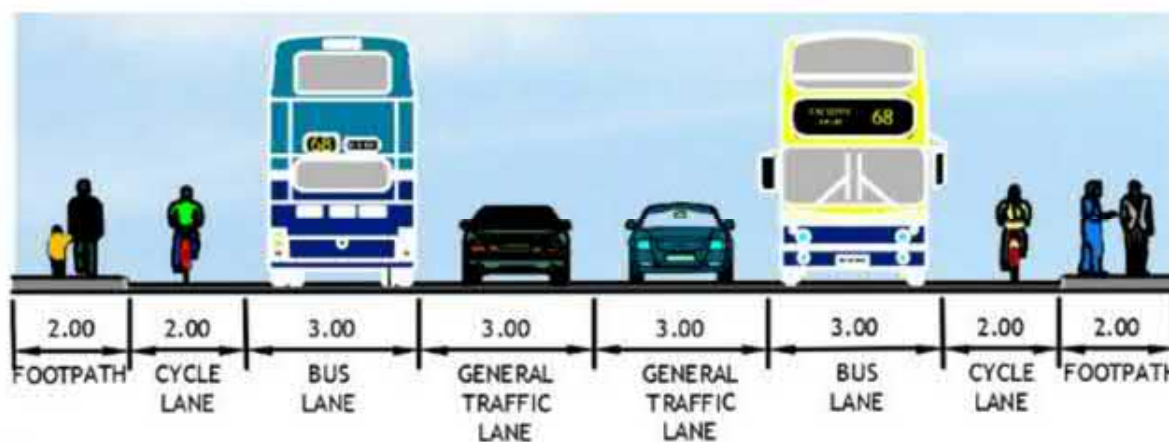


Figure 6-3: S3-1:1 Cross Section on Walkinstown Avenue

## 6.1.3 Options Assessment – Nangor Road to Walkinstown Avenue (Section 3)

Details of the revised Stage 2 route options assessment undertaken for the start of Section 3, between Nangor Road and Walkinstown Avenue, is summarised in Table 6-1, using the criteria as set out in Table 5-1: Assessment Criteria. The detailed MCA Tables are provided in Appendix A, Table A1.

**Table 6-1: Additional Options Assessment for Long Mile Road Variation (Section 3)**

Assessment Criteria	Route Option S3-1 (via Long Mile Road)	Route Option S3-1:1 (via Naas Road/ Walkinstown Aven.)
Economy		
Integration		
Accessibility & Social Inclusion		
Safety		
Environment		
Overall		

Following reassessment of the two route options it is clear there are relatively small differences and in general they have similar impacts, with sub option S3-1:1 slightly longer resulting in marginally larger impacts. However, the route option via Naas Road/ Walkinstown provides a significant advantage over the more direct routing via Long Mile Road in that it directly links to the Luas Red Line at Kylemore Station. This will allow passengers to easily transfer between modes and is likely to have a significant impact on the accessibility of the Clondalkin area. For this reason, it is recommended that the route option via Naas Road and Walkinstown Avenue (S3-1:1) is taken forward as the Preferred Route Option in this area.

## 6.2 Grade-Separated Pedestrian / Cyclist Crossing Nangor Road / Long Mile Road / Naas Road junction

### 6.2.1 Alternative Option Considered

The Nangor Road/ Long Mile Road/ Naas Road junction is a very large and complex traffic signal controlled intersection, catering for large traffic flows and the LUAS line running through the middle of it. for pedestrians to cross the road at present they must use signal controlled crossing, crossing one link at a time. At present it can take between 4 and 5 minutes to cross the Long Mile Road using these signals, and the EPR Option (Figure 6-4) did not propose any changes to the facilities for pedestrians or cyclists. While the pedestrian and cycle flows are low at present this is likely to change in the years to come as the regeneration of the lands around the intersection gets underway. For this reason, consideration has been given to how pedestrian and cyclists can be better catered for at this location. In considering alternative facilities, a concept scheme was developed for grade separated pedestrian and cyclist facilities as shown in Figures 6-5 below.



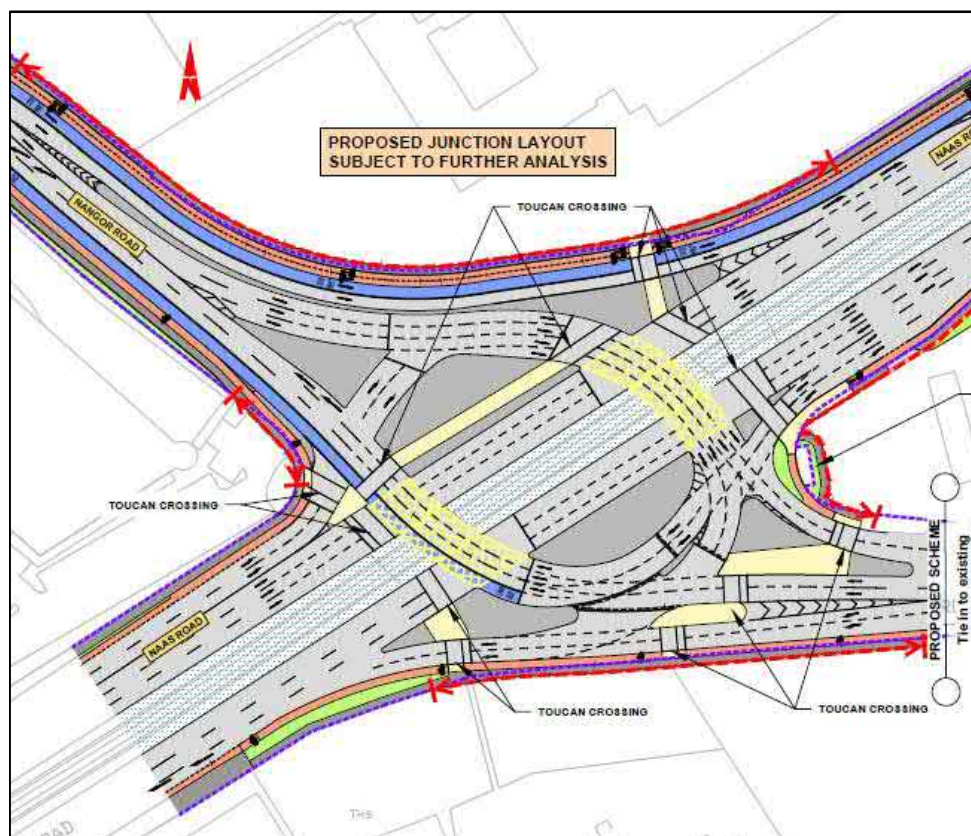


Figure 6-4: - Emerging Preferred Route (EPR) Option - At-grade Crossing Facilities.

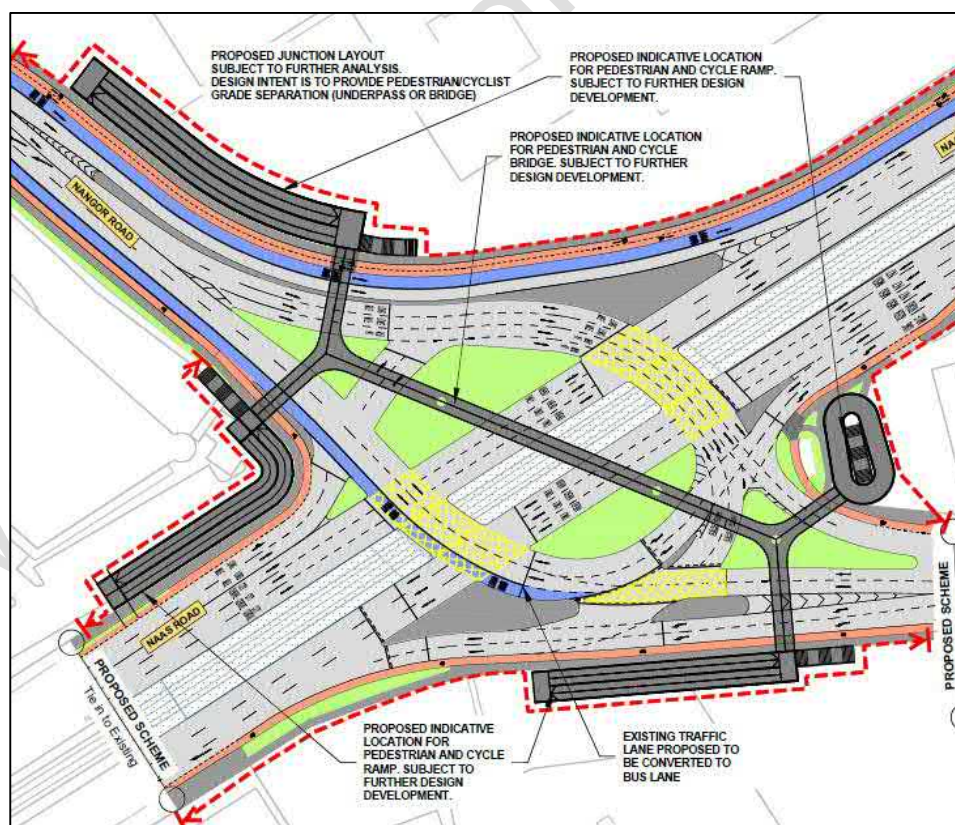


Figure 6-5: Alternative Grade Separated Pedestrian and Cyclist Facilities.

The EPR Option and alternative option are described below.

#### *Emerging Preferred Route (EPR) Option*

The EPR Option layout retains the existing complex geometric arrangement, which comprise a series of linked traditional traffic signals in a gyratory arrangement with at-grade crossing facilities provided via a series of Toucan crossings around the outer limits of the junction.

#### *Alternative Concept Design Option*

A grade-separated bridge for pedestrians and cyclists is proposed with steps and ramps provided at each of the four corners of the junction. Four short bridge spans cross the entry and exit arms of Nangor Road and Long Mile Road, connecting to form a single long span of the Naas Road and Luas Red Line, with up to four support columns located in the existing traffic islands.

## 6.2.2 Options Assessment

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

The alternative option improves significantly the safety of pedestrian and cyclists by removing the conflict with vehicular traffic.

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

Also, the alternative arrangement will improve the junction performance for general traffic due to no longer having to incorporate phases for pedestrians and cyclists.

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

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

Details of the assessment are presented in Appendix A, Table A2, and summarised in Table 6-2 below.

**Table 6-2: Assessment Summary**

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

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

## 6.3 Summary

In reviewing the Emerging Preferred Route Option, it can be concluded that the routing for Section 3 is following the optimum routing and should be taken forward as the Preferred Route Option. It is also recommended that a grade-separated crossing of the Nangor Road/ Long Mile Road/ Naas Road junction should also be incorporated into the Preferred Route Option.

Therefore Figure 6-6 indicates the confirmed Preferred Route Option for the Clondalkin to Drimnagh Corridor.



Figure 6-6: Preferred Route Option for the Clondalkin to Drimnagh CBC.



# 7. Preferred Route Option

## 7.1 Introduction

Chapter 5 presented the sections of the Emerging Preferred Route Option that is recommended to be taken forward as the Preferred Route Option and it also identified sections where further appraisal was necessary. Chapter 6 outlined the proposed changes and the additional appraisal that was undertaken for the Clondalkin to Drimnagh CBC. Following this additional appraisal, the preferred option for each section has been joined together to form an end-to-end preferred route option. This chapter summarises and describes the preferred route option and the preferred route scheme design. The updated preferred route option scheme design drawings are included in Appendix D.

## 7.2 Preferred Route Option Description

### 7.2.1 Woodford Walk / Nangor Road to Nangor Road / Naas Road / Long Mile Road

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

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

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

Cycle tracks will be provided on both sides of the carriageway the length of Nangor Road, with cyclists able to join the cycle track at Woodford Walk from either the carriageway or the N10 Grand Canal Greenway. Additional cyclist connections to the Greenway from the north of Nangor Road are provided at the M50 overbridge. This route aligns with the proposed Primary Route 7B/N10 until cyclists re-join Nangor Road beyond the M50 overbridge. The route also aligns with Secondary Route 8C2 along its extents as outlined in the GDA Cycle Network Plan.

A continuous footway will be provided along the south side of Nangor Road. To the north of Nangor Road, no footway is proposed between the Woodford Walk bus stop and the proposed greenway connection to the east of the M50 overbridge. Pedestrians can use the Greenway to the north of Nangor Road, or they can use the carriageway adjacent pedestrian facilities provided to the south of the carriageway.

### 7.2.2 Nangor Road / Naas Road / Long Mile Road to Long Mile Road

The proposed route commences at the Nangor Road / Naas Road / Long Mile junction. A pedestrian and cyclist footbridge is proposed at this junction; however, its layout is subject to option development.

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

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

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

The junction of Walkinstown Avenue is being reconfigured to provide enhanced pedestrian and cyclist facilities. The westbound approach to the junction on Long Mile Road is also being altered, with a bus gate being provided for improved priority for right turning buses into Walkinstown Avenue. Bus priority is maintained along Long Mile Road until the junction with Slievebloom Park, at which point the CBC joins the Greenhills to City Centre CBC. Existing footways have largely been maintained, with raised tables proposed adjacent to schools in order to improve pedestrian accessibility. Cycle tracks are provided in both directions, aligning with proposed Secondary Route 8C as outlined in the GDA Cycle Network Plan.

## 7.3 Carbon

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 that reduced carbon include the following:

- Retention of existing kerb lines at several locations, significantly reducing the construction works on this section; and
- A change that will generate an increase in carbon is the addition of a new pedestrian and cyclist bridge over the Naas Road / Nangor Road / Long Mile Road junction.

Construction carbon will continue to be considered and assessed as part of the evolving scheme design and the preparation of the supporting EIAR documentation.

## 7.4 Summary

The Preferred Route Option is approximately 11km long from end to end. The updated concept scheme design drawings show the extent of the infrastructure proposed to deliver this CBC and the length of the primary interventions are summarised in Table 7-1 below.

**Table 7-1 Summary of Bus and Cycle Interventions on the Greenhills to City Centre CBC.**

Intervention	Existing (km)	Proposed (km)
<b>Bus Priority</b>		
<b>Bus Lanes</b>		
Inbound	1.7	2.8
Outbound	2.3	3.4
<b>Virtual Bus Lanes</b>		
Inbound	0	0
Outbound	0	0
<b>Total Bus Priority (both directions)</b>	<b>4.0</b>	<b>6.2 (+55%Change)</b>
<b>Cycle Facilities</b>		
<b>Cycle Lanes – Segregated</b>		
Inbound	0.4	3.9
Outbound	0.0	3.9
<b>Cycle Lanes – Non-segregated</b>		
Inbound	0.8	0
Outbound	1.4	0
<b>Total Cycle Facilities (both directions)</b>	<b>2.6</b>	<b>7.8 (+200%Change)</b>

## 8. Next Steps

This report has identified a Draft Preferred Route Option for the bus infrastructure along this Core Bus Corridor for which an updated concept design has been developed.

The next project stage (the development of a Preliminary Design) will further refine and update the concept design along the route taking into account any further feedback from the third round of non-statutory public consultation. 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 - Multi Criteria Analysis Tables

Work in Progress - Draft



**A1 Clondalkin CBC Section 3 Options Assessment**

Assessment Criteria	Assessment Sub-Criteria	Route Option 3:1 (via Long Mile Road) Total Capital € Indicative Infrastructure costs €	Route Option 3:1:1 (via Naas Road/ Walkinstown Aven.) Total Capital €€ Indicative Infrastructure costs €€
Economy (Cost Assessment and Transport Economic Indicators)	Capital Cost	<ul style="list-style-type: none"> <li>- New/upgraded bus lanes along the R110 between Nangor Road and Walkinstown Avenue.</li> <li>- Reconfiguration of the signal-controlled junctions along this section.</li> <li>- The provision of cycle facilities along this section.</li> <li>- Improved Pedestrian Facilities along the proposed corridor</li> </ul>	<ul style="list-style-type: none"> <li>- New/upgraded bus lanes along the R810 and 112.</li> <li>- Reconfiguration of the signal-controlled junctions along this section.</li> <li>- The provision of cycle facilities along this section.</li> <li>- Improved Pedestrian Facilities along the proposed corridor</li> </ul> <p>Land Acquisition Costs (€) Private Lands 700sqm</p>
	Rank		
	Transport Reliability and Quality of Service	<p>Journey Time 2-3 mins Approximate Length: 0.8KM</p> <p>Full bus priority provided Good journey time reliability for Bus services.</p>	<p>Journey Time 3-4 mins Approximate Length: 1.1KM</p> <p>Full bus priority provided Good journey time reliability for Bus services.</p>
	Rank		
Integration	Land Use Integration	<p>The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the south of the Long Mile Road. This corridor offers more opportunities for connection with these lands than the other options.</p> <p>The route offers the potential to connect with lands zoned "To provide for enterprise &amp; employment related uses", as located to the south of the Long Mile Road. This corridor offers more opportunities for connection with these lands than the other options.</p> <p>The route offers the potential to connect with lands zoned "To provide for enterprise &amp; employment related uses", as located to the northwest of the Naas Rd.</p>	<p>The route offers the potential to connect with lands zoned "To facilitate enterprise and/or residential led regeneration", as located to the south of the Long Mile Road. This corridor offers more opportunities for connection with these lands than the other options.</p> <p>The route offers the potential to connect with lands zoned "To provide for enterprise &amp; employment related uses", as located to the south of the Long Mile Road. This corridor offers more opportunities for connection with these lands than the other options.</p> <p>The route offers the potential to connect with lands zoned "To provide for enterprise &amp; employment related uses", as located to the northwest of the Naas Rd</p> <p>Unlike Long Mile Road, this route will pass through the heart of the main Regeneration area which is to be centred around the Kylemore Station.</p>
	Rank		
	Residential Population and Employment Catchments	<p><b>Residential Population Catchments</b></p> <ul style="list-style-type: none"> <li>- 5-minute walk catchment of approx. 27,717</li> <li>- 10-minute walk catchment of approx. 58,590</li> <li>- 15-minute walk catchment of approx. 89,176</li> </ul> <p><b>Employment catchments</b></p> <ul style="list-style-type: none"> <li>- 5-minute walk catchment of approx. 15,845</li> <li>- 10-minute walk catchment of approx. 39,242</li> <li>- 15-minute walking catchment of approx. 78,908</li> </ul>	<p><b>Residential Population Catchments</b></p> <ul style="list-style-type: none"> <li>- 5-minute walk catchment of approx. 27,717</li> <li>- 10-minute walk catchment of approx. 58,590</li> <li>- 15-minute walk catchment of approx. 89,176</li> </ul> <p><b>Employment catchments</b></p> <ul style="list-style-type: none"> <li>- 5-minute walk catchment of approx. 15,845</li> <li>- 10-minute walk catchment of approx. 39,242</li> <li>- 15-minute walking catchment of approx. 78,908</li> </ul>
	Rank		
	Transport Network Integration	Potential for interchange with local bus services. This route is too far from the Luas Line to generate interchange between these modes.	Provides a bus stop immediately adjacent to the Luas Red Line Station at Kylemore. Can substantially increase the catchment area of the Luas Line.
	Rank		
	Cycling Integration	This route option comprises an element of secondary routes 8C	This route option comprises an element of secondary routes S04 and 7D.
	Rank		
Accessibility & Social Inclusion	Key Trip Attractors	<p>Educational Land Use catchments</p> <ul style="list-style-type: none"> <li>- 5-minute walking catchment of approx. 5,487</li> <li>- 10-minute walking catchment of approx. 18,025</li> <li>- 15-minute walking catchment of approx. 35,135</li> </ul> <p>Passes on the edge of the Regeneration Area.</p>	<p>Educational Land Use catchments</p> <ul style="list-style-type: none"> <li>- 5-minute walking catchment of approx. 5,487</li> <li>- 10-minute walking catchment of approx. 18,025</li> <li>- 15-minute walking catchment of approx. 35,135</li> </ul> <p>Passes through the heart of the Regeneration Area.</p>
	Rank		
	Deprived Geographic Areas	According to the Pobal Deprivation Index, the route option primarily serves Marginally Below Average means areas, with some Disadvantaged areas along the Long Mile Rd .	According to the Pobal Deprivation Index, the route option primarily serves Marginally Below Average means areas, with some Disadvantaged areas along the Long Mile Rd .
	Rank		
Safety	Road and Pedestrian Safety	<p>No. of Junctions: 2 (All) Turning Movements required: 0</p>	<p>No. of Junctions: 3 (All) Turning Movements required: 1</p>
	Rank		
Environment	Archaeology and Cultural Heritage	There are no Recorded Monuments or sites of archaeological and cultural heritage merit identified along or within the immediate vicinity of the proposed new route.	There are no Recorded Monuments or sites of archaeological and cultural heritage merit identified along or within the immediate vicinity of the proposed new route.
	Rank		
	Architectural Heritage	Protected structures were identified within the assessment area which were: Ref. 4832, Long Mile Road (no impact)	???????
	Rank		
	Flora and Fauna	Limited Removal of trees envisaged.	Limited Removal of trees envisaged.
	Rank		
	Soils and Geology	No appreciable impacts	No appreciable impacts
	Rank		
	Hydrology	No appreciable impacts	No appreciable impacts
	Rank		
	Landscape and Visual	No appreciable impacts	No appreciable impacts
	Rank		
	Air Quality	Existing bus corridor – no impact	Existing bus corridor – no impact
	Rank		
	Noise & Vibration	Existing bus corridor – no impact	Existing bus corridor – no impact
	Rank		
	Land Use Character	Limited impact on route.	Limited impact on route.
	Rank		

**A2 Clondalkin CBC Long Mile Road/ Naas Road/ Nangor Road Pedestrian/Cycle Bridge Options Assessment**

Assessment Criteria	Sub-Assessment Criteria	Option 1 (Emerging Preferred Design Route – at-grade crossings)	Option 2 (Concept Design Route – including bridge)
1. Economy	1.a. Capital Cost	<ul style="list-style-type: none"> <li>Standard capital cost associated with traffic signalised junction with at-grade crossings</li> </ul>	<ul style="list-style-type: none"> <li>Significant additional capital costs as a result of new bridge structures</li> </ul>
	1.b. Transport Reliability and Quality	<ul style="list-style-type: none"> <li>Continuous bus priority is provided along the route.</li> <li>Additional delays to all vehicular traffic as a result of the pedestrian/cyclist phases in the traffic signals</li> <li>Significant delays to pedestrian and cyclist movements as a result of multiple crossing points with delays at each and indirect routing</li> </ul>	<ul style="list-style-type: none"> <li>Continuous bus priority is provided along the route,</li> <li>Reduced delays to all vehicular traffic as a result of removal of conflict with pedestrians and cyclists</li> <li>Higher quality and reliable movements for pedestrians and cyclists across the junction.</li> </ul>
1 Economy	Summary		
2. Integration	2.a. Land Use Integration	<ul style="list-style-type: none"> <li>The route offers the potential to connect with lands zoned “To facilitate enterprise and/or residential led regeneration”, as well as passing through an area designated a Key District Centre in the Naas Road Lands Plan. The proposed CBC would encourage/support planned development and provide for economic opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>The route offers the potential to connect with lands zoned “To facilitate enterprise and/or residential led regeneration”, as well as passing through an area designated a Key District Centre in the Naas Road Lands Plan. The proposed CBC would encourage/support planned development and provide for economic opportunities. The proposed pedestrian / cyclist bridge would also promote sustainable forms of travel through the district.</li> </ul>
	2.b. Residential Population and Employment Catchments	<ul style="list-style-type: none"> <li>The difference between the residential and employment catchments of the two options, are considered insignificant.</li> </ul>	<ul style="list-style-type: none"> <li>The difference between the residential and employment catchments of the two options, are considered insignificant. However, the Concept Design Route offers improved movement through the site, with the pedestrian and cyclist bridge facilitating movement across the New Nangor Road/Naas Road/Long Mile Road junction and enhanced facilities at the interchange with Kylemore Road.</li> </ul>
	2.c. Transport Network Integration	<ul style="list-style-type: none"> <li>Route provides high frequency services between Woodford Walk and Long Mile Road with connection to spine branches for local services.</li> <li>Interchange with the Luas Red Line at Kylemore.</li> <li>Interchange with the Tallaght / Clondalkin to City Centre CBC09.</li> </ul>	<ul style="list-style-type: none"> <li>Route provides high frequency services between Woodford Walk and Long Mile Road with connection to spine branches for local services.</li> <li>Interchange with the Luas Red Line at Kylemore. Bus stop facilities have been improved.</li> <li>Interchange with the Tallaght / Clondalkin to City Centre CBC09.</li> </ul>
	2.d. Cycle Network Integration	<ul style="list-style-type: none"> <li>The proposed route generally consists of 2 single cycle tracks routed along the GDA’s Secondary Route 8C2 running parallel with the Grand Canal Greenway Route 7B/N10. At the M50 overbridge cyclists are diverted onto the Greenway due to insufficient width through the underbridge for a cycle track. On approach to the junction with Naas Road and Long Mile Road a two way cycle track is provided to the north and one single track to the south which is then routed along Naas Road, following Secondary Route 7D. Single cycle tracks are then provided along Walkinstown Avenue following Secondary Route S04 before continuing along Long Mile Road on Secondary Route 8C.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed cycle routes follow the same route as the EPR Option, with the exception of the following changes;</li> <li>1. At the M50 overbridge cyclists are routed through the M50 overbridge, with an additional connection to the Greenway provided on either side. This provides cyclists with more access to the greenway cycle route and offers a safer and more convenient route between the city centre and wider feeder routes and local amenities.</li> <li>2. The proposed cyclist and pedestrian overbridge improves cycle route across the New Nangor Road / Naas Road / Long Mile Road junction and connects to Secondary Route 7D on Naas Road and Secondary Route 8C on Long Mile Road to the south of the junction.</li> </ul>
2 Integration	Summary		
3. Accessibility & Social Inclusion	3.a. Key Trip Attractors (Education/ Health/ Commercial/ Employment)	<ul style="list-style-type: none"> <li>Accessibility for cyclists along route is provided. However, at junctions there are safety concerns where cyclists are frequently brought into conflict with left turning traffic.</li> <li>Education; <ul style="list-style-type: none"> <li>Drimnagh Castle Primary School</li> <li>Drimnagh Castle Secondary School</li> <li>Assumption Junior National School</li> </ul> </li> <li>Retail/Leisure; <ul style="list-style-type: none"> <li>Western Industrial Estate</li> <li>Park West Industrial Estate</li> <li>John F Kennedy Industrial Estate</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Accessibility for cyclists along route is provided with revised junction arrangements providing protected movement across junctions for cyclists.</li> <li>Education; <ul style="list-style-type: none"> <li>Drimnagh Castle Primary School</li> <li>Drimnagh Castle Secondary School</li> <li>Assumption Junior National School</li> </ul> </li> <li>Retail/Leisure; <ul style="list-style-type: none"> <li>Western Industrial Estate</li> <li>Park West Industrial Estate</li> <li>John F Kennedy Industrial Estate</li> </ul> </li> </ul>
	3.b. Deprived Geographical Areas	<ul style="list-style-type: none"> <li>Route option serves areas of Disadvantaged to Marginally Above Average means from the Pobal Deprivation Index</li> </ul>	<ul style="list-style-type: none"> <li>Route option serves areas of Disadvantaged to Marginally Above Average means from the Pobal Deprivation Index</li> </ul>
3 Accessibility & Social Inclusion	Summary		
	4.a. Road User Safety	<ul style="list-style-type: none"> <li>The EPR Option design presented a number of safety issues at junctions, with numerous potential interactions between different road users.</li> </ul>	<ul style="list-style-type: none"> <li>A number of amendments to the scheme have been made to improve safety for cyclists and pedestrians;</li> <li>Left turn filter lanes have been removed from junctions, with</li> </ul>

4. Road User Safety		<ul style="list-style-type: none"> <li>Left turn filter lanes at junctions bring left turning traffic into potential conflict with straight through cyclist movements. Right turning traffic are provided with pockets in which to wait to complete their movement across the junction.</li> <li>The provision of shared space and toucan crossing throughout the scheme are also a safety concern for pedestrians, in particular those with disability requirements.</li> <li>No. of road junctions intercepting the route: 11</li> </ul>	<p>protection islands provided to ensure cyclists do not come into conflict with left turning vehicles.</p> <ul style="list-style-type: none"> <li>Toucan crossings have been removed and replaced with separate cyclist and pedestrian crossings, reducing the areas of shared space required where users may come into conflict.</li> <li>A cyclist and pedestrian bridge across the junction is proposed, providing segregated movement across the Naas Road / Nangor Road / Long Mile Road junction.</li> <li>No. of road junctions intercepting the route: 11</li> <li>The number of junctions has not been reduced, but their reconfiguration has been amended to provide protection for cyclists through all movements across the junction via the outer orbital cycle track. The protection islands also serve to reduce the length of pedestrian crossings, and provide crossing points for pedestrians which are segregated from cyclists.</li> </ul>
• 4 Road User Safety	• Summary		
5. Environment	• 5.a. Archaeology and Cultural Heritage	<ul style="list-style-type: none"> <li>No recorded National Monuments along the route.</li> </ul>	<ul style="list-style-type: none"> <li>No recorded National Monuments along the route.</li> </ul>
•	• 5.b. Architectural Heritage	<ul style="list-style-type: none"> <li>There is no significant difference in the impact of the two options on properties of Architectural heritage in the National Inventory directly adjacent to the proposed new cycle route.</li> </ul>	<ul style="list-style-type: none"> <li>There is no significant difference in the impact of the two options on properties of Architectural heritage in the National Inventory directly adjacent to the proposed new cycle route.</li> </ul>
•	• 5.c. Flora and Fauna	<p><u>Impact on Trees</u></p> <ul style="list-style-type: none"> <li>Land take is generally frontal land take from residential and industrial areas so the overall impact on flora and fauna especially trees is minimal, however the locations of the trees that maybe required to be removed are listed below.</li> <li>Removal of trees maybe required in the following locations; <ul style="list-style-type: none"> <li>New Nangor Road adjacent to Woodford Walk – widening to accommodate bus stop.</li> <li>New Nangor Road north, to provide a connection between the cycle track and greenway.</li> <li>New Nangor Road / Oak Road junction. Trees to be removed to accommodate carriageway widening to the south.</li> <li>Naas Road / Walkinstown Avenue. Trees at south west corner of junction to be removed to accommodate revised junction layout.</li> </ul> </li> <li>No Watercourses or open bodies of water are impacted.</li> </ul>	<p><u>Impact on Trees</u></p> <ul style="list-style-type: none"> <li>A considerable amount of land take is required north of the N4 of predominantly grassed verges and grassland, along with a large number of trees to be removed, although much of this will be replanted.</li> <li>Removal of trees maybe required in the following locations; <ul style="list-style-type: none"> <li>New Nangor Road north, to provide a connection between the cycle track and greenway.</li> <li>New Nangor Road / Oak Road junction. Trees to be removed to accommodate carriageway widening to the south.</li> <li>Naas Road / Walkinstown Avenue. Trees at south west corner of junction to be removed to accommodate revised junction layout.</li> </ul> </li> <li>No Watercourses or open bodies of water are impacted.</li> </ul>
•	• 5.d. Soils and Geology	<ul style="list-style-type: none"> <li>In general, the route uses the existing carriageway reservation for the majority of its route. In areas where widening is required there is little risk of affecting the existing geology of the area.</li> </ul>	<ul style="list-style-type: none"> <li>In general, the route uses the existing carriageway reservation for the majority of its route. In areas where widening is required there is little risk of affecting the existing geology of the area. Further investigation in the location of the proposed pedestrian cycle bridge is required.</li> </ul>
•	• 5.e. Hydrology	<ul style="list-style-type: none"> <li>The route runs adjacent to the Grand Canal and crosses the Cammock River. The risk of a 1 in 10 year pluvial flooding event and 1 in 100 year fluvial flooding event has been identified during flood risk analysis on New Nangor Road and Naas Road.</li> </ul>	<ul style="list-style-type: none"> <li>The route runs adjacent to the Grand Canal and crosses the Cammock River. The risk of a 1 in 10 year pluvial flooding event and 1 in 100 year fluvial flooding event has been identified during flood risk analysis on New Nangor Road and Naas Road.</li> </ul>
•	• 5.f. Landscape and Visual	<ul style="list-style-type: none"> <li>The route follows the existing roads of New Nangor Road / Naas Road / Walkinstown Avenue and Long Mile Road, however widening to accommodate cycle tracks in required which has some impact on existing boundaries and landscaping.</li> </ul>	<ul style="list-style-type: none"> <li>The route follows the existing roads of New Nangor Road / Naas Road / Walkinstown Avenue and Long Mile Road, however widening to accommodate cycle tracks in required which has some impact on existing boundaries and landscaping.</li> <li>Additional land take is required to accommodate the cyclist and pedestrian bridge; however, it is considered that this proposal compliments the future rezoned land use of the area as defined in the Naas Road Lands Local Area Plan.</li> </ul>
•	• 5.g. Air Quality	<ul style="list-style-type: none"> <li>The proposed cycle route does not affect the existing traffic in the area. However, the land take in certain areas may result in the loss of</li> </ul>	<ul style="list-style-type: none"> <li>The proposed cycle route does not affect the existing traffic in the area. However, the land take in certain areas will result in a significant</li> </ul>

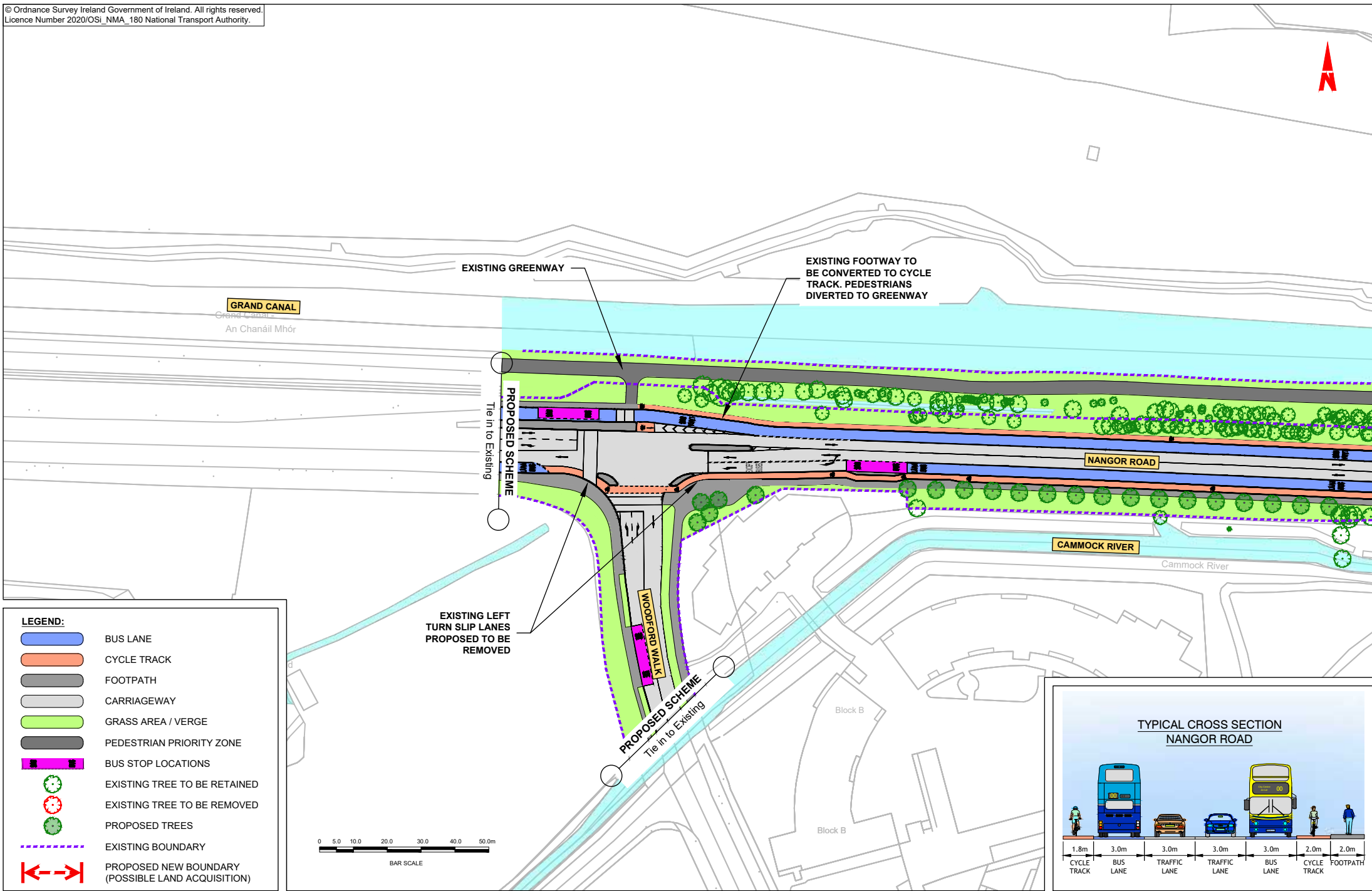
		trees. This will likely increase the amount of dust and other pollutants that may result in a reduction of air quality which will impact sensitive receptor locations along the route.	loss of trees. This will likely increase the amount of dust and other pollutants that may result in a reduction of air quality which will impact sensitive receptor locations along the route.
<ul style="list-style-type: none"><li></li></ul>	<ul style="list-style-type: none"><li>5.h. Noise and Vibration</li></ul>	<ul style="list-style-type: none"><li>There is no significant difference in the impact of the two options on noise and vibration.</li></ul>	<ul style="list-style-type: none"><li>There is no significant difference in the impact of the two options on noise and vibration.</li></ul>
<ul style="list-style-type: none"><li></li></ul>	<ul style="list-style-type: none"><li>5.i. Land Use Character</li></ul>	<ul style="list-style-type: none"><li>There is no significant difference in the impact of the two options on land use character.</li></ul>	<ul style="list-style-type: none"><li>There is no significant difference in the impact of the two options on land use character.</li></ul>
<ul style="list-style-type: none"><li>5 Environment</li></ul>	<ul style="list-style-type: none"><li>Summary</li></ul>		

Work in Progress - Draft













## **Appendix B – Draft Preferred Route Option Drawings for Clondalkin to Drimnagh CBC**

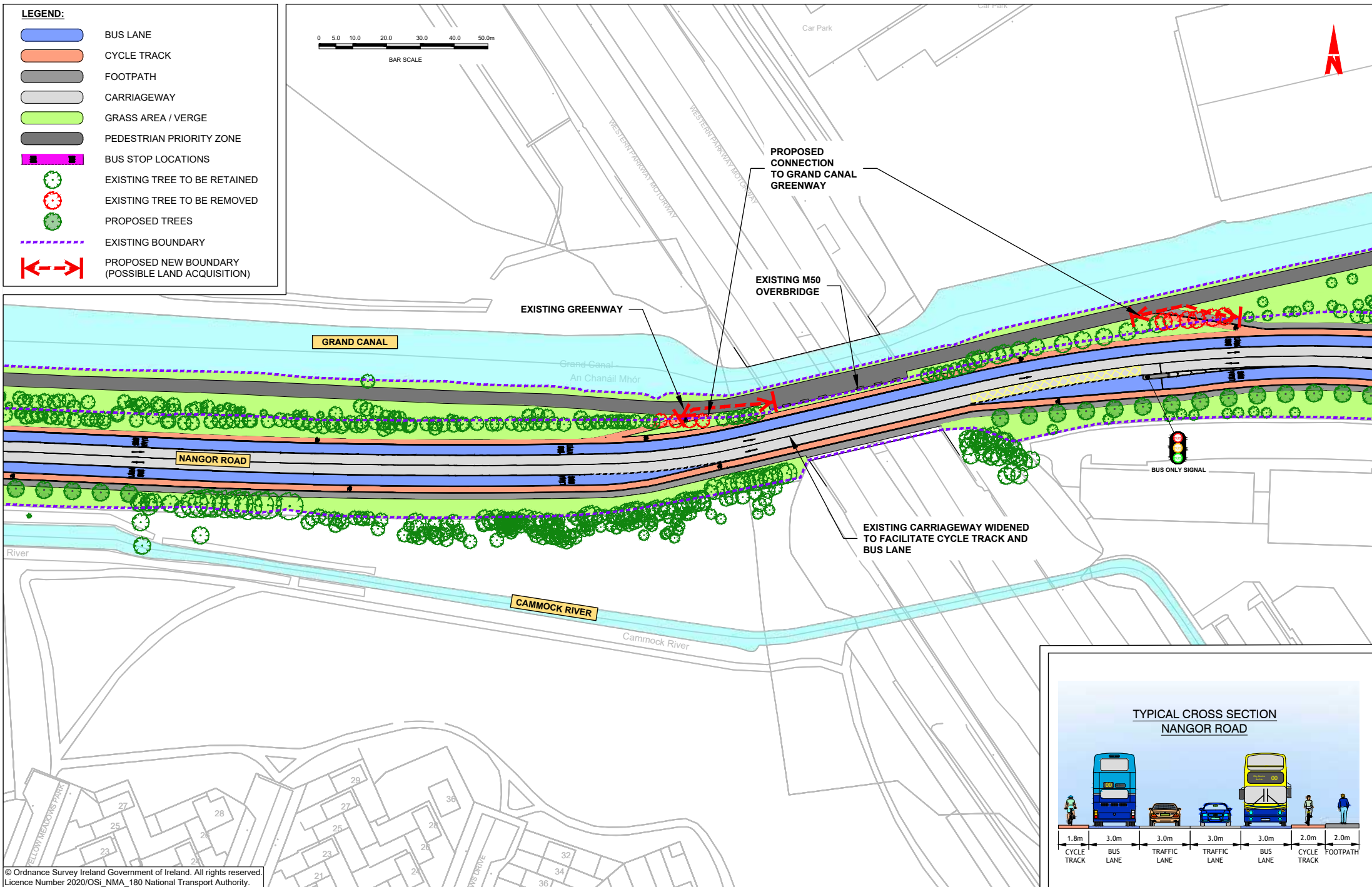
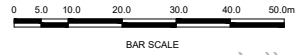
Work in Progress - Draft



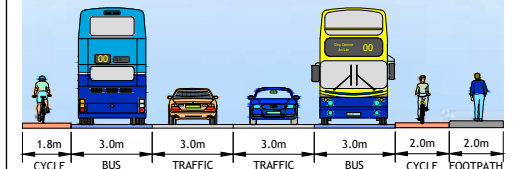


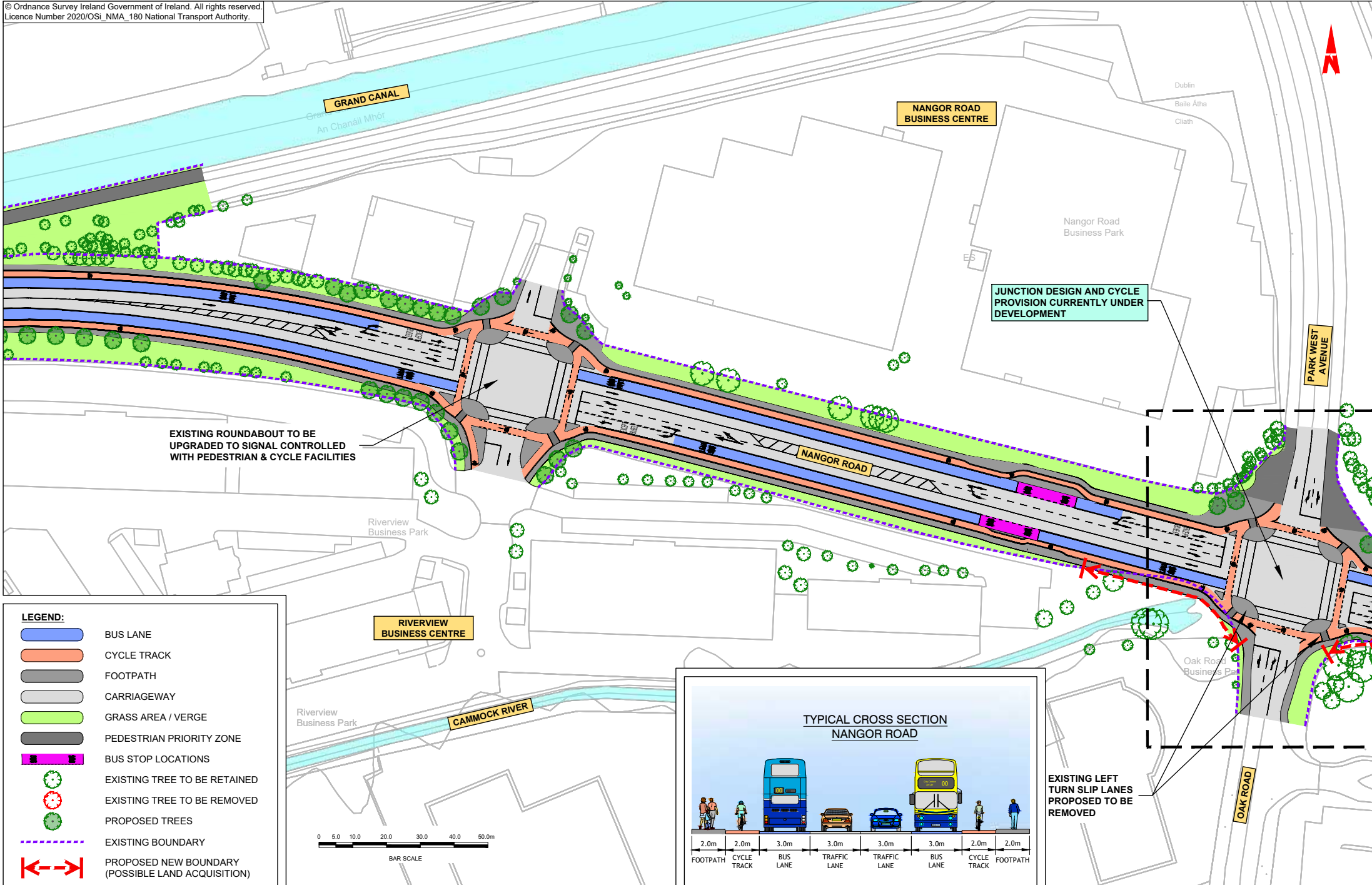
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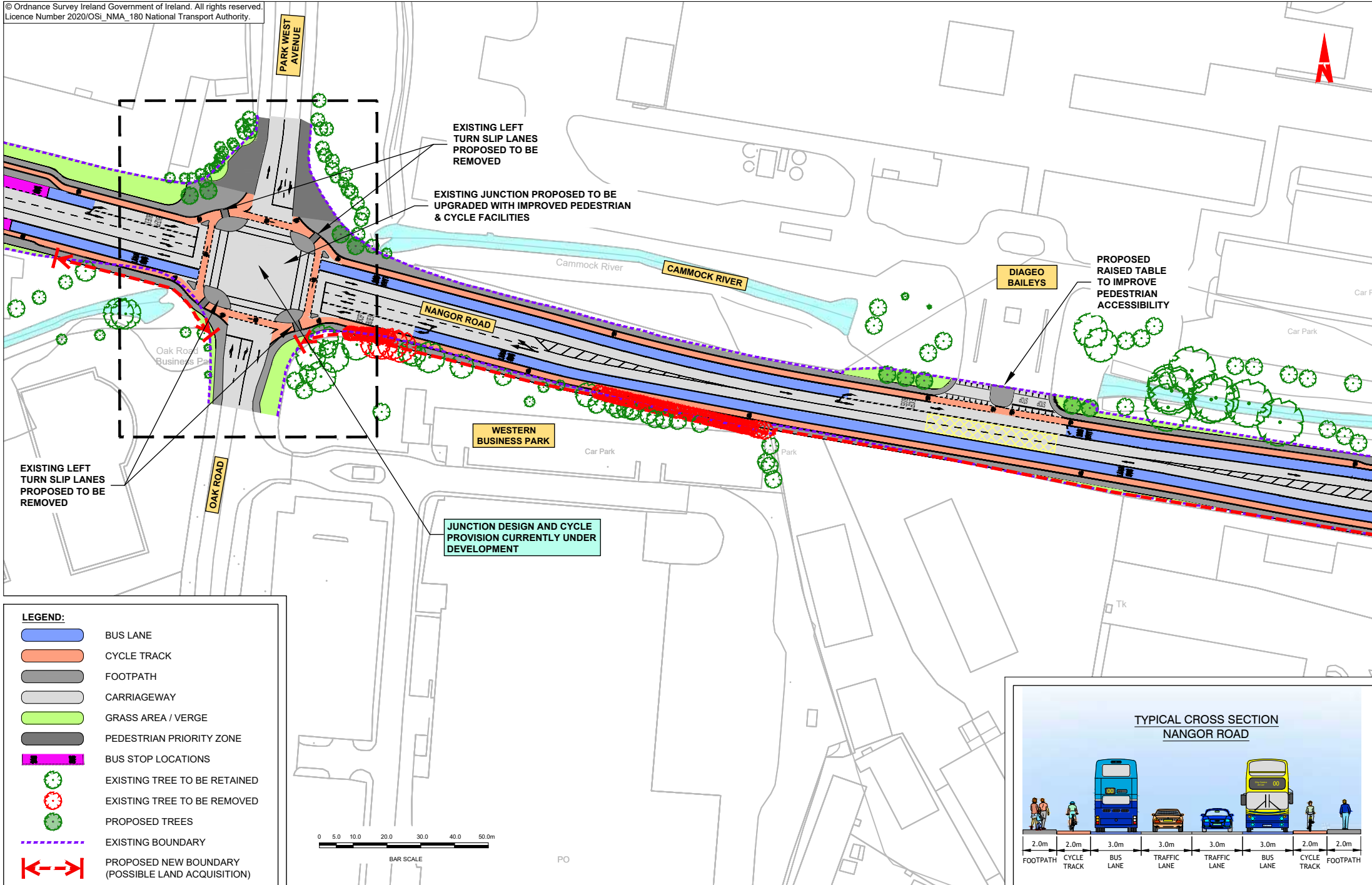
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-  CYCLE TRACK
-  FOOTPATH
-  CARRIAGEWAY
-  GRASS AREA / VERGE
-  PEDESTRIAN PRIORITY ZONE
-  BUS STOP LOCATIONS
-  EXISTING TREE TO BE RETAINED
-  EXISTING TREE TO BE REMOVED
-  PROPOSED TREES
-  EXISTING BOUNDARY
-  PROPOSED NEW BOUNDARY (POSSIBLE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



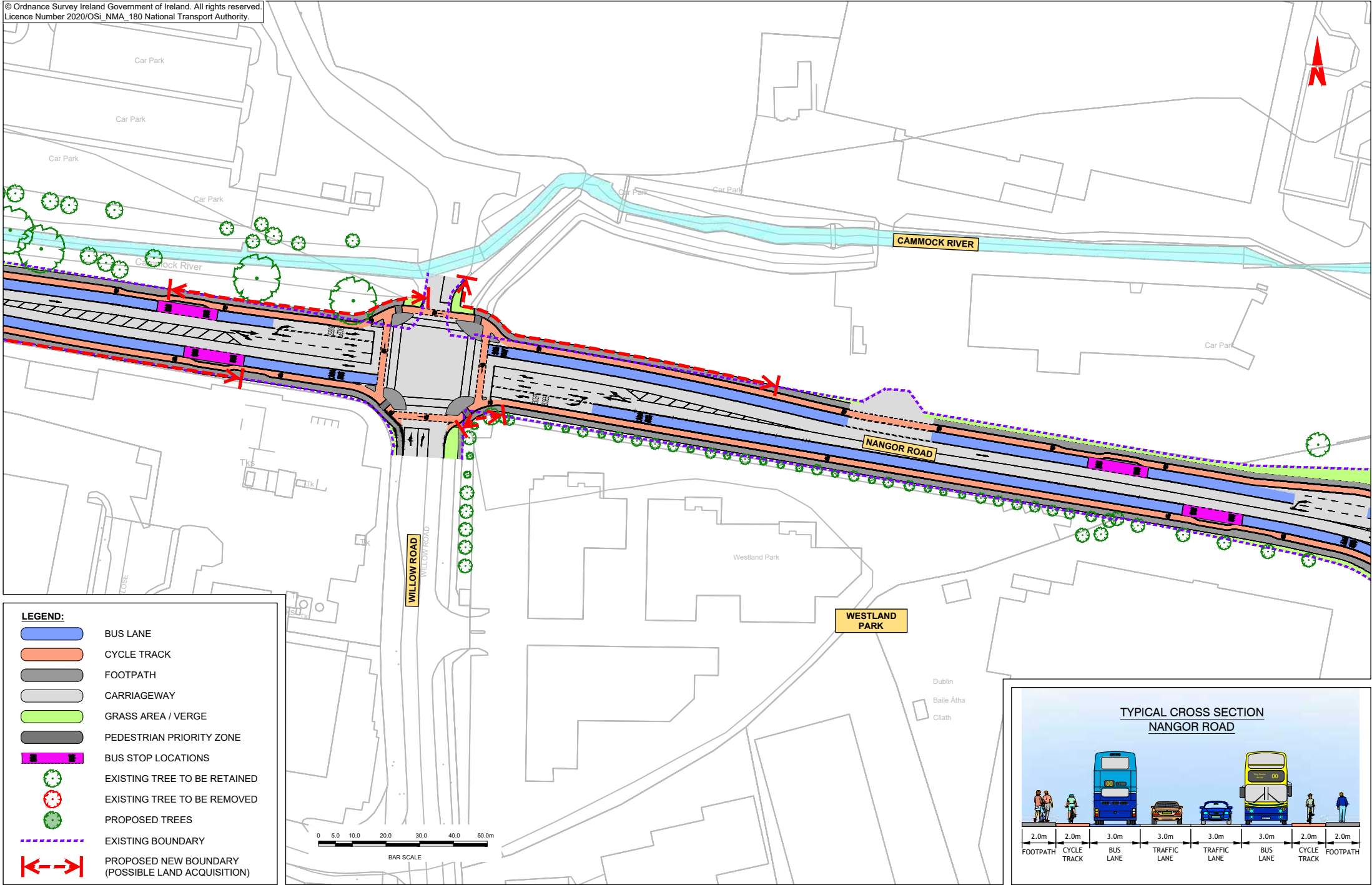
**TYPICAL CROSS SECTION  
NANGOR ROAD**

















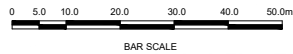




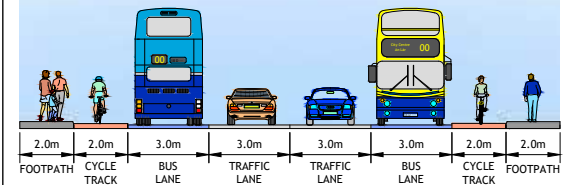


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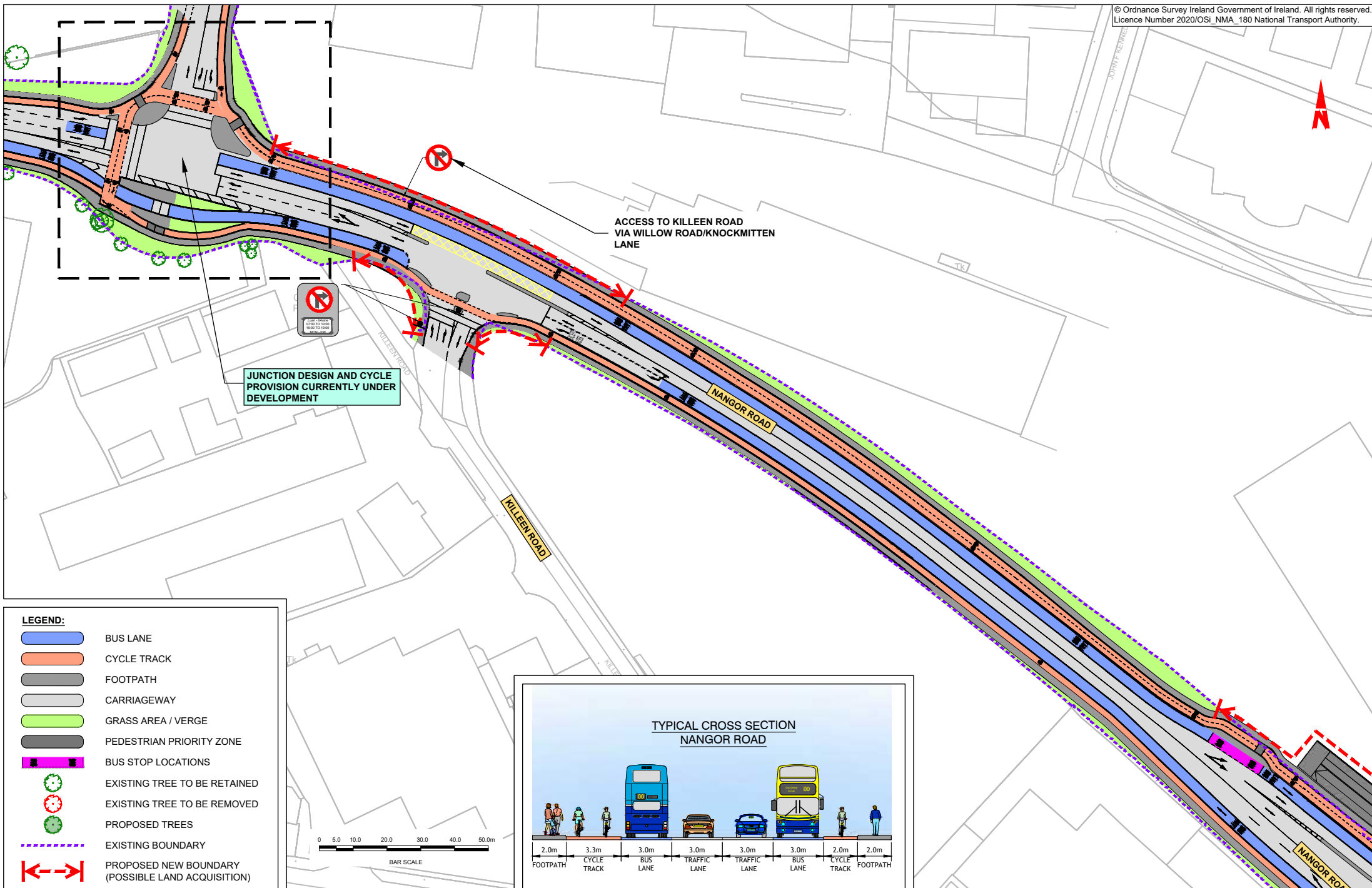
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-  CYCLE TRACK
-  FOOTPATH
-  CARRIAGEWAY
-  GRASS AREA / VERGE
-  PEDESTRIAN PRIORITY ZONE
-  BUS STOP LOCATIONS
-  EXISTING TREE TO BE RETAINED
-  EXISTING TREE TO BE REMOVED
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-  EXISTING BOUNDARY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

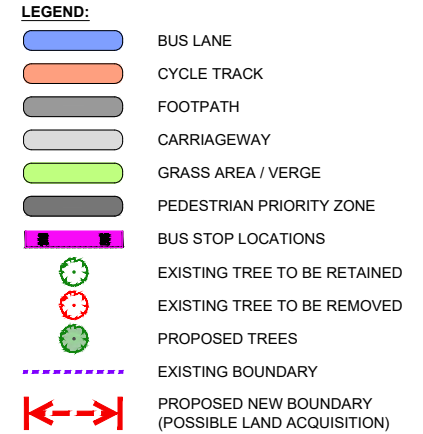
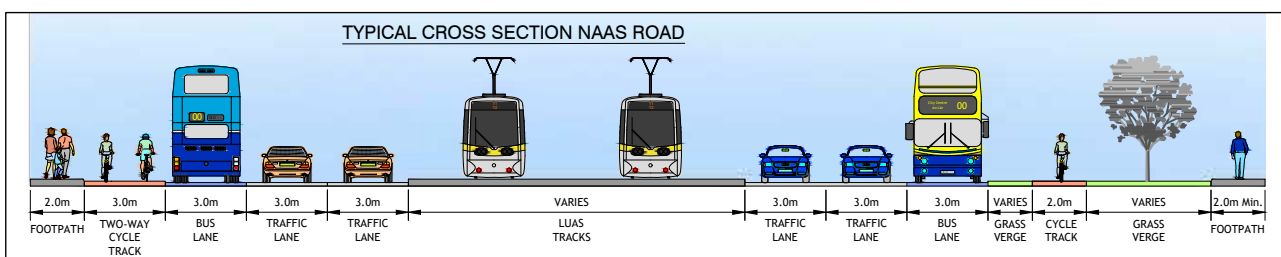
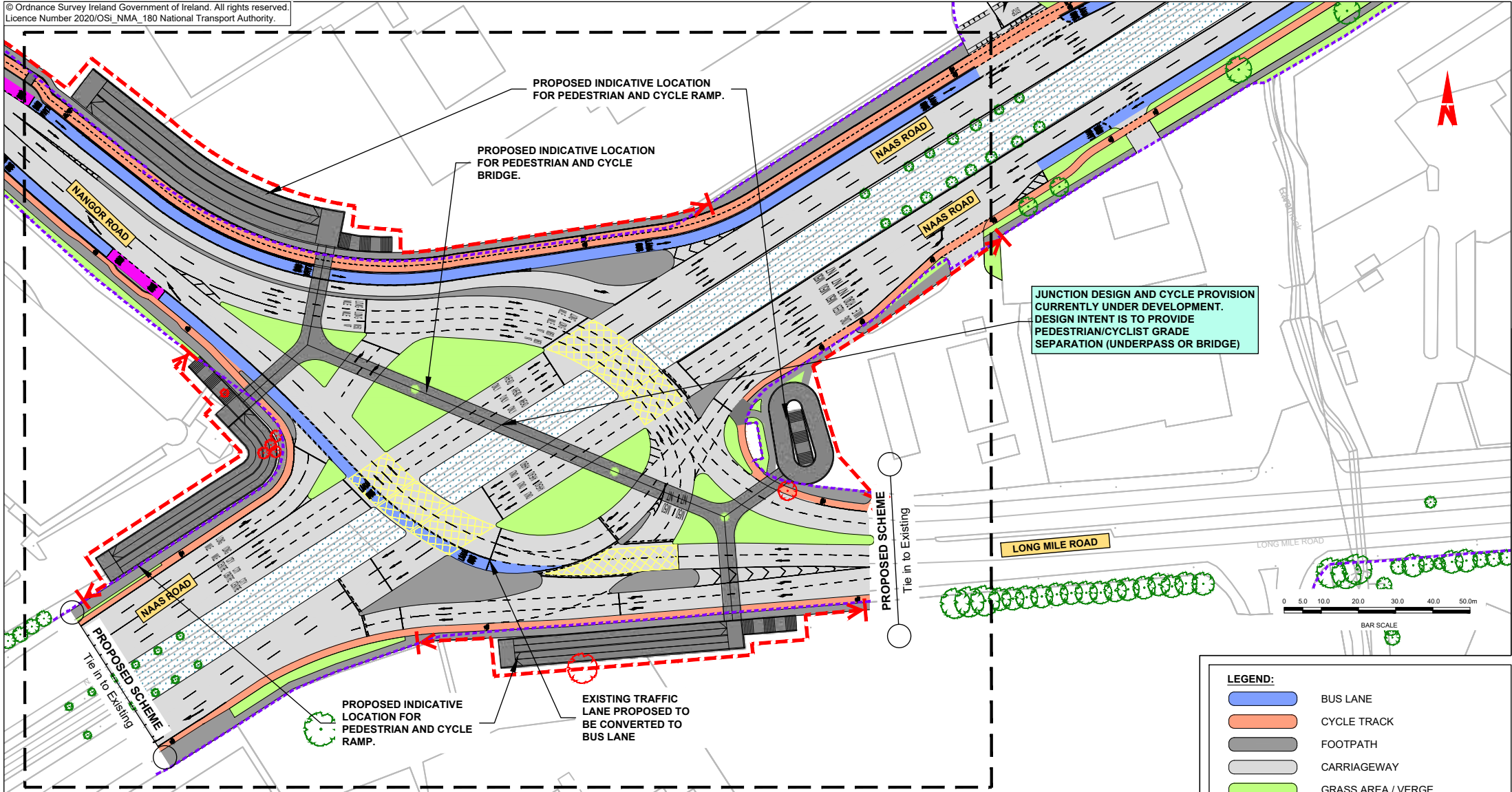


**TYPICAL CROSS SECTION  
NANGOR ROAD**









# 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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Dublin  
Baile Átha  
Cliath

Car Park

Car Park

Car Park

JOHN F KENNEDY DRIVE

JOHN F KENNEDY AVENUE

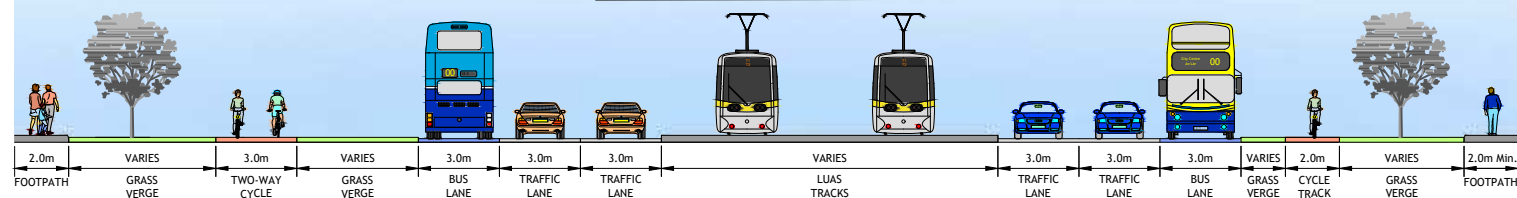
NAAS ROAD

NAAS ROAD

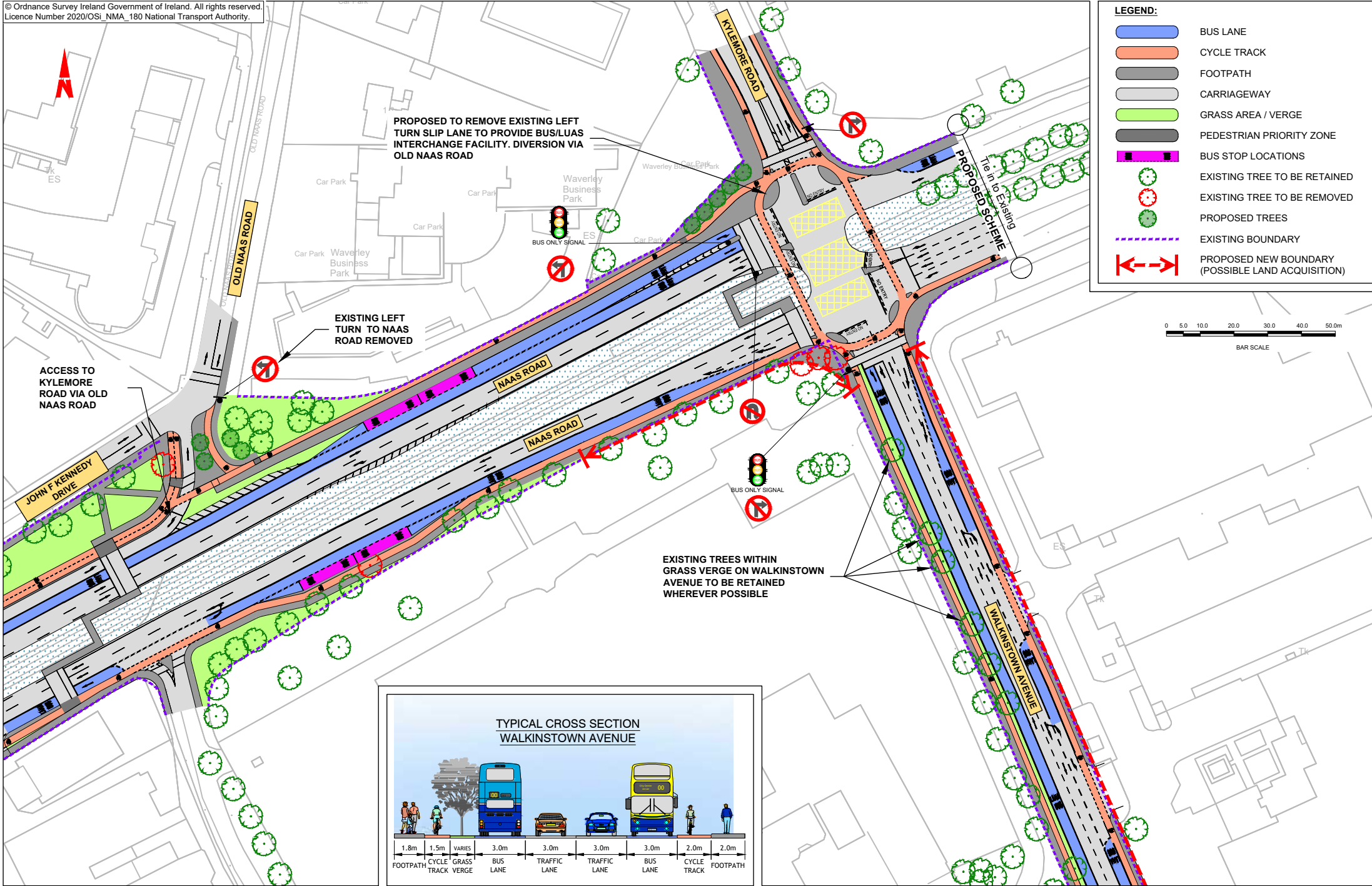
PROPOSED  
RAISED TABLE  
TO IMPROVE  
PEDESTRIAN  
ACCESSIBILITY

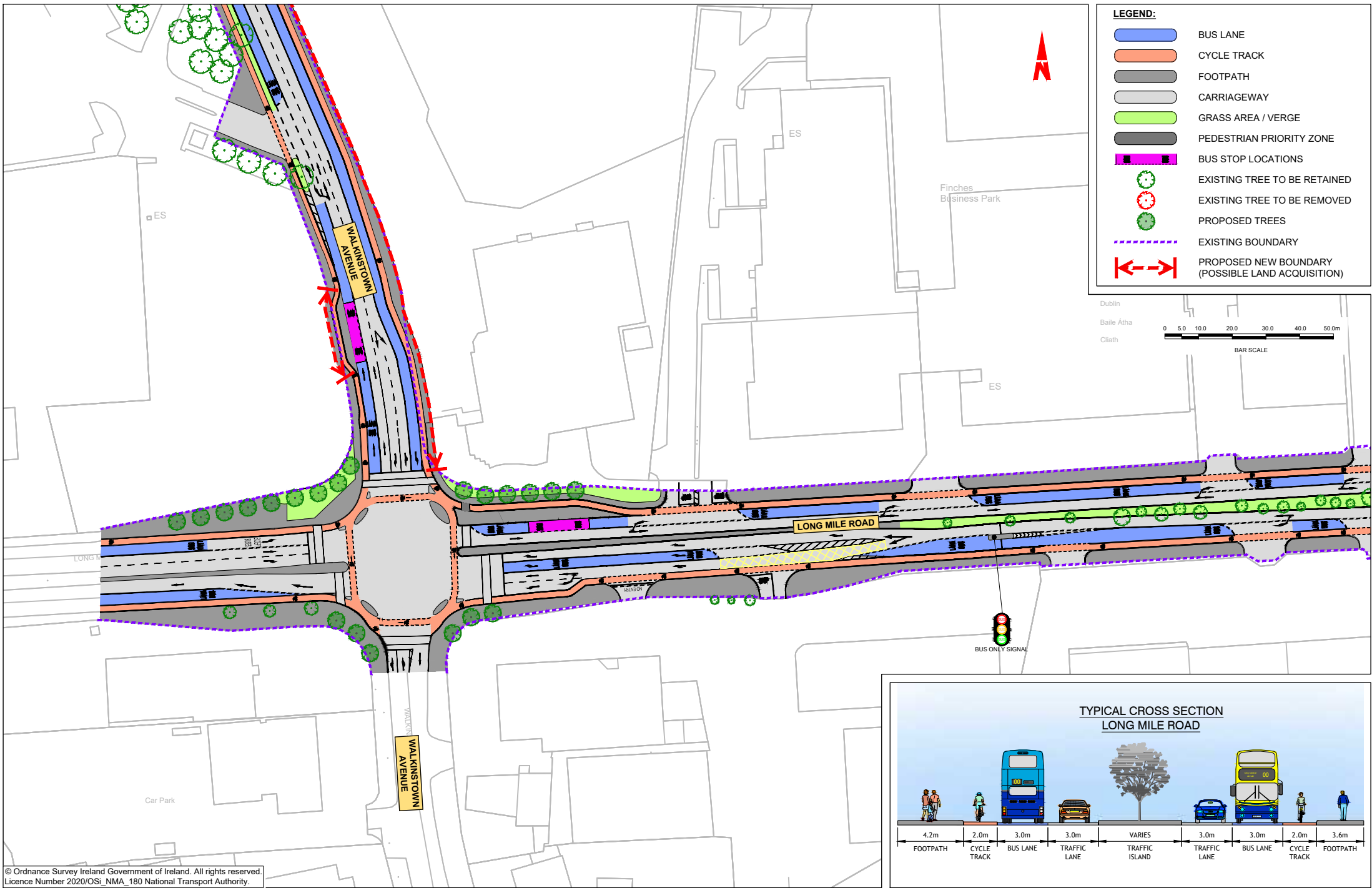


## TYPICAL CROSS SECTION NAAS ROAD



















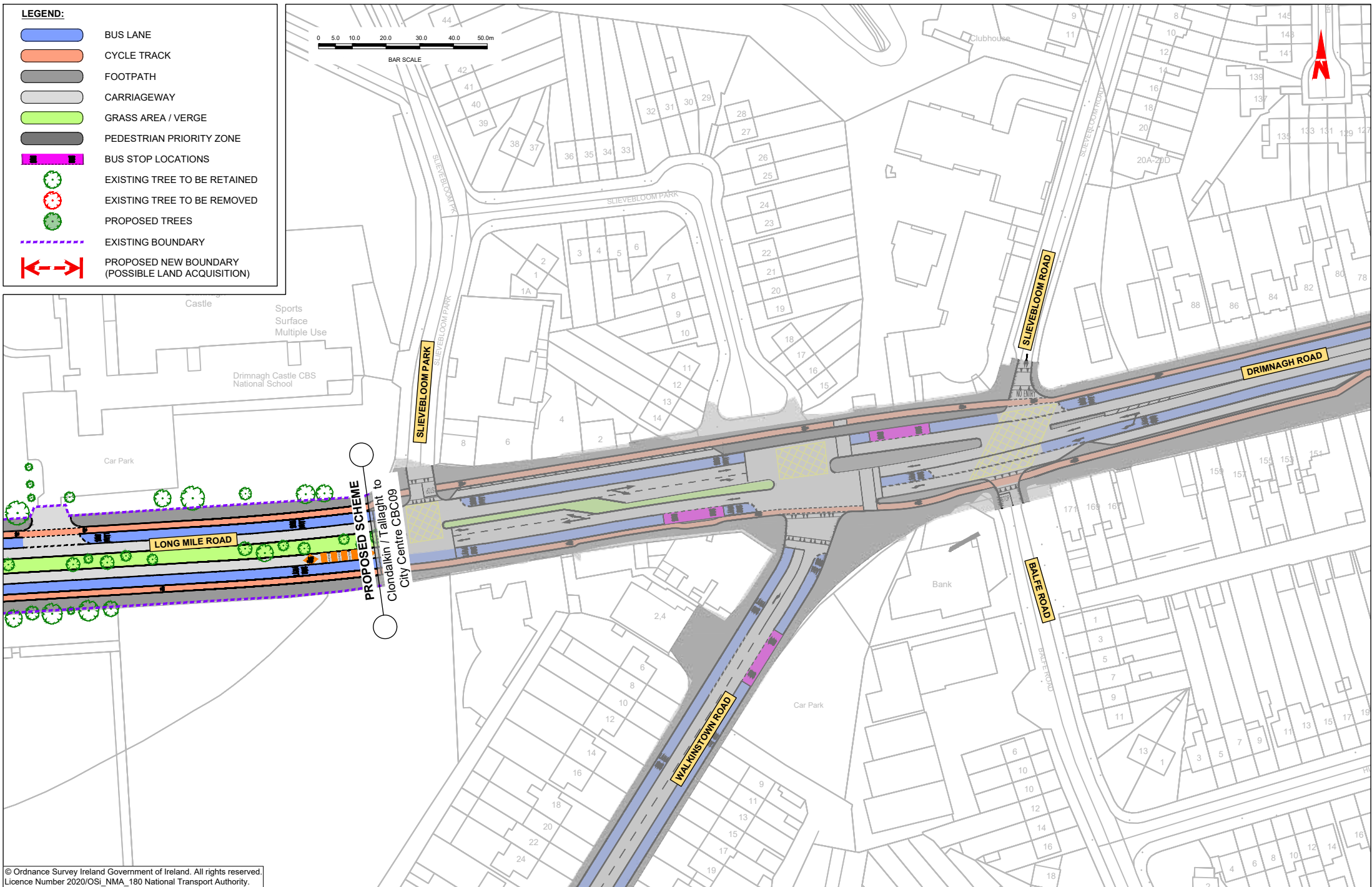
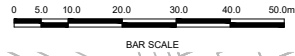






**LEGEND:**

-  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)



# **Appendix C – Clondalkin to Drimnagh CBC Feasibility Study and Options Assessment Report**

Work in Progress - Draft

The Clondalkin to Drimnagh Feasibility Study and Options Assessment Report is available on the NTA BusConnects Website, it can be accessed by clicking the links below:

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

#### Clondalkin to Drimnagh

- Feasibility Study and Options Assessment Report

[https://busconnects.ie/media/1432/162060-cbc-report-volume-ii-concept-scheme-drawings\\_.pdf](https://busconnects.ie/media/1432/162060-cbc-report-volume-ii-concept-scheme-drawings_.pdf)

- Concept Scheme Drawings

<https://busconnects.ie/media/1433/162060-rep-006-cbc-main-report-final.pdf>

Work in Progress - Draft

# Appendix D – Emerging Preferred Route Public Consultation Brochure

Work in Progress - Draft



The Emerging Preferred Route Public Consultation Brochure and Drawings from January 2019 are available from the NTA BusConnects Website, and can be accessed by clicking on the links below:

<https://busconnects.ie/media/1449/8-busconnects-cbc-clondalkin-to-drimnagh-040119-fa.pdf>

Work in Progress - Draft

