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Ringsend
to City Centre

Draft Preferred Route Options Report

November 2020



Project Ireland 2040
Building Ireland's Future

BUS CONNECTS

SUSTAINABLE TRANSPORT FOR A BETTER CITY.



BusConnects Dublin

Core Bus Corridor Infrastructure Works

Ringsend to City Centre Core Bus Corridor

Preferred Route Option Report

DRAFT

October 2020

National Transport Authority



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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

This report represents the Preferred Route Option assessment undertaken for the Ringsend to City Centre Core Bus Corridor. A Preferred Option is recommended, and an updated Scheme Concept Design is included.

The Ringsend to City Centre CBC runs from the Tom Clarke East Link Bridge at the Point to the Talbot Memorial Bridge at the Customs House in Dublin City Centre. The route runs along the north and south quays of the River Liffey and includes the proposed Public Transport Bridge across the River Dodder and the entrance to Grand Canal Dock at Britain Quay. The CBC also includes the provision of a cycling route to join with the East Coast Trail through Ringsend and Irishtown and to serve the Poolbeg SDZ lands. The entire study area lies within the administrative area of Dublin City Council.

The route may be considered in 2 separate sections as follows:

Section 1: Talbot Memorial Bridge to Tom Clarke East Link Bridge over 1.6km; and

Section 2: Cycling Route to East Coast Trail and Poolbeg SDZ over 1.1km.

Review of the Route Options Assessment

The initial route selection process assessed a wide set of potential routes along existing streets in a wedge-shaped corridor up to 1 km wide defined by Grand Canal Street at the southern edge and the north quays at the northern edge.

In the Stage 1 Assessment a “spider’s web” of potential routes was identified within the study area that consisted of 45 separate road links that could be assembled in various configurations to form the core bus corridor. A sifting process concluded with 3 potential coherent routes at the end of the Stage 1 assessment, which were then brought forward into the Stage 2 assessment.

Route Option 3 was found to be the preferred route and runs along the north and south quays of the River Liffey. Route Option 3 is the most direct route for the bus corridor compared to the other options and therefore fulfils the CBC objectives better than the alternatives.

Conclusion of Review for the Emerging Preferred Route

This Draft Preferred Route Option Report confirms that the previous Route Selection Study completed in December 2017 reached the appropriate conclusion as to the Emerging Preferred Route for the Ringsend to City Centre Core Bus Corridor. It also endorses the decision to extend the CBC works to include the continuation of the north quays to the Point such that other public transport services, including Bus Éireann, Airlink, Aircoach and Swords Express will also benefit from the works.

From the extensive feedback received in Public Consultation No.1 it was evident that some aspects of the design proposals merit reconsideration and possible adaptation to address the concerns raised. These have been reviewed and developed further in this report.

Draft Preferred Route Option Refinement

During 2019 a full review was undertaken of the previous design proposals as published for the Emerging Preferred Route. This review was informed by additional technical information and the feedback received from Public Consultation No.1. The review has been undertaken in two Sections:

Section 1: Talbot Memorial Bridge to Tom Clarke East link Bridge over 1.6km

Section 2: East of Tom Clarke East Link Bridge (cycling route only) over 1km

The Emerging Preferred Route has been adjusted to adopt the following changes in the Draft Preferred Route Option:

Section 1:

- 1) Bus lanes to be provided in both directions on north quays.
- 2) Reduced changes to existing traffic circulation on south quays.
- 3) Scherzer Bridges at George's Dock and Spencer Dock to be dismantled, restored and sympathetically relocated.
- 4) Eastbound access to be maintained to Sir John Rogerson's Quay Extension.
- 5) Existing right turns from north quays to be removed except where required by public transport; and
- 6) Cycle provision on Beckett Bridge to remain as existing.

Section 2:

- 1) Retain existing grass verge at Pigeon House Road and instead provided shared on-road cycle facility with additional traffic calming; Provide high quality cycling route through Ringsend Park.
- 2) Avoid impacts on car parking except at new road crossings and locally on informal parking on Bremen Road; and
- 3) Reduced impacts at Strasbourg Terrace / Strand Street and provision of separate cycling connections towards the Poolbeg SDZ development site and the East Coast Trail at Beach Road.

Ringsend to City Centre Preferred Route Summary

The Preferred Route for the Ringsend to City Centre Core Bus Corridor is approximately 1.6 km long from end to end. The updated concept scheme design drawings show the extent of the infrastructure proposed to deliver this CBC.

The proposed route will provide the following improvements for bus priority:

- Increase in the westbound direction to the city centre from the existing bus priority over 38% of the route length to 100% through the provision of continuous bus lanes along the north quays, and strategically located sections of bus lane along the south quays.
- Increase in the eastbound direction out of the city centre from the existing bus priority over 29% of the route length to 100% through the provision of continuous bus lanes along the north quays, with priority on the south quays at the Dodder Public Transport Bridge.

The proposed route will provide the following improvements for cyclists:

- Provision of upgraded continuous two-way cycleways along 100% on the north and south quays, increased from 74% coverage on the north quays and 63% coverage on the south quays at present.

- Provision of a new 1km two-way cycleway route comprising new facilities and shared quiet streets between the Tom Clarke East Link Bridge and Seán Moore Road, linking to both the Poolbeg SDZ via Bremen Road and the East Coast Trail via Kerlogue Road.

- 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 Ringsend to City Centre CBC is identified in this document as forming part of the radial Core Bus Network, as shown in red on **Figure 1.2**.

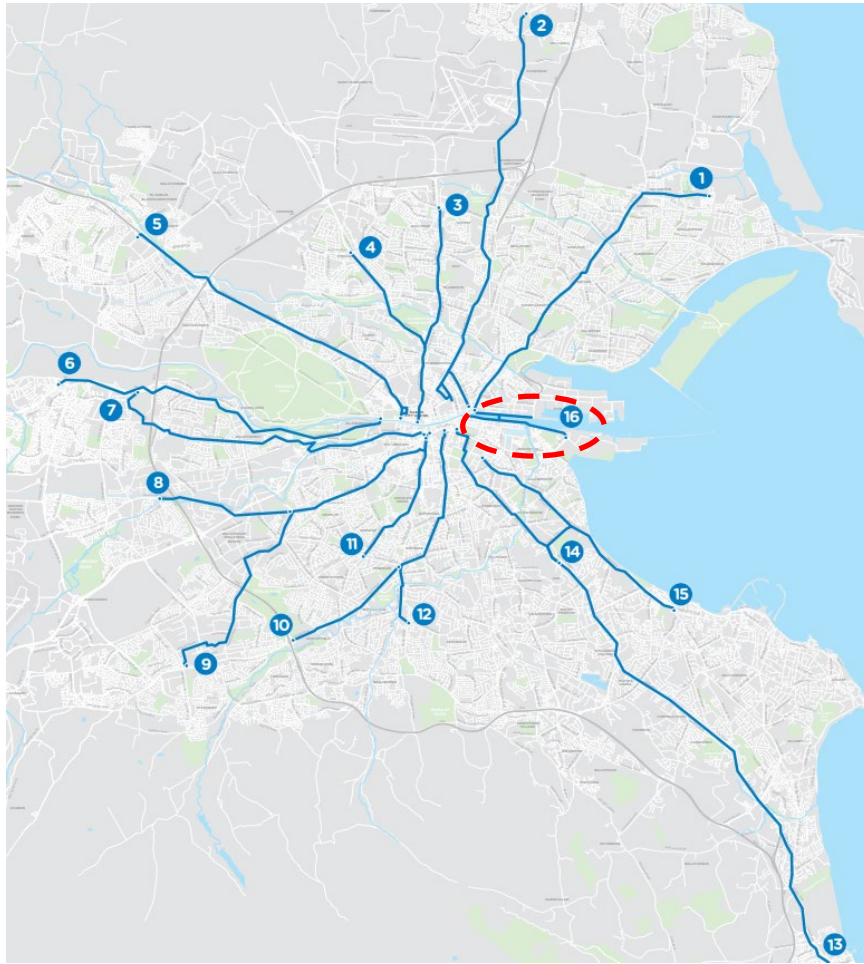


Figure 1.2 - Radial Core Bus Network in the GDA Transport Strategy

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 'Ringsend to City Centre Core Bus Corridor CBC Feasibility Study and Options Assessment Report' was published, which identified feasible options along the corridor, assessed these options and arrived at an Emerging Preferred Route (EPR) Option. Submissions were invited from the public to provide comment on the EPR Option proposals and to inform subsequent design stages. A second round of public consultation commenced on 4th March 2020 and ran until the 17th of April 2020 when submissions were once again invited from the public on the draft Preferred Route Option.

This Draft Preferred Route Option Report has been prepared for the Ringsend to City Centre Core Bus Corridor, which built on the previously published 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 Preferred Route Option Report. Any additional design work or optioneering has been assessed against the previously identified Emerging Preferred Route, or the full list of options in the previous Multi Criteria Analyses. Additional design development has been detailed in this Report and updated Draft Preferred Route Option Concept Design Drawings as being based on the following:

- Updated topographical survey information.
- Output from engagement and consultation activities on the Emerging Preferred Route Option and draft Preferred Route Option proposals.
- Clarifications of the previous assessment in the Feasibility Study and Options Assessment Report.
- Further design development and options assessment.

1.3 Report Structure

This report is structured as follows:

- **Chapter 2: Transport Planning and Policy Context** – This chapter outlines the general background information to the project and the proposed CBC network. 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 Bus Connects Core Bus Corridor Infrastructure Works.
- **Chapter 3: Public Consultation** – This chapter outlines the summary of the first and second public consultation.
- **Chapter 4: Study Area and Route Options** – In this chapter, the study area for the CBC is detailed. Scheme specific constraints and opportunities are discussed. 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 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 previous Feasibility and Options Report. An assessment has been made on the previous options assessment and the emerging preferred route and outlines the issues and material changes in each section resulting from the design development as explained in section 1.2.
- **Chapter 6: Refined Route Options Assessment** – This chapter summarises the section of the previous option report that has been reviewed for material change. Other optioneering have been considered and preferred option summarised.
- **Chapter 7: Draft Preferred Route Option** – This chapter gives the overall conclusions of the scheme options assessment process and identifies and describes the Draft Preferred Route Option.
- **Chapter 8: Next Steps** – This chapter details the “next steps” in the delivery of this CBC.

2. Planning and Policy Context

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

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

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

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

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

This will result in a more efficient and reliable bus service with lower journey times, increasing the attractiveness of public transport in these areas and facilitating a shift to more sustainable modes of transport.

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

2.2 Greater Dublin Area Cycle Network Plan

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

There are a number of primary and secondary cycle routes identified along the CBC. During the earlier assessment process which identified the CBC EPR Option, the provision of these cycle routes was considered at all stages. Therefore, as part of the options assessment process, any upgrading of infrastructure to provide bus priority also needs to consider and provide for the required cycling infrastructure, where practicable, to the appropriate level and quality of service (as defined by the NTA National Cycle Manual) required for primary and secondary cycle routes.

2.3 Development Plan, Local Area Plans and Strategic Development Zones

Dublin City Council Development Plan (2016 – 2022)

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

- *Effective integration of land-use and transportation, and the management of access and mobility.*
- *Pro-active engagement and collaboration with communities to bring about further modal shift and effective mobility management.*
- *The expansion of the strategic cycle network along all major water bodies including the River Liffey and the canals.*

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

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

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

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

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

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

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

The aim of BusConnects is to transform Dublin's bus system, with the Core Bus Corridor (CBC) project aiming to provide 230 km of dedicated bus lanes and 200 km of cycle lanes on sixteen of the busiest bus corridors in and out of the city centre. This project is fundamental to addressing the congestion issues in the Dublin region with the population due to grow by 25% by 2040, bringing it to almost 1.55 million.

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 2013. Through the development of continuous bus priority and segregated cycle lanes we can meet the growing demand for fast, reliable, punctual and convenient bus journeys in and out of the city centre, and safe cycling facilities for this growing numbers of cyclists.

2.5 The Core Bus Corridor Scheme Objectives

The aim of the Proposed Project is to transform the bus system to provide better services to more people. There are nine objectives underpinning this aim:

- a) Reduce reliance on private car transport for all trips
- b) Increase the number and variety of destinations served by the bus system
- c) Maximise the people carrying capacity of existing transport corridors
- d) Integrate technology to improve the public transport system and to enhance customer experiences
- e) Enhance the safety and security of the bus system
- f) Improve bus journey times and reliability
- g) Reduce barriers to using the bus system
- h) Simplify interchange between bus services and with other transport modes
- i) Enable Project Ireland 2040 strategic outcomes and deliver on relevant Climate Action targets.

3. Background and Public Consultation

3.1 Ringsend to City Centre Core Bus Corridor Feasibility and Options Assessment Report and Emerging Preferred Route

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

3.2 1st Public Consultation – Emerging Preferred Route

The first non-statutory public consultation on the BusConnects Core Bus Corridor Emerging Preferred Routes took place on a phased basis and ran until the 31st May 2019. The consultation for the Ringsend route was in Phase 3 from 26th February 2019 to 31st May 2019.

Submissions were received from 17 separate parties for the Ringsend Corridor, ranging from personal submissions from residents and commuters to various associations and private sector businesses.

A brief summary of the feedback received on the Ringsend to City Centre CBC during the public consultation is presented in this section of the report. While a variety of matters were raised in the submissions, the key issues emerging from the consultation were as follows:

- 1) Cycling Facilities.
- 2) Pedestrian Facilities.
- 3) Bus Services and Stops.
- 4) Environmental and Community Impacts.
- 5) Loss of Car Parking.
- 6) Flooding; and
- 7) Traffic and Access.

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

3.3 Development of the Draft Preferred Route Option

Following the first non-statutory public consultation, a review was undertaken of the scheme proposals along the route based on the following new information which was available for consideration:

- Detailed topographical survey along the route corridor.
- Submissions received during the first non-statutory public consultation; and
- Issues raised during meetings with community forum, resident groups, and one-on-one meetings with directly impacted property owners.

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

The key changes adopted in the draft Preferred Route Option are as follows:

- The existing pinch-points at the “*Scherzer*” opening bridges at George’s Dock on Custom House Quay and at Spencer Dock on North Wall Quay will be removed to enable continuous separate bus lanes in both directions. The landmark old bridge structures will be refurbished and reinstalled to one side of their existing locations, where they will carry pedestrians and cyclists across the waterway channels alongside the replacement wider road bridges.
- Revised traffic management arrangements will remove many right-turns along the North Quays with an alternative access route from Sherriff Street from the north.
- The design of cycling facilities was refined with segregation at bus stops.
- The pedestrian route along the north quays of the River Liffey was improved by a proposed boardwalk on the river side of the two small restaurant buildings on the campshire opposite Excise Walk.
- It is no longer proposed to provide a cycle route along the green space along Pigeon House Road. Instead a more direct cycling facility is proposed through Ringsend Park towards the Poolbeg Special Development Zone at Sean Moore Road. This revised route will form part of the *East Coast Trail* cycle route that can be extended towards Sandymount along the coastline of Dublin Bay South. Traffic calming along Pigeon House Road will be enhanced to facilitate shared use by cyclists.

3.4 2nd Public Consultation – Draft Preferred Route Option

The draft Preferred Route option was published in March 2020 and a second round of public consultation took place from 4th March 2020 to the 17th of April 2020.

Due to Covid-19 restrictions being imposed by Government in mid-March the planned Public Information Events were impacted. Consequently there were 22 submissions received relating to the CBC (compared to 475 submissions following the First Public Consultation).

There were 7 submissions received in which the key issues were:

- 1) Aspects of the cycling facilities:
 - a) Shared spaces between cyclists and pedestrians are unwelcome.
 - b) Some narrow areas along the north quays campshires were noted.
 - c) Link to the Dodder Greenway.
 - d) Improvement on Beckett Bridge for the cycle route southbound right-turn.
 - e) Clarify proposal for cycle route through Ringsend Park – widening beside footpath.
- 2) Desire for buses to turn right southbound on the East Link Bridge towards the proposed new public transport bridge across the mouth of the River Dodder.
- 3) More quiet street measures on Pigeon House Road to deter through traffic.
- 4) Various concerns about connectivity to the Poolbeg area for new housing development.
- 5) Extend the CBC along Sean Moore Road and clarify proposed BusConnects route at Poolbeg.

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

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

4. The Study Area

4.1 Introduction

The Ringsend to City Centre Core Bus Corridor Study Area runs from the Matt Talbot Bridge to Sean Moore Road in an east – west direction, and from the River Liffey to Grand Canal Street in a north-south direction. The entire study area lies within the administrative area of Dublin City Council.

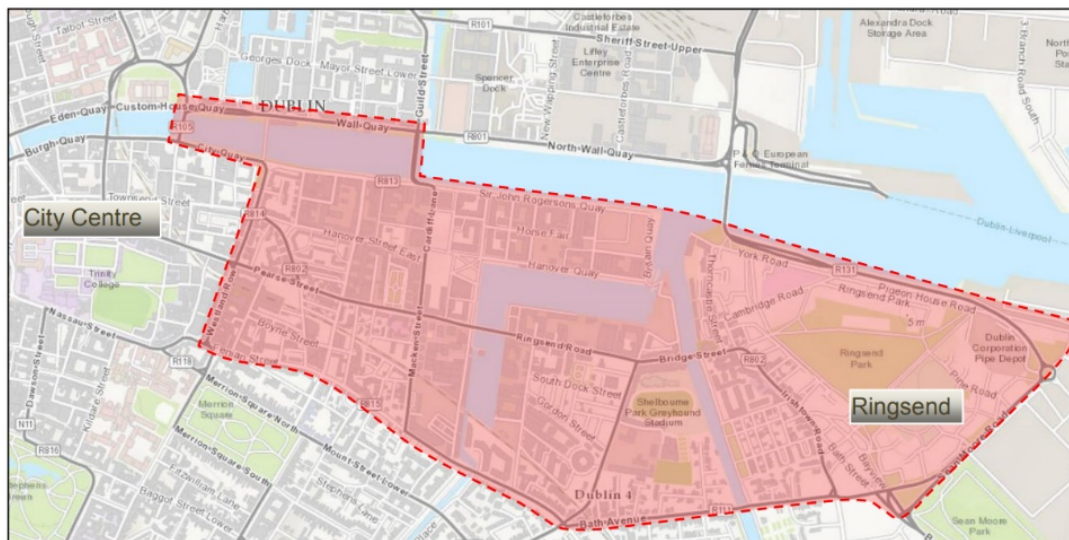


Figure 4.1 – Study Area as defined in the Feasibility Study and Options Assessment Report

4.2 Route Sections

The route may be considered in 2 separate sections as follows and as shown on Figure 4.2:

Section 1: Matt Talbot Bridge to Tom Clarke East Link Bridge [“Campshires Section”]; and

Section 2: Tom Clarke East Link Bridge to Seán Moore Road [“Cycleway Section”].

The study area extents have also been extended to include all of the north quays / campshires, since the scheme must now also consider connectivity from the Point to the City Centre.

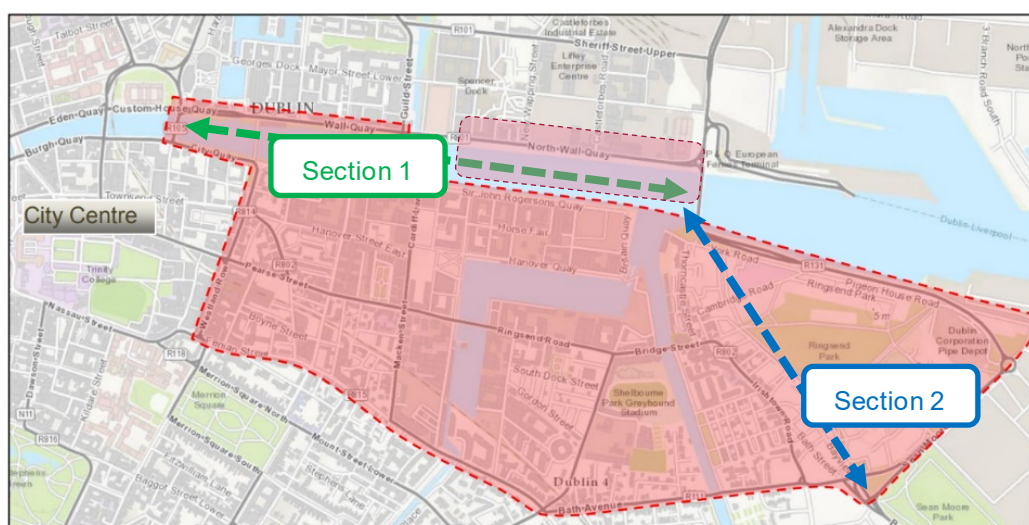


Figure 4.2: Route Sections

4.3 Physical Constraints and Opportunities

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

- The River Liffey traverses the study area.
- Any route on the south quays must traverse the proposed River Dodder Public Transport Bridge to connect to Ringsend; and
- Existing bridges across the River Liffey.

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 Ringsend to City Centre CBC will cater for Spines G and C, and will also intersect with the following services:

- Spine D along Amiens Street and Beresford Place.
- Future interconnection with Orbital Bus Corridor O at Beckett Bridge.

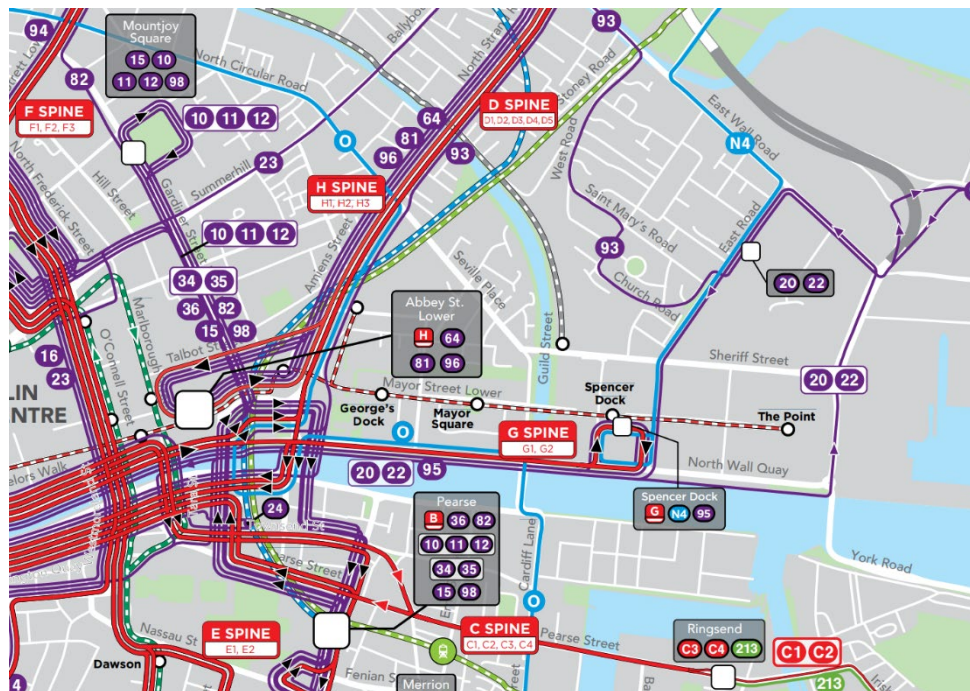


Figure 4.3: BusConnects Service Network Plan – Ringsend to City Centre CBC Study Area

The proposed CBC works will significantly improve public transport priority along the north quays in particular, which will benefit existing public and private bus services between the Dublin Tunnel and the city centre. There will be significant improvements in journey time reliability for these services.

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.

Pedestrians

For pedestrians it is proposed to simplify and shorten the road crossings at major junctions, which can be a barrier to mobility. The design development has also undertaken an audit of the public realm for pedestrians so that necessary improvements can be undertaken through application of *Universal Design* principles to ensure that barriers to mobility are removed for people with mobility and visual impairments.

Cyclists

The *Greater Dublin Area Cycle Network Plan* was adopted by the NTA in early 2014 and there are several of the proposed cycle routes identified along the *Ringsend Corridor* as follows:

- The River Liffey Cycleway / Route 5.
- The River Dodder Greenway / Route S03.
- The Grand Canal and Royal Canal Premium Cycle Routes (comprising routes S01 and N01), crossing the River Liffey at Beckett Bridge.
- The East Coast Trail (1E & 13E) / National Route N5 crossing the River Liffey at the Tom Clarke East Link Bridge.

While the analysis carried out to identify the preferred core bus corridor, the provision of these cycle routes was considered at all stages. In the case of the Ringsend Bus Corridor, it is proposed to provide continuous cycling facilities along all of the route options considered.

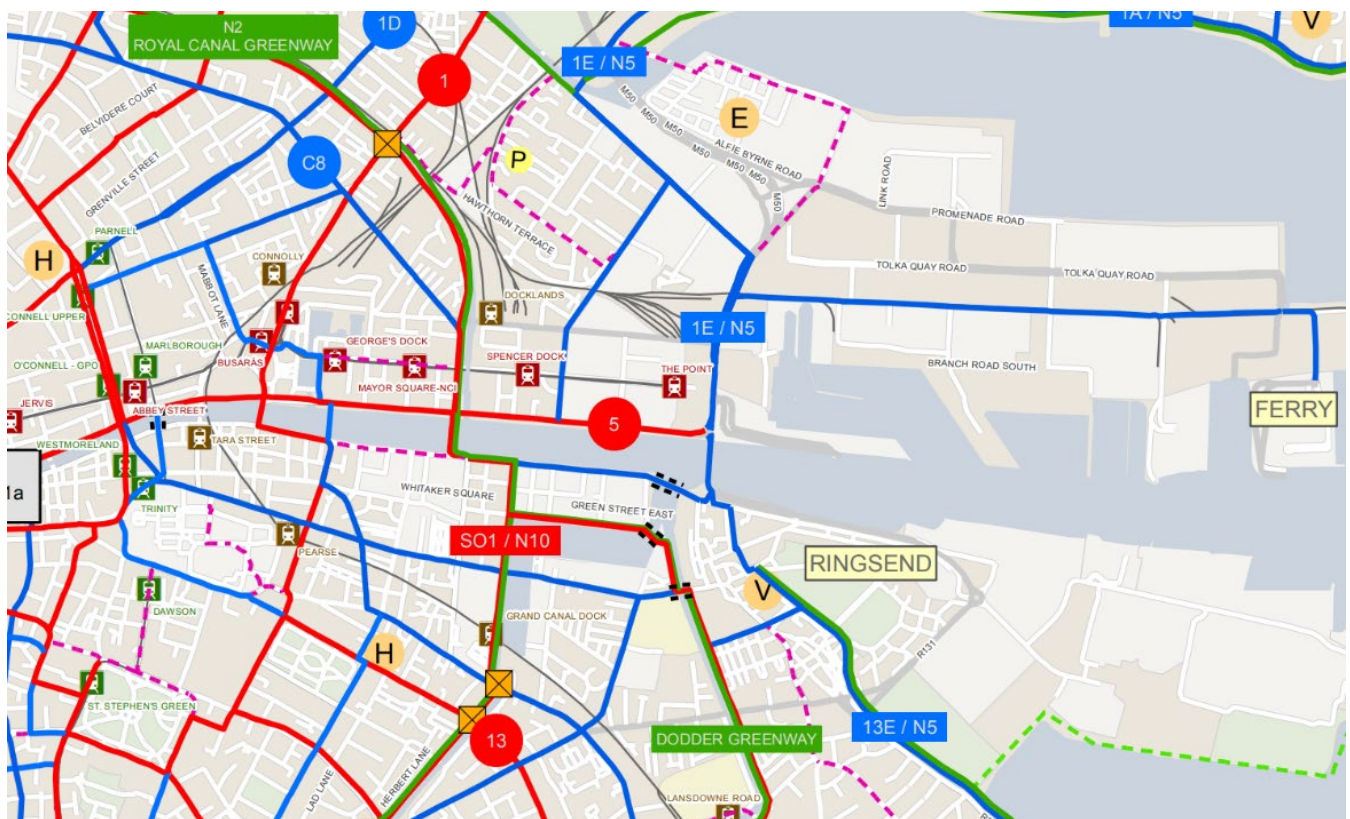


Figure 4.4: Greater Dublin Area Cycle Network Plan in Ringsend to City Centre CBC Study Area

General Traffic

Provision of bus priority will result in some impact for general traffic flow along this corridor. At some locations it may be necessary to adopt turning movement restrictions or local road closures for appropriate traffic management. Reductions in traffic carrying capacity of the road network will be compensated for by the overall increase in quality and level of service of other modes (walking, cycling and public transport) on the CBC route once implemented.

4.6 Quality of Bus Services

Current bus services along the North Quays experience delays at a number of locations – in particular at the Guild Street / Samuel Beckett Bridge junction, where a combination of the busy crossing traffic movements and the physical constraint posed by the historic Scherzer Bridges at Spencer Dock at the Royal Canal sea lock reduces priority. This corridor is busier than many others as it caters not only for Dublin Bus, but also Airlink, Aircoach, Swords Express, Bus Éireann and private coaches, as well as large numbers of taxis to and from Dublin Airport via the *Dublin Tunnel*. The proposed CBC will significantly improve public transport priority along the north quays, which will benefit existing public and private bus and taxi services between the Dublin Tunnel and the city centre. There will be significant improvements in journey time reliability for these services.

There are no bus services currently routed along the south quays. Services to Ringsend typically travel along Townsend Street eastbound and Pearse Street westbound. When the proposed public transport bridge is provided at the mouth of the River Dodder, this will open up a new bus corridor along the south quays that can link to Ringsend and the Poolbeg Peninsula bypassing the narrow Ringsend Road where there is no scope for bus lanes and the heart of Ringsend Village.

5. Review of the Previous Route Options Report

5.1 Introduction

The previous Feasibility and Options Assessment Report is included in Appendix C. The initial route selection process assessed a wide set of potential routes along existing streets in a corridor up to 1 km wide defined by The River Liffey at the northern edge and Grand Canal Street at the southern edge.

5.2 Route Options Assessment Methodology

The first step in the assessment process was to review the previous Feasibility and Options Report which concluded with the “Emerging Preferred Route” (EPR).

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

In addition to the new options considered, any alternative options previously considered within the Ringsend to City Centre Core Bus Corridor (CBC) Feasibility and Options Report which could potentially address the issues being encountered now, have been reconsidered once again. In addition, all new options were assessed against the EPR option.

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

Options for the Emerging Preferred Route were previously assessed in accordance with the guidance outlined in the Government publication “Common Appraisal Framework for Transport Projects and Programmes” (March 2016). There were 5 headline criteria applied in the appraisal as follows:

1. Economy
2. Safety
3. Integration
4. Accessibility & Social Inclusion
5. Environment





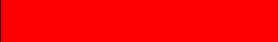
Under each headline criterion, a set of sub-criteria were assessed as listed in Table 5.1.

Table 5.1: Assessment Criteria & Sub-Criteria

Assessment Criteria	Assessment Sub-Criteria
a) Economy	1.a. Capital Cost
	1.b. Transport Reliability and Quality (Bus Journey Time)
b) Integration	2.a. Land Use Integration
	2.b. Residential Population and Employment Catchments
	2.c. Transport Network Integration
	2.d. Cycle Network Integration
	2.e. Traffic Network Integration
c) Accessibility & Social Inclusion	3.a. Key Trip Attractors (Education/Health/Commercial/Employment)
	3.b. Deprived Geographic Areas
d) Safety	Road Safety, especially for Pedestrians & Cyclists
e) 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 & the Built Environment

The criteria and sub-criteria proposed in this supplementary Multi-Criteria Assessment have been standardised for use across the 16 BusConnects corridors.

For each individual assessment sub-criterion considered, routes have been relatively compared against each other based on a five-point scale, ranging from having significant advantages to having significant disadvantages over other route options. For illustrative purposes, this five-point scale is colour coded as presented below with advantageous routes graded to 'dark green' and disadvantaged routes graded to 'dark red'.

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

Options are compared under each sub-criterion before those sub-criteria are aggregated to give a summary score per criterion. These CAF criterion scores are then compared to establish the relative ranking of the options. The Multi-Criteria Assessment (MCA) methodology was applied to compare the refined route options and to select the Draft Preferred Route Option in each case as described in the remainder of this chapter.

5.3 Review of Core Bus Corridor Route Options Assessment

The previous Route Selection Report is included in Appendix C. The initial route selection process assessed a wide set of potential routes along existing streets in a wedge-shaped corridor up to 1 km wide defined by Grand Canal Street at the southern end and the north quays at the northern end.

In the Stage 1 Assessment a “spider’s web” of potential routes was identified within the study area that consisted of 45 separate road links that could be assembled in various configurations to form the core bus corridor.

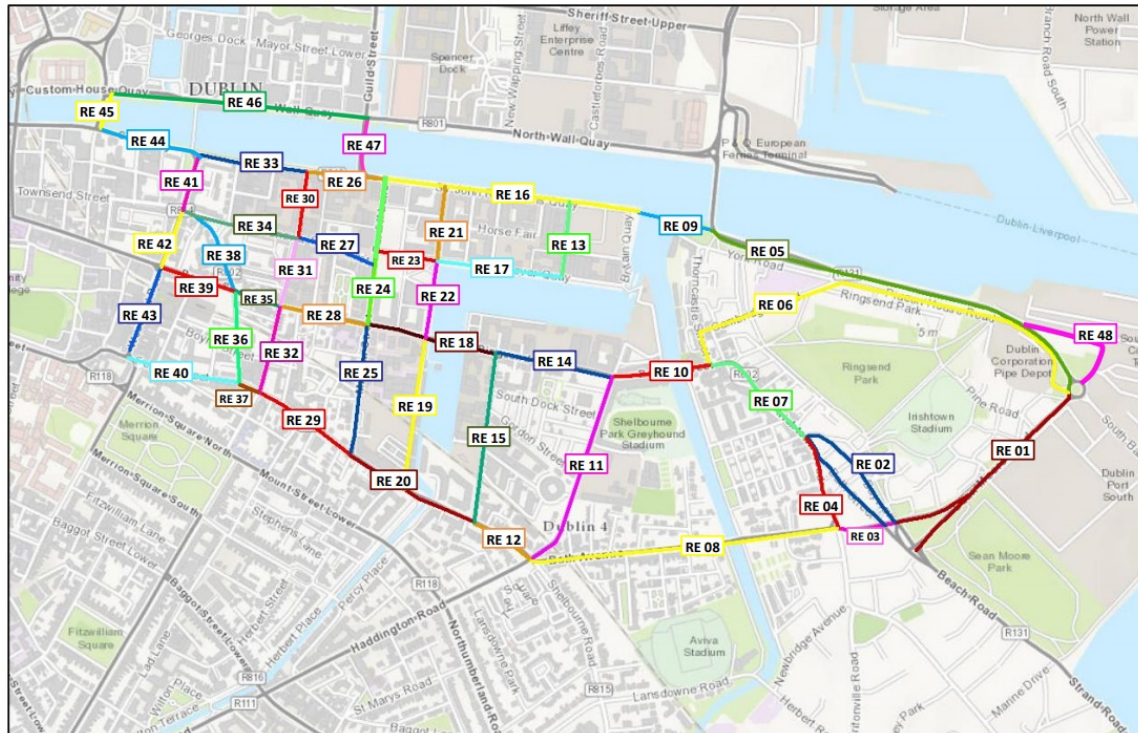


Figure 5.1: Spider's Web Assessment from Feasibility and Options Assessment Report

A sifting process then concluded with 2 potential coherent routes as shown in the Figure below at the end of the Stage 1 assessment, which were then brought forward into the Stage 2 assessment.

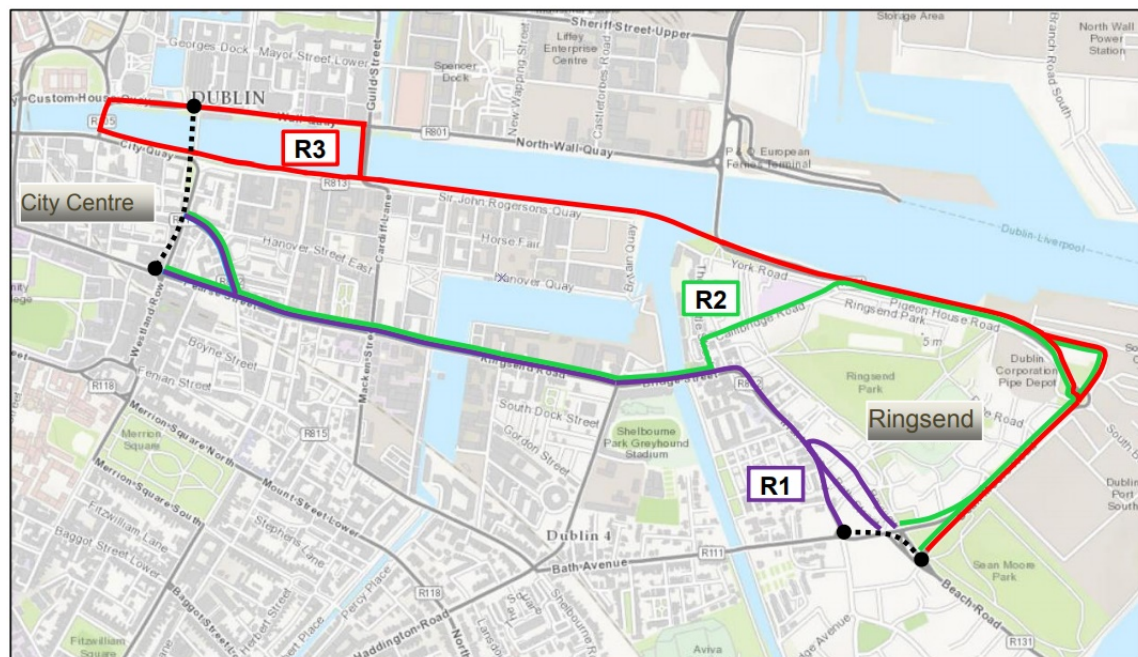


Figure 5.2: Shortlisted Routes from Feasibility and Options Assessment Report

The shortlisted routes were as follows:

Route Option 1 along Pearse Street and Ringsend Road.

Route Option 2 along Pearse Street, Thorncastle Street and Cambridge Road.

Route Option 3 along the Liffey quays and the proposed Dodder Public Transport Bridge to East Link Road.

Further minor variants of each of these routes were considered with alternative cycle facility provision.

The earlier Feasibility and Options Assessment Report for the Ringsend to City Centre CBC did not consider services along the north quays between the Customs House and the Point Roundabout. This route has subsequently been included as a complementary rather than alternative route for this corridor.

5.4 Conclusion of the Route Options Assessment

Route Option 3 was found to be the preferred route and is shown in the Figure below. Route Option 3 is the most direct route for the bus corridor compared to the other options and therefore fulfills the CBC objectives better than the alternatives. A supplementary chapter to the earlier study noted an additional objective to enhance the bus priority provision on the north quays between Guild Street and the Point.

This Draft Preferred Route Option Report confirms that the appropriate conclusion was reached for the Emerging Preferred Route for the Ringsend to City Centre CBC. It also endorses the decision to extend the CBC works to include the continuation of the north quays to the Point such that other public transport services, including Bus Éireann, Airlink, Aircoach and Swords Express will also benefit from the works.

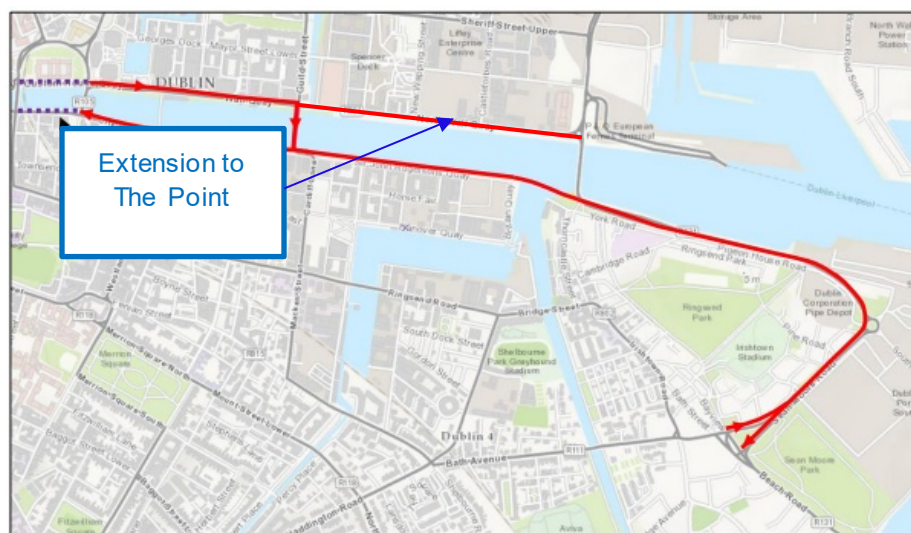


Figure 5.3: Emerging Preferred Route from earlier Feasibility and Options Assessment Study with extension on the north quays to the Point.

The Emerging Preferred Route proposed a split routing, as follows:

Inbound: This route option would connect Sean Moore Road to Talbot Memorial Bridge via Pigeon House Road/East Link grass verge, across the proposed bridge to Sir John Rogerson's Quay along the south quays to Talbot Memorial Bridge.

Outbound: Buses would travel from Talbot Memorial Bridge along the north quays to Samuel Beckett Bridge and across to Sir John Rogerson's Quay where they continue to the proposed bridge and onto East Link Road.

This route is approximately 3.35km in each direction to / from Ringsend. The NTA has decided to advance the section between Talbot Memorial Bridge and Tom Clarke East Link Bridge at this stage, with the onward connection to Ringsend being advanced for cycling facilities only. It is anticipated that buses will access Poolbeg

and Ringsend via East Link Road. Therefore, the length of CBC works now proposed (excluding cycling facilities) is 1.6km in each direction.

5.5 Public Consultation No.1 for the Emerging Preferred Route

As described in Section 3 of this report, the Emerging Preferred Route Option was published for Public Consultation No.1 in early 2019 with an information booklet that provided detailed maps of the proposals.



Information booklet for Public Consultation No.1

19 submissions were received to Public Consultation No.1. The previously prepared Feasibility and Options Assessment Report was available as background information in the public consultation.

The issues that attracted the most numerous submissions were the following:

- 1) Cycling Facilities
- 2) Safety concerns for Pedestrians
- 3) Community Impacts
- 4) Environmental Impacts
- 5) Loss of Car Parking
- 6) Flooding; and
- 7) Traffic & Access Impacts

From the feedback received in Public Consultation No.1 it was evident that, while there is general support for the route selected, some aspects of the design proposals merit reconsideration and possible adaptation to address the concerns raised. Proposed refinements to the design proposals are outlined in the next Section 6 of this report. The CBC has been expanded by the National Transport Authority to also include consideration of the north quays' bus corridor between the Customs House and the Point roundabout.

5.6 Route Sections Identified for Review

Based on the public consultation submissions received and assessment of topographical survey subsequently undertaken, a number of areas were identified as requiring further review. These are summarised in the following sections.

5.6.1 Review of Section 1 - Talbot Memorial Bridge to Tom Clarke East Link Bridge

Four key issues were reassessed for this section based on the concerns raised in Public Consultation No.1:

- Concerns over pedestrian safety on Samuel Beckett Bridge caused by a lack of segregated cycle and pedestrian lanes.
- Concerns over a possible back-log of cyclists at the Guild Street pedestrian crossing due to the proposed removal of the northbound cycle lane from the eastern side of the Samuel Beckett Bridge.
- A proposal to add bus stop islands along the North Quay Road in order to better protect Cyclists and pedestrians; and
- Concerns over traffic diversion proposals which suggest that all traffic from the city centre to the Grand Canal Docks area would need to enter via Misery Hill, Hibernian Road and Lazer Lane which would cause traffic back-ups.

The inclusion of the entirety of the north quays in the Ringsend to City Centre CBC also necessitated a reappraisal of the proposed bus priority provision on the quays. In particular, the proposal to remove the inbound bus lane on the north quays was of concern due to the likely impacts on Dublin Bus, other regular bus services including Bus Éireann and the Swords Express, Airlink, Aircoach, taxis and private coaches. In total 640 buses / coaches and 581 taxis a day were surveyed over 24 hours on the 11th of February 2020. 81 buses and coaches and 19 taxis arrived during the busiest hour (08:00 – 09:00). The BusConnects service plan includes 27 Dublin Bus services an hour in addition to the Airlink, Aircoach, Swords Express and other private services that use the route (allowing for the rerouting of routes C3 and C4 via the Dodder Public Transport Bridge once complete).

5.6.2 Review of Section 2 - East of Tom Clarke Bridge

The following key issues were reassessed for this section based on the concerns raised in Public Consultation No.1. It is noted that the drawings for public consultation did not include bus facilities in Section 2.

- Pigeon House Road:
The proposed removal / reduction of the grass verge on Pigeon House Road for the provision of a cycle track caused considerable concern among residents; A proposal to make Pigeon House Road local access or one way only; Safety concerns pertaining to the amount of trucks travelling along Pigeon House Road to enter the container yards;
- Parking Impacts:
Objections to the removal of parking spaces, trees and the old granite sea wall on Strand Street; Objections to the removal of parking spaces at Strasburg Terrace.
- Ringsend Park:
Objections to the removal of land on Ringsend Park to create a cycle lane; Concerns about having Ringsend Park open 24 hours a day, 7 days a week, as it could lead to an increase in anti-social behaviour.

In addition, the following issues were noted.

- A request to construct a pedestrian crossing from Ringsend Park to the Poolbeg Yacht Club and marina;
- Safety concerns relating to the accessibility of a local school;

It is confirmed in the case of the latter two that the design has been amended to address the requests. In respect of the former three grouped issues, the options to address them have been assessed below.

5.7 Conclusion of the Emerging Preferred Route Review

This review of the Emerging Preferred Route has confirmed the conclusions of the previous *Feasibility and Route Options Report* in terms of the selected route for the Core Bus Corridor from Ringsend to the City Centre.

The review has identified the potential for a number of adjustments to the Emerging Preferred Route proposals in each section as developed further in the next Chapter 6 for the Draft Preferred Route Option refinement.

6. Preferred Route Option Refinement

During 2019 and 2020 a full review was undertaken of the previous design proposals as published for the Emerging Preferred Route. This review was informed by additional technical information and the feedback received from Public Consultation No.1. This section of the Draft Preferred Route Option Report deals with the corridor in 2 sections as defined in Section 4 earlier.

Section 1: Talbot Memorial Bridge to Tom Clarke East Link Bridge (the section where bus lanes are proposed); and

Section 2: Tom Clarke East Link Bridge to Sean Moore Road (the section where only cycling facilities are proposed).

6.1 Section 1 – Talbot Memorial Bridge to Tom Clarke East Link Bridge

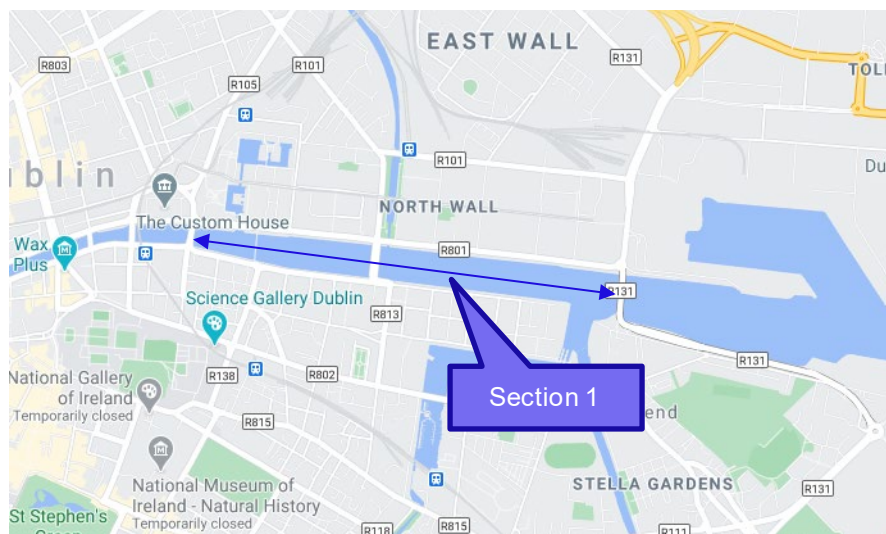


Figure 6.1 - Section 1 from Talbot Memorial Bridge to Tom Clarke East Link Bridge

6.1.1 Introduction

Four key issues were reassessed for this section based on the concerns raised in Public Consultation No.1:

- Concerns over pedestrian safety on Samuel Beckett Bridge caused by limited segregation cycle and pedestrian facilities.
- Concerns over a possible back-log of cyclists at the Guild Street pedestrian crossing due to the proposed removal of the northbound cycle lane from the eastern side of the Samuel Beckett Bridge.
- A proposal to add bus stop islands along the North Quay Road in order to better protect Cyclists and pedestrians; and
- Concerns over traffic diversion proposals which suggest that all traffic from the city centre to the Grand Canal Docks area would need to enter via Misery Hill, Hibernian Road and Lazer Lane which would cause traffic back-ups.

The inclusion of the entirety of the north quays in the Ringsend to City Centre CBC also necessitated a reappraisal of the proposed bus priority provision on the quays. In particular, the proposal to remove the inbound bus lane on the north quays was of concern due to the likely impacts on Dublin Bus, other regular bus services including Bus Éireann and the Swords Express, Airlink, Aircoach, taxis and private coaches. In total 640 buses / coaches and 581 taxis a day were surveyed over 24 hours on the 11th of February 2020 with 81 buses and coaches and 19 taxis during the busiest hour (08:00 – 09:00). The BusConnects service plan includes 27 Dublin Bus services an hour in addition to the Airlink, Aircoach, Swords Express and other private services that use the route (allowing for the rerouting of routes C3 and C4 via the Dodder Public Transport Bridge once complete).

6.1.2 Bus Priority Options in Section 1 – North Quays

The Emerging Preferred Route proposed the removal of the inbound bus lane on the North Quays and its relocation to the south quays. This would require the provision of a right turn facility for buses, taxis and coaches coming from East Wall Road towards the city centre from either the Tom Clarke East Link Bridge or the Samuel Beckett Bridge or both. The widening of the Tom Clarke East Link Bridge for the provision of a right turn lane has not progressed and it is uncertain if and when it will. The provision of a right turn lane for buses from the Samuel Beckett Bridge would be difficult to accommodate geometrically and would also require buses to make a very tortuous left turn from North Wall Quay onto the bridge. Therefore, alternative options have been reappraised, including:

- A. Retention of bus lanes in both directions on North Wall Quay and Custom House Quay.
- B. EPR proposal with split routing via North and South Quays with right turn from Tom Clarke East Link Bridge.
- C. EPR proposal with split routing via North and South Quays with right turn from Samuel Beckett Bridge;
- D. EPR proposal with split routing via North and South Quays with right turns from both Tom Clarke East link Bridge and Samuel Beckett Bridge.

Table 6.1 – Evaluation of Options for Bus Facility Routing on North Quays

Option	Option A Bus Lanes in both directions on North Quays	Option B Split routing with Right Turn at Tom Clarke Bridge	Option C Split routing with Right Turn at Beckett Bridge	Option D Options B and C combined
Economy				
Journey Time Reliability (Bus)	Best	Reasonable	Poorest	Second best
Capital Cost	Lowest	Joint Highest	Low	Joint Highest
Integration	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Accessibility & Social Inclusion	No change to existing	Reduction in access to IFSC, Better access to South Quays	Reduction in access to IFSC, Better access to South Quays	Reduction in access to IFSC, Better access to South Quays
Safety	Local reduction in cycleway and footway width at obstructions	Improved facilities at Tom Clarke Bridge	Difficult turns at Beckett Bridge	Difficult turns at Beckett Bridge Improved facilities at Tom Clarke Bridge
Environment				
Ecology	No appreciable impacts	Potential impacts on Dublin Bay	No appreciable impacts	Potential impacts on Dublin Bay
Heritage (Architectural and Archaeological)	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Geology, Hydrology Hydrogeology	No appreciable impacts	Potential impacts at new bridge	No appreciable impacts	Potential impacts at new bridge
Human Beings and Material Assets	No change to existing	Reduction in access to IFSC, Better access to South Quays	Reduction in access to IFSC, Better access to South Quays	Reduction in access to IFSC, Better access to South Quays
Air & Noise	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Landscape and Visual	No Change to Existing	Widening of Tom Clarke Bridge required	No appreciable change to existing	Widening of Tom Clarke Bridge required
Rank	1	2	2	4

The options assessment has concluded that it is preferable to maintain the bus lanes along North Wall Quay if practicable. Options 2 and 4 would require the widening of the Tom Clarke East Link Bridge to provide a right turn lane (or potentially the provision of a pedestrian cycle bridge adjacent), which would have significant cost and potential environmental implications. The option of the right turn at Beckett Bridge is not as attractive from a safety perspective, involving tortuous turns onto and off the bridge.

6.1.3 Options for the Scherzer Bridges in Section 1 – North Quays

There are two historic pairs of formerly opening Scherzer Bridges on the North Quays at the entrances to George's Dock in the IFSC and Spencer Dock at the mouth of the Royal Canal. These pose a significant barrier to bus priority – in particular the pair at Spencer Dock, which compromise the operation of the Samuel Beckett Bridge / Guild Street junction. The option of removing these bridges has not heretofore been considered. Neither pair of opening bridges have been opened in the past 50 years. George's Dock is now used for other functions, and there are fixed boardwalks on either side of the old opening bridges. The recent Dublin City Council planning approval for a whitewater rafting centre at George's Dock presumes that access will be via canoe beneath the existing bridges, without requiring them to open. Access to the Royal Canal is via the sea lock upstream of the Spencer Dock Scherzer Bridges, and these bridges were nailed shut in the early 2000s. Fixed pedestrian and cycle bridges were installed immediately adjacent to these bridges in 2019.

Alternative options for the treatment of these historic structures have been explored as part of the PRO development. The options reviewed are:

- a) Retain bridges in situ.
- b) Retain bridges at George's Dock only. The constraint to traffic is less pronounced at George's Dock than at Spencer Dock. The negative and positive impacts of removing the bridges would be less if the intervention was only undertaken at Spencer Dock.
- c) Retain bridges at Spencer Dock only. The constraint to traffic is more pronounced at Spencer Dock, and the logic of removing the historic bridges at George's Dock while retaining the constraint at this location is questionable. The other negative and positive impacts of removing the bridges would be less if the intervention was only undertaken at George's Dock.
- d) Retain eastbound bridges only in situ. This would benefit traffic exiting the city only but could leave a confused layout visually, with half of the historic structure retained over one half of the road only.
- e) Retain westbound bridges only in situ. This would benefit traffic entering the city only but could leave a confused layout visually, with half of the historic structure retained over one half of the road only.
- f) Replace all bridges. This would involve the demolition and removal of the existing bridges and their replacement with a simple unobtrusive concrete bridge structure.
- g) Relocate and replace all bridges. This would involve the careful deconstruction of the historic bridges and their reconstruction adjacent to the roadway to carry pedestrian and cycle traffic. New four lane simple unobtrusive concrete bridges would be constructed in between to carry the road carriageway.

Table 6.2 – Evaluation of Options for Scherzer Bridges

Option	Option A Retain Existing	Option B Retain George's Dock Bridges Only	Option C Retain Spencer Dock Bridges Only	Option D Retain eastbound bridges only	Option E Retain westbound bridges only	Option F Replace all bridges	Option G Relocate and replace all bridges
Economy							
Journey Time Reliability (Bus)	Worst	Third best	Second worst	Fourth best	Fourth best	Best	Best
Capital Cost	Best	Third best	Third best	Second worst	Second worst	Second best	Worst
Integration							
Accessibility & Social Inclusion	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Safety	Worst	Second worst	Second worst	Second worst	Second worst	Best	Best
Environment							
Ecology	No risks	Potential risks	Potential risks	Potential risks	Potential risks	Potential risks	Potential risks
Heritage (Architectural and Archaeological)	Best	Second best	Second best	Second worst	Second worst	Worst	Second worst
Geology, Hydrology Hydrogeology	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Human Beings and Material Assets	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Air & Noise	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Landscape and Visual	No impact	Negative impact	Potentially positive impact	Confused layout	Confused layout	Negative impact	Potentially positive impact
Rank	4	3	5	6	6	2	1

The conclusion of the options assessment is that the relocation of the historic Scherzer Bridges to an appropriate new location and the provision of new bridges in between is preferable. This will allow the hazard traffic poses to the bridges and vice versa to be better addressed. A landscape architecture study was commissioned to determine whether such an intervention would have a positive or negative impact. From the initial work undertaken, it is considered that the intervention would be potentially positive. The Figures produced to inform this conclusion are below:

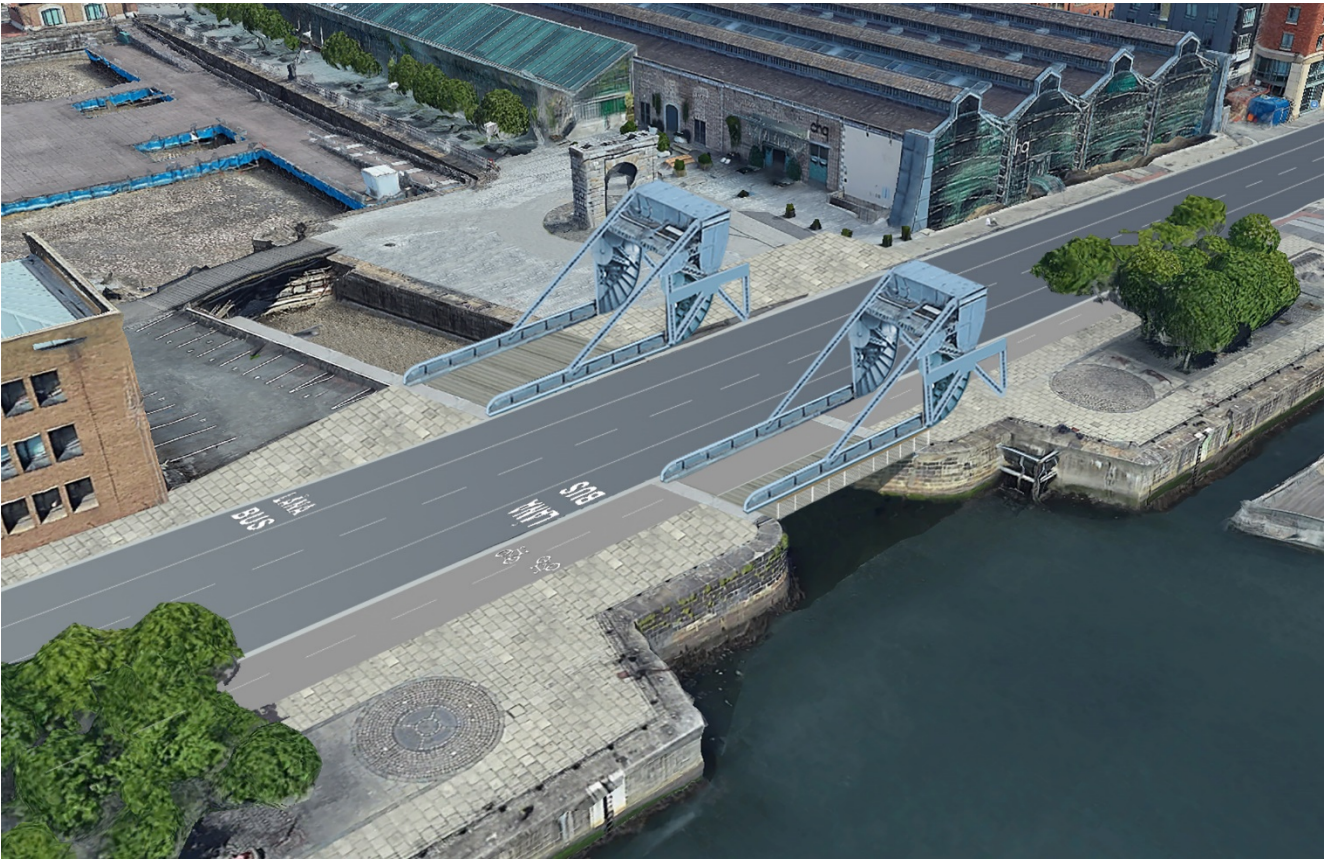


Figure 6.2: Potential relocation of Scherzer Bridges at George's Dock



Figure 6.3: Potential relocation of Scherzer Bridges at Spencer Dock

6.1.4 Access and Servicing Arrangements in Section 1 – North Quays

The review of the EMERGING PREFERRED ROUTE raised concern about the impact of right turns along the north quays. Such right turns would have to be accommodated either with dedicated turning lanes, or with turning from the traffic lane, which would result in through traffic entering the bus lane to pass the turning vehicles. These could have operational impacts on the bus lanes and general traffic lanes. Alternative access is available via Sheriff Street from East Wall Road or from Guild Street. Therefore, the potential to remove the right turns has been explored:

- Retain right turning provisions as existing with provision of right turn lanes.
- Retain right turn provisions as existing without provision of right turn lanes.
- Remove all right turns.
- Retain right turns where required for public transport movements only – i.e. Commons Street, Park Lane and New Wapping Street.

Table 6.3 – Evaluation of Right Turning Provisions from North Quays

Option	Option A Retain right turns with lanes	Option B Retain right turns without lanes	Option C Remove all right turns	Option D Retain right turns for public transport only
Economy				
Journey Time Reliability (Bus)	Better	Worst	Better	Better
Capital Cost	High	Low	Low	Low
Integration				
Accessibility & Social Inclusion				
Safety				
Environment				
Ecology	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Heritage (Architectural and Archaeological)	Impact on Campshires	No impact	No impact	No impact
Geology, Hydrology Hydrogeology	No change to existing	No change to existing	No change to existing	No change to existing
Human Beings and Material Assets	No impact	No impact	No impact	No impact
Air & Noise	No change to existing	No change to existing	No change to existing	No change to existing
Landscape and Visual	Impact on Campshires	No impact	No impact	No impact
Rank	3	4	2	1

The above options assessment indicates that the complete removal of right turns would adversely impact on public transport services. Therefore, it is preferable to provide for right turns where these vehicles need to make such manoeuvres. The retention of other right turning provisions is not recommended, and these movements should be redirected via Sheriff Street. The design should be progressed on that basis.

6.1.5 Bus Priority Options in Section 1 – South Quays

In the context of the retention of bus lanes on the North Quays, the proposed introduction of bus priority on the south quays has been reviewed. Four possible options have been considered, as follows:

- A. No priority west of Beckett Bridge with all bus movements via North Quays.
- B. Westbound priority as per EPR with eastbound movements via North Quays and Beckett Bridge.
- C. Westbound priority as per EPR with eastbound movements via Townsend Street. This would be a slight revision to the EPR, with eastbound bus movements routed via Townsend Street rather than the north quays, thereby avoiding a complicated right turn movement at the Beckett Bridge / Guild Street junction.
- D. Limited westbound priority at western end only. This would involve the introduction of a westbound bus lane on City Quay between Talbot Memorial Bridge and Lombard Street. The existing traffic circulation arrangements would be maintained east of this point, with access traffic continuing to access the Lime Street / Windmill Lane area as it does at present.

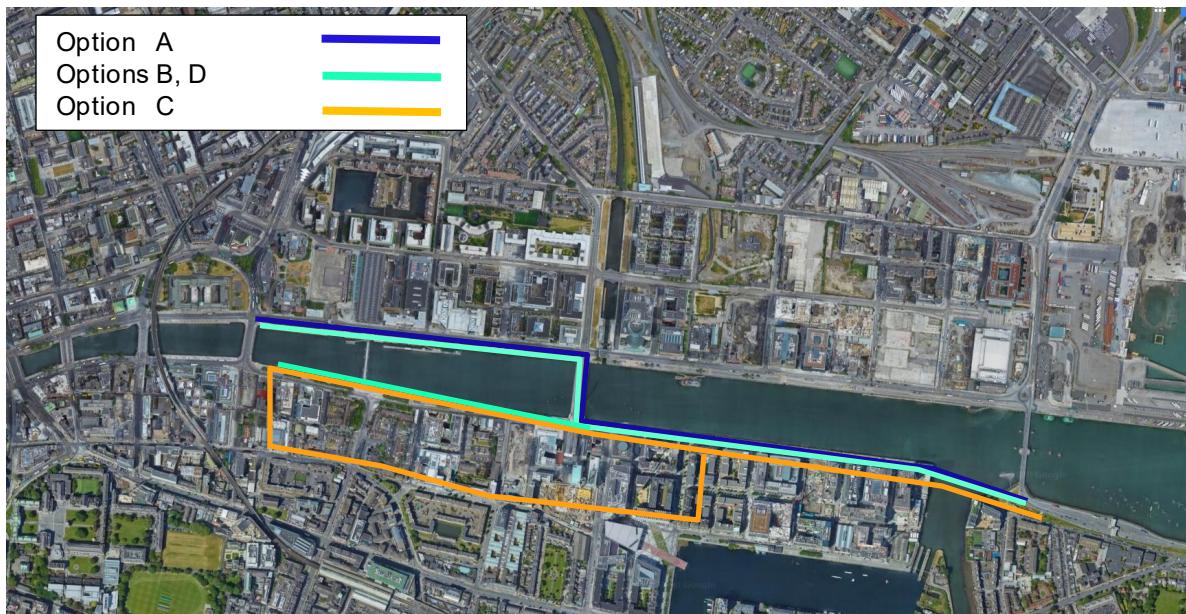


Figure 6.4 - Options for Bus Facilities on South Quays

Table 6.5 – Evaluation of Options for Bus Facility Routing on South Quays

Option	Option A Buses on North Quays west of Beckett Bridge	Option B EPR Design	Option C EPR with eastbound buses via Townsend St	Option D Limited westbound priority on South Quays	Option E Combination of Options C and D
Economy					
Journey Time Reliability (Bus)	Difficult left turn for buses from Beckett Bridge - delays Eastbound priority dependent on right turn from north quays	Westbound priority assured. Eastbound priority dependent on right turn from north quays	Bus priority assured.	Westbound priority assured. Eastbound priority dependent on right turn from north quays	Bus priority assured.
Capital Cost	Lowest	Second highest	Highest	Second Lowest	Second highest
Integration	No changes to existing	Revised circulation	Revised circulation	Limited changes to existing	Limited changes to existing
Accessibility & Social Inclusion	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Safety	Difficult left turn for buses	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Environment					
Ecology	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Heritage (Architectural and Archaeological)	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Geology, Hydrology Hydrogeology	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing
Human Beings and Material Assets	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing
Air & Noise	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing
Landscape and Visual	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing
Rank	1	4	4	1	1

The options assessment has concluded that it a more localised intervention at City Quay can achieve the same westbound bus priority, and that the more extensive measures proposed in the EPR are unnecessary. A second viable alternative is maintaining two-way bus movements on the north quays only, however, this could create a vulnerability in the system. A further possible alternative would be to route the eastbound bus movements via Townsend Street and Hanover Street east to avoid a difficult right turn onto Beckett Bridge.

6.1.6 Access and Servicing Arrangements in Section 1 – South Quays

Car access and circulation at *Sir John Rogerson's Quay Extension* in this area has been assessed. The area is a de facto cul-de-sac for general traffic. Buses, pedestrians and cyclists will be able to continue onward to Ringsend on completion of the Dodder Public Transport Bridge. Several options have been reconsidered to manage private car access:

- a) No bus priority
- b) Two-way bus lanes between Cardiff Lane and Forbes Street.
- c) Eastbound bus lane only between Cardiff Lane and Forbes Street.
- d) Westbound bus lane only between Forbes Street and Cardiff Lane.
- e) Eastbound bus lane only between Cardiff Lane and Forbes Street with westbound bus access via Misery Hill.
- f) Westbound bus lane only between Forbes Street and Cardiff Lane with Eastbound Bus access via Misery Hill.

In options where the westbound bus lane is omitted, there would be a vulnerability to bus services in the event of congestion on Cardiff Lane / Beckett Bridge, since cars unable to join the northbound or southbound traffic streams would in turn obstruct westbound buses. There is no scope for congestion eastbound, since there is no obstacle to traffic flow to the east.

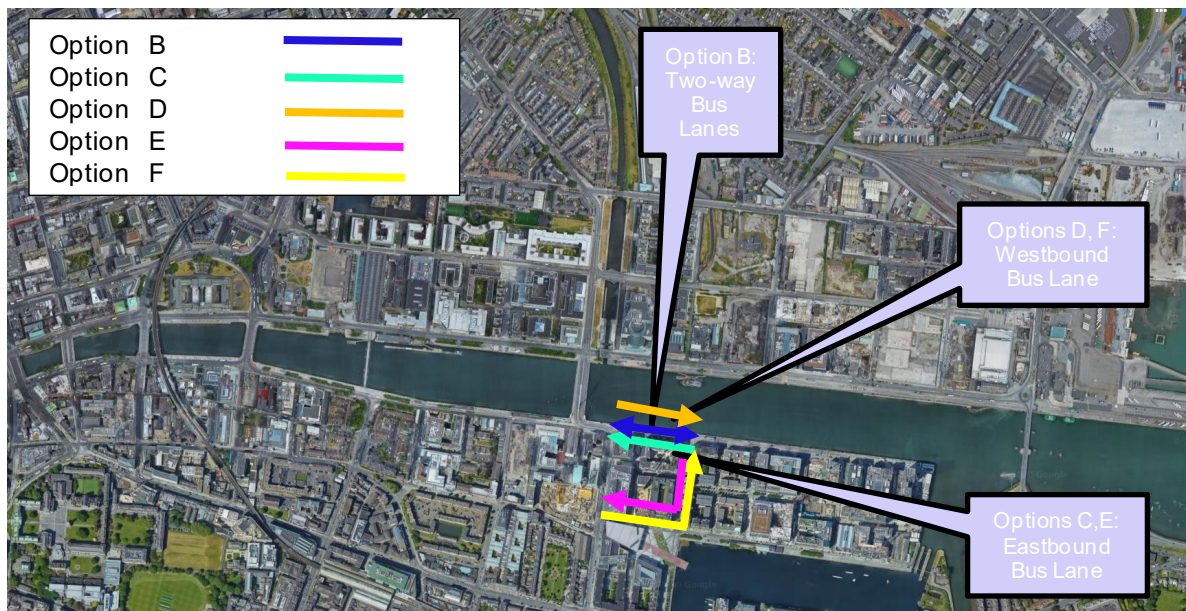


Figure 6.5: Possible Access Arrangements at Sir John Rogerson's Quay Extension

Table 6.6 – Evaluation of Access Arrangements at Sir John Rogerson's Quay Extension

Option	Option A No Bus Priority	Option B Two way bus lanes on SJRQ	Option C Eastbound bus lane on SJRQ	Option D Westbound bus lane on SJRQ	Option E Eastbound bus lane on SJRQ Westbound Misery Hill	Option F Westbound bus lane on SJRQ Eastbound Misery Hill
Economy						
Journey Time Reliability (Bus)	Risks to westbound priority	Good	Risks to westbound priority	Good	Risks to westbound priority	Good
Capital Cost	Lowest	Mid	Mid	Higher	Higher	Higher
Integration						
Accessibility & Social Inclusion	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Safety	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Environment						
Ecology	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Heritage (Architectural and Archaeological)	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Geology, Hydrology Hydrogeology	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing
Human Beings and Material Assets	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Air & Noise	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing
Landscape and Visual	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing	No change to existing
Rank	4	1	4	1	6	3

The options assessment has indicated that westbound bus priority is essential. This can be achieved by the provision of a bus lane westbound on Sir John Rogerson's Quay between Forbes Street and Cardiff Lane. There is no advantage to discommoding traffic for the provision of eastbound bus priority at this location, since there is no catalyst for congestion to the east on Sir John Rogerson's Quay Extension. Therefore, the option of providing a westbound bus lane only is preferred.

6.1.7 Cycling Facilities in Section 1 – Beckett Bridge

Continuous two-way cycling facilities are proposed on both the north and south campshires. The EPR design has been developed slightly but the principles of provision generally remain the same. The following particular aspects have been reviewed in light of comments received during the first public consultation about the limited space for pedestrians and cyclists at the southeast corner of Samuel Beckett Bridge. In order to seek to improve this provision, the following options have been considered:

- A. EPR Proposal to remove northbound cycle track on eastern side.
- B. No change to existing pending completion of new pedestrian / cycling bridge across the Liffey at Forbes Street / Blood Stoney Road. Dublin City Council proposes to develop a new pedestrian / cycle bridge between Forbes Street and Park Lane or between Blood Stoney Road and New Wapping Street to relieve pressure on Beckett Bridge.
- C. Provide two-way cycle route on quieter western footpath.
- D. Remove southbound bus lane and provide wider footpath and cycle track availing of additional width available.

The removal of the northbound bus lane isn't practicable since it accommodates a busy left turn at the North Wall Quay junction.

Table 6.7 – Evaluation of Cycling Facility Options on Samuel Beckett Bridge

Option	Option A Remove northbound cycle track east side	Option B Do Nothing	Option C Two-way cycle track west side	Option D Wider cycle track and footpath east side
Economy				
Journey Time Reliability (Bus)	No change for buses	No change for buses	No change for buses	Bad for buses
Capital Cost	Low cost	No Cost	Low Cost	Moderate Cost
Integration	Conflicts with policy and bad for cyclists	No improvement/ disimprovement	Improvement for cyclists; no change for buses	Bad for buses – conflicts with BusConnects policy
Accessibility & Social Inclusion	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Safety	Two additional road crossings required for cyclists.	No appreciable difference – new pedestrian / cycle bridge in future	Marginal improvement for cyclists	Safest arrangement for cyclists
Environment	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Ecology	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Heritage (Architectural and Archaeological)	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Geology, Hydrology Hydrogeology	No change to existing	No change to existing	No change to existing	No change to existing
Human Beings and Material Assets	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Air & Noise	No change to existing	No change to existing	No change to existing	No change to existing
Landscape and Visual	No change to existing	No change to existing	No change to existing	No change to existing
Rank	4	1	1	3

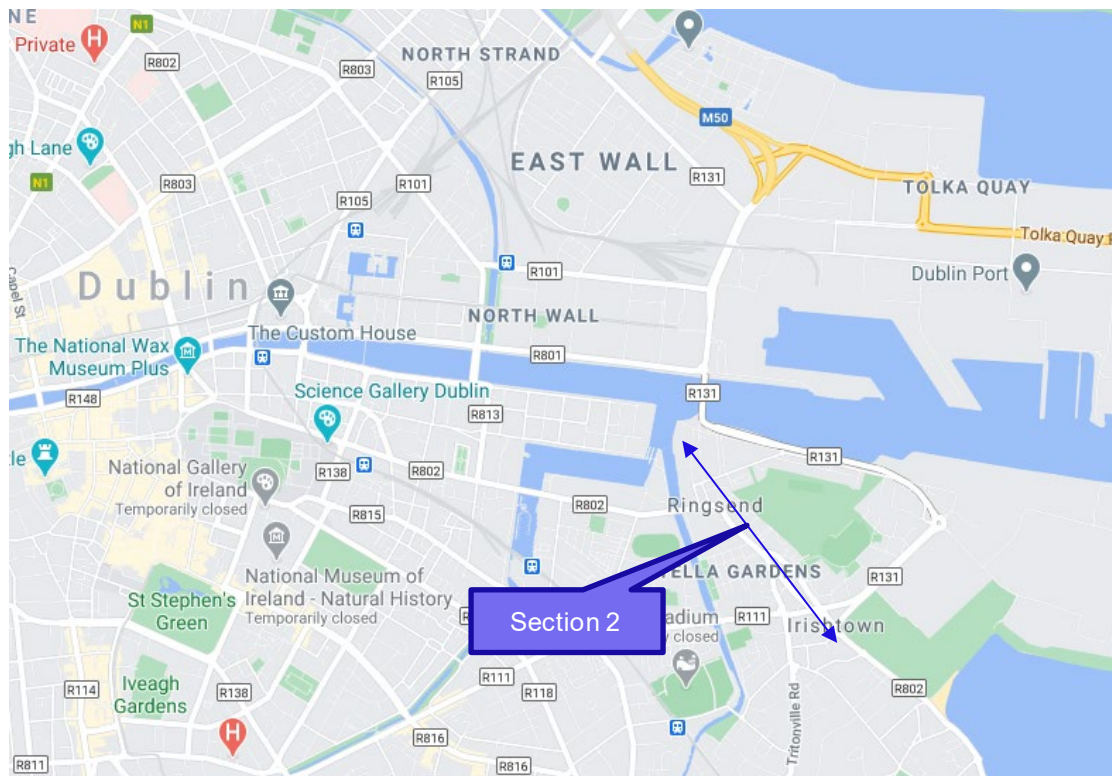
On the basis of the foregoing, the EPR design intervention is considered to be inappropriate. The provision of a two-way facility on the west side of Samuel Beckett Bridge should be considered but the benefits involved would be marginal in the context of the majority of the demand being along the east side. The future provision of a downstream pedestrian / cycle bridge by Dublin City Council will improve the situation for pedestrians and cyclists further.

6.1.8 Conclusions and Draft Preferred Route Option for Section 1

The following key changes are proposed to the earlier EPR design in Section 1:

- 1) Bus lanes to be provided in both directions on north quays.
- 2) Reduced changes to existing traffic circulation on south quays.
- 3) Scherzer Bridges at George's Dock and Spencer Dock to be dismantled, restored and sympathetically relocated.
- 4) Eastbound access to be maintained to Sir John Rogerson's Quay Extension.
- 5) Existing right turns from north quays to be removed except where required by public transport; and
- 6) Cycle provision on Beckett Bridge to remain as existing.

6.2 PRO Review in Section 2 – East of Tom Clarke Bridge



Section 2: East of Tom Clarke Bridge

6.2.1 Introduction

The following key issues were reassessed for this section based on the concerns raised in Public Consultation No.1:

- **Pigeon House Road:**
The proposed removal / reduction of the grass verge on Pigeon House Road for the provision of a cycle track caused considerable concern among residents; A proposal to make Pigeon House Road local access or one way only; Safety concerns pertaining to the amount of trucks travelling along Pigeon House Road to enter the container yards;
- **Parking Impacts:**
Objections to the removal of parking spaces, trees and the old granite sea wall on Strand Street; Objections to the removal of parking spaces at Strasburg Terrace.
- **Ringsend Park:**
Objections to the removal of land on Ringsend Park to create a cycle lane; Concerns about having Ringsend Park open 24 hours a day, 7 days a week, as it could lead to an increase in anti-social behaviour.

In addition, the following issues were noted.

- A request to construct a pedestrian crossing from Ringsend Park to the Poolbeg Yacht Club and marina;
- Safety concerns relating to the accessibility of a local school;

It is confirmed in the case of the latter two that the design has been amended to address the requests. In respect of the former three grouped issues, the options to address them have been assessed below.

6.2.2 Route of Cycling Facility through Section 2

On foot of the significant local opposition to the proposed cycle track along Pigeon House Road, a number of alternative options were considered. This included an option via Ringsend Park, which itself raised some separate concerns via the public consultation process.

- a) EPR proposal
- b) Shared running on-road on Pigeon House Road
- c) Alternative routing via Ringsend Park
- d) Combination of B and C

Table 6.8 – Evaluation of Options for Cycle Routing through Section 2

Option	Option A EPR	Option B Shared on-road facility	Option C Ringsend Park Route	Option D Options B and C combined
Economy				
Journey Time Reliability (Bus)	No impact	No impact	No impact	No impact
Capital Cost	Highest	Lowest	Low	Low
Integration	Significant changes required	Incompatible with policy	Largely aligned with policy	Best aligned with policy
Accessibility & Social Inclusion	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Safety		Shared use not as safe as segregation		Both options available
Environment				
Ecology	Potential minor impacts	No impacts	Potential minor impacts	Potential minor impacts
Heritage (Architectural and Archaeological)	Impacts on historic wall	No impacts	No impacts	No impacts
Geology, Hydrology Hydrogeology	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Human Beings and Material Assets	Impacts on green space currently enjoyed by locals for amenity and parking	No impacts	Impacts on informal parking at Bremen Road	Impacts on informal parking at Bremen Road
Air & Noise	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Landscape and Visual	Significant change at Pigeon House Road	No change to existing	Moderate change in Ringsend Park	Moderate change in Ringsend Park
Rank	3	4	1	1

The assessment has concluded that there are more attractive, lower impact solutions than that indicated on the EPR. There is a trade-off between cost and cyclist benefit for Options C and D and it is recommended that one of these should be progressed. The preferred solution will avoid impacting on the green area in front of the houses on Pigeon House Road, thereby addressing a significant concern that arose during Public Consultation No. 1. It is noted that the route has been closed to through traffic since Public Consultation No. 1 so the concerns that arose previously about through traffic and trucks no longer arise.

The design of the cycling route through Ringsend Park should be progressed carefully, having regard to existing park users, landscaping and ecology. Concerns were expressed during the public consultation in relation to potential anti-social behaviour in Ringsend Park if it were open 24 hours a day, 7 days a week. This concern is valid and noted. The issue is being considered on a citywide basis, and it is noted that the provision of similar

access elsewhere has had the opposite effect – reducing anti-social behaviour as a result of increased public usage and hence passive surveillance.

The public consultations indicated that there was particular concern about parking impacts on Pigeon House Road. These impacts have been avoided as a result of the changes made in 6.3.2.1 – and the Draft Preferred Route Option will not impact on parking on Pigeon House Road except where necessary locally for road crossings.

6.2.3 Strand Street area

Concerns were raised by the public about impacts of the proposal at the southeastern corner of Ringsend Park – on the historic quay wall, on trees and on parking. Several alternative designs were devised to avoid these impacts, and these have been compared with the EPR:

- a) EPR proposal.
- b) Revised option via Kerlogue Road. The revised proposal involves slightly adjusting (but not reducing) the parking provision at the Strasbourg Terrace Car Park, avoiding all existing mature trees, and shared use of Kerlogue Road with additional traffic calming.
- c) Revised option via Bremen Road. This option would start similarly to Option B but would connect to the proposed Poolbeg SDZ site rather than connecting directly towards Beach Road.
- d) Combination of Options B and C.

Table 6.9 – Evaluation of Options for Cycle Routing at Strand Street

Option	Option A EPR Proposal	Option B Kerlogue Road Route	Option C Bremen Road Route	Option D Options B and C combined
Economy				
Journey Time Reliability (Bus)	No impact	No impact	No impact	No impact
Capital Cost	High	Low	Low	Low
Integration	Conflict with status of wall			
Accessibility & Social Inclusion	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Safety	Good separation of cars and cyclists	Cyclists shared with cars in traffic calmed environment.	Good separation of cars and cyclists	Good separation of cars and cyclists
Environment				
Ecology	Impacts on trees	No impacts	Potential impacts on trees	Potential impacts on trees
Heritage (Architectural and Archaeological)	Impacts on historic wall	No impacts	No impacts	No impacts
Geology, Hydrology Hydrogeology	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Human Beings and Material Assets	Significant impacts on parking	No appreciable difference	Local impacts on parking	Local impacts on parking
Air & Noise	No appreciable difference	No appreciable difference	No appreciable difference	No appreciable difference
Landscape and Visual	Significant impacts	Local impacts	Local impacts	Local impacts
Rank	4	2	3	1

The review has indicated that there is a lower impact scheme that achieves much the same level of cycle facility provision as had been proposed in the EPR. The refined scheme involves fewer direct impacts on trees, on the historic wall and on the local environment. The preferred solution involves a split routing at the southeastern end, maximising connectivity to both the East Coast Trail and the proposed Poolbeg SDZ development.

6.2.4 Conclusions and Draft Preferred Route Option for Section 2

The following key changes are proposed to the earlier EPR design in Section 2:

- 1) Retain existing grass verge at Pigeon House Road and instead provided shared on-road cycle facility with additional traffic calming; Provide high quality cycling route through Ringsend Park;
- 2) Avoid impacts on car parking except at new road crossings and locally on informal parking on Bremen Road; and
- 3) Reduced impacts at Strasbourg Terrace / Strand Street and provision of separate cycling connections towards the Poolbeg SDZ development site and the East Coast Trail at Beach Road.

7. Draft Preferred Route Option

7.1 Introduction

Chapter 6 of this report presented an appraisal of all route options considered for *Ringsend to City Centre CBC*. Following this appraisal, the Draft Preferred Route Option has been confirmed as summarised in this chapter of the report. The updated Draft Preferred Route Option CBC design drawings are included in *Appendix B* of this report.

7.2 Draft Preferred Route Option in Section 1: Memorial Bridge to Beckett Bridge

The Emerging Preferred Route has been adjusted to adopt the following changes in the Draft Preferred Route Option:

- 1) Bus lanes to be provided in both directions on north quays.
- 2) Reduced changes to existing traffic circulation on south quays.
- 3) Scherzer Bridges at George's Dock and Spencer Dock to be dismantled, restored and sympathetically relocated.
- 4) Eastbound access to be maintained to Sir John Rogerson's Quay Extension.
- 5) Existing right turns from north quays to be removed except where required by public transport; and
- 6) Cycle provision on Beckett Bridge to remain as existing.

The proposed road layout in Section 1 will be as follows:

- 1) Continuous bus lanes will be provided in both directions along the north quays through this 1.6km long route section. This will provide continuous bus priority between the Point and the Custom House.
- 2) The layout of the campshires will be altered to provide a continuous two-way cycleway for the full distance from the Point to the Custom House on both the north and south quays.
- 3) Landscaping will be amended to suit and will be aligned with the proposed Dublin City Council Campshires Public Realm project insofar as practicable. The latter has acknowledged the need to provide the two-way bus and cycle facilities, as proposed.
- 4) The historic Scherzer Bridges will be dismantled and rehabilitated before being reconstructed on each side of the existing road carriageway. New replacement bridges will be provided in between two convey four obstructed lanes (two bus lanes and two traffic lanes). This will significantly improve the level of service of the north quays, while protecting the iconic structures for posterity.
- 5) Right turning movements will be banned on the north quays except for public transport and these movements rerouted via Sheriff Street; and
- 6) Local adjustments to traffic management will be constructed along the south quays to facilitate a westbound bus connection from the proposed Dodder Public Transport Bridge to George's Quay. The interventions will include a short section of bus lane between Asgard Lane and Samuel Beckett Bridge, and a second section between Lombard Street and Talbot Memorial Bridge. Local traffic access will be rerouted to suit.

7.3 Draft Preferred Route Option in Section 2: Beckett Bridge to Ringsend

The Emerging Preferred Route has been adjusted to adopt the following changes in the Draft Preferred Route Option:

- 1) Retain existing grass verge at Pigeon House Road and instead provided shared on-road cycle facility with additional traffic calming; Provide high quality cycling route through Ringsend Park.
- 2) Avoid impacts on car parking except at new road crossings and locally on informal parking on Bremen Road; and
- 3) Reduced impacts at Strasbourg Terrace / Strand Street and provision of separate cycling connections towards the Poolbeg SDZ development site and the East Coast Trail at Beach Road.

The proposed road layout in Section 2 will be as follows:

- 1) Reconfigured area on east side of Dodder Public Transport Bridge to tie in proposed bus facilities to East Link Road and proposed cycle facilities to York Road.
- 2) Provision of new pedestrian / cycle crossings of York Road to Pembroke Cottages and from Pembroke Cottages to Canon Mooney Gardens to link cycle route to Ringsend Park.
- 3) Widening of pathway through Ringsend Park and other local adjustments to entrances to facilitate continuation of walking and cycling route through. Lighting and CCTV to be provided through park.
- 4) Link from Ringsend Park to Kerlogue Road and across Seán Moore Road to provide cycling connection to the East Coast Trail at Beach Road.
- 5) Link from Ringsend Park to Bremen Road adjacent to Irishtown Stadium to provide cycling connection to the Poolbeg SDZ site. Some local reorganisation of existing informal parking; and
- 6) Additional traffic calming on Pigeon House Road to provide a secondary cycling connection towards the Poolbeg SDZ lands.

7.4 Ringsend to City Centre Preferred Route Summary

The Preferred Route for the Ringsend to City Centre Core Bus Corridor is approximately 1.6 km long from end to end (plus 1km of cycling facilities through Ringsend). The updated concept design drawings show the extent of the infrastructure proposed to deliver this CBC. The design has achieved 100% provision of bus lanes and two-way cycling facilities along the north and south quays throughout the CBC extents, as well as the provision of a cycling link through Ringsend to the Poolbeg SDZ lands and the East Coast Train at Beach Road.

The proposed route will provide the following improvements for bus priority:

Bus priority – Westbound to City Centre	Road Length	Existing Length	%	Proposed Length	%
Custom House Quay / North Wall Quay between Talbot Memorial Bridge and Samuel Beckett Bridge	700	340	29%	700	100%
North Wall Quay between Samuel Beckett Bridge and Tom Clarke East Link Bridge	900	260	29%	900	100%
Total	1,600	600	38%	1,600	100%
City Quay / Sir John Rogerson's Quay between Talbot Memorial Bridge and Samuel Beckett Bridge (currently on north quays)	800	0	0%	260	33%
Sir John Rogerson's Quay between Samuel Beckett Bridge and Tom Clarke East Link Bridge	800	0	0%	220	28%
Total	1,600	600	38%	1,600	100%
Bus priority – Eastbound from City Centre					
Custom House Quay / North Wall Quay between Talbot Memorial Bridge and Samuel Beckett Bridge	700	80	11%	700	100%
North Wall Quay between Samuel Beckett Bridge and Tom Clarke East Link Bridge	900	380	42%	900	100%
Total	1,600	460	29%	1,600	100%
City Quay / Sir John Rogerson's Quay between Talbot Memorial Bridge and Samuel Beckett Bridge (currently on north quays)	800	0	0%	0	0%
Sir John Rogerson's Quay between Samuel Beckett Bridge and Tom Clarke East Link Bridge	800	0	0%	0	0%
Total	1,600	0	0%	0	0%

The proposed route will provide the following improvements for cyclists:

Cycle priority – Westbound to City Centre	Road Length	Existing Length	%	Proposed Length	%
Custom House Quay / North Wall Quay between Talbot Memorial Bridge and Samuel Beckett Bridge	700	430	61%	700	100%
North Wall Quay between Samuel Beckett Bridge and Tom Clarke East Link Bridge	900	750	83%	900	100%
Total	1,600	1,180	74%	1,600	100%
City Quay / Sir John Rogerson's Quay between Talbot Memorial Bridge and Samuel Beckett Bridge (currently on north quays)	800	800	100%	800	100%
Sir John Rogerson's Quay between Samuel Beckett Bridge and Tom Clarke East Link Bridge	800	200	25%	800	100%
Total	1,600	1,600	63%	1,600	100%
Cycle priority – Eastbound from City Centre					
Custom House Quay / North Wall Quay between Talbot Memorial Bridge and Samuel Beckett Bridge	700	430	61%	700	100%
North Wall Quay between Samuel Beckett Bridge and Tom Clarke East Link Bridge	900	750	83%	900	100%
Total	1,600	1,180	74%	1,600	100%
City Quay / Sir John Rogerson's Quay between Talbot Memorial Bridge and Samuel Beckett Bridge (currently on north quays)	800	800	100%	800	100%
Sir John Rogerson's Quay between Samuel Beckett Bridge and Tom Clarke East Link Bridge	800	800	100%	800	100%
Total	1,600	1,600	100%	1,600	100%
Cycle priority – Section 2					
Tom Clarke East Link Bridge to Seán Moore Road Westbound	1,000	0	0%	1,000	100%
Tom Clarke East Link Bridge to Seán Moore Road Eastbound	1,000	0	0%	1,000	100%
Total	1,000	0	0%	1,000	100%

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. 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 CBC, 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.

Appendices

Appendix A. Multi-Criteria Options Assessments

Table 6.1 – Evaluation of Options for Bus Facility Routing on North Quays					
Assessment Criterion	Assessment Sub-Criterion	Option A Bus Lanes in both directions on North Quays	Option B Split routing Right Turn Tom Clarke	Option C Split routing Right Turn Sam Beckett	Option D Options B and C combined
Economy (Cost Assessment and Transport Economic Indicators)	Journey Time reliability (Buses)	<i>Journey Time Reliability Factors</i> Westbound delays at George’s Dock Scherzer Bridges wouldn’t arise on other routes. No difficult right turns onto South Quays required.	<i>Journey Time Reliability Factors</i> No impedance as a result of Scherzer Bridges at George’s Dock westbound. New stage required at Dodder Public Transport Bridge east junction likely to reduce junction capacity and increase delays for all users.	<i>Journey Time Reliability Factors</i> Westbound delays at George’s Dock Scherzer Bridges wouldn’t arise on other routes. New stage required at Samuel Beckett Bridge south junction likely to reduce junction capacity and increase delays for all users.	<i>Journey Time Reliability Factors</i> No impedance as a result of Scherzer Bridges at George’s Dock westbound. New stages required at Samuel Beckett Bridge south and Dodder Public Transport Bridge east junctions likely to reduce junction capacity and increase delays for all users. Mitigated by provision of two right turn options
	Rank				
	Capital Cost	<i>Infrastructure Works Cost Factors</i> Substantially retains existing layout. Modifications required to kerb lines for cycling facilities Low Cost	<i>Infrastructure Works Cost Factors</i> Reduced carriageway width on north quays Modifications required to kerb lines for cycling facilities and enhanced pedestrian realm New footbridge required adjacent to Tom Clarke Bridge to facilitate right turning lane on Tom Clarke Bridge to facilitate right turn lane onto south quays High Cost	<i>Infrastructure Works Cost Factors</i> Reduced carriageway width on north quays Modifications required to kerb lines for cycling facilities and enhanced pedestrian realm Revisions required to southern junction of Samuel Beckett Bridge to facilitate right turn lane onto south quays. Medium Cost	<i>Infrastructure Works Cost Factors</i> Reduced carriageway width on north quays Modifications required to kerb lines for cycling facilities and enhanced pedestrian realm New footbridge required adjacent to Tom Clarke Bridge to facilitate right turning lane on Tom Clarke Bridge to facilitate right turn lane onto south quays New stage required at Samuel Beckett Bridge south junction likely to reduce junction capacity and increase delays for all users. High Cost
		<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a
	Rank				
Integration	Policy Integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Transport Network Integration	No change to existing	Reduced traffic capacity eastbound on City Quay mitigated by available diversion route on Townsend Street	Reduced traffic capacity eastbound on City Quay mitigated by available diversion route on Townsend Street	Reduced traffic capacity eastbound on City Quay mitigated by available diversion route on Townsend Street
	Rank				
	Cycling integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Traffic Network Integration	No change to existing	Reduced traffic capacity eastbound on City Quay mitigated by available diversion route on Townsend Street	Reduced traffic capacity eastbound on City Quay mitigated by available diversion route on Townsend Street	Reduced traffic capacity eastbound on City Quay mitigated by available diversion route on Townsend Street
	Rank				
Accessibility and Social Inclusion	Key Trip Attractors (Education / Health / Commercial / Employment)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Deprived Geographic Areas	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
Safety	Road Safety	Local reduction in cycleway width at obstruction of Dublin City Council docklands offices / future Whitewater Rafting Centre building at Custom House Quay.	Improved facilities for cyclists at new bridge next to Tom Clarke Bridge.	Difficult manoeuvres at Samuel Beckett Bridge	Improved facilities for cyclists at new bridge next to Tom Clarke Bridge. Difficult manoeuvres at Samuel Beckett Bridge
	Rank				
Environment	Ecology	No appreciable change to existing	Potential impacts on Dublin Bay associated with bridge works required at Tom Clarke Bridge.	No appreciable change to existing	Potential impacts on Dublin Bay associated with bridge works required at Tom Clarke Bridge.
	Rank				

Table 6.1 – Evaluation of Options for Bus Facility Routing on North Quays					
Assessment Criterion	Assessment Sub-Criterion	Option A Bus Lanes in both directions on North Quays	Option B Split routing Right Turn Tom Clarke	Option C Split routing Right Turn Sam Beckett	Option D Options B and C combined
	Heritage (Architecture and Archaeological)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Soils and Geology	No appreciable change to existing	Potential impacts associated with bridge works required at Tom Clarke Bridge.	No appreciable change to existing	Potential impacts associated with bridge works required at Tom Clarke Bridge.
	<i>Rank</i>				
	Hydrology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Human Beings and Material Assets	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Air Quality	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Noise & Vibration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Landscape and Visual	No appreciable change to existing	Potential impacts associated with bridge works required at Tom Clarke Bridge.	No appreciable change to existing	Potential impacts associated with bridge works required at Tom Clarke Bridge.
	<i>Rank</i>				

Table 6.2 – Evaluation of Options for Bus Facility Routing on South Quays						
Assessment Criterion	Assessment Sub-Criterion	Option A Buses on North Quays only west of Beckett Bridge	Option B EPR Design	Option C EPR with eastbound buses via Townsend St	Option D Limited westbound priority on South Quays	Option E Combination of Options C and D
Economy (Cost Assessment and Transport Economic Indicators)	Journey Time reliability (Buses)	Journey Time Reliability Factors Difficult left turn for buses from Beckett Bridge onto North Wall Quay likely to cause delays. Eastbound priority dependent on AVL for right turn from North Wall Quay.	Journey Time Reliability Factors Westbound priority assured. Eastbound priority dependent on AVL for right turn from North Wall Quay.	Journey Time Reliability Factors Bus priority assured.	Journey Time Reliability Factors Westbound priority assured. Eastbound priority dependent on AVL for right turn from North Wall Quay.	Journey Time Reliability Factors Bus priority assured.
	Rank					
	Capital Cost	Infrastructure Works Cost Factors Substantially retains existing layout. Low Cost	Infrastructure Works Cost Factors Modifications at various points along south quays required. Mid-range Cost	Infrastructure Works Cost Factors Modifications at various points along south quays required. Modifications required on Townsend Street, Hanover Street East. Highest Cost	Infrastructure Works Cost Factors Scaled back version of Option B with minor interventions on City Quay west only Second Lowest Cost	Infrastructure Works Cost Factors Scaled back version of Option C. Second Highest Cost
		Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a
	Rank					
Integration	Policy Integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Transport Network Integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Cycling integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Traffic Network Integration	No change to existing	Revised traffic circulation regime required on City Quay and Sir John Rogerson's Quay.	Revised traffic circulation regime required on City Quay and Sir John Rogerson's Quay.	Localised adjustments to circulation along City Quay and Sir John Rogerson's Quay.	Localised adjustments to circulation along City Quay and Sir John Rogerson's Quay.
	Rank					
Accessibility and Social Inclusion	Key Trip Attractors (Education / Health / Commercial / Employment)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Deprived Geographic Areas	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
Safety	Road Safety	Difficult left turn for buses from Beckett Bridge onto North Wall Quay	No significant safety issues	No significant safety issues	No significant safety issues	No significant safety issues
	Rank					
Environment	Ecology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Heritage (Architecture and Archaeological)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Soils and Geology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options

Table 6.2 – Evaluation of Options for Bus Facility Routing on South Quays						
Assessment Criterion	Assessment Sub-Criterion	Option A Buses on North Quays only west of Beckett Bridge	Option B EPR Design	Option C EPR with eastbound buses via Townsend St	Option D Limited westbound priority on South Quays	Option E Combination of Options C and D
	Rank					
	Hydrology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Human Beings and Material Assets	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Air Quality	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Noise & Vibration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					
	Landscape and Visual	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank					

Table 6.3 – Evaluation of Options for Scherzer Bridges

Assessment Criterion	Assessment Sub-Criterion	Option A Retain Existing	Option B Retain George's Dock Bridges Only	Option C Retain Spencer Dock Bridges Only	Option D Retain eastbound bridges only	Option E Retain westbound bridges only	Option F Replace all bridges	Option G Relocate and replace all bridges
Economy (Cost Assessment and Transport Economic Indicators)	Journey Time reliability (Buses)	Journey Time Reliability Factors Continued delays for public transport services into and out of the city, in particular at rush hour.	Journey Time Reliability Factors Cause of most severe delays at Spencer Dock addressed. Continued risk of delay in both directions at George's Dock, in particular at rush hour.	Journey Time Reliability Factors Continued delays for public transport services into and out of the city, in particular at rush hour. Marginal improvement at George's Dock	Journey Time Reliability Factors Improvements for egress from the city but no improvement for access to the city.	Journey Time Reliability Factors Improvements for access to the city but no improvement for egress from the city.	Journey Time Reliability Factors Significant improvement for journey time reliability for public transport and reduced risk of delays for all road users.	Journey Time Reliability Factors Significant improvement for journey time reliability for public transport and reduced risk of delays for all road users.
	Rank							
	Capital Cost	Infrastructure Works Cost Factors No cost Lowest Cost	Infrastructure Works Cost Factors Modest cost for removal of existing bridges. Modest cost for construction of new bridge structures Mid-range Cost	Infrastructure Works Cost Factors Modest cost for removal of existing bridges. Modest cost for construction of new bridge structures Mid-range Cost	Infrastructure Works Cost Factors Modest cost for removal of existing bridges and works to existing retained bridges. Modest cost for construction of new bridge structures High Cost	Infrastructure Works Cost Factors Modest cost for removal of existing bridges and works to existing retained bridges. Modest cost for construction of new bridge structures High Cost	Infrastructure Works Cost Factors Modest cost for removal of existing bridges. Modest cost for construction of new bridge structures High Cost	Infrastructure Works Cost Factors Significant cost for rehabilitation and reconstruction of existing structures. Modest cost for construction of new bridge structures Highest Cost
		Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost Yes
	Rank							
Integration	Policy Integration	No impact	Requires removal of protected structures	Requires removal of protected structures	Requires removal of protected structures	Requires removal of protected structures	Requires removal of protected structures	Requires removal of protected structures
	Rank							
	Transport Network Integration	Continued delays for public transport services into and out of the city, in particular at rush hour.	Good reliability improvements for other public service providers, thereby benefiting overall network connectivity.	Some reliability improvements for other public service providers, thereby benefiting overall network connectivity.	Some reliability improvements for other public service providers, thereby benefiting overall network connectivity.	Some reliability improvements for other public service providers, thereby benefiting overall network connectivity.	Significant reliability improvements for other public service providers, thereby benefiting overall network connectivity.	Significant reliability improvements for other public service providers, thereby benefiting overall network connectivity.
	Rank							
	Cycling integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank							
	Traffic Network Integration	Continued delays for cars and goods vehicles into and out of the city, in particular at rush hour.	Good reliability improvements for cars and goods vehicles, thereby benefiting overall network connectivity.	Some reliability improvements for cars and goods vehicles, thereby benefiting overall network connectivity.	Some reliability for cars and goods vehicles, thereby benefiting overall network connectivity.	Some reliability improvements for cars and goods vehicles, thereby benefiting overall network connectivity.	Significant reliability improvements for cars and goods vehicles, thereby benefiting overall network connectivity.	Significant reliability improvements for cars and goods vehicles, thereby benefiting overall network connectivity.
	Rank							
Accessibility and Social Inclusion	Key Trip Attractors (Education / Health / Commercial / Employment)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank							
	Deprived Geographic Areas	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank							
Safety	Road Safety	Existing road obstacles retained requiring merging of traffic and posing a hazard to speeding motorists.	Existing road obstacles partially retained requiring merging of traffic and posing a hazard to speeding motorists.	Existing road obstacles partially retained requiring merging of traffic and posing a hazard to speeding motorists.	Existing road obstacles partially retained requiring merging of traffic and posing a hazard to speeding motorists.	Existing road obstacles partially retained requiring merging of traffic and posing a hazard to speeding motorists.	No significant safety issues	No significant safety issues

Table 6.3 – Evaluation of Options for Scherzer Bridges

Assessment Criterion	Assessment Sub-Criterion	Option A Retain Existing	Option B Retain George's Dock Bridges Only	Option C Retain Spencer Dock Bridges Only	Option D Retain eastbound bridges only	Option E Retain westbound bridges only	Option F Replace all bridges	Option G Relocate and replace all bridges
	<i>Rank</i>							
Environment	Ecology	No risks to ecological receptors	Some risks to ecological receptors associated with proposed bridge works	Some risks to ecological receptors associated with proposed bridge works	Some risks to ecological receptors associated with proposed bridge works	Some risks to ecological receptors associated with proposed bridge works	Some risks to ecological receptors associated with proposed bridge works	Some risks to ecological receptors associated with proposed bridge works
	<i>Rank</i>							
	Heritage (Architecture and Archaeological)	No impact on heritage assets.	Profound impact on heritage assets	Profound impact on heritage assets	Profound impact on heritage assets	Profound impact on heritage assets	Profound impact on multiple heritage assets	Profound impact on multiple heritage assets with mitigation
	<i>Rank</i>							
	Soils and Geology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>							
	Hydrology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>							
	Human Beings and Material Assets	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>							
	Air Quality	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>							
	Noise & Vibration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>							
	Landscape and Visual	No change to existing arrangement	Removal of historic structures from streetscape	Removal of historic structures from streetscape	Removal of historic structures from streetscape	Removal of historic structures from streetscape	Removal of historic structures from streetscape at multiple locations	Positive impacts associated with relocation of historic structures into more prominent location along campshires industrial heritage corridor.
	<i>Rank</i>							

Table 6.4 – Evaluation of Access Arrangements at Sir John Rogerson’s Quay Extension							
Assessment Criterion	Assessment Sub-Criterion	Option A No Bus Priority	Option B Two way bus lanes on SJRQ	Option C Eastbound bus lane on SJRQ	Option D Westbound bus lane on SJRQ	Option E Eastbound bus lane on SJRQ Westbound Misery Hill	Option F Westbound bus lane on SJRQ Eastbound Misery Hill
Economy (Cost Assessment and Transport Economic Indicators)	Journey Time reliability (Buses)	Journey Time Reliability Factors Risks to westbound bus priority as a result of congestion at the southern end of Samuel Beckett Bridge.	Journey Time Reliability Factors Good	Journey Time Reliability Factors Risks to westbound bus priority as a result of congestion at the southern end of Samuel Beckett Bridge.	Journey Time Reliability Factors Good	Journey Time Reliability Factors Risks to westbound bus priority as a result of congestion at the southern end of Samuel Beckett Bridge.	Journey Time Reliability Factors Good
	Rank						
	Capital Cost	Infrastructure Works Cost Factors No cost Lowest Cost	Infrastructure Works Cost Factors Modest cost Mid-range Cost	Infrastructure Works Cost Factors Modest cost Mid-range Cost	Infrastructure Works Cost Factors Modest cost Mid-range Cost	Infrastructure Works Cost Factors Higher cost High Cost	Infrastructure Works Cost Factors Higher cost High Cost
		Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost n/a	Land Acquisition Cost Yes
	Rank						
Integration	Policy Integration	Does not achieve objectives by failing to assure bus priority.	Achieves objectives	Does not achieve objectives by failing to assure bus priority.	Achieves objectives	Does not achieve objectives by failing to assure bus priority.	Achieves objectives
	Rank						
	Transport Network Integration	Facilitates links to Dodder Public Transport Bridge, however westbound priority not guaranteed.	Facilitates links to Dodder Public Transport Bridge.	Facilitates links to Dodder Public Transport Bridge, however westbound priority not guaranteed.	Facilitates links to Dodder Public Transport Bridge.	Facilitates links to Dodder Public Transport Bridge, however westbound priority not guaranteed.	Facilitates links to Dodder Public Transport Bridge.
	Rank						
	Cycling integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
	Traffic Network Integration	No changes	Requires rerouting of traffic access via Misery Hill with increased risk of congestion	Requires rerouting of inbound traffic via Misery hill	Requires rerouting of outbound traffic access via Misery Hill with increased risk of congestion	Requires rerouting of inbound traffic via Misery hill	Requires rerouting of outbound traffic access via Misery Hill with increased risk of congestion
	Rank						
Accessibility and Social Inclusion	Key Trip Attractors (Education / Health / Commercial / Employment)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
	Deprived Geographic Areas	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
Safety	Road Safety	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
Environment	Ecology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
	Heritage (Architecture and Archaeological)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
	Soils and Geology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						

Table 6.4 – Evaluation of Access Arrangements at Sir John Rogerson’s Quay Extension							
Assessment Criterion	Assessment Sub-Criterion	Option A No Bus Priority	Option B Two way bus lanes on SJRQ	Option C Eastbound bus lane on SJRQ	Option D Westbound bus lane on SJRQ	Option E Eastbound bus lane on SJRQ Westbound Misery Hill	Option F Westbound bus lane on SJRQ Eastbound Misery Hill
	Hydrology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
	Human Beings and Material Assets	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
	Air Quality	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
	Noise & Vibration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						
	Landscape and Visual	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank						

Table 6.5 – Evaluation of Right Turning provision from the North Quays

Assessment Criterion	Assessment Sub-Criterion	Option A Retain right turns with lanes	Option B Retain right turns without lanes	Option C Remove all right turns	Option D Retain right turns for public transport only
Economy (Cost Assessment and Transport Economic Indicators)	Journey Time reliability (Buses)	<i>Journey Time Reliability Factors</i> No risk of delays to buses	<i>Journey Time Reliability Factors</i> Risk of encroachments into bus lane by straight vehicles passing right turners. Small risk of delays to buses, in particular at signalised junctions. Lack of priority for right turning buses.	<i>Journey Time Reliability Factors</i> All access can be rerouted via Sheriff Street. No risk of delays to through buses. Buses requiring to make right turns will be significantly discommoded.	<i>Journey Time Reliability Factors</i> Bus right turns can be managed using automatic vehicle location.
	<i>Rank</i>				
	Capital Cost	<i>Infrastructure Works Cost Factors</i> Modifications required to kerb lines and junctions. High Cost	<i>Infrastructure Works Cost Factors</i> No modifications required to existing layout except road markings and signalling paraphernalia. Low Cost	<i>Infrastructure Works Cost Factors</i> No modifications required to existing layout except road markings and signalling paraphernalia. Low Cost	<i>Infrastructure Works Cost Factors</i> No modifications required to existing layout except road markings and signalling paraphernalia. Low Cost
		<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a
	<i>Rank</i>				
Integration	Policy Integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Transport Network Integration	Better priority for all public transport services	Priority not as guaranteed as with other options.	Requires diversion of some public transport services.	Priority not as guaranteed as with other options.
	<i>Rank</i>				
	Cycling integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Traffic Network Integration	No change to existing accessibility	More difficult access at junctions and risks of delays to through traffic. Alternative route via Sheriff Street available	Traffic rerouted via Sheriff Street	Traffic rerouted via Sheriff Street
Accessibility and Social Inclusion	Key Trip Attractors (Education / Health / Commercial / Employment)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Deprived Geographic Areas	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
Safety	Road Safety	Small safety risks associated with turning manoeuvres but managed safely in dedicated lanes.	Highest risk of incidents turning and rear end shunts	No risk since no turning manoeuvres for general traffic.	No risk since turning manoeuvres managed using dedicated signal phasing and AVL
	<i>Rank</i>				
Environment	Ecology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Heritage (Architecture and Archaeological)	Adverse impacts on campshires	No impacts	No impacts	No impacts
	<i>Rank</i>				
	Soils and Geology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Hydrology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				

Table 6.5 – Evaluation of Right Turning provision from the North Quays					
Assessment Criterion	Assessment Sub-Criterion	Option A Retain right turns with lanes	Option B Retain right turns without lanes	Option C Remove all right turns	Option D Retain right turns for public transport only
	Human Beings and Material Assets	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Air Quality	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Noise & Vibration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Landscape and Visual	Adverse impacts on campshires	No impacts	No impacts	No impacts
	Rank				

Table 6.6 – Evaluation of Cycling Facility Options on Samuel Beckett Bridge					
Assessment Criterion	Assessment Sub-Criterion	Option A Remove northbound cycle track east side	Option B Do Nothing	Option C Two way cycle track west side	Option D Wider cycle track and footpath east side
Economy (Cost Assessment and Transport Economic Indicators)	Journey Time reliability (Buses)	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> Removal of bus lane on Beckett Bridge southbound which is required for Route O in future.
	Rank				
	Capital Cost	<i>Infrastructure Works Cost Factors</i> Modifications to footpaths Low Cost	<i>Infrastructure Works Cost Factors</i> No works No Cost	<i>Infrastructure Works Cost Factors</i> Modifications to footpaths Low Cost	<i>Infrastructure Works Cost Factors</i> Modifications to footpaths and kerbs Mid-range Cost
		<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a
	Rank				
Integration	Policy Integration	Conflicts with aspirations for premium cycle route.	No impact	Enhanced cycling provision positive	Removal of bus lane would conflict with objectives for Route O
	Rank				
	Transport Network Integration	No impact	No impact	No impact	Removal of bus lane would conflict with objectives for Route O
	Rank				
	Cycling integration	The link between the Grand Canal Premium Cycle Route and the Royal Canal Premium Cycle Route runs along the west side of Samuel Beckett Bridge pending the completion of a further pedestrian / cycle bridge to the east. It would pose a considerable inconvenience to northbound cyclists to have to cross the road twice to continue their journey if the earlier EPR solution were adopted. It is very unlikely that this option would be obeyed by cyclists.	No impact	Enhanced cycling provision positive	Enhanced cycling provision positive
	Rank				
	Traffic Network Integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
Accessibility and Social Inclusion	Key Trip Attractors (Education / Health / Commercial / Employment)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Deprived Geographic Areas	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
Safety	Road Safety	Introduces additional risks for cyclists with multiple crossings of road lanes.	No change to existing	Marginal improvement for cyclists	Improvements for pedestrians and cyclists.
	Rank				
Environment	Ecology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Heritage (Architecture and Archaeological)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Soils and Geology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				

Table 6.6 – Evaluation of Cycling Facility Options on Samuel Beckett Bridge					
Assessment Criterion	Assessment Sub-Criterion	Option A Remove northbound cycle track east side	Option B Do Nothing	Option C Two way cycle track west side	Option D Wider cycle track and footpath east side
	Hydrology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Human Beings and Material Assets	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Air Quality	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Noise & Vibration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Landscape and Visual	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				

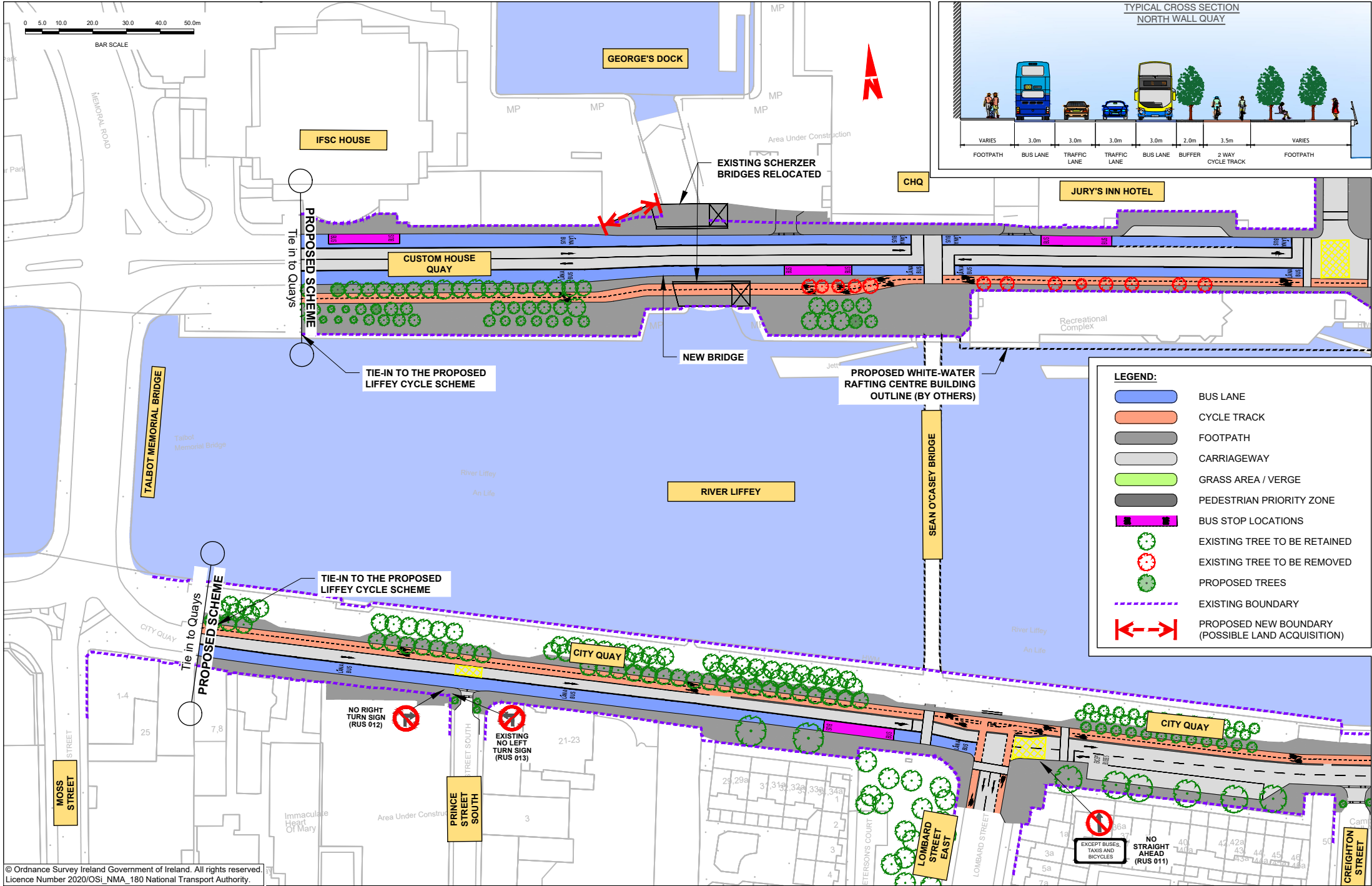
Table 6.7 – Evaluation of Options for Cycle Routing through Section 2					
Assessment Criterion	Assessment Sub-Criterion	Option A EPR	Option B Shared on-road facility	Option C Ringsend Park Route	Option D Options B and C combined
Economy (Cost Assessment and Transport Economic Indicators)	Journey Time reliability (Buses)	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> No impact
	Rank				
	Capital Cost	<i>Infrastructure Works Cost Factors</i> Reconstruction and realignment of York Road / Pigeon House Road required. High Cost	<i>Infrastructure Works Cost Factors</i> Road markings only Low Cost	<i>Infrastructure Works Cost Factors</i> Widening and lighting of existing route through park and local interventions along footpaths and at road crossings Mid-range Cost	<i>Infrastructure Works Cost Factors</i> Widening and lighting of existing route through park and local interventions along footpaths and at road crossings Road markings on York Road / Pigeon House Road Mid-range Cost
		<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a
	Rank				
Integration	Policy Integration	Connection to Poolbeg SDZ provided. Indirect connection to East Coast Trail provided. Does not align with GDA Cycle Network Plan	Low quality connection to Poolbeg SDZ provided. Low quality connection to East Coast Trail provided. Does not align with GDA Cycle Network Plan	Connection to Poolbeg SDZ provided. Connection to East Coast Trail provided. Aligns with GDA Cycle Network Plan	Two connections to Poolbeg SDZ provided. Connection to East Coast Trail provided. Aligns with GDA Cycle Network Plan
	Rank				
	Transport Network Integration	No impact on public transport services.	No impact on public transport services.	No impact on public transport services.	No impact on public transport services.
	Rank				
	Cycling integration	Connection to Poolbeg SDZ provided. Indirect connection to East Coast Trail provided. Does not align with GDA Cycle Network Plan	Low quality connection to Poolbeg SDZ provided. Low quality connection to East Coast Trail provided. Does not align with GDA Cycle Network Plan	Connection to Poolbeg SDZ provided. Connection to East Coast Trail provided. Aligns with GDA Cycle Network Plan	Two connections to Poolbeg SDZ provided. Connection to East Coast Trail provided. Aligns with GDA Cycle Network Plan
	Rank				
	Traffic Network Integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
Accessibility and Social Inclusion	Key Trip Attractors (Education / Health / Commercial / Employment)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Deprived Geographic Areas	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
Safety	Road Safety	Good separation of cars and cyclists	Cyclists shared with cars in traffic calmed environment.	Good separation of cars and cyclists	Good separation of cars and cyclists
	Rank				
Environment	Ecology	Impact on green space on York Road / Pigeon house Road	No impacts	Potential impacts of lighting and removal of green space in Ringsend Park.	Potential impacts of lighting and removal of green space in Ringsend Park.
	Rank				
	Heritage (Architecture and Archaeological)	Impacts on historic quay wall.	No impacts on heritage assets.	No impacts on heritage assets.	No impacts on heritage assets.
	Rank				
	Soils and Geology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				

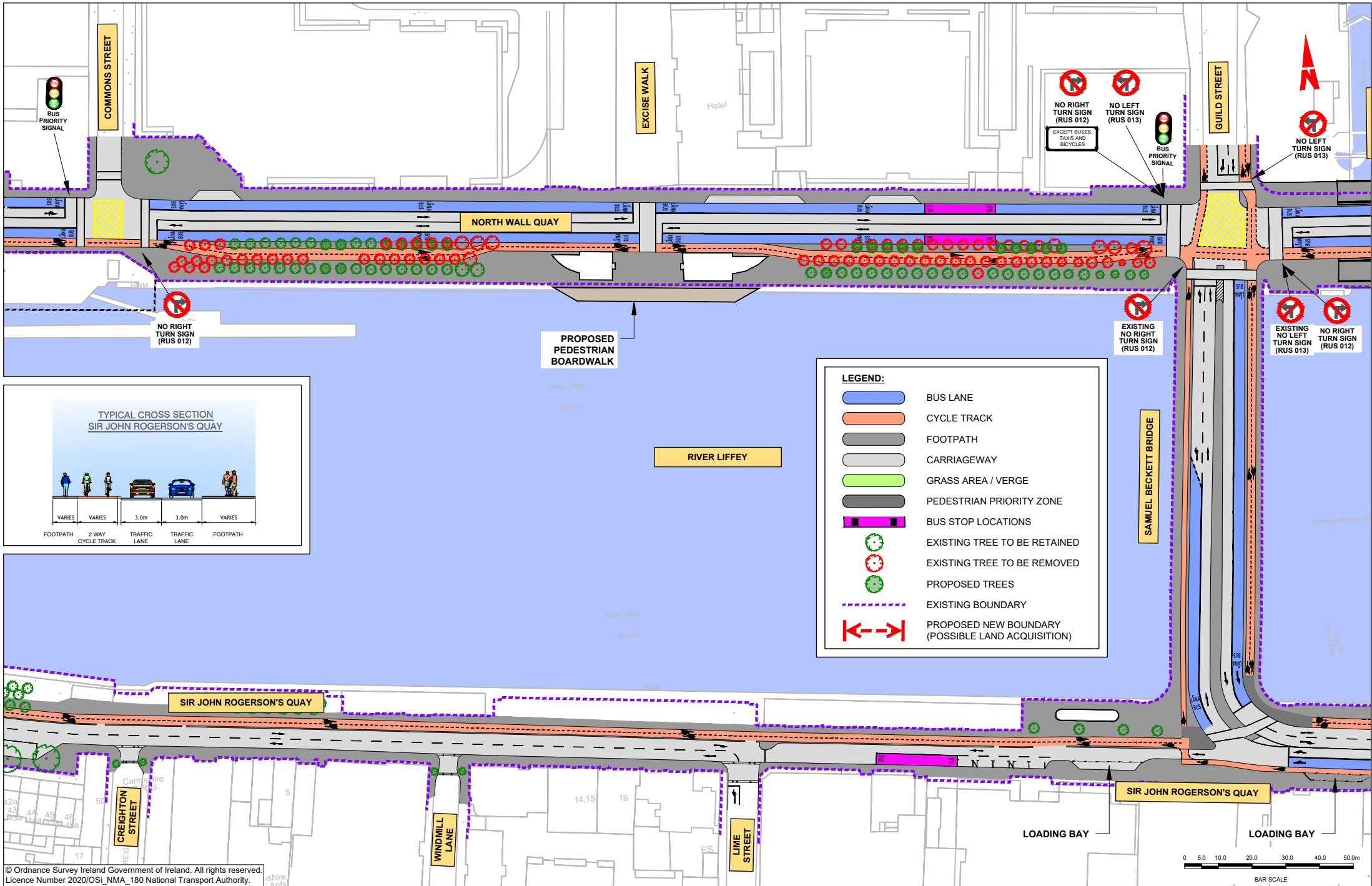
Table 6.7 – Evaluation of Options for Cycle Routing through Section 2					
Assessment Criterion	Assessment Sub-Criterion	Option A EPR	Option B Shared on-road facility	Option C Ringsend Park Route	Option D Options B and C combined
	Hydrology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Human Beings and Material Assets	Removal of parking on Pigeon House Road required.	No impacts	Removal of some parking at Bremen Road required.	Removal of some parking at Bremen Road required.
	<i>Rank</i>				
	Air Quality	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Noise & Vibration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Landscape and Visual	Significant reconfiguration of Pigeon House Road required. Significant works on east side of Ringsend Park	No appreciable impacts.	Some local impacts on Ringsend Park.	Some local impacts on Ringsend Park.
	<i>Rank</i>				

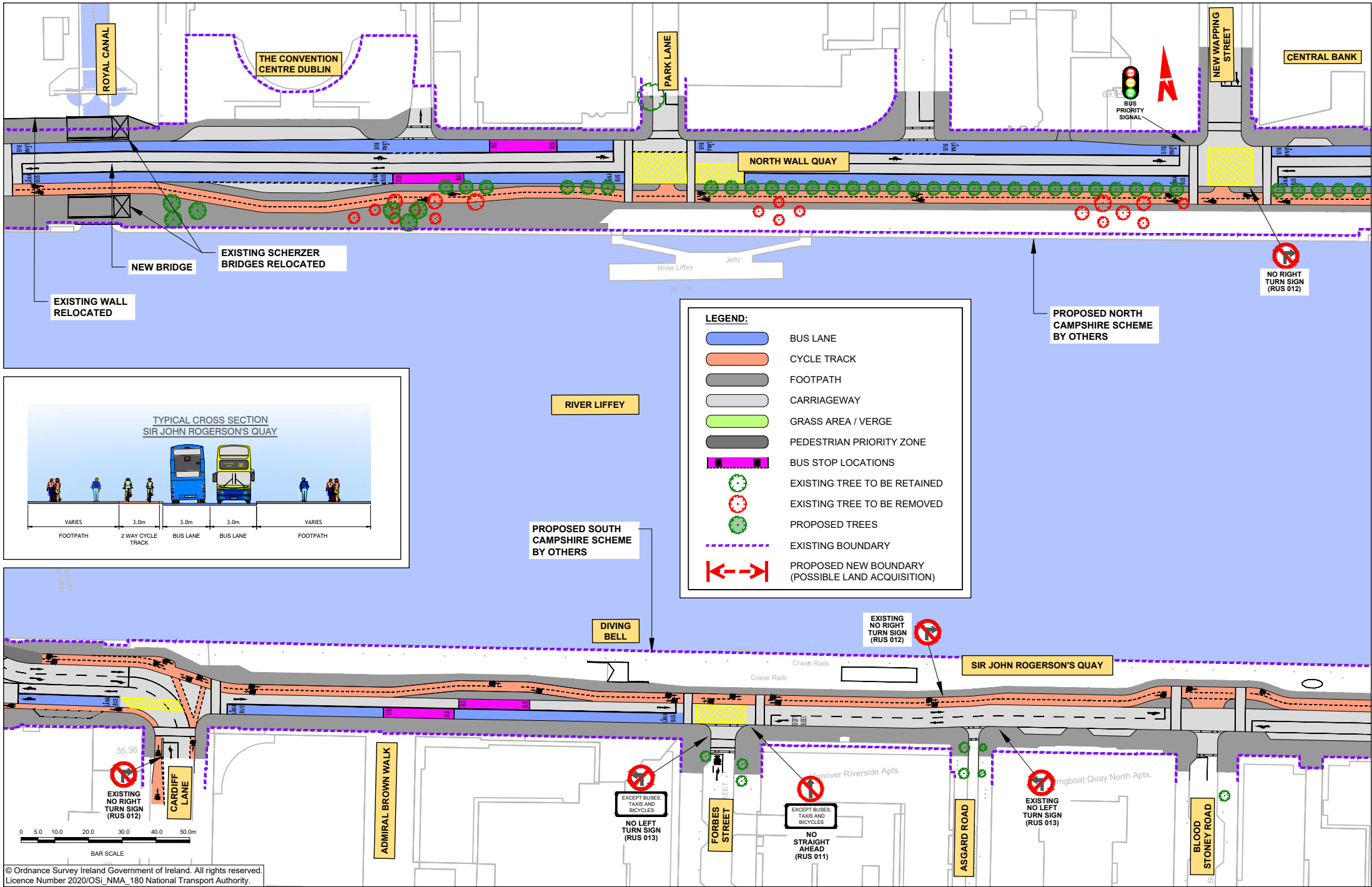
Table 6.8 – Evaluation of Options for Cycle Routing at Strand Street					
Assessment Criterion	Assessment Sub-Criterion	Option A EPR Proposal	Option B Kerlogue Road Route	Option C Bremen Road Route	Option D Options B and C combined
Economy (Cost Assessment and Transport Economic Indicators)	Journey Time reliability (Buses)	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> No impact	<i>Journey Time Reliability Factors</i> No impact
	<i>Rank</i>				
	Capital Cost	<i>Infrastructure Works Cost Factors</i> Reconstruction and realignment of York Road / Pigeon House Road required. High Cost	<i>Infrastructure Works Cost Factors</i> Road markings and local interventions for road crossings only Low Cost	<i>Infrastructure Works Cost Factors</i> Road markings and local interventions for road crossings and minor kerb realignment Mid-range Cost	<i>Infrastructure Works Cost Factors</i> Road markings and local interventions for road crossings and minor kerb realignment Mid-range Cost
		<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a	<i>Land Acquisition Cost</i> n/a
	<i>Rank</i>				
Integration	Policy Integration	Conflict with status of listed wall	No conflict	No conflict	No conflict
	<i>Rank</i>				
	Transport Network Integration	No impact on public transport services.	No impact on public transport services.	No impact on public transport services.	No impact on public transport services.
	<i>Rank</i>				
	Cycling integration	Connection to Poolbeg SDZ provided. Indirect connection to East Coast Trail provided. Does not align with GDA Cycle Network Plan	Indirect connection to Poolbeg SDZ provided. Connection to East Coast Trail provided. Aligns with GDA Cycle Network Plan	Connection to Poolbeg SDZ provided. Indirect connection to East Coast Trail provided. Aligns with GDA Cycle Network Plan	Connections to Poolbeg SDZ provided. Connection to East Coast Trail provided. Aligns with GDA Cycle Network Plan
	<i>Rank</i>				
	Traffic Network Integration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
Accessibility and Social Inclusion	Key Trip Attractors (Education / Health / Commercial / Employment)	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Deprived Geographic Areas	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
Safety	Road Safety	Good separation of cars and cyclists	Cyclists shared with cars in traffic calmed environment.	Good separation of cars and cyclists	Good separation of cars and cyclists
	<i>Rank</i>				
Environment	Ecology	Potential impacts on tress at Ringsend Park	No impacts	Potential impacts on trees at Irishtown Stadium subject to detailed design following completion of works at Stadium.	Potential impacts on trees at Irishtown Stadium subject to detailed design following completion of works at Stadium.
	<i>Rank</i>				
	Heritage (Architecture and Archaeological)	Impacts on historic quay wall.	No impacts on heritage assets.	No impacts on heritage assets.	No impacts on heritage assets.
	<i>Rank</i>				
	Soils and Geology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Hydrology	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	<i>Rank</i>				
	Human Beings and Material Assets	Removal of parking on Pigeon House Road required.	No impacts	Removal of some parking at Bremen Road required.	Removal of some parking at Bremen Road required.

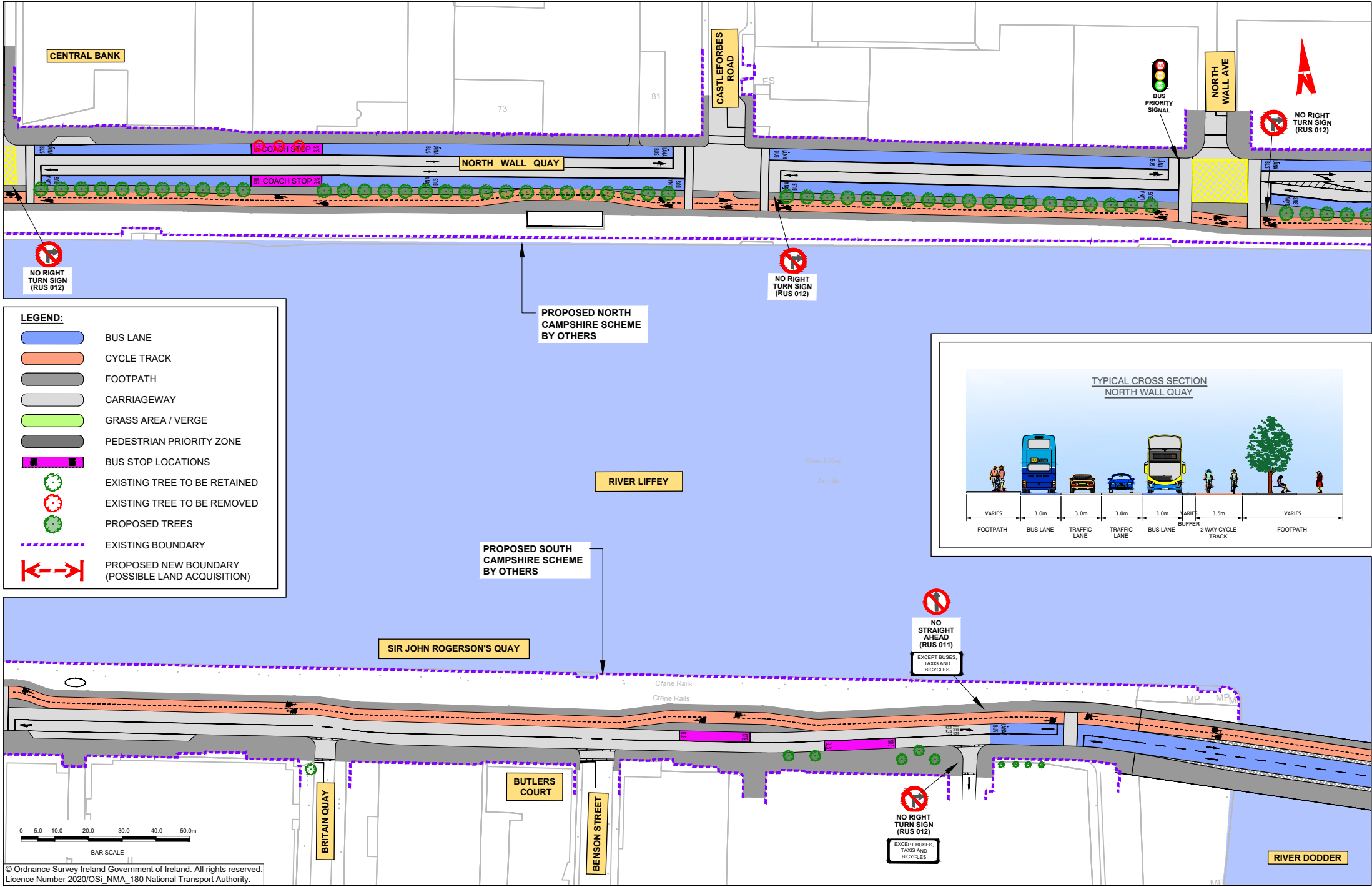
Table 6.8 – Evaluation of Options for Cycle Routing at Strand Street					
Assessment Criterion	Assessment Sub-Criterion	Option A EPR Proposal	Option B Kerlogue Road Route	Option C Bremen Road Route	Option D Options B and C combined
	Rank				
	Air Quality	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Noise & Vibration	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options	No appreciable difference between options
	Rank				
	Landscape and Visual	Significant reconfiguration of Pigeon House Road required. Significant works on east side of Ringsend Park	Some local impacts on Kerlogue Road	Some local impacts on Bremen Road	Some local impacts on Kerlogue Road and Bremen Road
	Rank				

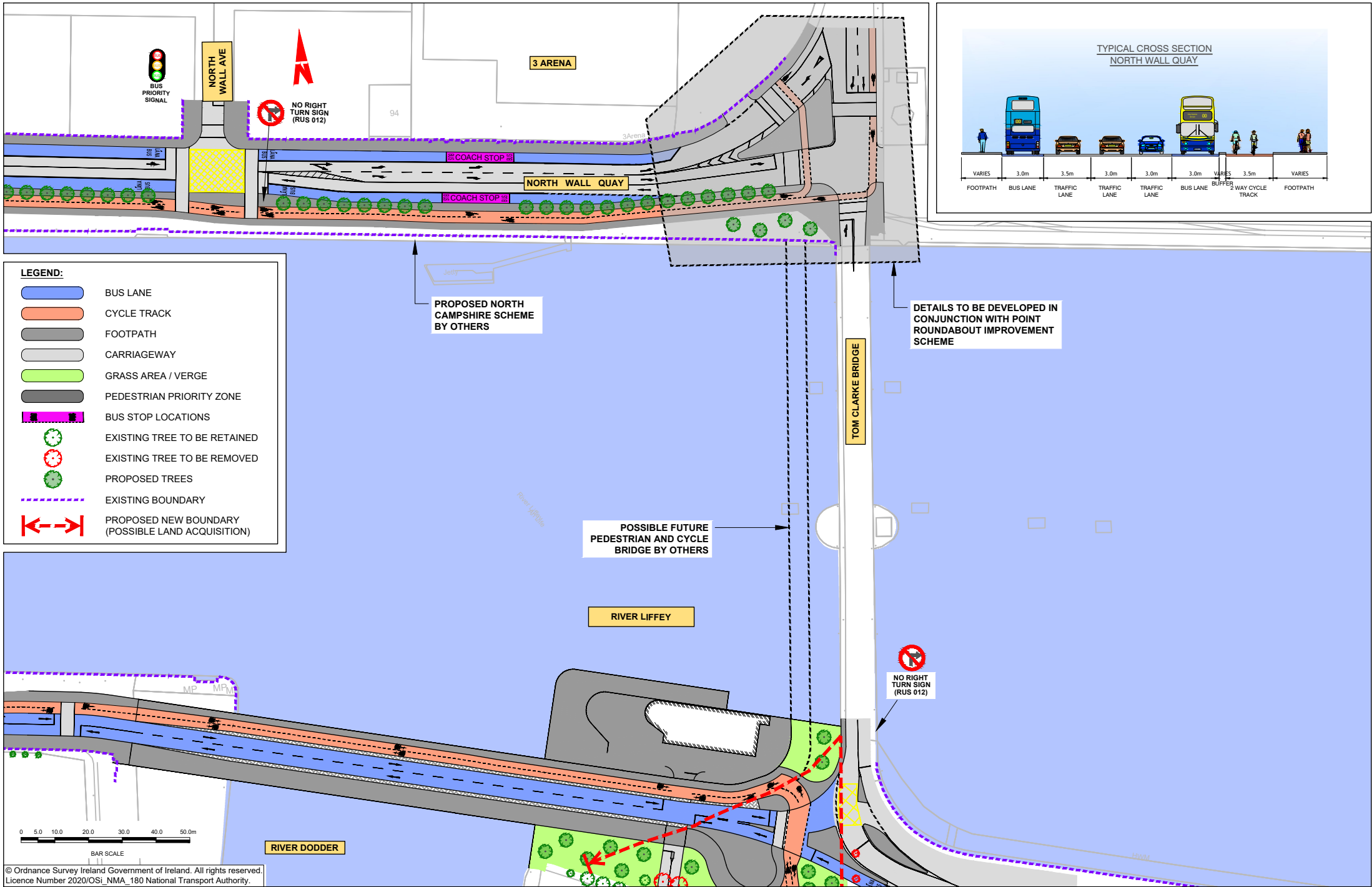
Appendix B. Updated Draft Preferred Route Option Maps

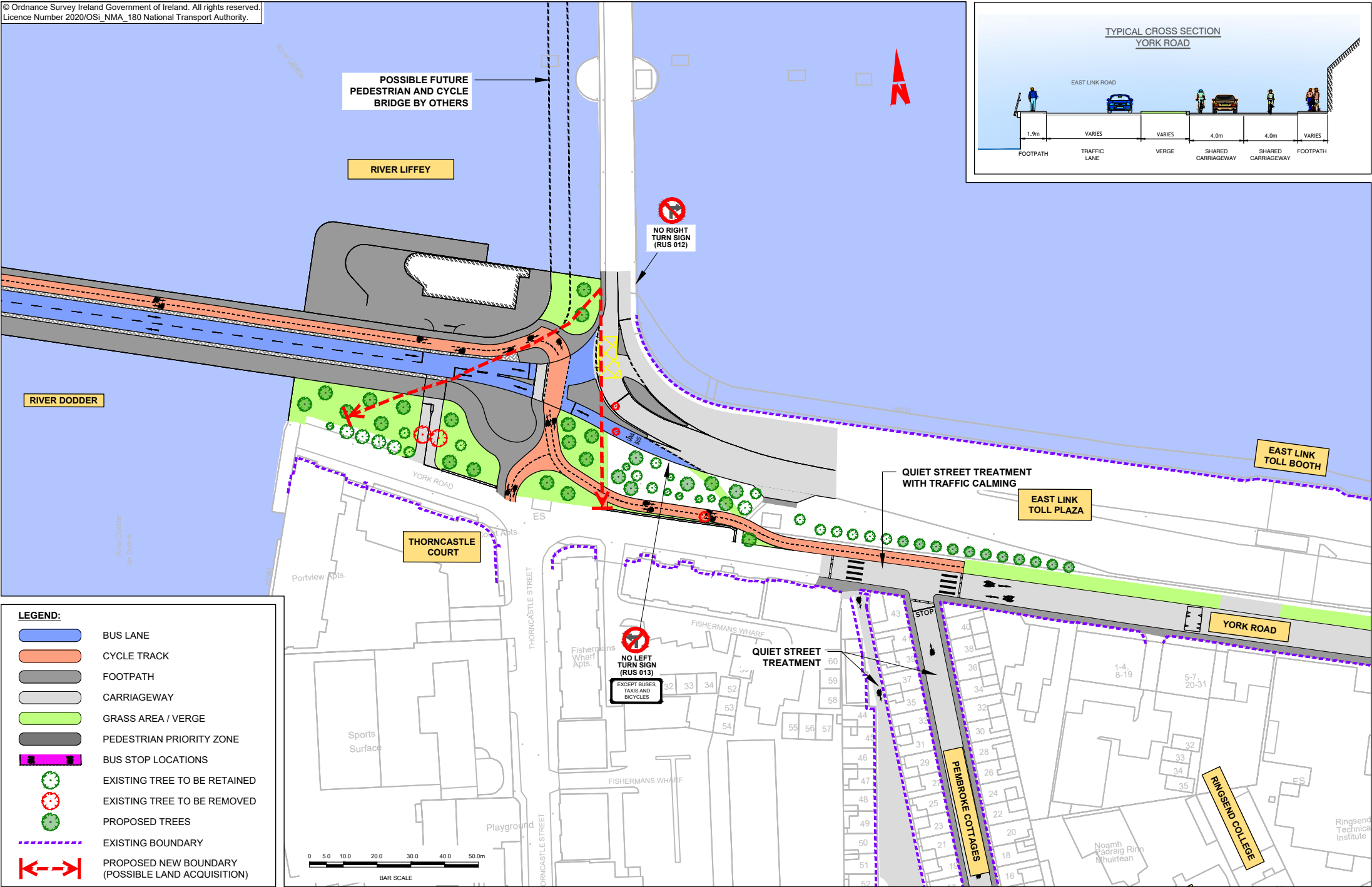


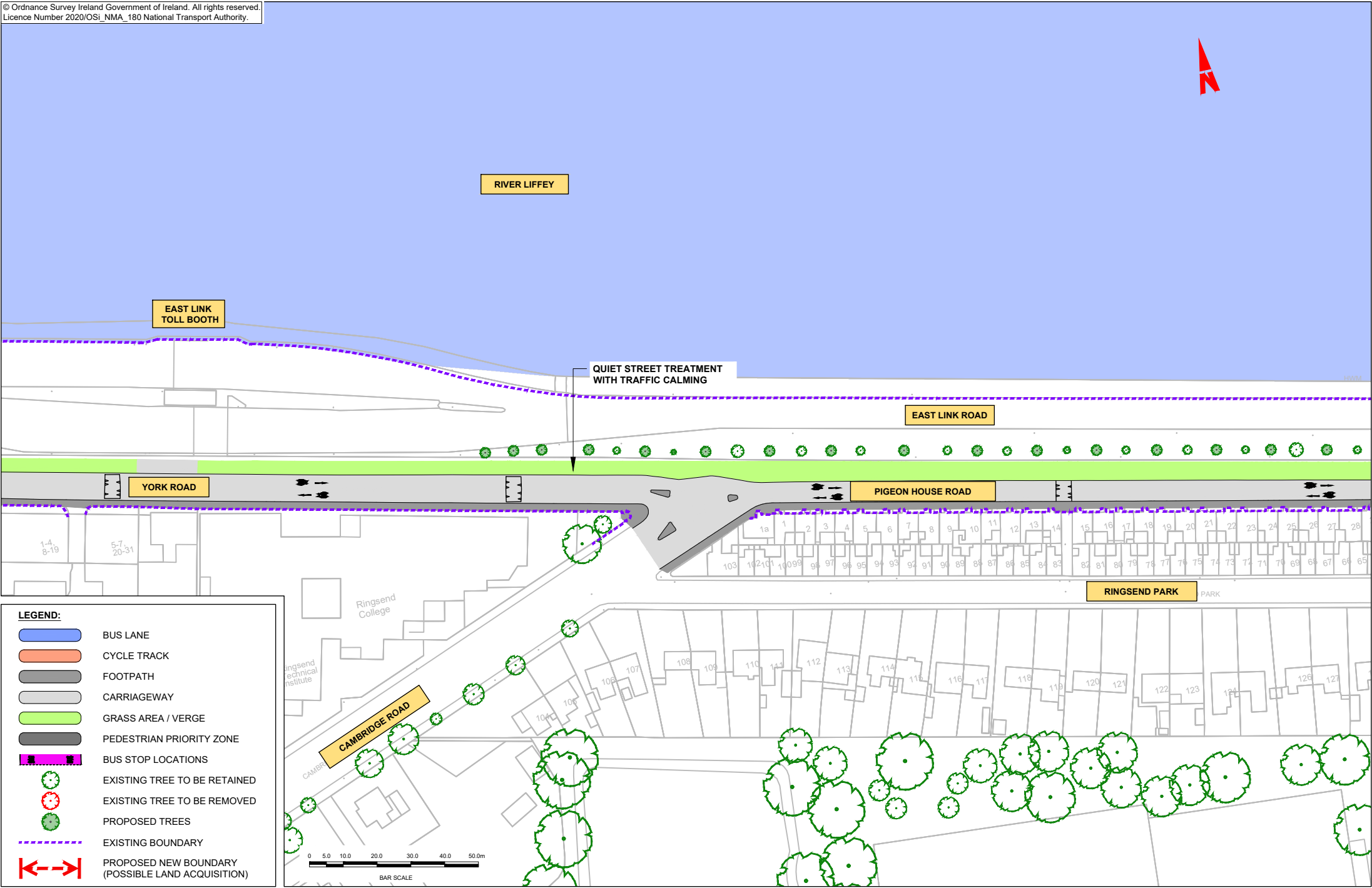


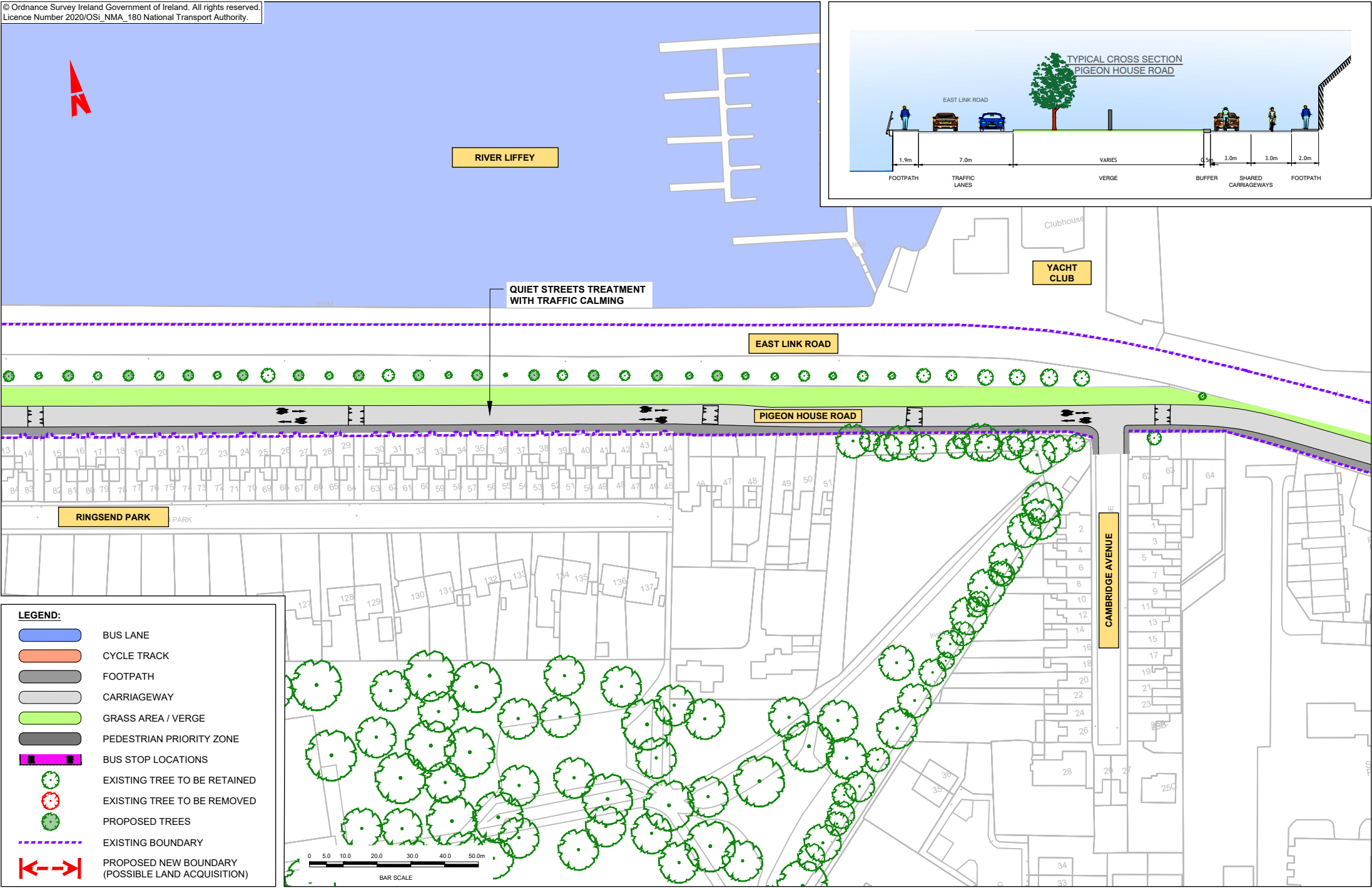




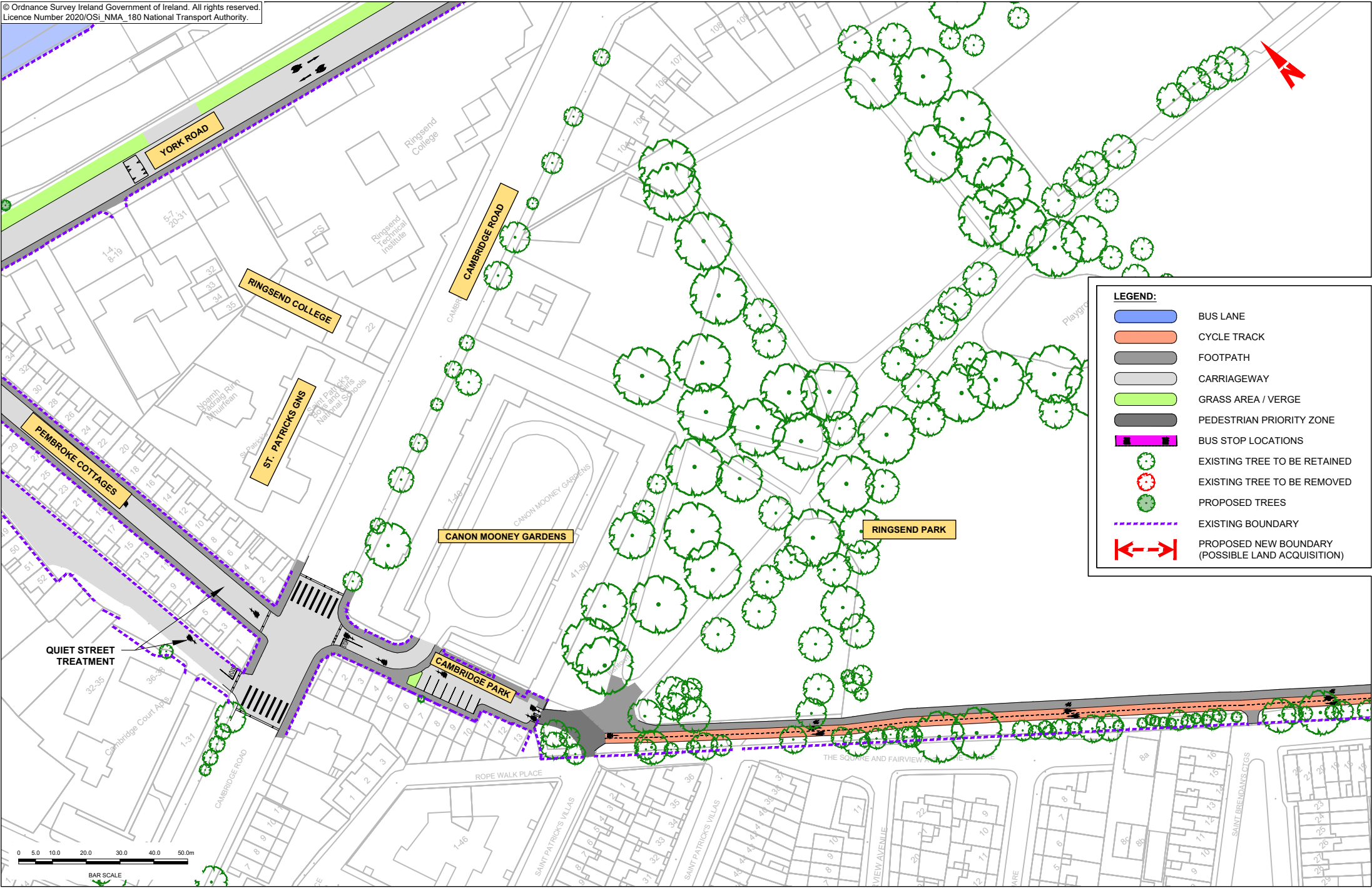


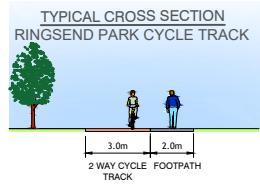




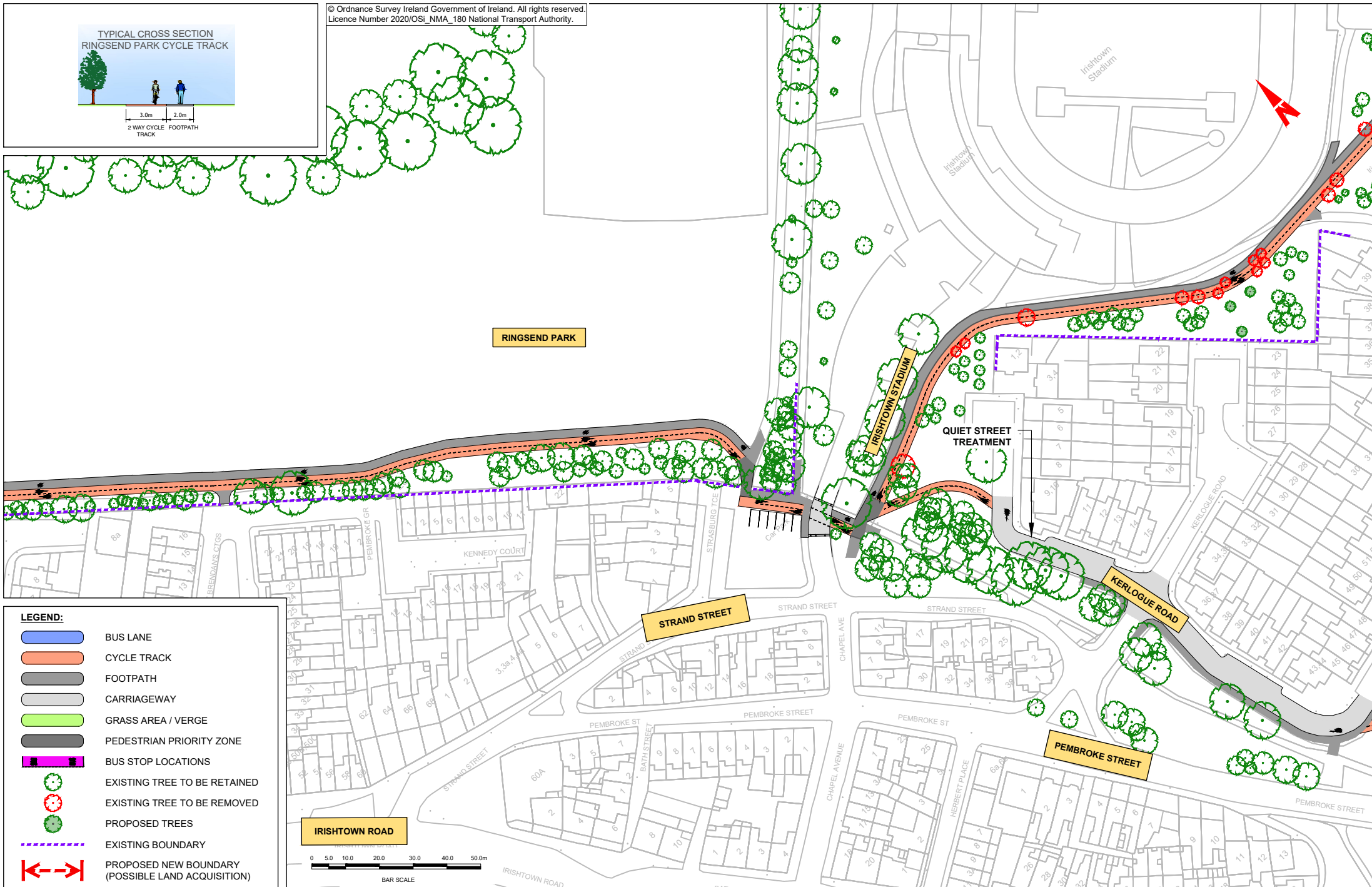


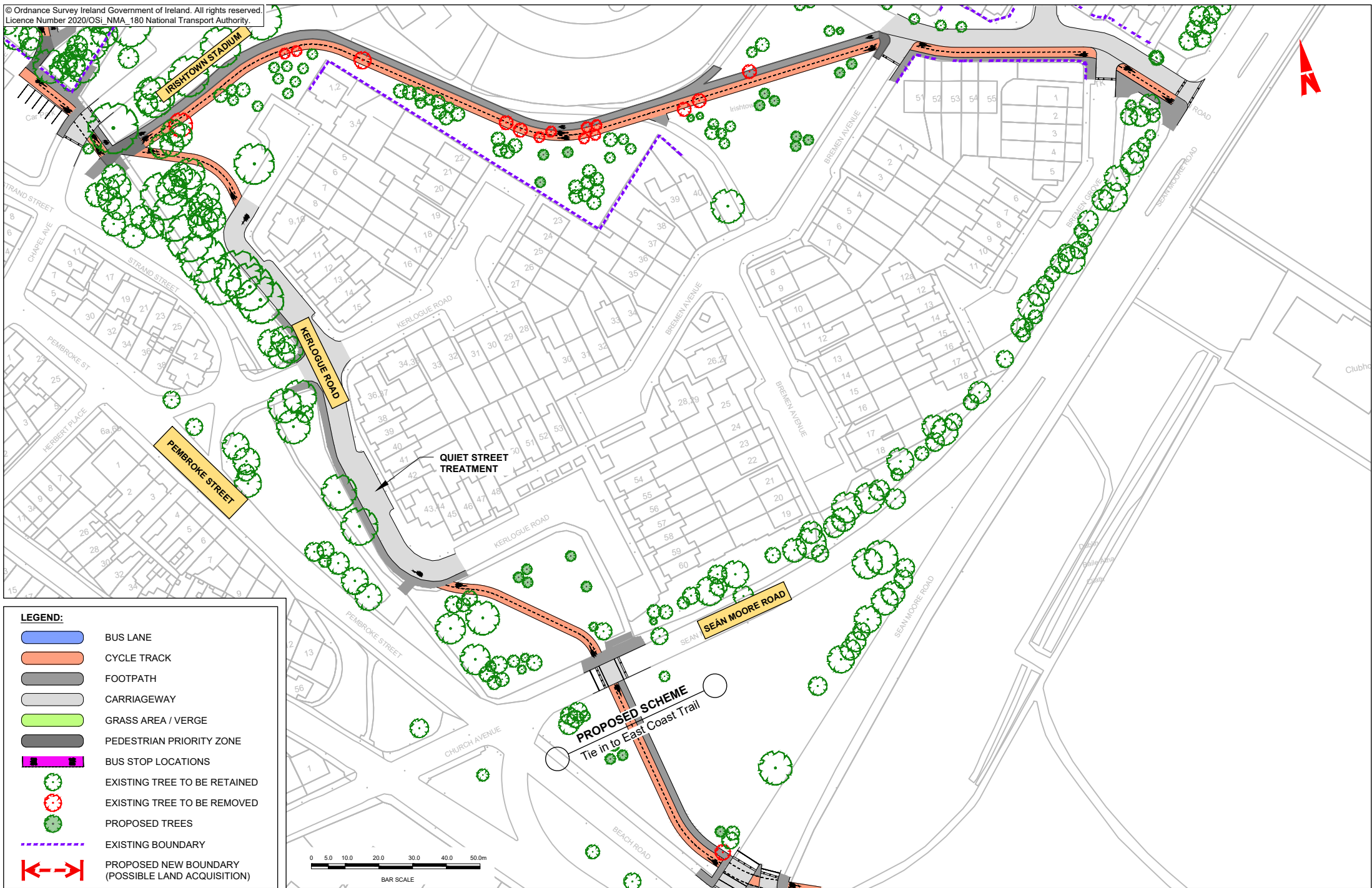






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Appendix C. Feasibility Study and Options Assessment Report

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

Appendix D. Emerging Preferred Route Brochure

<https://busconnects.ie/initiatives/core-bus-corridor-background-information/emerging-preferred-route/>

