National Transport Authority

BusConnects Cork

Core Bus Corridor 7 - Bishopstown to City Centre

Feasibility and Options Assessment Report

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Ove Arup & Partners Ireland Limited
One Albert Quay
Cork
T12 X8N6
Ireland
arup.com

ARUP

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1. Introduction

1.1 Background

BusConnects Cork is the National Transport Authority's plan to improve Bus Services throughout the city and suburbs. It is a programme of nine measures to fundamentally transform Cork's bus system, so that bus commuting will become a viable and attractive choice for employees, students, shoppers and visitors. BusConnects Cork aims to overhaul the current bus system in the Cork region through:

- Redesigning the bus network;
- Building a new network of bus corridors and cycle lanes;
- Implementing a state-of-the-art ticketing system;
- Implementing a cashless payment system;
- A simpler fare structure;
- New bus livery
- New bus stops and shelters, with better signage and information;
- New Park and Ride sites in key locations; and
- Transitioning to a new zero emissions bus fleet.

As part of BusConnects Cork, it is necessary to develop concept engineering solutions for the core bus corridors that will support the efficient running of bus services in the city, and to include for the provision of both bus priority and safe cycle and pedestrian facilities.

Arup has been appointed by the National Transport Authority to undertake a route options assessment for four radial core bus corridor (CBC) approaches to the city (packed together as 'Project B' of the overall city and suburban area). These four corridors are as follows:

- CBC 6 – West of Ballincollig to City Centre via Mardyke;
- CBC 7 – West of Bishopstown to City Centre;
- CBC 8 – Wilton to City Centre; and
- CBC 9 – Cork Airport to City Centre via Turners Cross area.

This report presents the findings of the route options assessment undertaken for CBC 7 of BusConnects Infrastructure Cork (BCIC) (Ballincollig to City Centre via Mardyke) and makes a recommendation on a preferred route. The report also details emerging preferred route for the bus priority and cycle infrastructure provision along CBC 7 corridor.

1.2 Report Structure

The report structure is set out as following:

- **Section 2** – The strategic transport policy context which has identified the need for the delivery of bus priority infrastructure on this corridor is discussed in this section;
- **Section 3** – The objectives for the BusConnects Infrastructure Cork scheme are set out in this section;
- **Section 4 –** The extent of the BusConnects Infrastructure Cork study area assessed, effectively defining the proposed scheme, is described in this section. Key constraints and opportunities are identified and the integration of the corridor with the wider public transport network, and the compatibility with other road users is presented;

- **Section 5** – The methodology for identifying and assessing the feasibility of the various potential route options available within the study area is discussed in this section including:
    - the selection and determination of initial criteria for screening and assessing technically feasible route options, based on distinct, project-specific objectives;
    - the definition of assessment criteria; and
    - the identification of study area sections where practical route options have been considered, and presentation of an initial network ('spider's web') of options examined.
- **Section 6 -** presents the Stage 1 assessment of potential route options within each of the sub-sections of the overall study area;
- **Section 7 -** details the route options assessment undertaken for each of the study area sections and a comparison of potential 'end-to-end' route options, where appropriate;
- **Section 8** – In this section, the Emerging Preferred Route identified is described; and
- **Section 9** - makes recommendations regarding how the emerging preferred route should be progressed through the next step (public consultation).

2. Transport Planning and Policy Context

2.1 Project Ireland 2040 National Planning Framework (NPF)

The National Planning Framework (NPF) is a statutory document, published in 2018 which supersedes the National Spatial Strategy (NSS). It sets out the long-term direction for Ireland's physical development, and is established on supporting policies and actions at a sectoral, regional and local level. The NPF outlines the strategic planning and development for the country in the period to 2040.

The NPF outlines some key transport growth enablers relevant to the projected population growth Cork will experience by 2040. Some of the key enablers outlined which are applicable to the development of the BCIC include:

- Intensification of development within inner-city and suburban areas, and utilisation of brownfield lands where possible;
- Large-scale regeneration projects within the Cork City Docklands;
- Development of an enhanced city-wide public transport system to incorporate proposals for an east-west corridor from Mahon, through the City Centre to Ballincollig and a north-south corridor with a link to the Airport; and
- Improved traffic flow around the city, which could include upgrades of the N40, and/or alternatives which may include enhanced public transport.

The NPF also outlines 10 National Strategic Outcomes (NSO's) relevant to transportation and the improvement of the quality of public space. **NSO 4** is the most relevant to BCIC and it identifies the need for high-quality public transport services to promote sustainable mobility. NSO 4 calls for the expansion of public transport alternatives to car transport in order to reduce congestion, the delivery of key bus-based projects in cities and towns and the development of a comprehensive network of safe cycling routes in metropolitan areas.

- **NSO 4:** Sustainable Mobility by continuing to enhance Ireland's public transport and environmental sustainability of our mobility systems.

2.2 National Development Plan (NDP) 2018 – 2027

The National Development Plan (NDP) is a spatial planning guide setting out the investment priorities from the NPF and will drive its implementation over the next ten years. This plan is currently under review and will set the vision for the next decade, beyond 2027.

The NDP will guide national, regional and local planning and investment decisions in Ireland to cater for any future population increase. The current plan recognises that there is a need to address the issues of lengthy commute times and slow progress, acknowledging that a new approach is required.

While the National Strategic Outcomes (NSOs) represent the overarching priorities which the NPF is designed to achieve, the purpose of the NPF is to set out the new configuration for public capital investment to secure realisation of each of the NSOs. This is being achieved by the identification of Strategic Investment Priorities for 2018 to 2027.

In relation to BCIC, the core priority NSO 4: Sustainable Mobility aims to create an environmentally-sustainable public transport system to enable growth and change and to meet the significant increase in travel demand and urban congestion while also contributing to the national policy vision of a low-carbon economy.

NSO 4 also states the NDP will deliver a public transport network that will provide high-quality passenger interchange points, so as to facilitate convenient transfer between efficient and integrated public transport services.

In order to achieve this NSO, an increase in the public capital investment is required which sets out the road for BCIC.

2.3 Climate Action Plan 2021

Published in November 2021, the Climate Action Plan (2021) sets out the pathway to halving Ireland's emissions by 2030 and reaching net zero by 2050. Emissions relating to the transport sector account for approximately 20% of Ireland's greenhouse gas emissions and the transport sector is a particular focus of the Climate Action Plan.

Key Objectives referenced in the plan include:

- An additional 500,000 daily journeys using public transport and active travel modes; and
- Increased numbers of electric vehicles and low emission vehicles.

Key Action Items referenced in the plan include:

- Continue the improvement and expansion of the Active Travel and Greenway Network;
- Construct an additional 1,000km of cycling and walking infrastructure;
- Commence delivery of BusConnects Network redesigns in Cork, Galway, Limerick and Waterford;
- Commence delivery of BusConnects Core Bus Corridor Infrastructure Works;
- Examine the role of demand management measures in Irish cities, including low emission zones and
- parking pricing policies;
- Balance better movement priorities within urban areas to transition the built environment and public domain from one that is "vehicle centred" to being "people centred";
- Advance demand management measures;
- Increase provision of Park & Ride at transport interchanges;
- Deliver sustainable bus priority measures on the National Road Network; and
- Transition Cork, Galway, Limerick and Waterford metropolitan area Public Service Obligation (PSO) bus services to low/zero emission bus fleet.

2.4 National Sustainable Mobility Policy (2022)

The National Sustainable Mobility Policy, published on April 7th, 2022 sets out a strategic framework to 2030 for active travel (walking and cycling) and public transport journeys to help Ireland meet its climate obligations (achieving a 51% reduction in carbon emissions by the end of the decade). It is accompanied by an action plan to 2025 which contains actions to improve and expand sustainable mobility options across the country by providing safe, green, accessible and efficient alternatives to car journeys. It also includes demand management and behavioural change measures to manage daily travel demand more efficiently and to reduce the journeys taken by private car.

The policy aims to deliver at least 500,000 additional daily active travel and public transport journeys by 2030 and a 10% reduction in the number of kilometres driven by fossil fuelled cars by 2030.

The NSMP builds on and replaces existing active travel and public transport policy set out in 'Smarter Travel: A Sustainable Transport Future' and the National Cycle Policy Framework (both published in 2009).

The Vision of the NSMP is 'To connect people and places with sustainable mobility that is safe, green, accessible and efficient'. The policy is guided by three key principles, underpinned by 10 high-level goals

PRINCIPLES	GOALS
Safe and Green Mobility	1. Improve mobility safety. 2. Decarbonise public transport. 3. Expand availability of sustainable mobility in metropolitan areas. 4. Expand availability of sustainable mobility in regional and rural areas. 5. Encourage people to choose sustainable mobility over the private car.
People Focused Mobility	6. Take a whole of journey approach to mobility, promoting inclusive access for all. 7. Design infrastructure according to Universal Design Principles and the Hierarchy of Road Users model. 8. Promote sustainable mobility through research and citizen engagement.
Better Integrated Mobility	9. Better integrate land use and transport planning at all levels. 10. Promote smart and integrated mobility through innovative technologies and development of appropriate regulation.

Figure 1: Principles and Goals (Source: National Sustainable Mobility Policy 2022)

Goal 3 above ('Expand availability of sustainable mobility in metropolitan areas') foresees the implementation of improved walking, cycling, bus and rail infrastructure in the five cities. This is fundamental to achieving the policy target of 500,000 additional daily active travel and public transport journeys by 2030. The expansion of public transport in the five cities will be delivered through the BusConnects programmes.

Goal 5 ('Encourage people to choose sustainable mobility over the private car') outlines potential measures to encourage modal shift to sustainable travel options, including reference to measures to improve the attractiveness of these sustainable modes whilst also exploring measures to reduce the attractiveness of private car movements where there are sustainable alternatives – these measures can include demand management. The Five Cities Demand Management Study referenced in this section of the NSMP refers to measures such as reallocation of road space from cars to prioritise walking, cycling and public transport, reducing parking provision and supporting the concept of the 15-minute neighbourhood.

2.5 National Investment Framework for Transport in Ireland (NIFTI)

The National Investment Framework for Transport in Ireland (NIFTI) is the long-term sectoral strategy for investment in land transport and replaces the 2015 Strategic Investment Framework for Land Transport. Its purpose is to establish the high-level direction and parameters for future investment and ensure that investment is consistent with Government policy.

NIFTI is a high-level tool through which project sponsors can align capital transport projects with the NPF. It will guide transport investment to support the delivery of the NPF, enable the Climate Action Plan and promote positive social, environmental and economic outcomes throughout Ireland.

The framework establishes four high-level strategic investment priorities:

- Decarbonisation;
- Protection and Renewal;
- Mobility of People and Goods in Urban Areas; and
- Enhanced Regional and Rural Connectivity.

These priorities are not an either/or scenario. Investment is required in all these areas to support the NPF and Climate Action Plan objectives. The priorities represent the key objectives of transport investment that new projects should align with. NIFTI also establishes a process to help decide the best solution to an identified need or problem through modal and interventional hierarchies.

The framework encourages the use of active travel and public transport ahead of solutions reliant on private transport. To make best use of our existing assets, protecting and renewing the existing land transport network should, where possible, be the first solution considered. This is followed by maximising the value of the network through optimising its use. Infrastructural investment will then be considered after these two categories have been assessed as inappropriate for the identified problem, with upgrades to existing infrastructure to be considered before outright new infrastructure.

2.6 Regional Spatial and Economic Strategy (RSES)

The Regional Spatial and Economic Strategy (RSES) is a link between the NPF, the City and County Development Plans and the Local Economic and Community Plans. The RSES is prepared alongside the NPF through three new Regional Assemblies which will be utilised to inform the NPF and are centrally involved in the formulation of policies geared towards achieving a greater dispersal of economic growth and development throughout their respective regions.

These Regional Assembles are the Eastern and Midland, Northern and Western, and Southern Regional Assemblies. In turn these Regional Assemblies will be informed by smaller Strategic Planning Areas (SPAs), which envelop key economic catchments, due to the geographical extent of the assemblies. Cork is situated within the South-West SPA of the Southern Regional Assembly.

The Strategy for the Southern Region, as set out in the RSES report is to build a strong, resilient, sustainable region, through 11 individual actions, including the following relevant actions:

- Strengthening and growing our cities and metropolitan areas, harnessing the combined strength of the three regional cities as a counterbalance to the Greater Dublin Area through quality development, regeneration and compact growth, building on the strong network of towns and supporting our villages and rural areas;
- Enhancing regional accessibility through upgraded transport infrastructure and digital connectivity allied to transformed settlement hierarchy; and
- Transforming our transport systems towards well-functioning, sustainable integrated public transport, walking and cycling and electric vehicles.

A Metropolitan Area Strategic Plan (MASP) for Cork is set out within the RSES report, and this MASP places significant emphasis on the implementation of the CMATS recommendations.

Section 2 of the RSES report deals with the Regional Transport Strategy, with transport investment priorities set out, with Sustainable Mobility a key investment priority, including the delivery of BusConnects programmed within the regional cities. Transport priorities for the Cork Metropolitan Area include the following:

- A high-capacity public transport corridor (potentially a Light Rail corridor);
- Infrastructure to serve Cork Docklands and Tivoli;
- Prioritisation of buses over car traffic through delivery of several high-quality bus corridors;
- Targeted improvement of arterial routes within the city and environs to enable the delivery of higher bus service frequencies and improved journey time reliability; and
- The development of a metropolitan area-wide cycle network.

2.7 Cork Metropolitan Area Transport Strategy (CMATS)

2.7.1 Introduction

The NPF 2040 envisages that Cork will become the fastest growing county in Ireland with a projected increase of its population of 105,000 – 125,000 people. within the Cork City and Suburbs area up to 2040. The projected population and associated economic growth will result in a significant increase in the demand for travel, which needs to be managed and planned for carefully to safeguard Cork's attractiveness to live, work, visit and invest in.

The current metropolitan area transport network contains limited capacity to cater for this projected additional growth, with a need to allocate remaining capacity efficiently. The result being that land-use and transport planning will need to be far more closely aligned to reduce the need to travel by car and support the functioning of a sustainable, integrated transport system.

CMATS is a co-ordinated land use and transport strategy for the Cork Metropolitan area which will provide a coherent transport planning policy framework and implementation plan. It is around this plan that other agencies involved in land use planning, environmental protection, and delivery of other infrastructure such as housing and water can align their investment priorities.

2.7.2 Vision and Principles

It is the vision of CMATS to deliver an integrated transport network that addresses the needs of all modes of transport, offering better transport choices, resulting in better overall network performance and providing capacity to meet travel demand and support economic growth.

The vision is based on guiding principles including the following:

- ***Principle 1***: To support the future growth of the CMA through the provision of an efficient and safe transport network;
- ***Principle 2***: To prioritise sustainable transport and reduce car dependency;
- ***Principle 3***: To provide a high level of public transport connectivity;
- ***Principle 4***: To identify and protect key strategic routes for the movement of freight and services;
- ***Principle 5***: To enhance the public realm through traffic management and transport interventions; and
- ***Principle 6***: To increase public transport capacity and frequencies where needed to achieve the strategy outcomes.

It is evident that the majority of these principles are relevant to BCIC and set out the approach for this project.

CMATS also recognises the opportunities afforded to the CMA, arising from high level spatial planning objectives and associated population growth projections outlined in the NPF 2040 and proposed capital investment in the NDP 2018-2027, to consolidate future projected growth in the CMA within established urban centres and along its identified high quality, high-capacity public transport corridors as illustrated in .

2.7.3 Public Transport

The CMATS Strategy was prepared by firstly developing a high-level public transport network which provides a context for the overarching transport options and proposals. The public transport network is based on the six core principles outlined above. Following the development of the public transport network, the cycling and walking networks were subsequently developed. The public transport network formed the indicative framework before more detailed network development was carried out. This more detailed network included the scale and type of public transport requirement on the strategic corridors, the route alignment, the level of priority required, the frequency of service, as well as the level of coverage provided by the strategy public transport proposals.

shows the indicative public transport network that was developed as part of CMATS. It shows the proposed rapid transit corridor to be the central spine of the public transport network, which is complemented by core bus corridors which emanate radially out of Cork City in all directions.

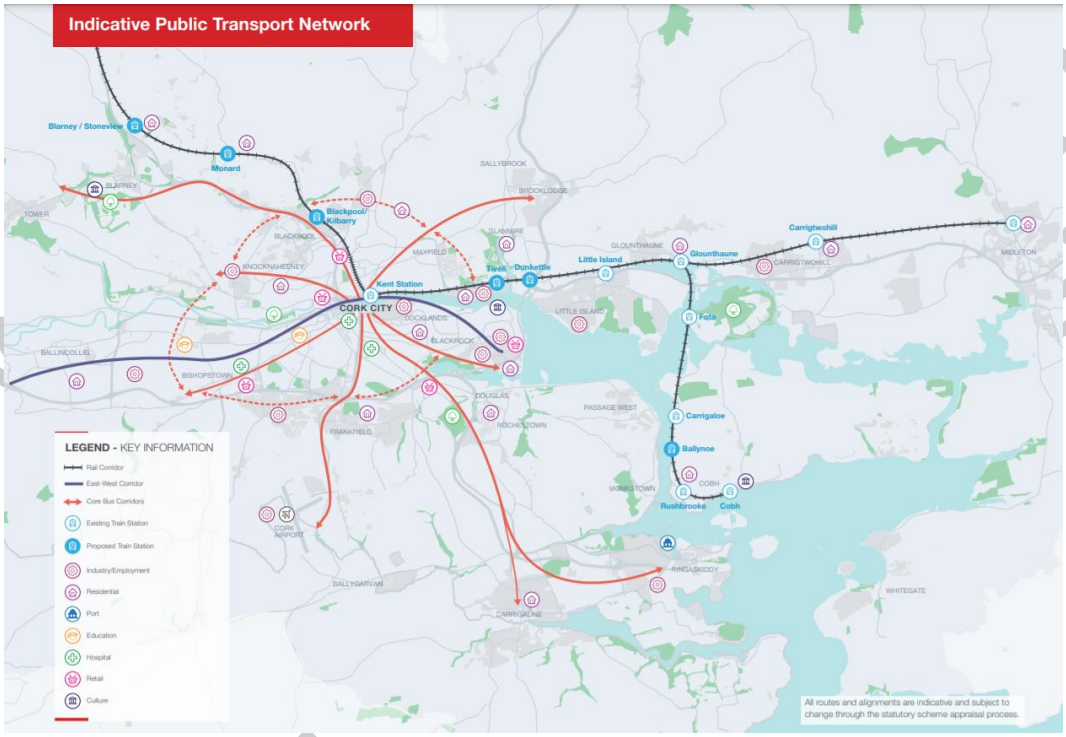

Figure 2: Indicative Public Transport Network [Source: CMATS]

The Strategy recognises and identifies buses as an extremely efficient mode of transport which will serve the majority of the Cork Metropolitan area. It makes reference to a BusConnects network which will comprise a *Core Radial Bus Network*, an *Orbital Bus Network*, a *Cross-City Network* as well as *Supporting Radial Bus Services* to ensure comprehensive network coverage.

The indicative Core Radial Bus Network connects the external corridors to the city centre and has been refined to pair with cross-city travel demand to maximise the utilisation of the bus services on these corridors. Supplementary to this is the proposal to significantly improve frequency of bus services along these radial routes, the majority of which are intended to operate at a frequency of 15 minutes or better.

The indicative Orbital Bus Network comprises four orbital services which are proposed to serve a multitude of key destinations outside of the city centre. The upgraded orbital network will provide additional connectivity, support urban expansion areas and interchange with radial bus services.

The Cross-City Network is a 200km Core Radial Bus network, which has been refined to pair with cross-city travel demand to maximise the utilisation of the core bus services for effective and efficient travel to and through Cork City Centre.

There were a number of guiding principles applied such as alignment with CCMS, the targeting of key interchange locations and the minimisation of divided services on one-way sections or routes.

Key interchange locations were chosen due to their ability to accommodate large numbers of public transport services either through bus lanes or full bus priority. These key interchange locations are identified as St. Patrick's Street, MacCurtain Street, Grande Parade/South Mall and the Parnell Place Bus Station.

Supporting Radial Bus Services will also be developed in order to ensure comprehensive network coverage. These supporting services will typically have lower frequencies than the Core Radial Bus Network but will cater for a wider catchment across the Metropolitan area. The radial bus services will provide further opportunities for interchange to future provisions of Suburban Rail, Light Rail and other bus services on the Core Bus Network.

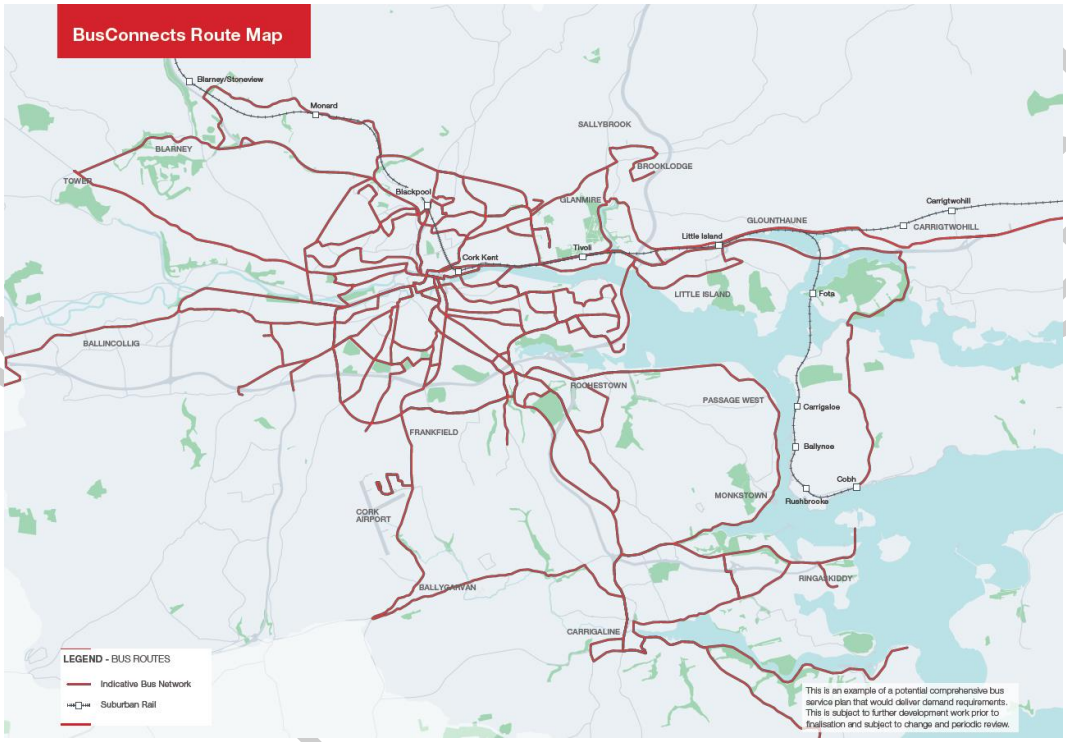

Figure 3: BusConnects Route Map [Source: CMATS]

2.7.4 Cycling

CMATS proposes a vision for the Cork Metropolitan area that has a coherent, safe and attractive cycle network that will support a shift from private car to cycling. High-quality cycle links are proposed to connect with public transport and will be designed to National Cycle Manual standards and, where possible, segregated from other modes of transport.

The key priorities for the development of the Cycle Network Plan include the designation of a coherent network providing access to all major trip generators, prioritising employment areas and third level education and schools. These priorities have been established to support proposed modal shift targets. The network will provide the highest possible level of service on identified high demand corridors, as well as the identification and maximisation of opportunities for high quality greenways and quietways. shows an extract of the CMATS Cycle Route Network.

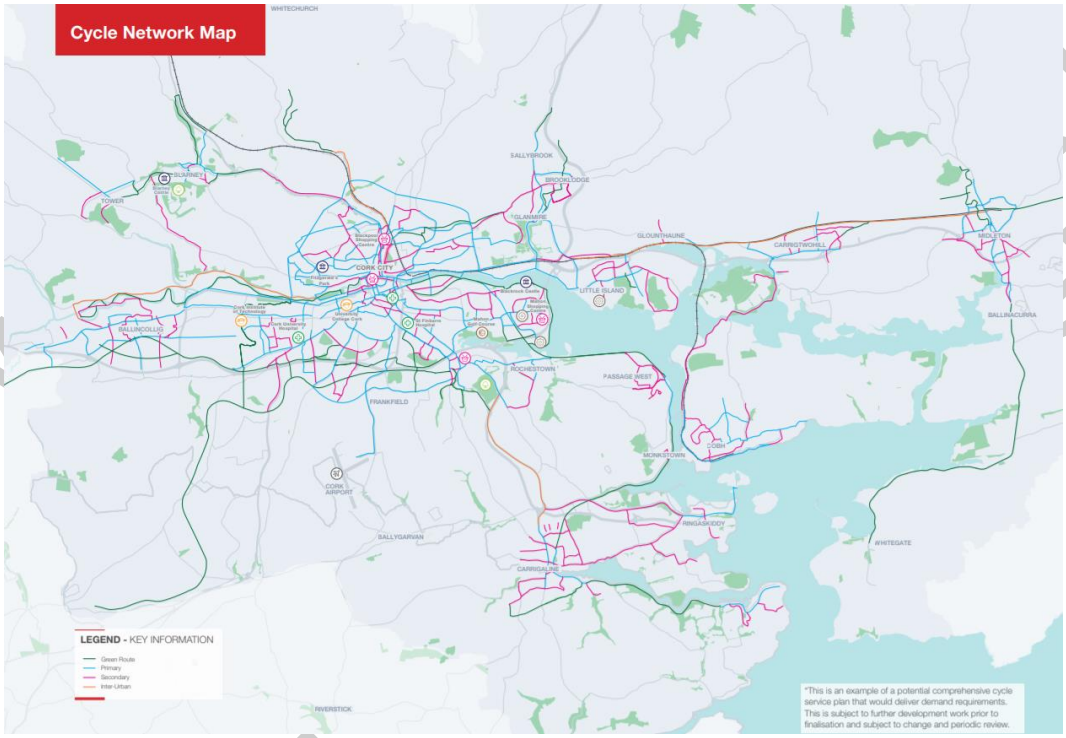

Figure 4: Cycle Network Map [Source: CMATS]

The network comprises a number of different route types: Primary, Secondary, Green Route, Inter-Urban, and Feeder Cycle networks. Each route type is identified and designated based on experienced demand and proximity and connectivity to employment, residential area or educational facilities.

2.8 Cork City Bus Network Review

A review of the existing Cork City bus network has been recently complete. The outcome of this review was the determination of an optimal new city bus network which will support the planned future growth of the city and suburbs.

The work carried out in preparing this new bus network for Cork emphasised that the network review was an opportunity to redesign the Cork network around today's needs rather than continue with the network inherited from the past. The report identifies that the projected growth forecasted for Cork's population and economy will lead to congestion and degradation of the area's attractiveness without new investment in the city's public transport network. The study also identifies that a well-connected public transport network is key to high patronage, with easy and reliable interchange a key factor.

An initial round of public consultation was undertaken in June/July of 2021 for the network review, which focused on a 'Choices Report' outlining initial decisions and key considerations to inform the redesign of the bus network. The general public were invited to comment on this initial consultation, with the input gathered utilised to inform the design of the draft bus network. This draft network was subsequently released to the public in October/November 2021 and was the subject to a further round of consultation. A final revised network has now been completed and is available to view at https://busconnects.ie/cork.

2.9 Cork City Development Plan 2015 - 2021

The Cork City Development Plan is Cork City Council's main strategic planning policy document, which guided the development of the city between 2015 and 2021. The document is set to be superseded in mid 2022 with the adoption of the new Cork City Development Plan 2022-2028. A draft of this new City Development Plan is currently being finalised and is due to be adopted in late summer 2022.

The plan provides a vision for the development and improvement of the city and sets out the priorities for investment in infrastructure over the plan period. In addition, the plan is the main reference point in determining planning applications for new developments.

The Plan also emphasises the need for balance and integrated public transport system along with complementary land use policies to drive a broader range of transport options.

The Plan contains a number of transport objectives related to BCIC, as set out in Chapter 5: Transportation, including the following strategic objectives:

- **Objective 5.5 - Strategic Transport Corridors:** Cork City Council prepared studies to determine how to best optimise transport provision along strategic corridors within the city to reduce trip length and increase demand in order to provide more frequent bus services. Upon completion, land use transport plans for each corridor will be prepared.
- **Objective 5.7 – Cycling Strategy:** Cork City Council will develop a Cycling Strategy during the lifetime of the Development Plan to address supporting measures required to increase cycling uptake.
- **Objective 5.12 - Support Bus Network Improvement:** Cork City Council and other stakeholder will make sure to facilitate the delivery of a legible and reliable network of bus services.
- **Objective 5.13 - Bus Rapid Transit:** Cork City Council will identify the preferred route for Bus Rapid Transit in conjunction with Cork County Council and the National Transport Authority.

2.10 Cork City Development Plan 2022-2028

The Cork City Development Plan 2022-2028 will supersede the Cork City Development Plan 2015-2021 upon its adoption in early 2022. The Plan is currently in Draft format and is being finalised with adoption expected towards the end of the summer 2022.

The Draft Plan contains some specific commentary in relation to BCIC in Chapter 4: Transport and Mobility under 'Public Transport', in which emphasis is put on the primary objective of CMATS to significantly increase the modal share of public transport from its current level of 9.1% to over 26% by the year 2040. The plan highlights the important role investment in the BusConnects project will take in underpinning this modal share increase, emphasising that the BusConnects programme represents an opportunity to overhaul the public bus service across Cork. The Draft Plan also stresses that the delivery of an efficient and reliable bus system is contingent on prioritising bus services above general traffic.

The Draft Plan contains 9 overarching Strategic Objectives which align with the UN Sustainable Development Goals (UNSDGs) as well as the National Strategic Outcomes of the NPF.

There are a number of transport objectives related to BCIC, as set out under Strategic Objective 3: Transport and Mobility, including the following:

- **Objective 4.1 – CMATS:** Cork City Council will work in cooperation with the NTA, TII and Cork County Council to fully implement the Cork Metropolitan Area Transport Strategy subject to detailed engineering design and environmental considerations, including the projects and programmes in relation to walking, cycling, public transport, BusConnects, suburban rail, light rail, park and rides and roads infrastructure;
- **Objective 4.4 – Active Travel:** To actively promote walking and cycling as efficient, healthy, and environmentally friendly modes of transport by securing the development of a network of direct, comfortable, convenient, and safe cycle routes and footpaths across the city; and
- **Objective 4.6 – Corridor & Route Selection Processes, Policies and Objectives** relating to new roads and other transport infrastructure projects (including greenways, walkways, cycleways and blueways) that are not already provided for by existing plans/programmes or are not already permitted, are subject to the undertaking of feasibility assessment having regard to normal planning considerations and environmental sensitivities as identified in the SEA Environmental Report and the objectives of the Plan relating to sustainable mobility.

2.11 Cork Cycle Network Plan 2017

The Cork Cycle Network Plan was developed to provide a plan for the future cycling network within the Cork Metropolitan Area. The aim of this Plan was to promote cycling as mode of transport for trips to work,

school, recreation and leisure. The Plan suggested a coherent, safe and attractive cycle network that will support a modal shift from the private car to cycling. Figure 5 below illustrates the proposed Cork City network.

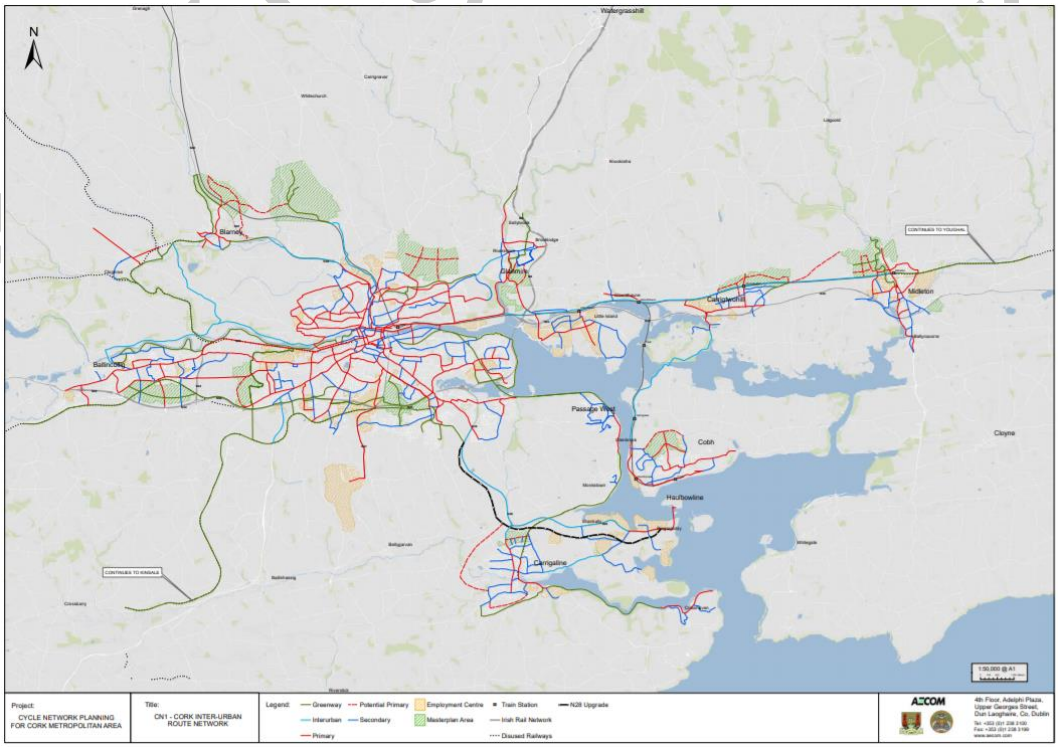

Figure 5: Cycle Network Map [Source: Cork Cycle Network Plan 2017]

The network consists of:

- Primary Cycle Networks designed to cater for high demand on radial routes to key destinations;
- Secondary routes provide connection from residential areas and employment to Primary Network;
- Interurban routes indicate possible connections from the Metropolitan Towns to Cork City; and
- Greenways, representing traffic-free cycling routes

The Cork Cycle Network Plan proposals have been incorporated into the CMATS cycle network proposals as identified above in Section 2.7. Some amendments were made to the 2017 network in order to ensure consistency with the CMATS overall proposals.

2.12 Cork Walking Strategy (2013-2018)

The Cork Walking Strategy sets out a clear vision for increasing the modal share of walking for commuting within the city suburbs. The strategy proposed the development of walking networks that connect neighbourhoods, origins and destinations, with increased permeability and attractive, safe environments that encourage more people to choose to walk.

A number of key strategic walking routes were identified, including the following:

- Dublin Hill;
- Ballyhooly Road;
- Old Youghal Road and Colmcille Avenue;
- Lower Glanmire Road;
- Blackrock Road;

- Ringmahon Road;
- Skehard Road;
- Douglas Road;
- South Douglas Road
- Pouladuff Road;
- Togher Road;
- Curraheen Road;
- Model Farm Road;
- Carrigrohane Road;
- Western Road;
- Strawberry Hill;
- Blarney Street;
- Pophams Road;
- Harbour View Road/Kilmore Road; and
- Fair Hill.

Footpath widening works on these strategic routes would improve pedestrian connectivity and provide the priority to pedestrians over private car traffic to assist deliver on our modal share targets. Within the city centre, the strategy outlines numerous interventions intended to enhance pedestrian comfort throughout, including raised tables, build-outs, additional crossings, wider footpaths, etc.

3. Project Objectives

Having regard to the findings of the transport context, the following key objective and sub-objectives have been established for BCIC:

Objective:
To provide enhanced walking, cycling and bus infrastructure on key access corridors in the Cork Metropolitan Area, which will enable and deliver efficient, safe and integrated sustainable transport movement along these corridors.

Sub-Objectives:

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

4. Core Bus Corridor 7 Study Area

The extent of the CBC 7 corridor as set out in the project brief is presented in Figure 6.

Initially, the adjacent roads and streets along the corridor route were identified and included within the study area, and a further 'buffer' was applied to this initial area to allow for areas outside of the primary road and street network to be included as potentially feasible route options.

A notional starting point was identified as the junction of the L2222/N40 interchange at Curraheen (Junction 2 of the N40 Cork South Ring Road), southwest of Bishopstown. Potential route options were developed from this notional starting point. The notional end point of the CBC 7 corridor was identified as the junction of Washington Street and St. Patrick's Street in the centre of Cork City.

The study area was also divided into a number of discrete sub-sections to allow for local optioneering and assessment between route options on a section-by-section basis. The individual sections were determined based on locations along the transport network where a logical transition between sections and route choices would occur.

At the southwestern end of CBC 7, the study area was developed to include all streets and roads between the primary routes serving the western approach to Bishopstown, including the R849 Bishopstown Road, Waterfall Road and the N40 South Ring Road itself. Continuing eastwards, Sarsfield Road and Wilton Road were also included, before progressing further east to include College Road, Glasheen Road, Magazine Road, Donovan's Road, Gillabbey Street, Bandon Road, Noonan Road, Bishop Street, Sharman Crawford Street, Wandesford Quay, Proby's Quay, Crosses Green, Dyke Parade and Lancaster Quay/Washington Street/South Main Street.

The study area also considers the proximity and potential overlap of other existing or proposed corridors as identified in the Cork Metropolitan Area Transport Strategy and the BusConnects Infrastructure Project, including CBC 6 (Ballincollig to City Centre) and CBC 8 (Wilton to City Centre) and the proposed orbital CBC.

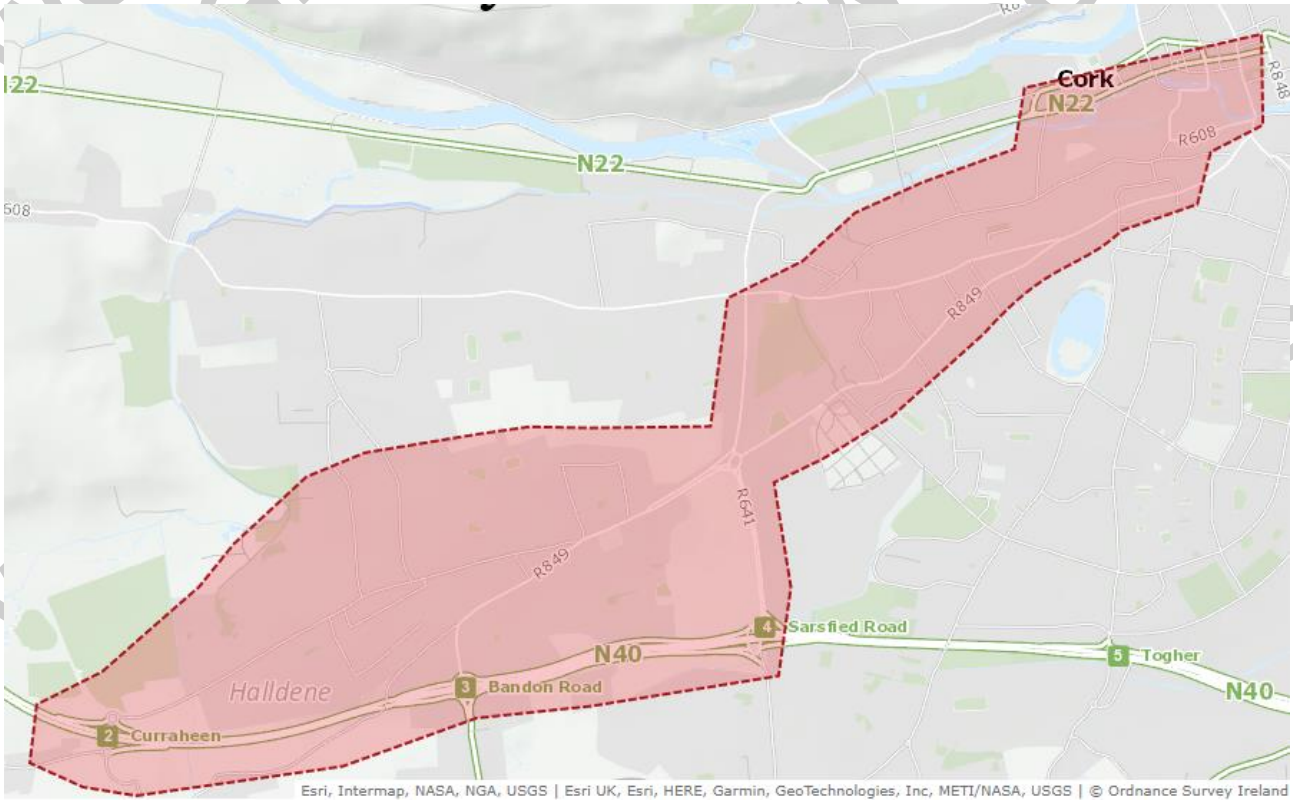

Figure 6: Core Bus Corridor 7 Study Area

4.1 Study Area Sub-Sections

As outlined above, the study area for CBC 7 was subsequently divided up into numerous smaller sub-sections, to allow for localised optioneering to be undertaken within individual sections of the overall route, as shown in Figure 7. These sections are:

- Section 1 – Curraheen to Wilton Roundabout;
- Section 2A – Localised options assessment – Wilton Roundabout to Dennehy's Cross;
- Section 2B – Localised options assessment – Bandon Road to Washington Street;
- Section 2C – Localised options assessment – Bandfield to City Centre; and
- Section 2 – Wilton Roundabout to City Centre.

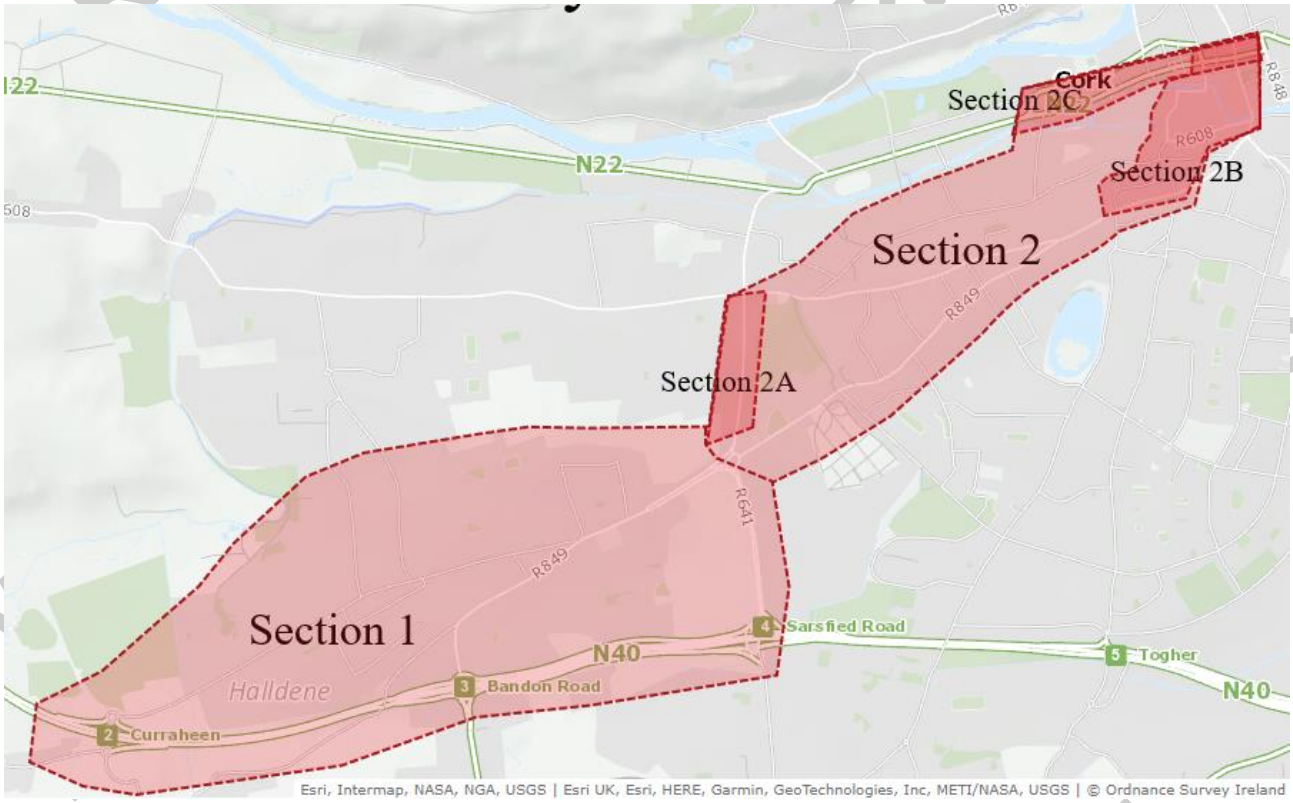

Figure 7: Individual Study Area Sections

4.2 Physical Constraints and Opportunities

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

- The National Road network, including the N40 South Ring Road, the N22 Western Road/Dyke Parade/Lancaster Quay/Washington Street, etc. and the major junctions on these routes;
- The R641 Wilton Road/Victoria Cross Road, a key traffic route linking the N40 South Ring Road to the N22 Western Road/Carrigrohane Road;
- The River Lee (including north and south channels) and Twopot River;
- Public park areas including Liam Lynch Park, Fitzgerald's Park, Presentation Brothers College Sports Grounds, etc.;
- Numerous NIAH-designated and protected structures/monuments along the route;
- The existing urban and suburban roads and street networks;

- Numerous river crossings and their designations (protected structures, etc.);
- Existing and committed future developments along the route;
- Limited availability of land within urban and suburban areas, and the proximity of the built environment to the existing road and street network; and
- Significant numbers of street trees and other natural features along the potential route options within the study area.

4.3 Integration with existing and proposed public transport network

A key requirement of the proposed scheme will be to enhance interchange between the various modes of public transport operating in the city and wider metropolitan area, both now and in the future.

Route options within the study area have therefore been developed with this in mind and, in so far as possible, seek to provide for improved existing or new interchange opportunities with other transport services, including:

- The planned BRT/LRT system for Cork, linking Ballincollig to Mahon via the City Centre (currently at route selection stage, with an indicative route set out within CMATS);
- The BusConnects Cork City Network Route Map, outlined in the Cork Metropolitan Area Transport Strategy (CMATS);
- Future plans for a revised Cork City Bus Network (currently in development);
- Other proposed BusConnects Cork routes, including both radial corridor routes to/from the city and the planned Orbital route;
- Existing Cork City bus services at numerous locations along the route; and
- Where feasible, interchange opportunities with regional bus and coach services and rail services at Parnell Place Bus Station and Kent Rail Station.

4.4 Compatibility with other users

A key objective of the proposed scheme is to improve pedestrian and cyclist facilities along the route. In general, segregated facilities (i.e., off-road) should be proposed for these modes. Where it is considered impractical to construct pedestrian or cycle facilities along a particular section of the route, such facilities will need to be provided along a suitable alternative route.

There may be locations where segregated cycle facilities cannot be provided along the route and there is no suitable routing alternative. In such instances, it may be possible for cyclists to share the bus or general traffic lane with other vehicles under a controlled environment. However, such proposals need careful consideration and design to ensure the safety of cyclists, with additional mitigation measures, such as speed restrictions for vehicles in bus or general traffic lanes being applied.

General traffic flow and local access will typically be maintained along the corridor although it is inevitable that there will be impacts on traffic capacity along the route associated with the reallocation of road space to bus priority and cycle facilities and the introduction of turning movement restrictions or through-traffic restrictions. However, reductions in the traffic carrying capacity of the road network need to be considered in the context of the overall planned significant increase in quality and level of public transport service (including increased capacity provision) on the bus route once implemented.

5. Assessment Methodology

5.1 Assessment Process

This section of the report presents the methodology used for the assessment of potentially viable route options identified within the study area. A two-stage assessment process was adopted as follows:

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

5.2 Stage 1: Route Options Assessment – Sifting Stage

An initial 'spider's web' of potential route options that could accommodate a CBC was identified for each study area section. This 'spider's web' of route options was developed with reference to the CBC characteristics and specifically the potential to meet the scheme objectives as set out in Section 3 of this report.

Initial route options identified also took cognisance of the physical constraints and opportunities present (Section 4.2), and the ability to integrate with other public transport modes and routes (Section 4.3). Of particular relevance in developing the 'spider's web' was the potential for the road or route sections to facilitate fast and reliable journey times, and thereby have the potential to practically accommodate bus lane priority.

A typical 'spider's web' of route options for a corridor section is presented in Figure 8.

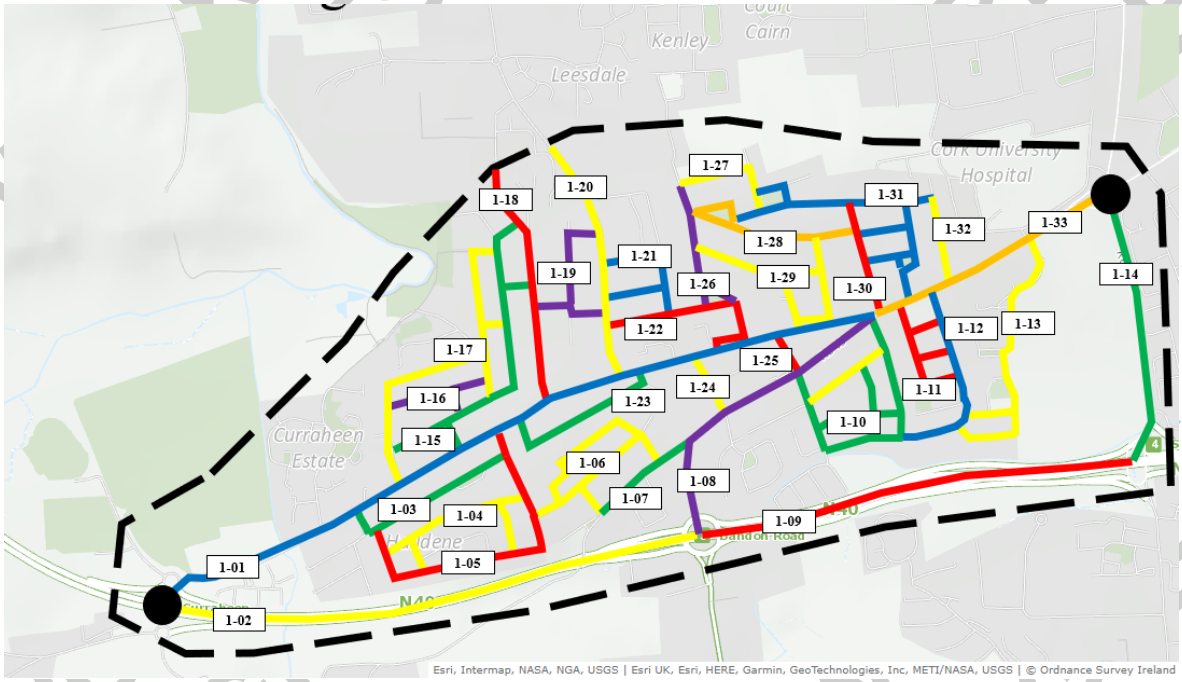

Figure 8: Sample 'Spiders Web' of Route Options

As part of the Stage 1 'sifting', the initial 'spider's web' of route options (sample of which is presented in Figure 8) was narrowed down using a high-level qualitative method based on professional judgement and a general appreciation for existing physical conditions/constraints within the study area from available survey information and site visits.

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

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

5.3 Stage 2: Multi Criteria Analysis

All route options that progressed to this stage were compared against one another using a detailed multi-criteria analysis (MCA) approach in accordance with the Department of Transport Document "Common Appraisal Framework for Transport Projects and Programmes".

Each scheme was comparatively assessed against the study objectives using the KPIs and method of measurements identified below. The scheme options were then ranked accordingly in order to identify the Emerging Preferred Route Option.

In accordance with the Department of Transport "Guidelines on a Common Appraisal Framework for Transport Projects", the multi-criteria analysis considered Economy; Integration; Accessibility and Social Inclusion; Safety and Environment. The 'Physical Activity' criterion has not been assessed as a standalone criterion as the impacts on Physical Activity have been captured under the Pedestrian and Cyclist Integration criteria.

The assessment criteria are detailed in Table 1 below:

Table 1: Assessment Criteria

Assessment Criteria		Sub-Criteria
1	Economy	1.a. Capital Cost
		1.b. Average Journey-time
		1.c Journey-time Reliability and Consistency
2	Integration	2.a. Land Use Integration
		2.b. Residential Population and Employment Catchments
		2.c. Transport Network Integration
		2.d. Cyclists Integration
		2.e Pedestrian Integration
3	Accessibility and Social Inclusion	3.a. Key Trip Attractors
		3.b. Deprived Geographic Areas
4	Safety	4. Road Safety
5	Environment	5.a. Archaeological, Architectural and Cultural Heritage
		5.b Biodiversity
		5.c Soils and Geology
		5.d. Water Resources
		5.e. Landscape and visual
		5.f. Noise, Vibration and Air
		5.g. Land Use and the Built Environment

These criteria are presented in greater detail in the following sections.

5.4 Economy

1.a. Capital Cost

The capital cost of a scheme includes both the estimated infrastructure costs and the required land acquisition costs. These costs are normalised to per-kilometre rates for the purpose of comparison of one scheme with another.

Construction cost estimates for corridor sections (between junctions) have been categorised as minor, moderate or major. Minor works have been assumed where significant road widening is not anticipated, for example along sections of a route where bus and cycle infrastructure is already provided, or along sections where significant widening is geometrically constrained. Moderate works have been assumed where the existing road corridor will be reconfigured to provide the bus priority measures and some minor road widening. Major works have been assumed where significant road widening, and land take is required.

For each route option, the length of the route requiring either the minor, moderate or major works category has been calculated and multiplied by the relevant cost rate to derive the cost estimate for the route.

Additional costs will be added to the project for significant items relevant to each scheme i.e., significant structures.

Table 2: Cost Rates per km

Category	Construction Works	Cost Rate per km
Minor	Local improvements to bus lanes. New sections of paths where necessary. New sections of cycle paths where necessary. New or upgraded bus stops where necessary, including provision of Real Time Passenger Information (RTPI) and bus shelters. Kerb improvement locally (removal and replacement). Footpath improvement locally (breaking out/additional concrete) including tactile paving and dished kerbs. Road resurfacing locally (milling/reinstatement or overlay). Road markings (removal of existing road markings). Signage (removal/relocation/replacement of existing and/or installation of new).	€800,000
Moderate (Widening excluding boundary walls)	General site clearance (street furniture removal/relocation, etc). Services protect in place predominately. Drainage works (removal of and installation of new drainage systems). New or upgraded bus stops where necessary, including provision of Real Time Passenger Information (RTPI) and bus shelters. Earthworks (embankment treatments, retaining walls, slopes regrading, etc). Pavement (milling/reinstatement or overlay). Kerbs footways and paved areas (removal and new). Road markings (non-destructive removal of existing road markings, new road markings). Signage (removal /relocation /replacement of existing and/or installation of new). Road lighting (replacement, cabling, ducting). Landscaping works (top soiling, fence, trees relocation, hedges, road margins re-grading etc).	€1,500,000

Category	Construction Works	Cost Rate per km
	Minor property boundary reinstatement works (walls, gates, landscaping etc).	
Major (Widening including boundary walls)	General site clearance Services relocation/ diversion. Drainage works (installation of new drainage systems). New bus stops where necessary, including provision of Real Time Passenger Information (RTPI) and bus shelters. Earthworks (embankment treatments, retaining walls, slopes regrading, etc). Significant pavement full depth construction. Kerbs footways and paved areas. Road markings. Signage. Road lighting. Accommodation Works, bespoke design solution for each driveway to accommodate new levels. Landscaping works (top soiling, fence, trees relocation, hedges, road margins re-grading etc). Property boundary reinstatement works (walls, gates, driveways landscaping etc).	€3,000,000

The length of the route requiring either the minor, moderate or major works category is calculated and multiplied by the relevant cost rate to derive the cost estimate for the route. . In addition, the construction costs associated with the junctions along the route have been included for based on the rates presented in Table 3.

Table 3: Junction Cost Rates

Category	Construction Works	Cost
Minor	Road markings. Road resurfacing locally (milling/reinstatement or overlay). Additional signal heads, poles and loops. Dished kerbs and tactile paving. New signal controllers and associated traffic signal works.	€300,000
Moderate Works (Upgrade existing junctions to signal control junctions, without significant alteration to their existing geometry and layout. Excludes significant accommodation works)	Works outlined above in minor works – road marking, traffic signals, kerbs and tactile paving). Services protection predominately. Limited earthworks. Localised pavement reconstruction. Localised public lighting improvements (relocation, cabling, and ducting). Localised kerb and footpath improvement.	€800,000
Major Works (to existing signal-controlled junctions including upgrading of roundabouts to signal controlled junctions. Includes accommodation works)	Works outlined above in moderates works. Services relocation/diversion (power supply, communications cables, water, gas). Drainage works (removal of and installation of new drainage systems). Earthworks (embankment treatments retaining walls, slopes re-grading, etc).	€1,400,000

Category	Construction Works	Cost
	Pavement full depth reconstruction. Property boundary reinstatement works (walls, gates, driveways landscaping etc).	

Land Acquisition Costs

The land acquisition costs concern the cost of acquiring lands necessary for the scheme and the costs of boundary / accommodation work associated with each scheme. It considers the likely number of properties required (commercial, public, residential, and industrial) and the extent of land required.

In this assessment, land is defined as either public or private. Public land is the space between road boundaries and any also any public open space. For this analysis, it is assumed that there is no cost associated with the acquisition of public land. The identification of land acquisition is based on available Ordnance Survey mapping only and as such is approximate.

For the purposes of this high-level cost assessment, private land is assumed to have a standardised cost of €1,500 per square metre, which is applied to each option.

1.b. Average Bus Journey Time

Typically, shorter bus journey times supports higher patronage as people can get to their destination quicker. Bus journey times for each route option have been compared by calculating the estimated journey time between common start and end points. Bus journey times have been calculated based the following assumptions:

- Buses travel at the posted speed limit unless they are delayed.
- Dwell time of 10-60 sec per stop depending on usage.
- Delay of 15 – 120 secs per junction depending on level of priority achievable.
- Delays where no bus priority is provided. Buses are delayed when they are required to share congested lanes with general traffic. The length of delays is based on distance where there is no priority and the level of congestion expected.

1.c. Bus Journey Time Reliability

Reliable bus journey times provides certainty around departure and arrival time for passengers. The level of bus priority proposed in each route option determines the reliability of journey time for this criterion. Dedicated bus lane provision provides the best conditions, followed by traffic management measures, with no bus priority measures providing the least favourable conditions for reliability.

5.5 Integration

2.a. Land Use Integration

This criterion assesses how a scheme would integrate with any future planned developments in the catchment area and how it might enhance the economic opportunities of an area. This criterion includes how a scheme fits into local area plans or any other objectives in area / county policies.

2.b. Residential Population and Employment Catchments

The current residential and employment population within a particular walking route distance of each of the CBC stops is calculated in order to determine the number of potential users for each scheme option. To assess the potential population and employment catchments the walking distance from bus stop locations along each route was analysed using the network analyst module of ArcGIS to create walk time isochrones from each stop. The distances to the stops correlate to walk times of five, ten and 15min intervals and were estimated based on an average walking speed of 5kph. The population and employment within the isochrones was then calculated based on planning data received from the NTA at CSO small area and work zone level. Where just a portion of a small area fell within the walking catchments the portion of the

population/employment within walking distance was estimated proportionally based on area. See sample catchment map below.

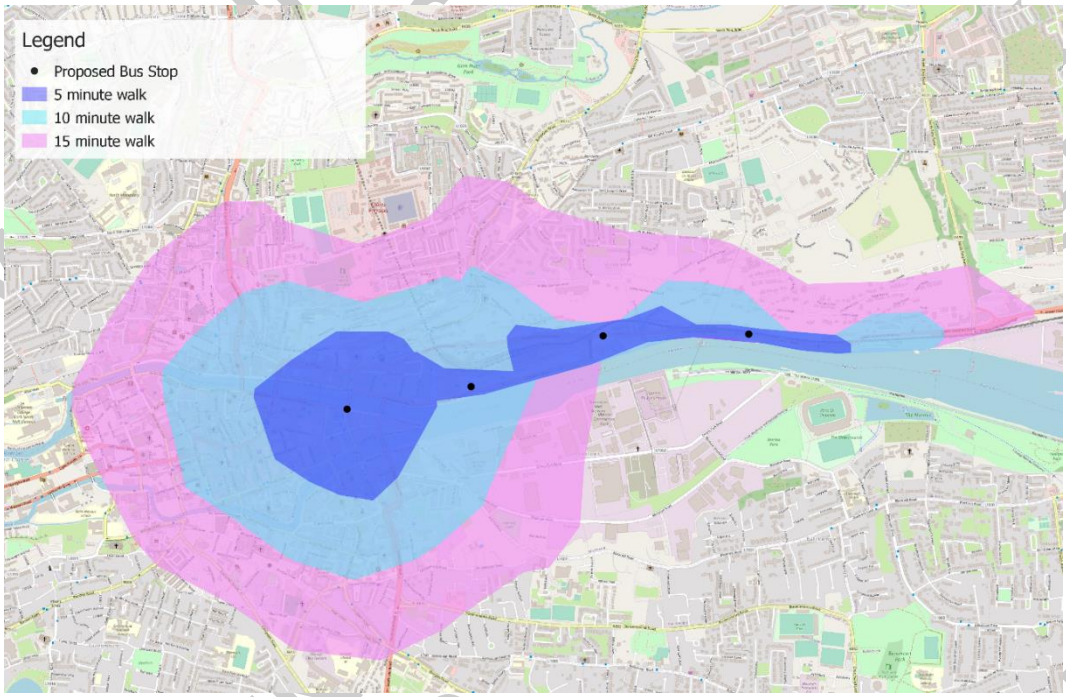

Figure 9: Sample bus stop catchment map with walking isochrones shown at 5/10/15 minute intervals

2.c. Transport Network Integration

Under this criterion, integration with the wider transport network is assessed and compared for each scheme. This includes transport modes such as railway, coaches, public bike schemes, and public and private bus operators. The potential for interchange facilities such as safe walking areas, cycle parking areas, etc. are also assessed under this criterion. Where a potential CBC route duplicates a route with another public transport route over a significant distance this was seen as a negative under this criterion.

The anticipated traffic impact expected to be incurred by motorists using private vehicles as a result of the different route options will also be factored in. The disadvantages experienced by motorists in respect of reduced junction capacity and restricted movements will be considered, with particular emphasis placed on TEN-T routes.

2.d. Cyclist Integration

The compatibility of a scheme with the Cork City Cycle Network Plan is examined and the level of service of deliverable cycle facilities is assessed. In some cases, it is necessary to provide an alternative cycle route on different streets to the CBC and these alternative routes are considered under this criterion.

2.e. Pedestrian Integration

The compatibility of a scheme with the objectives of the Walking Strategy in CMATS is examined and the level of service of deliverable pedestrian facilities is assessed under this criterion.

Accessibility and Social Inclusion

3.a. Key Trip Attractors

This assessment criterion identifies key trip attractors located within appropriate walking catchments which would generate significant demand for bus services, but would not otherwise be picked up by either the employment or residential catchment analysis. For the purposes of this assessment, the following land-uses have been considered as key trip attractors:

- Education (secondary schools and universities);
- Commercial centres (shopping centres, town centres etc.);

- Healthcare (hospitals);
- Leisure (sport stadiums, theatres, cinemas etc.); and
- Employment (business parks, large office developments etc.).

3.b. Deprived Geographic Areas (3.b.)

The possible impact of the route options on deprived geographic areas including RAPID (Revitalising Areas by Planning, Investment and Development) areas and the HP Deprivation Index are investigated.

RAPID is a focused Government initiative to target the most disadvantaged urban areas and provincial towns in the country and sought to improve the lives of the residents of its communities through among other things, improving the delivery of public services through integration and coordination. There are four defined RAPID areas in Cork.

The Pobal HP Deprivation Index is a method of measuring the relative affluence or disadvantage of a particular geographical area using various datasets from the 2016 census. For the purpose of this assessment, the HP Deprivation Index was examined by small area to determine which routes better served deprived areas.

5.6 Safety

Under this criterion, the number of junctions along each scheme, as an approximate measure for the potential for collisions, are compared. In addition, the number of turning movements are compared, as these can also potentially lead to lower safety conditions along the scheme. Differentials in traffic speeds along a route are also assessed under this criterion as a high relative speed difference between transport modes may result in an increased road safety risk.

5.7 Environment

5.a. Archaeological, Architectural and Cultural Heritage

Effects on archaeological heritage can be considered in terms of impacts on below ground archaeological remains, historic buildings (individual and areas), and historic landscapes and parks. The construction, presence and operation of transport infrastructure can impact directly on such cultural heritage resources through physical impacts resulting from direct loss or damage, or indirectly through changes in setting, noise and vibration levels, air quality, and water levels.

Potential impacts of each scheme on Recorded Monuments and Protected Structures (RMPs) along each route are assessed and compared. Potential impacts on Sites of Archaeological or Cultural Heritage, Architectural Conservation Areas and on buildings listed on the National Inventory of Architectural Heritage are also assessed and compared under this criterion.

The impacts on all of the above are comparatively assessed for each route option under this criterion.

5.b. Biodiversity

The provision of the CBC may have negative impacts on biodiversity, for example, through construction of new infrastructure through green field sites or removal of trees/hedges. These impacts are compared for each scheme under this criterion. The potential for planting replacement trees along each route option is also assessed under this criterion.

5.c. Soils and Geology

Construction of infrastructure necessary for the provision of the CBC has the potential to negatively impact on soils and geology. For example, through land acquisition and ground excavation. There is also the potential to encounter ground contamination from historical industries. These considerations are compared for each scheme under this criterion.

5.d. Water Resources

The provision of CBC infrastructure may include aspects (for example structures) with the potential to impact on hydrology or water resources. Any such structures and potential impacts are considered for each scheme under this criterion.

5.e. Landscape and Visual

Provision of CBC infrastructure has the potential to negatively impact on the landscape and visual aspects of the area, for example, by the removal of front gardens or green spaces or the altering of streetscapes, character and features. Different schemes are compared, and any negative effects considered under this criterion.

The landscape (and visual) assessment of the route corridor options has had regard to:

- Land Use Zonings (amenity, open space, recreation, sport)
- Landscape & Visual Objectives within Cork City Development Plan
- Landscape Preservation Zones
- Areas of High Landscape Value
- Recreation Access Routes / Designated Walkways
- Tree Preservation/Protection Objectives

5.f. Noise, Vibration and Air

Provision of CBC infrastructure has the potential to negatively impact on noise, vibration and air quality along a scheme. These effects are compared for each scheme option under this criterion. The impact is quantified on whether the source of noise, vibration or air pollution (road) is moving closer to sensitive receptors, for example through road widening or a new road alignment.

5.g. Land Use and the Built Environment

This criterion assesses the impact of each scheme option on land use character, and measures impacts which prevent land from achieving its intended use, for example through land acquisition, reallocation of road space, severance of land, removal of parking or loading spaces, or changes to access arrangements.

5.8 Scheme Options Summary Table

Scheme options were assessed for each assessment criterion and compared relative to each other on a five-point scale, from having significant advantages, some advantages, some disadvantages to significant disadvantages over other route options. Schemes could also be considered neutral when no apparent advantages or disadvantages were identified across all scheme options.

Each route is given a comparative score (advantage/disadvantage) on a 5-point scale for each of the criteria listed in Table 4 below.

Table 4: MCA comparative advantage/disadvantage colour ranking table

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

NOTE: Where all options assessed are considered comparatively equal in terms of advantage/disadvantage they all ranked as neutral

In applying the assessment criteria to the route selection process, it is recognised that for different sections of the study area corridor, greater emphasis may need to be applied to some criterion over others in terms of their significance and influence on the route selection process. In drawing a conclusion as to which route represents the best option considering all of the criteria put together, judgement was applied to arrive at the preferred option.

5.9 Conclusion

The outcome and the findings of the multi-criteria assessment are then finally considered in a holistic manner to derive a preferred end-to-end route for the proposed CBC scheme.

6. Stage 1 Assessment

As outlined earlier in this report, an initial 'spider's web' of potential route options that could accommodate a CBC was identified for each study area section. This 'spider's web' of route options was chosen with reference to the CBC characteristics and specifically the potential to meet the scheme objectives as set out in Section 4 of this report.

Initial route options identified also took cognisance of the physical constraints and opportunities present (Section 4.2), and the ability to integrate with other public transport modes and routes (Section 4.3). Of particular relevance in developing the 'spider's web' was the potential for the road or route sections to facilitate fast and reliable journey times, and thereby have the potential to practically accommodate bus lane priority.

The Stage 1 assessment therefore includes for the sifting of all possible through links within the study area and these are presented in the following sections (based on the individual sub-sections identified in Section 4.1).

6.1 Study Area Section 1 – Curraheen to Wilton Roundabout

This section of the CBC examines potential route options between Junction 2 of the N40 (the Curraheen Interchange) and the Wilton Roundabout to the east. For Section 1, the notional start point of the section is N40/L2222 interchange, southwest of Bishopstown. The end point for Section 1 is the Wilton Roundabout to the northeast of Bishopstown.

Figure 10: Section 1 – Extent of Study Area

The Stage 1 Assessment includes for the sifting of all possible through links within the study area and Figure 11 presents the links within the study area that have been initially identified.

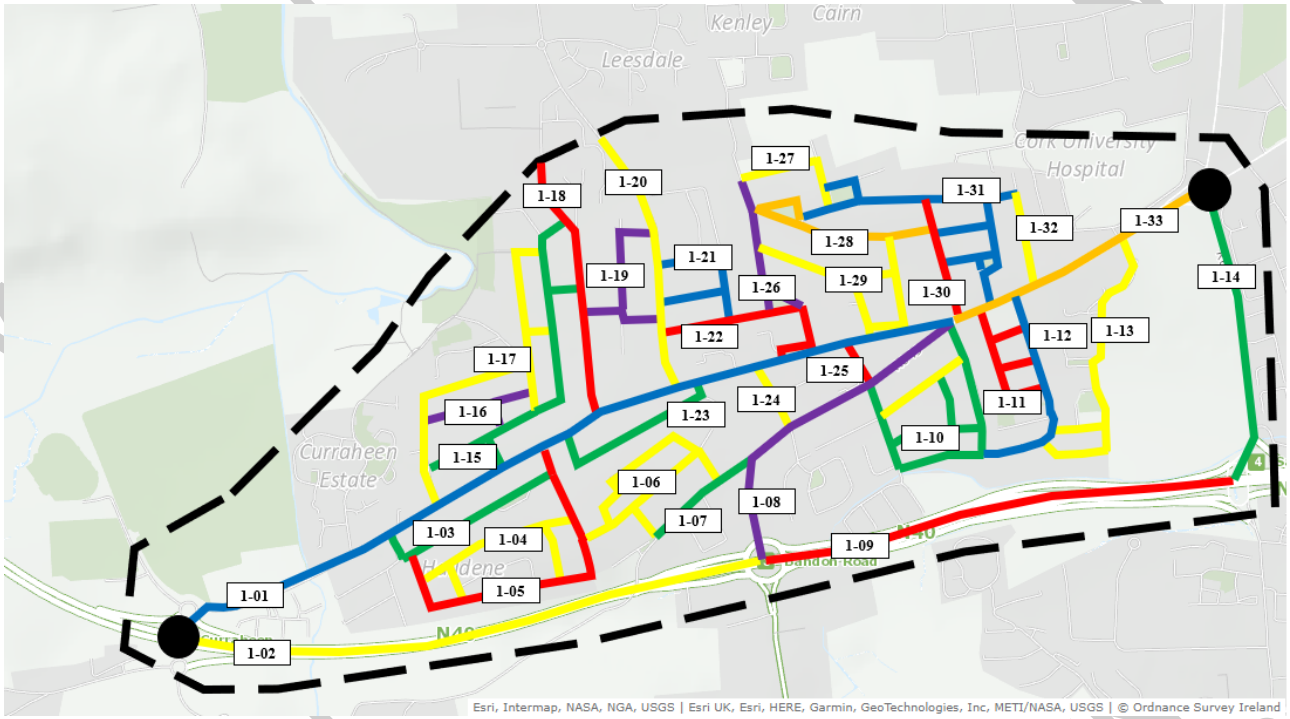

Figure 11: Section 1 – Stage 1 Assessment Links

A summary of the Stage 1 route options sifting process is presented in Table 5.

Table 5: Section 1 – Route Option Sifting (Stage 1) Summary

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
1-01	L2222 Curraheen Road from junction with N40 Ballincollig Bypass to junction with R849 Bishopstown Road	Primary	The L2222 Curraheen Road from junction with N40 Ballincollig Bypass to junction with R849 Bishopstown Road is a two-lane carriageway route with footpaths on both sides of the route throughout. The route widens towards Halldene Grove to include a bus lane on the northern side of the route which continues to the vicinity of the junction with Rossa Avenue. There are a number of properties along both sides of the route with direct access to the route as well as grass verges and trees to the south of the route. The route is otherwise characterised by property/boundary walls and trees. Typical width along this section of the route varies 11-20m. Localised widening of the route to 16m would require a moderate degree of intervention and land acquisition, whereas widening to 20m would require more significant land and potential property acquisition. This is a major arterial route and is therefore considered feasible and is carried forward to the Stage 2 assessment.	Pass
1-02	N40 Cork South Ring Road from Junction 2 (Curraheen) to Bandon Road Roundabout	No	The N40 Cork South Ring Road, from the Curraheen exit at junction 2 to the Bandon Road Roundabout is a four-lane carriageway route with hard shoulders on either side of the route and a central median. The route is characterised by dense vegetation/trees along both aspects. There are a number of recorded monuments to the north and south of the route. Typical width along this section of the route is 30m. Localised widening of the route to 16m or 20m would be possible with a moderate degree of intervention. Although this route is not deemed to be suitable for cycling, it is feasible as a bus priority route and is therefore carried forward to the Stage 2 assessment.	Pass
1-03	Benvoirlich Estate from junction with Curraheen Rd to junction with Halldene Villas	No	Benvoirlich Estate from the junction with Halldene Grove to the junction with Halldene Villas is a residential estate road, with two-lane carriageway throughout, footpaths on both sides and residential properties on both sides of the route. There is also on-street parking throughout, on both sides. Typical width along this section of the route is 10-12m. Widening to 16m or 20m would involve land and property	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
			acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	
1-04	Halldene Drive from junction Halldene Avenue to junction Halldene Villas, including Halldene Lawn	No	Halldene Drive from junction Halldene Avenue to the junction with Halldene Villas is a residential estate road, with two-lane carriageway throughout, footpaths on both sides and residential properties fronting directly on to the route. There is also on-street parking throughout, on both sides. Typical width is 10-12m. Widening to 16m or 20m would involve extensive land acquisition (walls, gardens & driveways). This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
1-05	Halldene Avenue and Halldene Villas from junction with Halldene Grove to junction with Curraheen Rd	No	Halldene Avenue and Halldene Villas from the junction with Halldene Grove to the junction with Curraheen Rd is a residential estate road, with two-lane carriageway throughout, footpaths on both sides and residential properties on one or both sides of the route. There is also on-street parking throughout, on both sides of the route. Typical width along this section of the route is 10-12m. Widening to 16m or 20m would involve land and property acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
1-06	The Rise, from Halldene Villas to the junction with Waterfall Road	No	The Rise, from Halldene Villas to the junction with Waterfall Road is a residential estate, with two-lane carriageways throughout, footpaths on both sides and residential properties on both sides of the route. There is also on street parking on both sides of the route. The route is characterised by property walls. Typical width along this section of the route is 9-11m. Widening to 16m or 20m would involve land and property acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
1-07	Waterfall Road from the junction with The Rise to the junction with Bishopstown Road	Partially Secondary	Waterfall Road from junction with The Rise to junction with Bishopstown Road is a two-lane carriageway route with footpaths on both sides of the route throughout, a section of on street parking on one side of the route. There are residential properties on both sides of the route throughout with direct access to the route. the route is characterised by property walls, gates and railings. Typical width along this section of the route is 10-14m. Widening to 16m or 20m would involve land acquisition (walls, gardens & driveways) and property acquisition. This link also does not connect to a suitable link to the west, and as such this is not deemed to be a feasible route and is not carried forward to the Stage 2 assessment.	Fail
1-08	R849 Bishopstown Road, from Bandon Road Roundabout to junction with L2222 Curraheen Road	Interurban	The R849 Bishopstown Road, from the Bandon Road Roundabout to the junction with L2222 Curraheen Road (at the Bishopstown Bar) is a two to three lane carriageway route with footpaths on one or both sides of the route throughout. There are properties on one both sides of the route with direct access to the route. The route is characterised by property/boundary walls. Typical width along this section of the route is 10-20m. Widening to 16m or 20m would require a moderate degree of intervention and involve potential land acquisition (boundary wall and trees). This route is considered feasible and is therefore carried forward to the Stage 2 assessment.	Pass
1-09	R641 Sarsfield Road from the Bandon Road Roundabout to the Sarsfield Road Roundabout	Greenway	The R641 Sarsfield Road from the Bandon Road Roundabout to the Sarsfield Road Roundabout is a two to three lane carriageway route present on both sides of the N40 South Ring Road Flyover, eastbound route to the north and westbound route to the south. A segregated footpath currently runs along the north of the route. Although this route is not deemed to be suitable for cycling, it is feasible as a bus priority route and is therefore carried forward to the Stage 2 assessment.	Pass
1-10	Garran Lane, Woodbrook Grove, and Woodbrook	No	Garran Lane, Woodbrook Grove, Woodbrook Road and Woodbrook Ave are residential estate roads, with a two-lane carriageway throughout, footpaths on both sides and residential properties and on-street parking on both sides of the route. Typical width along this	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
	Road, Including Woodbrook Ave		section of the route is 10m. Widening to 16m or 20m would involve significant land and property acquisition. These are also indirect routes through a residential area and are not considered feasible, and are therefore not carried forward to the Stage 2 assessment.	
1-11	Bishopscourt Green including Bishopscourt Park, Bishopscourt Place, and Bishopscourt Way	No	Bishopscourt Green (including Bishopscourt Park, Bishopscourt Pl, and Bishopscourt Way) is a residential estate, with two-lane carriageway throughout, footpaths on both sides and residential properties and on-street parking on both sides of the route. Typical width along this section of the route is 10-11m. Widening to 16m or 20m would involve significant land and property acquisition. These are indirect routes through a residential estate and are not considered feasible and are therefore not carried forward to the Stage 2 assessment.	Fail
1-12	Donscourt and Bishopscourt Drive, from junction with Woodbrook Grove to junction with Bishopstown Road	No	Donscourt and Bishopscourt Drive, from junction with Woodbrook Grove to junction with Bishopstown Road is a residential estate road, with two-lane carriageway throughout, footpaths on both sides and residential properties and on-street parking along the eastern edge. Typical width along this section of the route is 10-11m. Widening to 16m or 20m would involve significant land and property acquisition. This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-13	Cardinal Way from the junction with Donscourt to junction with Bishopstown Road	No	Cardinal Way from the junction with Donscourt to junction with Bishopstown Road is a residential estate road in the southern section, with two-lane carriageway throughout, footpaths on both sides and residential properties and on-street parking on both sides of the route. The northern section becomes a commercial link road with commercial accesses, widening to four lanes on the immediate approach to Bishopstown Road. Typical width along this section of the route is 10-19m. Widening to 16m or 20m would involve land and property acquisition. This is an indirect route which initially provides local commercial access and then continues through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
1-14	R641 Sarsfield Road from the Wilton Roundabout to the Sarsfield Road Roundabout	Secondary	The Sarsfield Road, between the Wilton Roundabout and the Sarsfield Interchange is a dual carriageway route. Heading north from the Sarsfield Interchange, the route has two northbound traffic lanes, subsequently widening to provide a northbound bus lane/left-turning lane into Wilton Shopping Centre and a right-turning lane to Wilton Court, a northbound raised adjacent cycle lane, and two southbound traffic lanes from the Wilton Shopping Centre entrance, widening to three lanes to facilitate a turning lane into the ESB depot, and a southbound raised adjacent cycle lane, with a concrete central median. From the Wilton Shopping Centre to Wilton Roundabout, the northbound bus lane merges with general traffic for a portion of the route, before the northbound side of the route then widens again to provide an additional section of northbound bus lane, which then merges back into the two/three traffic lanes at the roundabout. There is also a raised adjacent/on-road northbound cycle lane, which continues up to the Wilton Roundabout. In the southbound direction there are two traffic lanes and a raised adjacent cycle lane. Typical width along this section of the route varies from 20-35m depending on the lane configuration and the adjacent land uses. Provision of bus priority along this route would likely involve road re-designation and some potential land acquisition, and this route is therefore considered feasible and is carried forward to the Stage 2 assessment.	Pass
1-15	Uam Var Avenue and Elton Lawn	No	Uam Var Avenue and Elton Lawn are residential estate roads, with two-lane carriageway throughout, footpaths on both sides and residential properties on both sides of the route. There is also on-street	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
	from junction Curraheen Road to junction with Rossa Avenue		parking throughout, on one side. Typical width along this section of the route is 9-11m. Widening to 16m or 20m would involve extensive land acquisition (walls, gardens & driveways). These represent an indirect route through a residential estate and are not considered feasible and are therefore not carried forward to the Stage 2 assessment.	
1-16	Uam Var Grove	No	Uam Var Grove is a residential estate road, with two-lane carriageway throughout, footpaths on both sides and residential properties fronting directly on to the route. There is also on-street parking along the northern aspect of the route. Typical width is 9-10m. Widening to 16m or 20m would involve extensive land and property acquisition. This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-17	Uam Var Drive	No	Uam Var Drive and its connecting side streets is a residential estate, with two-lane carriageway throughout, footpaths on both sides and residential properties fronting directly on to the route. There is also on-street parking throughout, on both sides. Typical width along this section of the route is 10-11m. Widening to 16m or 20m would involve extensive land acquisition (walls, gardens & driveways). This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-18	Rossa Avenue from junction with Melbourn Road to junction with L2222 Curraheen Road	Primary	The northern end of Rossa Avenue from the junction with Melbourn Road to the junction with Allendale Avenue is a standard two-lane carriageway route with footpaths on both sides of the route, a cycle lane on one side of the route and a small section of bus lane on the other side of the route. At the southern end, from Allendale Avenue to the junction with Curraheen Road it a one-way single lane carriageway route with footpaths on both sides of the route, a cycle lane on one side of the route and residential properties on both sides of the route. There are a number of properties throughout on one side of the route. The route otherwise characterised by dense vegetation and trees, open green areas and boundary walls/fences at IDA Ireland. Typical width along this section of the route is 8-16m, with the southern section of the route considerably more constrained. Localised widening of the route to 16m would be possible towards the northern end with a moderate degree of intervention and minor land acquisition in places, whereas widening to 16m towards the southern end would require more significant land and property acquisition. This is also considered an indirect route which is therefore not considered feasible, and is not carried forward to the Stage 2 assessment.	Fail
1-19	Allendale Avenue/Allendale Drive	No	Allendale Avenue/Allendale Drive comprise a residential estate road, with two-lane carriageway throughout, footpaths on both sides and residential properties on both sides of the route. The route is characterised by large exposed front gardens and driveways and trees throughout. Typical width along this section of the route is 10-11m. Widening to 16m or 20m would involve land acquisition (gardens & driveways). This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-20	Melbourn Road from junction with Rossa Avenue to junction L2222 Curraheen Road	Primary	Melbourn Road from junction with Rossa Avenue to the junction with Curraheen Road is a two-lane carriageway route with large grass verges and footpaths on both sides of the route. There are residential properties on one or both sides of the route throughout with direct access to the route, as well as a large green area to the east of the route. Protected temporary cycle lanes have been installed along both sides of the route. The route is otherwise characterised by property/boundary walls and fences, green areas and trees for the most part. Typical width along this section of the route is 16-23m. Localised widening of the route to 16m or 20m would be possible with a moderate degree of intervention. Although this link is feasible for delivery of bus priority,	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
			it does not form a link to any other part of the study area and is therefore not considered feasible and is not carried forward to the Stage 2 assessment.	
1-21	Woburn Avenue/Fremont Drive/Beverly Drive	No	Woburn Avenue/Fremont Drive/Beverly Drive are residential estate roads, with two-lane carriageway throughout, footpaths on both sides and residential properties on one or both sides of the route with green areas in some sections. There are also sections of on street parking on both sides of the route. Typical width along this section of the route is 10-12m. Widening to 16m or 20m would involve extensive land acquisition (gardens, driveways & green areas). These represent an indirect route through a residential estate and are not considered feasible, and are therefore not carried forward to the Stage 2 assessment.	Fail
1-22	Melbourn Avenue and Westgate Road	No	Melbourn Avenue and Westgate Road are residential estate roads, with two-lane carriageway throughout, footpaths on both sides and residential properties on both sides of the route. There is on street parking throughout, on both sides. Typical width along this section of the route is 10-11m. Widening to 16m or 20m would involve land acquisition (walls, gardens & driveways). This represents an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
1-23	Ashgrove Park	No	Ashgrove Park (between both junctions with the Curraheen Road) is a very narrow residential estate road, with two-lane traffic route throughout (requiring the use of passing bays/areas due to the existing width), no footpaths on either side and residential properties on both sides of the route. There is scattered on street parking throughout, on both sides. Typical width along this section of the route is 4-6m. Widening to 16m or 20m would involve extensive land and property acquisition. This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-24	Hawke's Road from junction with Curraheen Road to junction with Bishopstown Road	No	Hawke's Road from the junction with Curraheen Road to junction with Bishopstown Road is a is a two-lane carriageway route with footpaths on both sides of the route throughout. There are properties on both sides of the route with direct access to the route and areas of on street parking on one side of the route. Typical width along this section of the route is 9-10m. Widening of the route to 16m or 20m would involve land acquisition (walls, gardens & driveways). This route is deemed to be feasible as a potential connecting route between the two routes at either end and is carried forward to the Stage 2 assessment.	Pass
1-25	Barrett's Lane from junction with Curraheen Road to junction with Bishopstown Road	No	Barrett's Lane from junction with L2222 Curraheen Road to junction with R849 Bishopstown Road is a is a two lane carriageway route with footpaths on the eastern side for the majority of its length, and partial footpaths on the western end. of the route throughout. There are properties on both sides of the route with direct access to the route and areas of on street parking on both sides of the route. At the southern end past Windermere Court the route is further constrained and narrows to become a one-way only northbound route with a footpath on the western side only. Typical width along this section of the route is 9-10m, with the southern end narrower at 5-6m. Widening of the route to 16m or 20m would involve significant land acquisition (walls, gardens & driveways) and potential property acquisition. Therefore, it is deemed to be not feasible and is not carried forward to the Stage 2 assessment.	Fail
1-26	Westgate Road/ Westgate Park	Secondary	Westgate Road and Westgate Park comprise a residential estate road, with two-lane carriageway throughout, footpaths on both sides and residential properties on both sides of the route. There is on street parking throughout, on both sides. Typical width along this section of the route is 10-13m. Widening to 16m or 20m would involve land acquisition (walls, gardens & driveways). This is an indirect route	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
			through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	
1-27	Ballinaspig Lawn from junction with Westgate Road to junction with Firgrove Lawn	No	Ballinaspig Lawn from the junction with Westgate Road to the junction with Firgrove Lawn is a residential estate road, with two-lane carriageway throughout, footpaths on both sides. There are residential properties on one side of the route and a green area on the other. There is on street parking throughout, on one side. Typical width along this section of the route is 10-11m. Widening to 16m or 20m would involve land acquisition (walls, gardens, driveways & green area). This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-28	Central Avenue from junction with Central Avenue to junction with Firgrove Gardens	No	Central Avenue from the junction with Central Avenue to the junction with Firgrove Gardens is a residential estate road, with two-lane carriageway throughout, footpaths and residential properties on both sides of the route. There is on street parking throughout, on both sides. The route is characterised by property walls and gates throughout. Typical width along this section of the route is 9-11m. Widening to 16m or 20m would involve land acquisition (walls, gardens, driveways & a green area). This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-29	Firgrove Drive/ Firgrove Avenue/ Firgrove Gardens	No	Firgrove Drive, Firgrove Avenue and Firgrove Gardens are residential estate roads, with two-lane carriageway throughout, footpaths and residential properties on both sides of the route. There is on street parking throughout, typically on both sides. Typical width along this section of the route is 10-12m. Widening to 16m or 20m would involve land acquisition (walls, gardens & driveways). This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-30	Merlyn Lawn from junction with Bishopscourt Avenue to junction with R849 Bishopstown Road	Secondary	Merlyn Lawn is a residential estate road, with two-lane carriageway throughout, footpaths and residential properties on both sides of the route. There is on street parking throughout, on both sides for the most part. Typical width along this section of the route is 8-10m. Widening to 16m or 20m would involve extensive land and property acquisition. This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-31	Firgrove Lawn, Bishopscourt Lawn, Bishopscourt Road, Bishopscourt Hill, Bishopscourt Avenue, and Firgrove Park	Secondary	Firgrove Lawn, Bishopscourt Lawn, Bishopscourt Road, Bishopscourt Hill, Bishopscourt Avenue, and Firgrove Park are a connected number of residential estate roads, with two-lane carriageway throughout, and footpaths on both sides. There are residential properties on one or both sides of the route and a section of green area on one side of the route. There is on street parking throughout, on both sides. Typical width along this section of the route is 10-11m. Widening to 16m or 20m would involve land acquisition (walls, gardens, driveways & green area). These represent an indirect route through a residential area and are not considered feasible, and are therefore not carried forward to the Stage 2 assessment.	Fail
1-32	Wilton Avenue from Bishopstown Road to Bishopscourt Lawn	No	Wilton Avenue from Bishopstown Road to Bishopscourt Lawn is a two-lane local road with footpaths on both sides. There are residential properties along both sides of the route with direct access onto the route. There is on street parking throughout, on both sides. Typical width along this section of the route is 10m. Localised widening of the route to 16m or 20m would require land acquisition (walls & gardens). This is an indirect route through a residential estate and is not considered feasible and is therefore not carried forward to the Stage 2 assessment.	Fail
1-33	R849 Bishopstown Road from	Primary	R849 Bishopstown Road from the junction with Wilton Avenue to the Wilton Roundabout is a multi-lane carriageway route (primarily a dual carriageway) with footpaths on both sides of the route throughout and	Pass

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
	junction with Wilton Avenue to the Wilton Roundabout		a central median strip for the majority (apart from the western end where the dual carriageway transitions back to a standard carriageway arrangement. At the eastern end, the route leaving the Wilton Roundabout comprises three eastbound lanes (two traffic lanes and a bus lane), a central median and two westbound traffic lanes which widen thereafter to four lanes to provide dedicated lanes to access Cork University Hospital and Wilton Shopping Centre, and a westbound on-road cycle lane. Footpaths are present on both sides, and there are areas of green space adjacent to the route in the vicinity of the CUH/Wilton Shopping Centre Entrance. Thereafter, heading west the route comprises three eastbound traffic lanes (widening to 4) to provide dedicated access lanes to CUH and Wilton Shopping Centre, and an eastbound on-road cycle lane, a central median and three westbound traffic lanes (narrowing to two) and a westbound on-road cycle lane. The route then transitions back to a standard carriageway, with the median removed and the on-road cycle lanes terminating, reducing to a three-lane carriageway, with one eastbound lane and two westbound lanes. There are a significant number of properties (primarily commercial) on both sides of the route with a large green area adjacent to the entrance to Cork University Hospital/Wilton Shopping Centre. The route is characterised by property walls and green areas throughout. Typical width along this section of the route varies significantly (from 9-30m). Provision of priority would primarily involve redesignation of the existing road space (with some potential land acquisition at the western end). This route is therefore considered feasible, and is carried forward to the Stage 2 assessment.	

Following the Stage 1 sifting exercise, 7 of the 33 route options assessed passed the initial sifting stage and were progressed to the next assessment stage. These route options are presented in Figure 12.

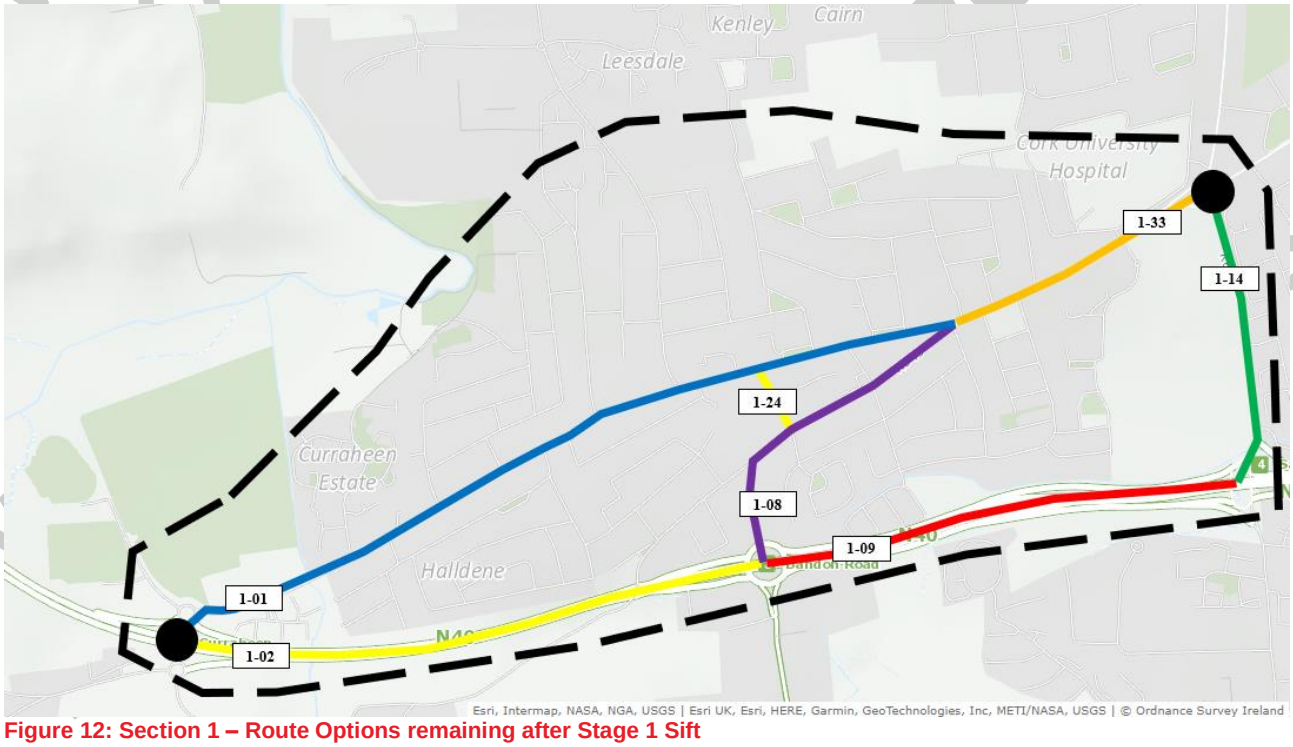

Figure 12: Section 1 – Route Options remaining after Stage 1 Sift

6.2 Study Area Section 2A – Wilton Roundabout to Dennehy's Cross

For potential route options assessed later in Section 2 of CBC 7 (between the Wilton Roundabout and the city centre), potential route options are examined on the Wilton Road only, between the junction at the Wilton Roundabout to the south and the junction at Dennehy's Cross to the north. The study area for this localised area in Section 2A therefore only includes the Wilton Road, and there is no requirement for sifting of route options. The local options examined are then assessed as part of Section 2A of CBC 7. The preferred option will then be considered as part of the wider options to be assessed in Section 2 of CBC 7 (which will examine route options between the Wilton Roundabout and the city centre).

6.3 Study Area Section 2B – Bandon Road to City Centre

For potential route options in Section 2 of CBC 7 (between the Wilton Roundabout and the city centre), a number of potential localised route options are available between the junction of the Bandon Road/Lough Road and the city centre. These local options are assessed as part of Section 2B of CBC 7. The preferred option will then be considered as part of the wider options to be assessed in Section 2 of CBC 7 (which will examine route options between the Wilton Roundabout and the city centre).

Figure 13: Section 2B Study Area - Start and End Locations

Figure 14 presents the links within the study area that have been initially identified.

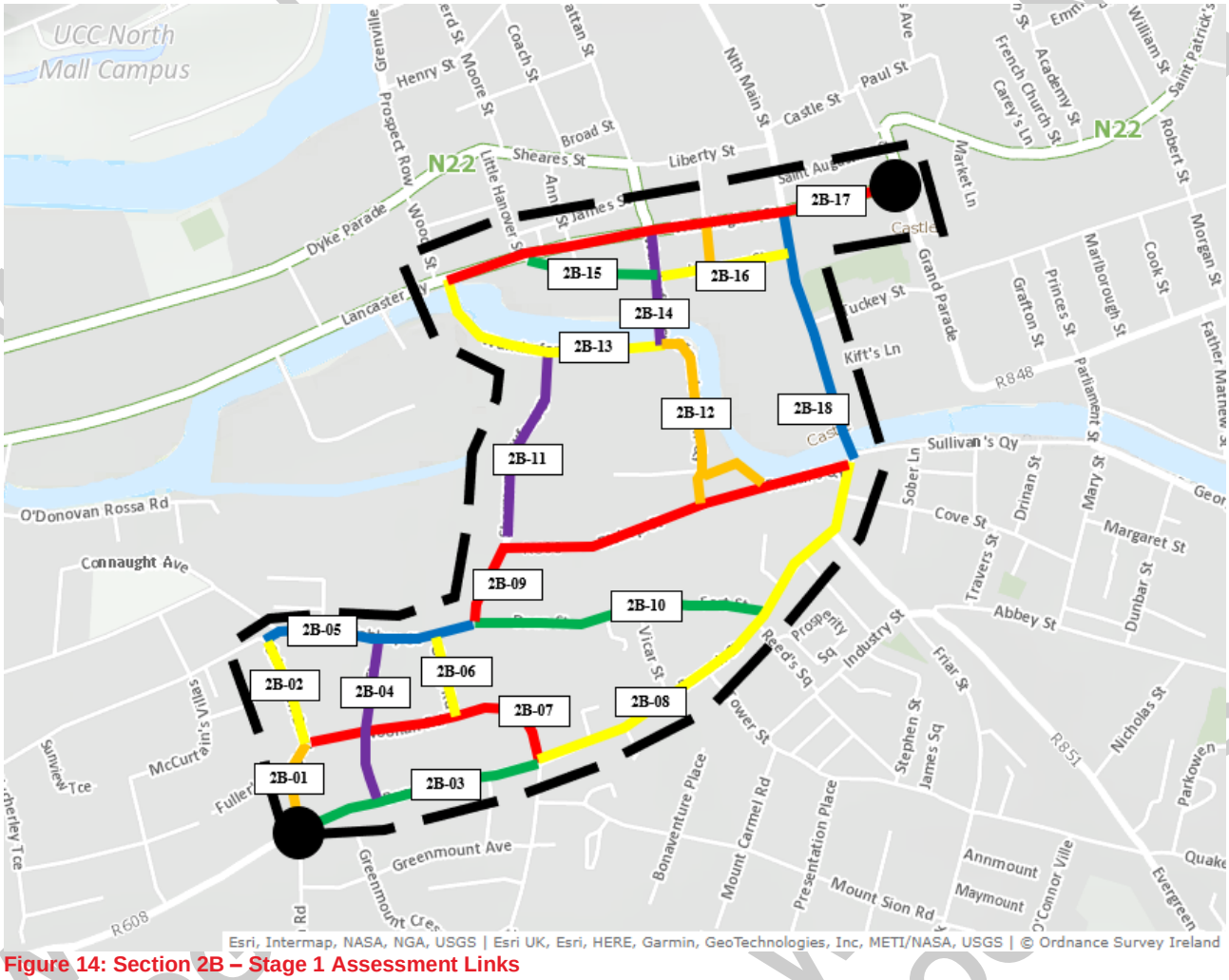

Figure 14: Section 2B – Stage 1 Assessment Links

A summary of the Stage 1 route options sifting process is presented in Table 6.

Table 6: Section 2B – Route Option Sifting (Stage 1) Summary

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
2B-01	St. Finbarr's Road, Bandon Road to Noonan Road	No	St. Finbarr's Road, from Bandon Road to Noonan Road is a narrow carriageway with footpaths of varying width on both sides and parking scattered throughout. There are a number of properties along the route with direct access onto the route and a small section of green area to the west. Typical width along this section of the route is 7.5-12.5m. Localised widening of the route to 16m would require land acquisition (properties, walls & gardens). However, this link is currently used by an active bus route and is potentially suitable as a connecting route and therefore this route is considered feasible, and is carried forward to Stage 2 assessment.	Pass
2B-02	St. Finbarr's Road, Noonan Road to College Road	No	St. Finbarr's Road, from Noonan Road to College Road is a single lane two-way carriageway with footpaths on both sides and parking on the western side. There are a number of properties along the route and a large tarmac area to the east. Typical width along this section of the route is 8.5-10.5m. Localised widening of the route to 20m would require land acquisition (properties). This is an indirect route through a primarily residential area and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
2B-03	Bandon Road, from Lough Road to Pouladuff Road	No	Bandon Road, between Lough Road and Pouladuff Road is a two-lane, two-way traffic route with footpaths on both sides and on-street residential parking on the northern side. The route is primarily residential in character, with directly-fronting properties (some commercial) on the street. Typical width along this section of the route is 9-12m. Localised widening of the route to 16m would require significant property acquisition). However, this route currently carries bus services in a shared environment and as such is considered feasible as a possible connecting route and is carried forward to the Stage 2 assessment.	Pass
2B-04	98 Street, Noonan Road to Gillabbey Street	No	98 Street, from Noonan Road to Gillabbey Street is a single lane, one-way route between Gillabbey Street and Noonan Road, and a two-lane route between Noonan Road and Bandon Road, with footpaths on both sides and some areas with on street parking on the eastern side. The route is characterised by residential properties throughout, on both sides. Typical width along this section of the route is 5.5-8.5m. Localised widening of the route to 16m would require significant land acquisition (properties). This is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2B-05	Gillabbey Street, Connaught Avenue to 98 Street	Primary	Gillabbey Street, from Connaught Avenue to 98 Street is a two-lane carriageway with footpaths on both sides and on-street parking on the southern side. There are properties throughout on both sides of the route. Typical width along this section of the route is 8-12m. Localised widening of the route to 16m would require land acquisition (properties). However, this route is suitable as a connecting route and this link has been retained for the Stage 2 assessment.	Pass
2B-06	Gregg Road, Noonan Road to Gillabbey Street	Secondary	Gregg Road, from Noonan Road to Gillabbey Street is a two-lane carriageway with footpaths and parking on both sides of the route throughout. The route is characterised by residential properties throughout on both sides of the route. Typical width along this section of the route is 14-15m. Localised widening of the route to 16m would require a moderate degree of land acquisition (walls & gardens) whereas widening to 20m would require more significant land and potential property acquisition. This route is deemed feasible and is therefore carried forward to stage 2 assessment.	Pass
2B-07	Noonan Road, St. Finbarr's Road to Bandon Road	Secondary	Noonan Road, from St. Finbarr's Road to Bandon Road is a two-lane carriageway with footpaths on both sides and parking on the northern side throughout, and to a lesser extent to the south. The route is characterised by residential properties throughout on both sides. Typical width along this section of the route is 15m. Localised widening of the route to 16m would be possible with minor land acquisition, whereas widening to 20m would require more significant land and potential property acquisition. This route is deemed to be feasible and is therefore carried forward to stage 2 assessment.	Pass
2B-08	R608 Barrack Street, Noonan Road to French's Quay	Primary	Barrack Street, from Noonan Road to Vicar Street is a single lane carriageway with footpaths on both sides and on-street parking on the northern side throughout. The route is characterised by street fronting properties (residential and commercial) throughout the route on both sides, with a number of locations where urban realm improvements and landscaping are present. Typical width along this section of the route is 8.5-9.5m. Localised widening of the route to 16m or 20m would require significant land acquisition (properties). From Evergreen Street to French's Quay Barrack Street is a two-lane carriageway with footpaths and on street parking/loading on	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
			both sides. There are street front properties along both sides of the route throughout (primarily commercial). Typical width along this section of the route is 15m. Localised widening of the route to 16m or 20m would require property acquisition. Barrack Street as a whole is therefore not considered feasible and is not carried forward to the Stage 2 assessment.	
2B-09	R608 Bishops Street, Gillabbey Street to Barrack Street	Primary	R608 Bishops Street, from Gillabbey Street to the junction with Sharman Crawford Street is a two-way, two-lane route, with footpaths on either side. Between Sharman Crawford Street and the junction with Barrack Street, the route is one-lane, one-way westbound, widening to provide two westbound lanes at the western end, with a contra-flow eastbound cycle lane and on-street parking on one side of the road. The route is characterised by street fronting residential properties/business throughout; properties of key significance are Crawford Commercial Park and St Finbarr's Cathedral. The route is also bound by the R. Lee to the north on French's Quay approaching Barrack Street. Typical width along this section of the route is 9-12m, with the western end slightly wider at 14m. Localised widening of the route to 16m or 20m would require significant property acquisition; however the route carries existing bus services and is considered feasible as a connecting route and is therefore carried forward to the Stage 2 assessment.	Pass
2B-10	Dean Street/Fort Street	No	Dean Street, from Bishop Street to Vicar Street is a two-way carriageway with limited footpath provision and sporadic parking on one side. There are a number of properties along the south of the route as well as St. Finbarr's Cathedral to the north of the route. Typical width along this section of the route varies from 4.5-11m. There are sections of the route where two-way traffic flow is not possible and vehicles have to wait for gaps in traffic flow. Dean Street then transitions to Fort Street between Vicar Street and Barrack Street and Fort Street is a two-way carriageway with footpaths and sporadic parking on one or both sides. There are a number of properties along both sides of the route, as well as Elizabeth Fort to the north of the route. Typical width along this section of the route varies substantially, from 4.5-11m. Localised widening of these routes to 16m would require very significant land acquisition (properties, walls & gardens), and a potential impact on Elizabeth Fort, which is a protected structure This route is not deemed to be feasible and is not carried forward to the Stage 2 assessment.	Fail
2B-11	Sharman Crawford Street, Bishop Street to Wandesford Quay	Secondary	Sharman Crawford Street from Bishop Street to Wandesford Quay is a single-lane carriageway with footpaths on both sides for the most part, with localised widening to two northbound traffic lanes approaching Wandesford Quay, and a small section of on street parking towards the quay. The route is characterised by properties and schools on both sides, key of which are the MTU Crawford College of Art and Saint Mary of the Isle NS and Convent. Typical width along this section of the route is 8m. Localised widening of the route to accommodate dedicated bus priority would require land and property acquisition and potentially impacting the property boundaries at the Crawford College and St. Mary of the Isle. The route is a direct link from Bishop Street and currently carries inbound bus services and therefore has been retained for the Stage 2 assessment.	Pass

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
2B-12	Crosses Green Quay	No	Crosses Green is a narrow, one-way traffic route with on-street parking and footpaths on both sides, narrowing towards the south passing Meitheal Mara where the route is single lane only with a footpath on one side, before widening again to a two-way route with footpaths approaching Prob's Quay. Widening along the route is not possible due to the presence of buildings and the constraint of the quay wall and river to the east. It is also noted that an urban realm improvement scheme is proposed along Crosses Green by Cork City Council, and as such this is not considered feasible and is not carried forward to the Stage 2 assessment.	Fail
2B-13	Wandesford Quay, Crosse Green to Washington Street R608 Wandesford Quay, Washington Street West to Sharman Crawford Street	No	Wandesford Quay, from Crosses Green to Sharman Crawford Street is a single lane, one-way carriageway route, with footpaths on both sides throughout. There are sections of on street parking on Wandesford Quay on both sides. Wandesford Quay is characterised by properties to the south and the River Lee to the north. Typical width along this section is 11-13m. Wandesford Quay, between Washington Street West to Sharman Crawford Street is a two-lane, two-way carriageway route with footpaths on both sides of the route throughout. The route is characterised by apartments with ground floor uses, commercial units and a multi-storey car park to the south, and the River Lee to the north. There is a pinch point of 11-12m at St. Finbarres Bridge. Typical width along this section of the route is 13m. Widening to 16m or 20m would involve extensive works and property acquisition throughout. However the route is considered feasible between Sharman Crawford Street and Washington Street as a potential through route and as such this route is therefore retained for the Stage 2 assessment.	Pass
2B-14	Hanover Place/Clarke's Bridge	No	Hanover Place is characterised by properties to the east and surface carparking to the west. The route is three lanes wide as it enters Washington Street. There is a pinch point of 9.5m at Clarke's Bridge. Typical width along this section of the route is 7-11m. Localised widening of the route to 16m or 20m would require extensive property acquisition and works on Clarke's Bridge, which is a protected structure. The route is currently used by inbound bus services from Sharman Crawford Street and could potentially be considered as a through route for buses, although dedicated priority would not be possible as there are local access requirements. The route is therefore considered less preferable to Wandesford Quay and as such is not carried forward to the Stage 2 assessment.	Fail
2B-15	Hanover Street, N22 Washington Street to Hanover Place	No	Hanover Street, from Washington Street to Hanover Place is a two lane carriageway route, albeit barely possible for two cars to pass, with footpaths on both sides of the route. There are street fronting properties on both sides of the route throughout. Typical width along this section of the route is 5-6m. Widening of the route to 16m or 20m would require extensive property acquisition and is not deemed feasible. Therefore, this route is not carried forward to Stage 2 assessment.	Fail
2B-16	Hanover Street, Hanover Place to South Main Street	No	Hanover Street, from Hanover Place to South Main Street is a two-lane carriageway route which becomes a one lane route after Little Cross Street junction. There are footpaths on both sides of the route, sections of parking/loading on one side of the route. Properties are present on both sides of the route. Typical width along this section of the route is 5-6m. Widening of the route to 16m or 20m would require extensive property acquisition and is	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
			not deemed feasible. This route is therefore not carried forward to the Stage 2 assessment	
2B-17	Washington Street, from St. Finbarr's Bridge to Grand Parade	Primary	Washington Street, from St. Finbarr's Bridge to Grand Parade varies in terms of its cross-section. Heading east from St. Finbarr's Bridge, the route is a two-lane outbound traffic route, with one general traffic lane and one outbound bus lane, a contra flow inbound cycle lane and on-street parking. Past the junction with Courthouse Street the route carries two inbound lanes (one bus lane and one traffic lane), an inbound on-road cycle lane and an outbound traffic lane and outbound on-road cycle lane. This arrangement continues through to Grand Parade. Typical width along this section of the route is 16-19m. Provision of bus priority along this section of the route would primarily be achieved through road re-designation and as such this route is therefore deemed feasible and is carried forward to the Stage 2 assessment.	Pass
2B-18	South Main Street, Hanover Street to French's Quay	Primary	This section is a single-lane, one-way carriageway with footpaths on both sides and a partially segregated contra-flow cycle lane throughout. The route is characterised by street front properties on one or both sides of the route, surface carparking and Bishop Lucey Park to the east and the site of the Cork Event Centre to the West (formerly Beamish & Crawford). Typical width along this section of the route is 11-12m. Localised widening of the route to accommodate dedicated bus priority would require land and property acquisition as well as extensive works on South Gate Bridge. However, this portion of the route carries outbound buses from the city centre and can be considered feasible as a connecting route and as such is carried forward to the Stage 2 Assessment.	Pass

Following the Stage 1 sifting exercise, 10 of the 18 links assessed passed the initial sifting stage and were progressed to the next assessment stage. These links are presented in Figure 15.

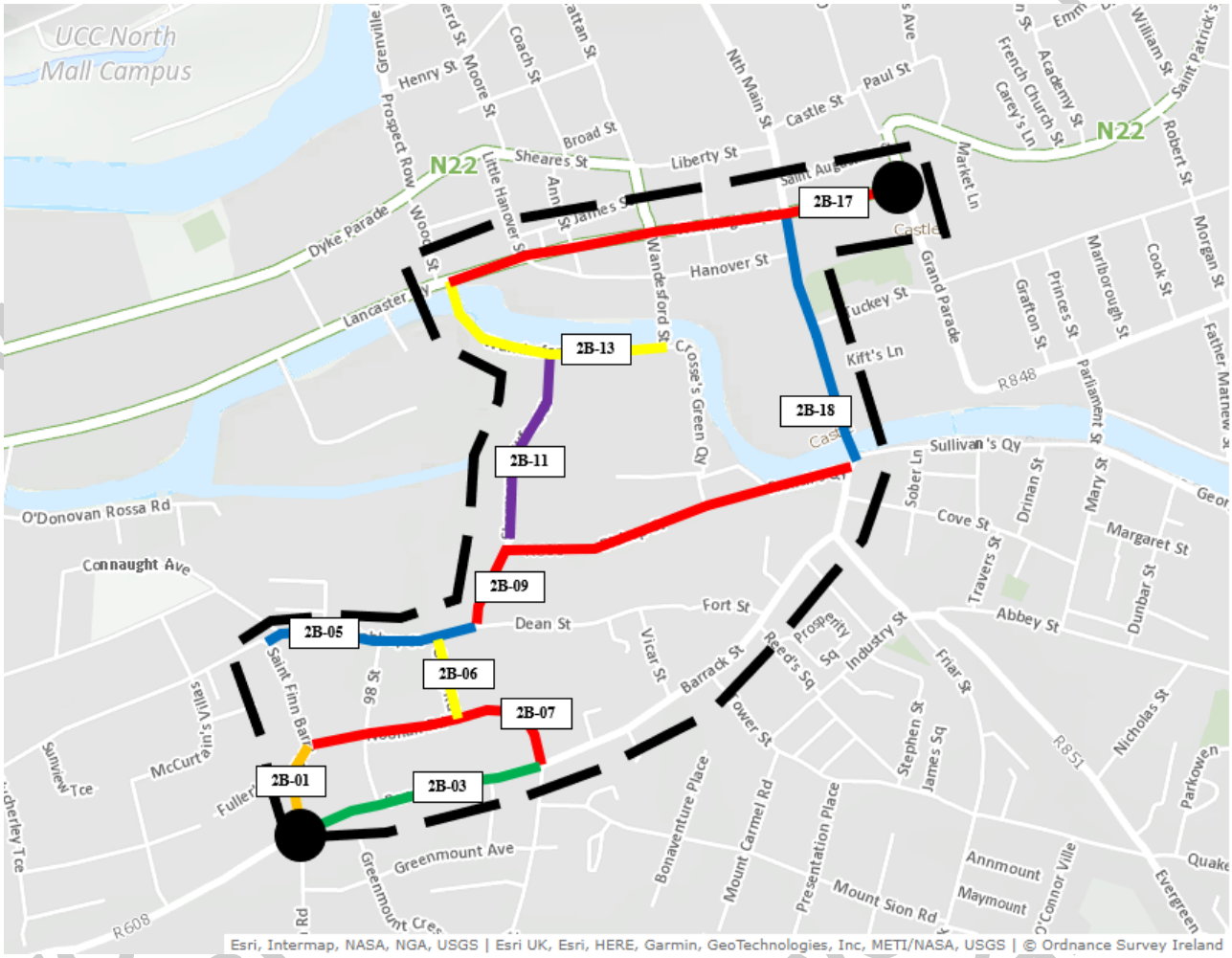

Figure 15: Section 2B – Route Options remaining after Stage 1 Sift

6.4 Study Area Section 2C – Bandfield to City Centre

For Section 2C of CBC 7, this assessment considers route options between the junction of Donovan's Road/Lancaster Quay (at the Bandfield) and the city centre. As noted previously, the Stage 1 Assessment included for the sifting of all possible through links within the study area. Figure 16 presents the links within the study area that have been initially identified.

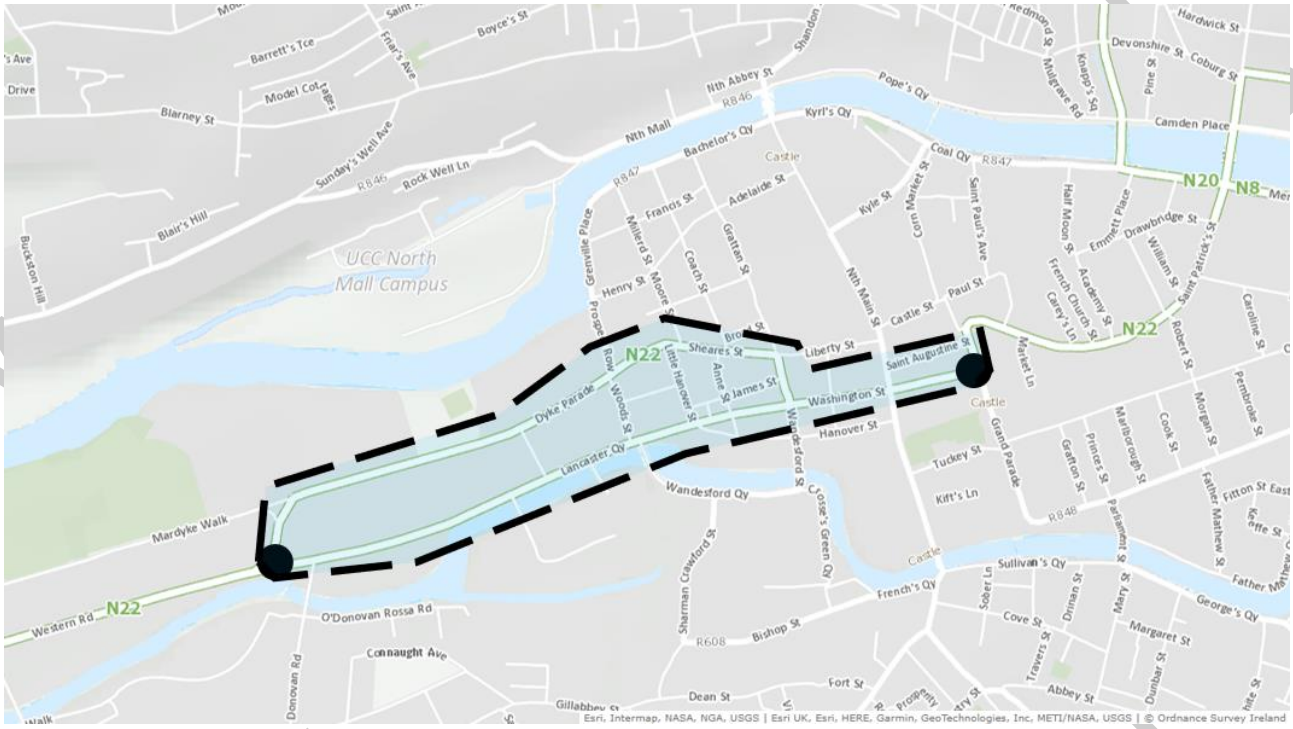

Figure 16: Section 2C – start and end locations and overall study area

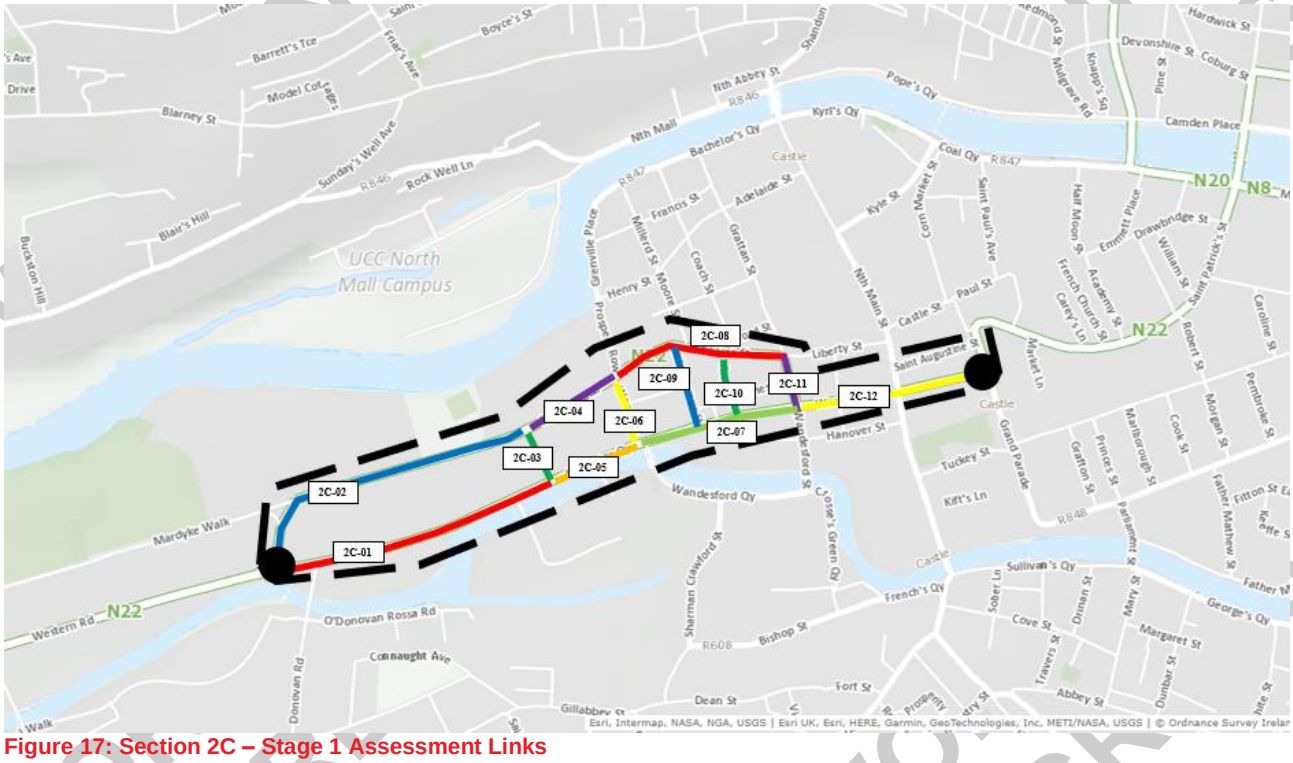

Figure 17: Section 2C – Stage 1 Assessment Links

A summary of the Stage 1 route options sifting process is presented in Table 7.

Table 7: Section 2C – Route Option Sifting (Stage 1) Summary

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
2C-01	N22 Western Road, Donovan's Road to	Primary	N22 Western Road, Donovan's Road to Mardyke Street is a single lane carriageway route, with a bus lane, segregated contraflow cycle lane and section of on street parking on one side. There are footpaths on both sides of the route. The route is characterised by properties on one or both sides of the route throughout, and by the	Pass

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
	Mardyke Street		River Lee south channel to the south of the route. Typical width along this section of the route is 15-16m. Localised widening of the route to 16m would be possible with a moderate degree of intervention and potentially minor land acquisition, whereas widening to 20m would involve more significant land and potential property acquisition. Priority along the route could also be provided through road-redesignation. This route is therefore deemed feasible and is carried forward to the Stage 2 assessment.	
2C-02	N22 Dyke Parade, Western Road to Mardyke Street	Secondary	N22 Dyke Parade, from Western Road to Mardyke Street is a two-lane, one-way carriageway route with an inbound traffic lane, with footpaths on both sides throughout and an eastbound bus lane. There is on street parking throughout on both sides. There are properties throughout on both sides, with St. Josephs NS and Presentation Brothers College to the north of the route. Typical width along this section of the route is 17-18m. Localised widening of the route to 16m would be possible with a moderate degree of intervention, whereas widening to 20m would require some minor acquisition, or alternatively priority can be provided through road re-designation. This route is deemed feasible and is therefore carried forward to the Stage 2 assessment.	Pass
2C-03	Mardyke Street, N22 Mardyke Walk to N22 Lancaster Quay	No	Mardyke Street, N22 Mardyke Walk to N22 Lancaster Quay is a two-lane carriageway route with footpaths on both sides of the route throughout. The route is characterised by street front properties on both sides. Typical width along this section of the route is 10m. Widening to 16m or 20m would involve extensive works and property acquisition throughout. Therefore, this route is not considered feasible, and is not carried forward to the Stage 2 assessment.	Fail
2C-04	N22 Dyke Parade, Mardyke Street to Woods Street	Secondary	N22 Dyke Parade, from Mardyke Street to Woods Street is a two-lane, one-way carriageway route with footpaths on both sides of the route and on street parking throughout on one side of the route, and a small set down area on the other side of the route. The route is characterised by properties to the south of the route with Presentation Brothers College and Tyndall National Institute to the north of the route. Typical width along this section of the route is 16-25m. Widening of the route to 16m would be possible with a moderate degree of intervention whereas widening to 20m would require property acquisition. (all properties to the south are NIAH), or alternatively priority could be achieved through road re-designation. This route is considered feasible and is carried forward to the Stage 2 assessment.	Pass
2C-05	N22 Lancaster Quay, Mardyke Street to Woods Street	Primary	Lancaster Quay, from Mardyke Street to Woods Street is a single lane carriageway route, with a bus lane, segregated contraflow cycle lane and sections of on street parking on one side. There are footpaths on both sides of the route. The route is characterised by properties on one side of the route throughout, and by the River Lee south channel to the south of the route. Typical width along this section of the route is 13-18m. Localised widening of the route to 16m or 20m would involve significant property acquisition, or alternatively priority could be achieved through road re-designation. This route is deemed feasible and is carried forward to the Stage 2 assessment.	Pass
2C-06	Woods Street, Dyke Parade to Lancaster Quay	Secondary	Woods Street, from Dyke Parade to Lancaster Quay is a single lane carriageway route with footpaths on one or both sides. Street front properties on both sides throughout. Typical width is 4-5m. Widening to 16m or 20m would involve extensive works and property acquisition throughout. Therefore, this route is not considered feasible, and is not carried forward to the Stage 2 assessment.	Fail
2C-07	N22 Washington	Primary	N22 Washington Street, St. Finbarr's Bridge to Hanover Place is a single lane carriageway route, with a bus lane, segregated	Pass

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
	Street, St. Finbarr's Bridge to Hanover Place		contraflow cycle lane and sections of on street parking on one side. There are footpaths on both sides of the route. There is a Bike Share station to the north of the route. The route is characterised by properties on both sides of the route throughout. Typical width along this section of the route is 16-18m. Localised widening of the route to 16m would be possible with a moderate degree of intervention, whereas widening to 20m would involve significant property acquisition, or alternatively priority could be achieved through road re-designation. This route is therefore deemed feasible and is carried forward to the Stage 2 assessment.	
2C-08	N22 Sheares Street, Prospect Row to Courthouse Street	Secondary	N22 Sheares Street, Prospect Row to Courthouse Street is a two-lane, one-way carriageway route with a bus lane. There are footpaths on both sides of the route, and on street parking throughout on one side. The route is characterised by properties on both sides of the route throughout (a lot of NIAH to the south, 3 to the north). Typical width along this section of the route is 14-18m. Localised widening of the route to 16m or 20m would involve significant property acquisition, or alternatively priority could be achieved through road re-designation. This route is deemed feasible as it currently represents the principal inbound traffic route to the city centre and is carried forward to the Stage 2 assessment.	Pass
2C-09	Little Hanover Street, Washington St to Sheares Street	No	Little Hanover Street is a narrow one lane one-way street with footpaths on both sides, and parking along the eastern side. The route is characterised by close buildings fronts on both sides, with some doorways opening onto the street. Typical width along this section of the route is 6-7m. Localised widening of the route to 16m or 20m would require demolishing of buildings. This route is therefore deemed unfeasible and is not carried forward to the Stage 2 assessment.	Fail
2C-10	Anne Street, Washington St to Sheares Street	No	Anne Street is a narrow one lane one-way street with footpaths on both sides, and parking along the eastern side. The route is characterised by close buildings fronts on both sides, with some doorways opening onto the street. Typical width along this section of the route is 5-6m. Localised widening of the route to 16m or 20m would require significant land and property acquisition. This route is therefore deemed unfeasible and is not carried forward to the Stage 2 assessment.	Fail
2C-11	N22 Courthouse Street, Sheares Street to Washington Street	No	N22 Courthouse Street, from Sheares Street to Washington Street is a two-lane, one-way carriageway route with footpaths on both sides of the route. The route is characterised by the Courthouse to the east and business properties to the west. Typical width along this section of the route is 8-10m. Widening of the route to 16m or 20m would require extensive property acquisition. This route is however retained for the Stage 2 assessment as it forms part of the principal inbound traffic route to the city from Grattan Street and Sheares Street.	Pass
2C-12	N22 Washington Street, Courthouse Street to Grand Parade	Primary	Washington Street, from Courthouse Street to Grand Parade is a two-lane carriageway route, with an inbound bus lane. There are footpaths and cycles lanes on both sides of the route. The route is characterised by properties on both sides of the route throughout. Typical width along this section of the route is 17-19m. Localised widening of the route to 16m would be possible with a moderate degree of intervention, whereas widening to 20m would involve property acquisition. This route is considered feasible as it is the principal traffic route into the city from the west and is carried forward to the Stage 2 assessment.	Pass

Following the Stage 1 sifting exercise, 8 of the 12 links assessed passed the initial sifting stage and were progressed to the next assessment stage. These links are presented in Figure 18.

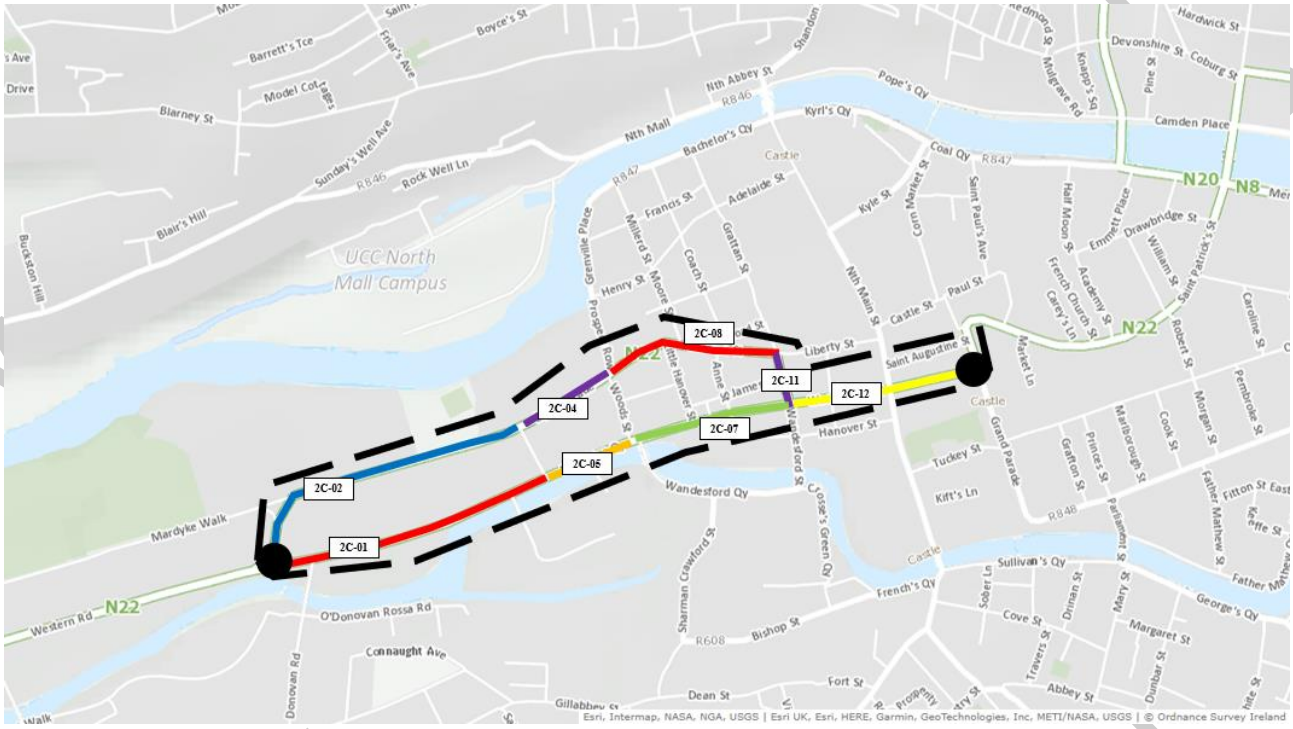

Figure 18: Section 2C – Route Options remaining after Stage 1 Sift

6.5 Study Area Section 2 – Wilton Roundabout to City Centre

This section of CBC 7 comprises an examination of potential options between the junction at Wilton Roundabout (the end of Section 1) and the city centre. This section does not include the links already identified in Sections 2A, 2B and 2C.

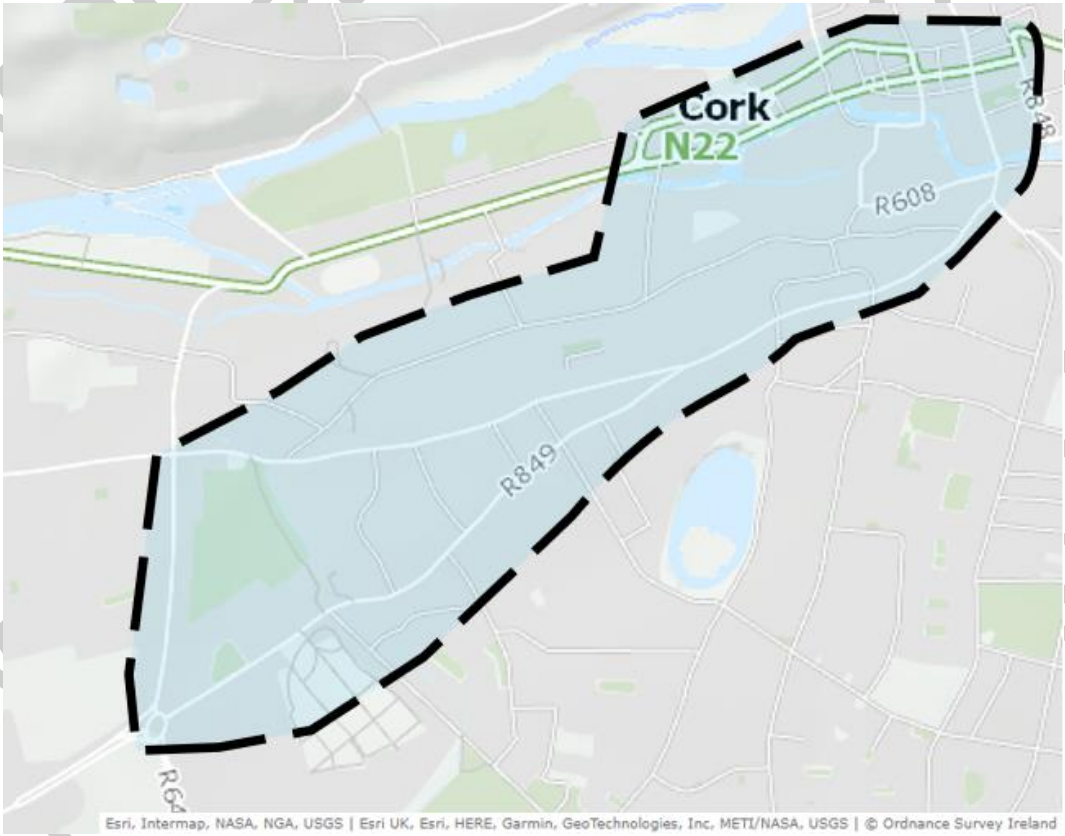

Figure 19: Section 2 start and end locations and overall study area

Figure 20 presents the links within the study area that have been initially identified.

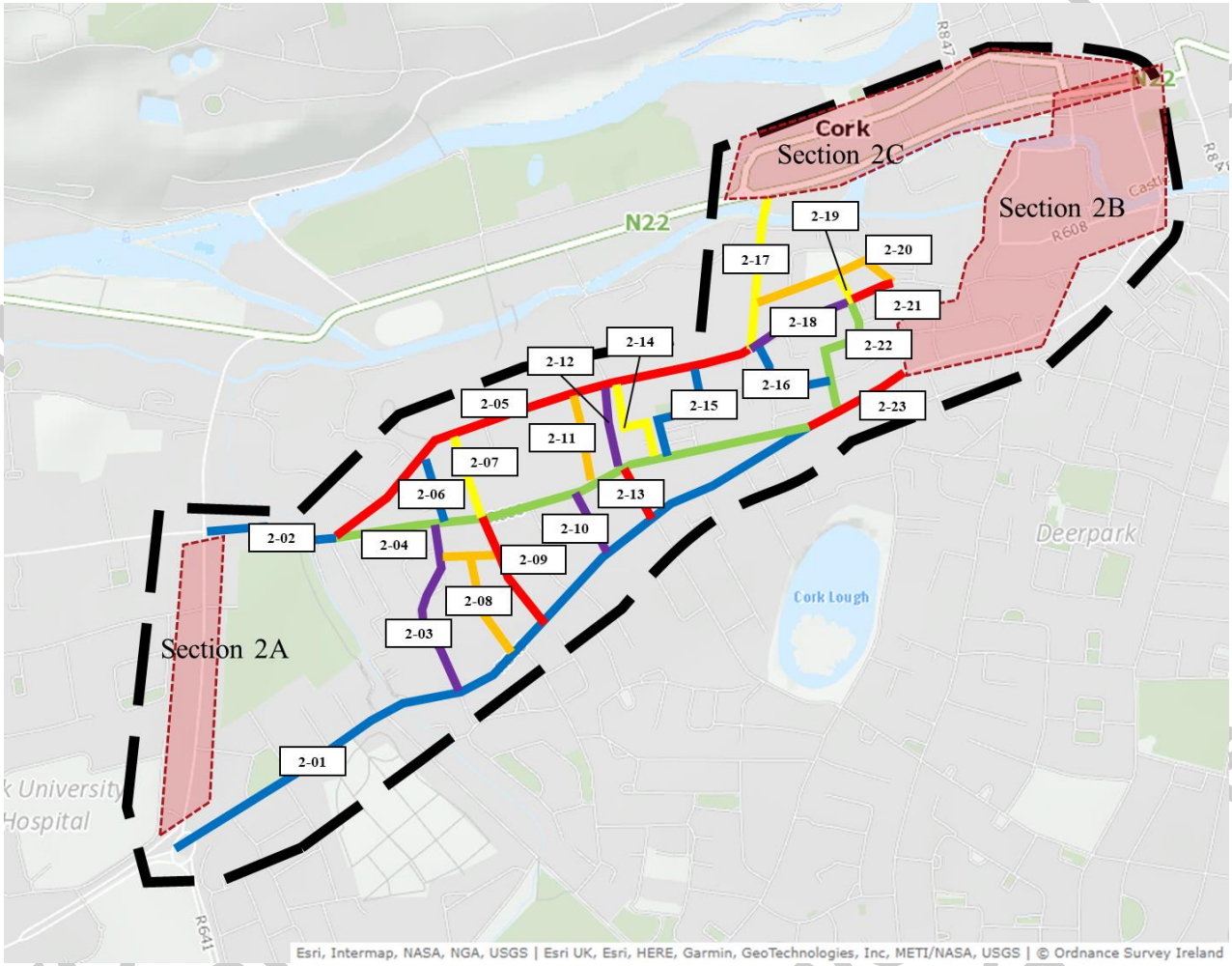

Figure 20: Section 2 – Stage 1 Assessment Links

A summary of the Stage 1 route options sifting process is presented in Table 8.

Table 8: Section 2 – Route Option Sifting (Stage 1) Summary

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
2-01	R849 Glasheen Road, Wilton Roundabout to Bandon Road	Primary	R849 Glasheen Road, Wilton Roundabout to Bandon Road is a two lane carriageway with footpaths on both sides. There are a properties along the route with direct access onto the road on both sides throughout and St. Finbarr's Cemetery to the south, as well as some street fronting businesses towards Bandon Road and sections of on street parking throughout on one side of the route (both parallel and perpendicular to the route). Typical width along this section of the route is 11-14.5m. Localised widening of the route to 16m would require land acquisition (walls & gardens), whereas widening to 20m would require more significant land acquisition. However, it may be possible to introduce traffic restrictions to provide the required bus priority as there are a number of alternative parallel routes available and this link has been retained for the Stage 2 assessment.	Pass
2-02	R608 College Road, from Wilton Road to Linaro Avenue	Primary	R608 College Road, from Wilton Road to Linaro Avenue is a two lane carriageway route with footpaths mostly on the northern side and section on the south. There is on street parking on the northern side. the route is characterised by and apartment complex and green area to the north of the route and a number of business properties to the south of the route. Typical width along this section of the route is 8-10m. Localised widening of the route would require land and property acquisition in places. However, this route is deemed to be feasible and is carried forward to the Stage 2 assessment.	Pass

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
2-03	School Avenue/Lima Lawn, Glasheen Road to Magazine Road	No	School Avenue/Lima Lawn, Glasheen Road to Magazine Road is a two-lane residential estate road with footpaths on one or both sides and parking scattered throughout on both sides. The route is characterised by residential properties on both sides throughout with direct access onto the route as well as Glasheen Boys NS to the east of the route. Typical width along this section of the route is 8-10m. Localised widening of the route to 16m or 20m would require significant land and property acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-04	R608 Magazine Road, Roundabout at College Road to Bandon Road	No	R608 Magazine Road, Roundabout at College Road to Bandon Road is a narrow two-lane carriageway a with footpaths on both sides. There are a number of residential properties along the route with direct access onto the route. Typical width along this section of the route is 6-10m. Localised widening of the route to 16m would require land acquisition (properties, walls & gardens). Due to the narrow nature of the available carriageway it was deemed that the provision of traffic restrictions alone would not be sufficient to provide the necessary bus priority and this link has not been brought forward to the Stage 2 assessment.	Fail
2-05	College road, Roundabout Magazine Road to Donovan Road	Primary	College Road, Roundabout Magazine Road to Donovan Road is a two lane carriageway with footpaths on both sides. There are a number of properties along the route with direct access onto the route as well as Brookfield Student Accommodation, Bons Secours Hospital, UCC boundaries, buildings and pedestrian access along the north of this route. Typical width along this section of the route is 7-10m. Localised widening of the route to 16m would require land acquisition (properties, walls & gardens). However, it may be possible to introduce traffic restrictions to provide the required bus priority as there are a number of alternative parallel routes available , therefore this link has been retained for the Stage 2 assessment.	Pass
2-06	St.Francis Avenue, Magazine road and College road	No	St.Francis Avenue, Magazine road and College road is a two way one lane carriage way with on street parking on the east side, and a footpath on the east side. The route is characterised by residential properties throughout on both sides. The typical width along this section of the route is 9m. localised widening of the route to with potential to expand to 16m would require significant land acquisition whereas widening to 20m would require property acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-07	St Clare's Avenue, College Road to Magazine Road	No	St Clare's Avenue, College Road to Magazine Road is a two way one lane road with footpaths on either side and on street parking throughout. The route is characterised by residential properties throughout on both sides. The typical road width is 9-10m. Localised widening of the route to 16m or 20m would require land an property acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-08	Lisieux Park and Kilkrea Park, from Glasheen Road to Lina Lawn and Glasheen Park	No	Lisieux Park and Kilkrea Park, from Glasheen Road to Lina Lawn and Glasheen Park is a residential estate road comprising of a two lane carriageway with footpaths on both sides of the road and partial on street parking on either side. There are a properties along the route with direct access onto the road. Typical width along this section of the route is 8-10m. Localised widening of the route to 16m or 20m would require significant land and property acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-09	Kilkrea Park/Glasheen	No	Kilkrea Park/Glasheen Park, Magazine Road to Glasheen Road is a two lane carriageway with footpaths on both sides of the road and	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
	Park, Magazine Road to Glasheen Road		partial on street parking on either side. There are a properties along the route with direct access onto the road. Typical width along this section of the route is 8-10m. Localised widening of the route to 16m or 20m would require significant land and property acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	
2-10	Coolgarten Park, Glasheen Road and Magazine Road	No	Coolgarten Park is a narrow residential road between Glasheen Road and Magazine road, one lane, some on street parking and narrow footpaths on either side. Typical width along this route is 3-5m. Localised widening of the route to 16m would require significant land acquisition (properties, walls & gardens). This is an indirect route through a residential road and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-11	Highfield West, College Road to Magazine Road	No	Highfield West, College Road to Magazine Road is a two lane carriageway with footpaths on both sides and parking on the western side. The route is characterised by residential properties throughout with direct access onto the route. Typical width along this section of the route is 9m. Localised widening of the route to 16m or 20m would require significant land and property acquisition. Therefore this route is not considered feasible and is not carried forward to stage 2 assessment.	Fail
2-12	Highfield Avenue, College Road to Magazine Road	Primary	Highfield Avenue, College Road to Magazine Road is a two lane carriageway with footpaths on both sides and on street parking on the western side. The route is characterised by residential properties throughout with direct access onto the route. Typical width along this section of the route is 8-9m. Localised widening of the route to 16m or 20m would require significant land and property acquisition. Therefore, this route is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-13	Dorgan's Road, Magazine Road to Glasheen Road	Primary	Dorgan's Road, Magazine Road to Glasheen Road is a narrow two lane route with a narrow footpath on the western side. The route is characterised by residential properties throughout on both sides. The typical width along this section of the route is 6m. Localised widening of the route to 16m or 20m would require significant land and property acquisition. This route is therefore not considered feasible and is not carried forward to stage 2 assessment.	Fail
2-14	Dorgan's Road, Magazine Road to Glasheen Road	Primary	Dorgan's Road, Magazine Road to Glasheen Road is a narrow two lane route with a narrow footpath on the western side. The route is characterised by residential properties throughout on both sides. The typical width along this section of the route is 6m. Localised widening of the route to 16m or 20m would require significant land and property acquisition. This route is therefore not considered feasible and is not carried forward to stage 2 assessment.	Fail
2-15	Horgan's Building/College View, Magazine Road to College Road	No	Horgan's Building/College View, Magazine Road to College Road is a narrow residential route segment with on street parking on one side throughout, one lane, and two way traffic. There is a footpath on either side of the route. The route is characterised by residential properties throughout for the most part as well as a section of green area to the west of the route. Typical width along this section of the route is 5m. Localised widening of the route would involve extensive land and property acquisition. This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-16	Wycherley Terrace/McCurtain Villas, College Road to McCurtain Villas	No	Wycherley Terrace/McCurtain Villas, College Road to McCurtain Villas is a two lane carriageway with footpaths on both sides and parking scattered throughout. The route is characterised by residential properties throughout on both sides of the route with direct access onto the route. Typical width along this section of the route is 6-8m. Localised widening of the route to 16m would require land acquisition (properties, walls & gardens). This is an indirect route through a	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
			residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	
2-17	Donovan Road, Connacht Avenue to O'Donovan Rossa Road	No	Donovan Road, Connacht Avenue to O'Donovan Rossa Road is a two lane carriageway with footpaths on both sides and parking on the eastern side. There are properties along the east of the route throughout, with UCC boundary and buildings to the west of the route. Typical width along this section of the route is 10-11m. Localised widening of the route to 16m or 20m would require land acquisition (properties, walls & gardens). This route is deemed feasible and is therefore carried forward to stage 2 assessment.	Pass
2-18	College Road, Wycherley Terrace to Connaught Avenue	Primary	College Road, Wycherley Terrace to Connaught Avenue is a two lane carriageway with footpaths on both sides. There are properties throughout on both sides of the route with direct access onto the route and sections of on street parking on both sides. Typical width along this section of the route is 8-10m. Localised widening of the route to 16m would require land acquisition (properties, walls & gardens). Alternatively, it may be possible to introduce traffic restrictions to provide the required bus priority as there are a number of alternative parallel routes available and this link has been retained for the Stage 2 assessment.	Pass
2-19	Connacht Avenue (Side Street), College Road to Connacht Avenue	No	Connacht Avenue (Side Street), College Road to Connacht Avenue is a two lane carriageway with footpaths and parking on both sides. There are a number of properties along both sides of the route. Typical width along this section of the route is 10.5m. Localised widening of the route to 16m would require land acquisition (properties, walls & gardens). This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-20	Connacht Avenue, Donovan Road to Gillabbey Street	No	Connacht Avenue, Donovan Road to Gillabbey Street is a two lane carriageway with footpaths and on street parking on both sides. The route is characterised by properties throughout, with a section of green area to the north. Typical width along this section of the route is 9-11m. Localised widening of the route to 20m would require land acquisition (properties, walls & gardens). This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail
2-21	College Road, Connacht Avenue to St. Finbarr's Road	Primary	College Road, Connacht Avenue to St. Finbarr's Road is a two lane carriageway with footpaths on both sides and parking on a short section to the north of this section. The route is characterised by properties throughout the route without vehicular access onto the route. Typical width along this section of the route is 9-12.5m. Localised widening of the route to 16m would require land acquisition (properties, walls & gardens). Alternatively, it may be possible to introduce traffic restrictions to provide the required bus priority as there are a number of alternative parallel routes available and this link has been retained for the Stage 2 assessment.	Pass
2-22	McCurtain Villas, Bandon Road to College Road	No	McCurtain Villas, Bandon Road to College Road is a narrow residential estate road with footpaths on both sides and parking scattered throughout. There are residential properties throughout the route with direct access onto the route. Typical width along this section of the route is 7-8m. Localised widening of the route to 16m would require land acquisition (properties, walls & gardens). This is an indirect route through a residential estate and is not considered feasible, and is therefore not carried forward to the Stage 2 assessment.	Fail

Route Option Number	Description	Part of CMATS Cycle Network	Comments	Pass/ Fail
2-23	R608 Bandon Road, Magazine Road to Lough Road	Primary	R608 Bandon Road, Magazine Road to Lough Road is a two lane carriageway with footpaths on both sides and parking scattered throughout, on both sides. There are street fronting properties throughout the route on both sides. Typical width along this section of the route is 10-15m. Localised widening of the route is not possible due numerous properties fronting onto the street. It may be possible to introduce traffic restrictions to provide the required bus priority as there are a number of alternative parallel routes available and this link has been retained for the Stage 2 assessment.	Pass

Following the Stage 1 sifting exercise, 7 of the 23 links assessed passed the initial sifting stage and were progressed to the next assessment stage. These links are presented in Figure 21.

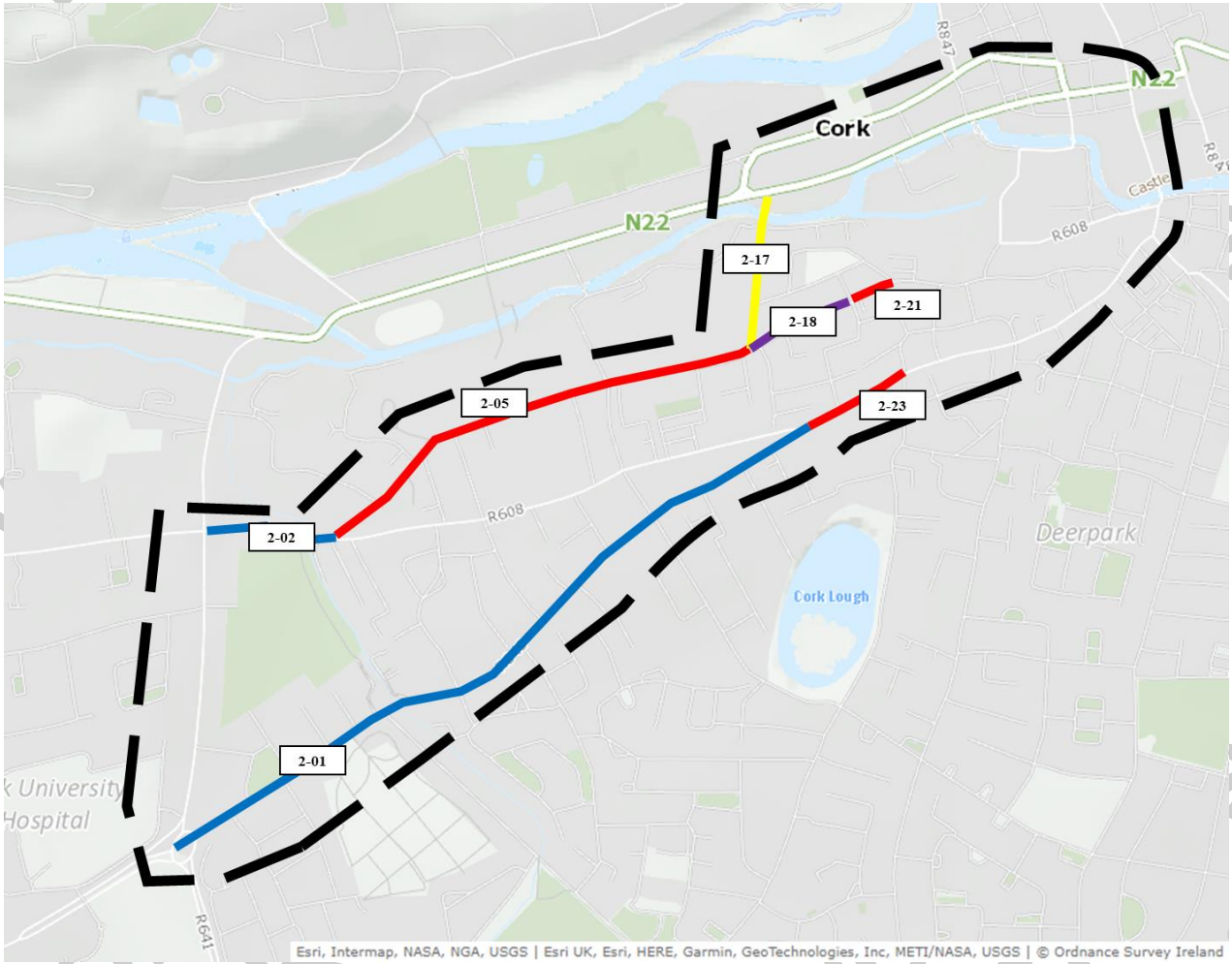

Figure 21: Section 2 – Route Options remaining after Stage 1 Sift

Following the completion of the Stage 1 assessment in Section 2A, 2B and 2C and the remaining study area in Section 2, the following links within the entirety of Section 2 of the study area to be brought forward to the Stage 2 assessment are presented below in Figure 22.

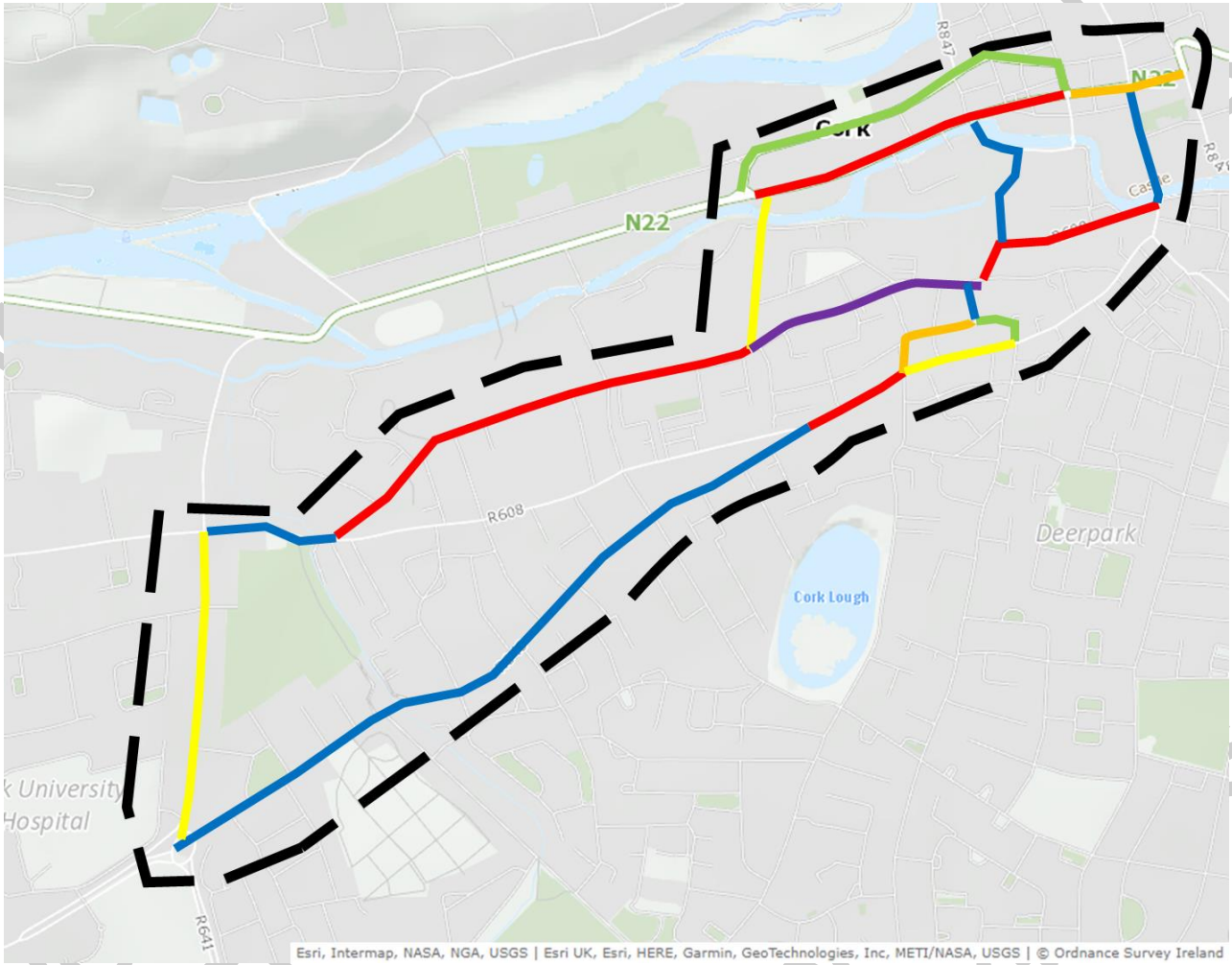

Figure 22: Section 2 – Route Options after Stage 1 Sift (inclusive of Sections 2A, 2B and 2C)

7. Stage 2 Assessment

The following section presents the development of the options covering each of the sub sections reflecting on the links which passed through the Stage 1 Sifting Assessment. This section presents each of the options developed for the individual sections along with the initial sectional multi-criteria assessment.

7.1 Study Area Section 1 – Curraheen to Wilton Roundabout

For Section 1 between Curraheen and the Wilton Roundabout the following route options have been identified:

- **Option 1** – Buses and cyclists routing via Curraheen Road/R849 Bishopstown Road;
- **Option 2** – Buses routing via Curraheen Road/R849 Bishopstown Road (with cyclists diverted to Bishopstown Road);
- **Option 3** – Buses routing via Curraheen Road, Hawke's Road and R849 Bishopstown Road (with cyclists remaining on Curraheen Road);
- **Option 4** – Buses routing via the N40 Cork South Ring Road and R849 Bishopstown Road (with cyclists remaining on Curraheen Road); and
- **Option 5** – Buses routing via the N40 Cork South Ring Road and R641 Sarsfield Road (with cyclists remaining on Curraheen Road.

7.1.1 Option 1 – Routing via Curraheen Road/R849 Bishopstown Road

7.1.1.1 Route Description

Route Option 1 is presented in Figure 23 and described in the following text.

Figure 23: Section 1, Proposed Option 1 – Route Option Overview

Option 1 provides for buses and cyclists routed from the Curraheen Interchange along the L2222 Curraheen Road, through to the R849 Bishopstown Road and on towards the Wilton Roundabout. It is envisaged that this option would accommodate a total of 6 bus stops in each direction.

7.1.1.2 Indicative Scheme Design

Figure 24 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

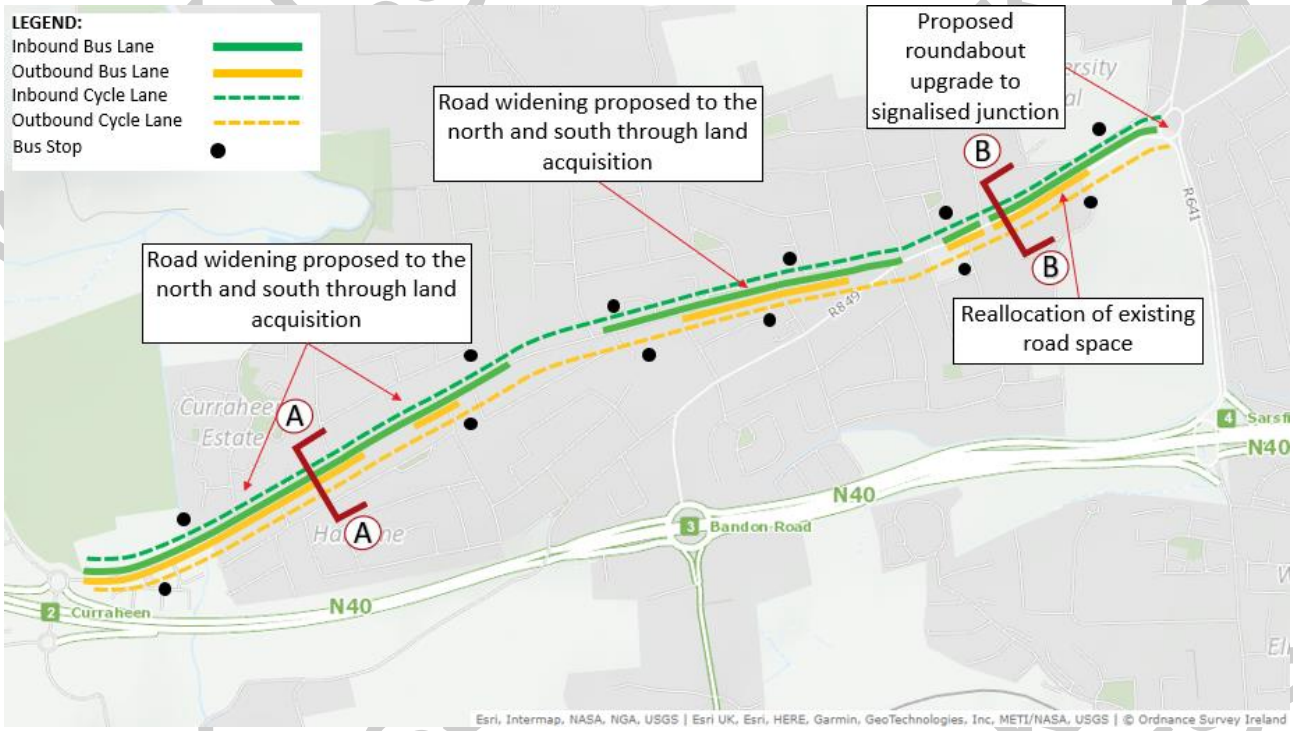

Figure 24: Section 1, Proposed Option 1 – Indicative Scheme Design

From the Curraheen Interchange to the junction with Uam Var Drive it is possible to provide bus lanes and raised adjacent cycle lanes on both sides of the route through the redesignation of the existing road space and localised widening. Between Uam Var Drive and Rossa Avenue, the proposed inbound bus lanes would be retained, however the outbound bus lane would need to be curtailed at a number of localised pinch points. Raised adjacent cycle lanes will be retained on both sides of the route between Uam Var Drive and Ross Avenue.

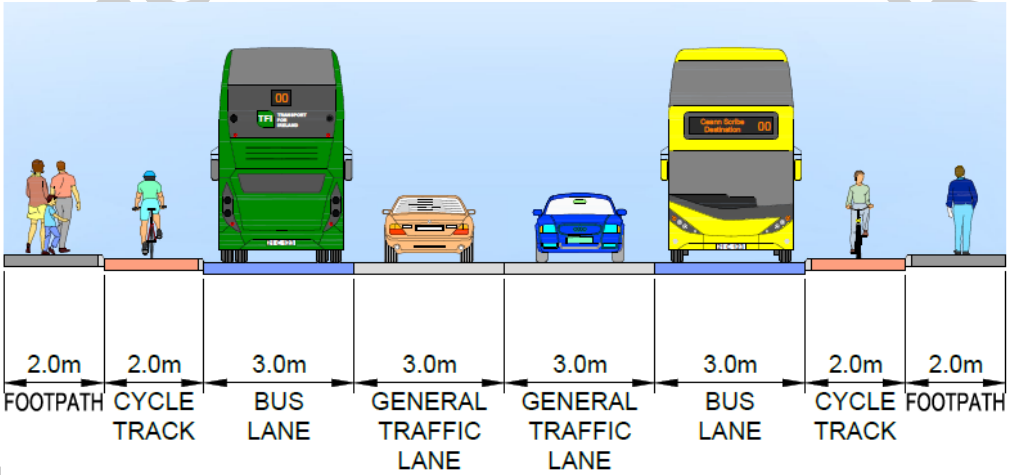

Figure 25: Section 1, Proposed Option 1 – Cross Section A-A

East of Rossa Avenue it is not possible to provide bus lanes in either direction to the junction with Melbourn Road; however, east of Melbourn Road an inbound bus lane is possible through localised widening, and bus lanes are possible on both sides of the route east of Hawke's Road to Firgrove Gardens, again through localised widening works. Between Firgrove Gardens and the junction with the Bishopstown Road, due to localised constraints an inbound bus lane is proposed, with the outbound bus lane removed. Raised adjacent cycle lanes are proposed along the entirety of this portion of the route (between Rossa Avenue and the Bishopstown Road).

Continuing east on the Bishopstown Road, to the junction with Bishopscourt Road it is not possible to provide bus lanes due to localised constraints, however raised adjacent cycle lanes are retained. Bus lanes are then proposed in both directions from Bishopscourt Road to Wilton Avenue (along with raised adjacent cycle lanes). East of Wilton Avenue there is a further pinch point where bus lanes are not proposed (but cycle facilities are retained), before the route widens into the existing dual carriageway on the approach to the entrance to Cork University Hospital. Along this section of the route, bus lanes are proposed in both directions to the Wilton Roundabout through the redesignation of the existing carriageway lanes and raised adjacent cycle facilities are also provided.

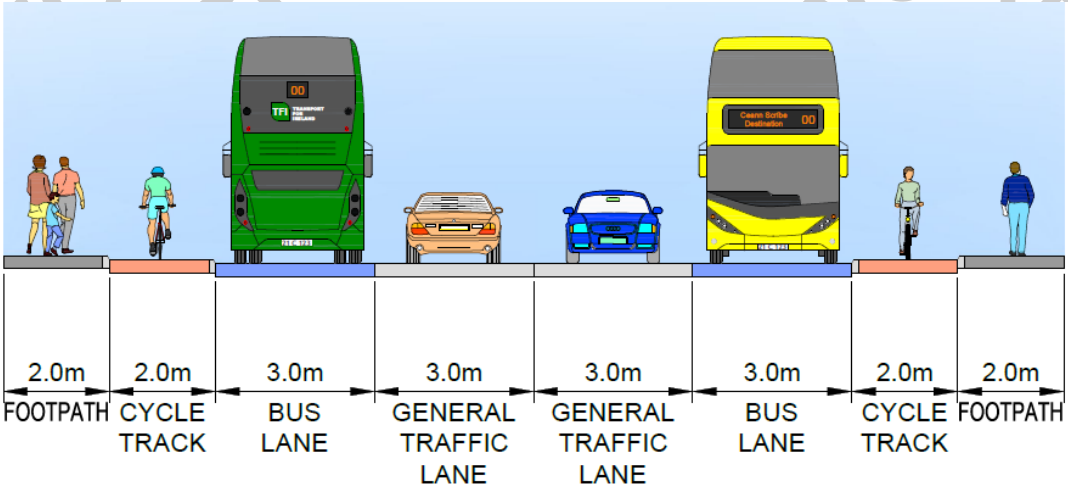

Figure 26: Section 1, Proposed Option 1 – Cross Section B-B

This route option would include the introduction of new traffic signals or the upgrade of existing signalised junctions on the Curraheen Road and Bishopstown Road, including the junctions with Rossa Avenue, Melbourn Road, Hawkes Road, the Curraheen Road/Bishopstown Road junction, Wilton Avenue, the CUH/Cardinal Way entrance junction and a significant upgrade of the Wilton Roundabout to a signalised junction.

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

- Bus lanes on both sides along the majority of the Curraheen Road, between the N40 interchange and Rossa Avenue (with a short section between Uam Var Drive and Uam Var Avenue, and between Halldene Villas and Rossa Avenue with an inbound bus lane only);
- An inbound bus lane between Melbourn Road and the junction with Bishopstown Road, with an outbound bus lane along the majority of this section (except between the Bishopstown Road and Firgrove Gardens, and between Hawke's Road and Melbourn Road);
- Inbound and outbound bus lanes on the Bishopstown Road between the Wilton Roundabout and the junction with Curraheen Road (with short sections between the Curraheen Road junction and Bishopscourt Road, and adjacent to Wilton Avenue where no bus lanes are proposed);
- Raised adjacent cycle lanes along the entirety of the route;
- Upgrade of a number of existing junctions along the route;
- Upgrade of the Wilton Roundabout to a signalised crossroad junction; and
- Land acquisition estimated from 82 properties.

7.1.2 Option 2 – Routing via Curraheen Road/R849 Bishopstown Road (with cyclists diverted)

7.1.2.1 Route Description

Route Option 2 is presented in Figure 27 and described in the following text.

Figure 27: Section 1, Proposed Option 2 – Route Option Overview

Option 2 would see buses and cyclists routed from the Curraheen Interchange along the L2222 Curraheen Road as far as the junction with Halldene Villas. At this location, cyclists would route through Halldene Villas through to the Waterfall Road and then onto the R849 Bishopstown Road. Cyclists would then continue along the Bishopstown Road, with buses continuing on the Curraheen Road, with both buses and cyclists merging at the Curraheen Road/Bishopstown Road junction and continuing on the Bishopstown Road to the Wilton Roundabout (as per Option 1).

It is envisaged that this option would accommodate a total of 6 bus stops in each direction.

7.1.2.2 Indicative Scheme Design

Figure 28 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

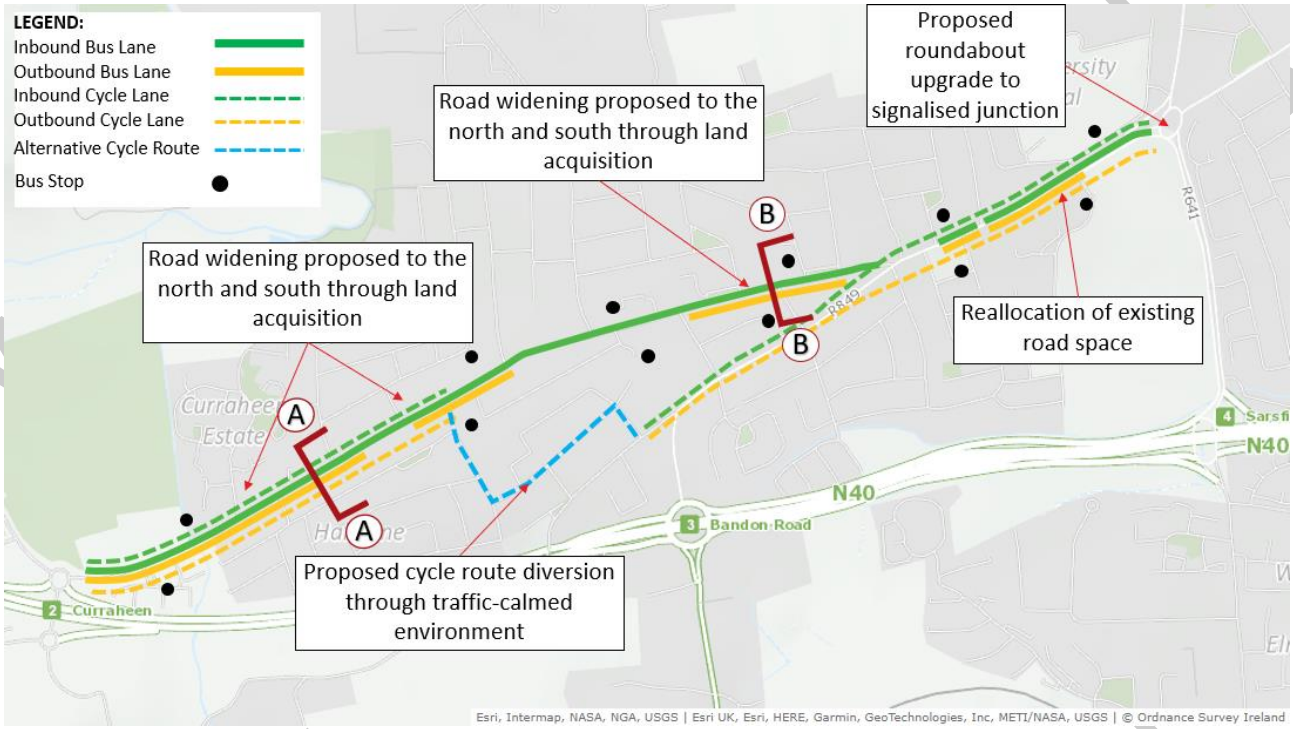

Figure 28: Section 1, Proposed Option 2 – Indicative Scheme Design

From the Curraheen Interchange to the junction with Uam Var Drive, as per Option 1 it is possible to provide bus lanes and raised adjacent cycle lanes on both sides of the route through redesignation of the existing road space and localised widening/land acquisition. Between Uam Var Drive and Halldene Villas, the provision of bus lanes would vary due to localised pinch points, with partial inbound and outbound bus lanes proposed, but raised adjacent cycle lanes retained on both sides of the route.

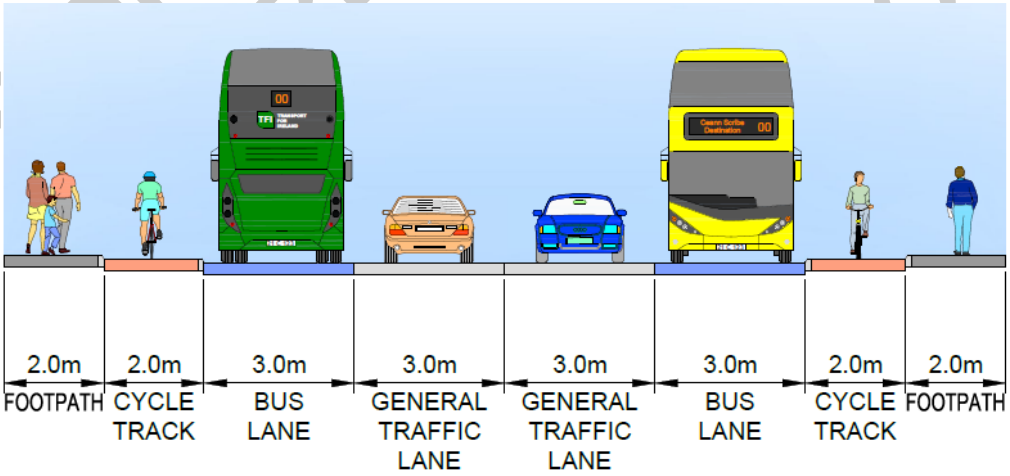

Figure 29: Section 1, Proposed Option 2 – Cross Section A-A

At Halldene Villas, cyclists would divert from the Curraheen Road and route south through Halldene Villas and connect to the Waterfall Road to the south. Dedicated cycle facilities would not be provided as part of this section of the route; instead, the residential area would function as a mixed zone and cyclists would share with general traffic in a low-flow, low-speed environment. From Waterfall Road, through to the R849 Bishopstown Road and onwards to the junction with the Curraheen Road, raised adjacent cycle lanes are proposed on both sides of this portion of the route, which would require localised widening and removal of on-street parking.

On the Curraheen Road, from Halldene Villas through to the junction with the R849 Bishopstown Road, an inbound bus lane is proposed, with a corresponding outbound bus lane proposed between Firgrove Gardens and Hawke's Road, and between Rossa Avenue and Halldene Villas. These sections of bus lane will be facilitated through localised widening works.

From the Curraheen Road/Bishopstown Road junction, Option 2 is similar to Option 1 with the route continuing east on the Bishopstown Road to the junction with Bishopscourt Road it is not possible to provide bus lanes due to localised constraints (raised adjacent cycle lanes are retained), but bus lanes are proposed in both directions from Bishopscourt Road to Wilton Avenue (along with raised adjacent cycle lanes). East of Wilton Avenue there is a further pinch point where bus lanes are not proposed before the route widens into the existing dual carriageway on the approach to the entrance to Cork University Hospital. Along this section of the route, bus lanes are proposed in both directions to the Wilton Roundabout through redesignation of the existing carriageway lanes and raised adjacent cycle facilities are also provided (as per Option 1).

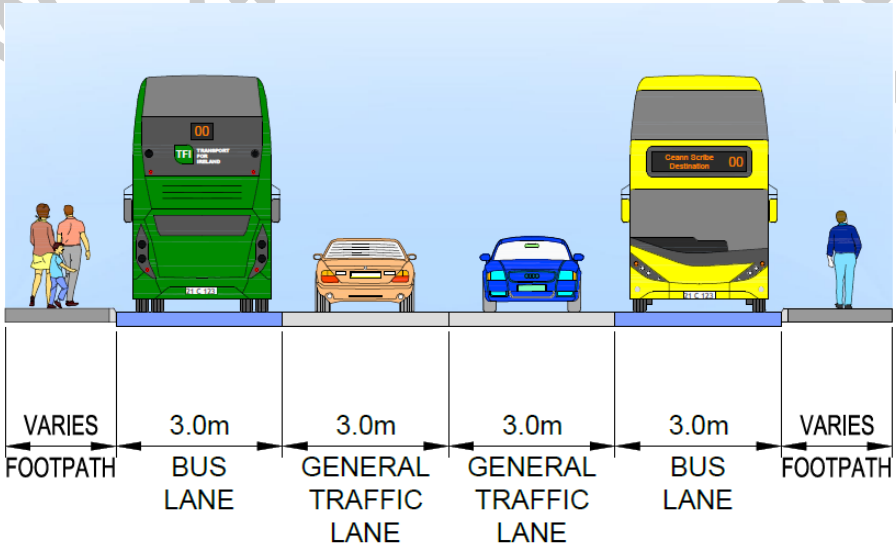

Figure 30: Section 1, Proposed Option 2 – Cross Section B-B

This option would also involve the provision of new traffic signal controls or the upgrade of existing signalised junctions on the Curraheen Road and Bishopstown Road, including the junctions with Rossa Avenue, Melbourn Road, Hawkes Road, the Curraheen Road/Bishopstown Road junction, Wilton Avenue, the CUH/Cardinal Way entrance junction and a significant upgrade of the Wilton Roundabout to a signalised junction.

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

- Bus lanes on both sides of the majority of the Curraheen Road, between the N40 interchange and Rossa Avenue (with short sections between Uam Var Drive and Uam Var Avenue, between Rossa Avenue and Hawke's Road, and between Firgrove Gardens and the Bishopstown Road where there would be an inbound bus lane only);
- An inbound bus lane between Melbourn Road and the junction with Bishopstown Road, with an outbound bus lane along the majority of this section (except between the Bishopstown Road and Firgrove Gardens, and between Hawke's Road and Melbourn Road);
- Inbound and outbound bus lanes on the Bishopstown Road between the Wilton Roundabout and the junction with Curraheen Road (with short sections between the Curraheen Road junction and Bishopscourt Road, and adjacent to Wilton Avenue where no bus lanes are proposed);
- Raised adjacent cycle lanes along the majority of the route (with the exception of the route through Halldene Villas);
- Upgrade of a number of existing junctions along the route;
- Upgrade of the Wilton Roundabout to a signalised crossroad junction; and
- Land acquisition estimated from 97 properties.

7.1.3 Option 3 – Routing via Curraheen Road/Hawke's Road/R849 Bishopstown Road

7.1.3.1 Route Description

Route Option 3 is presented in Figure 31 and described in the following text.

Figure 31: Section 1, Proposed Option 3 – Route Option Overview

Option 3 would see buses and cyclists routed from the Curraheen Interchange along the L2222 Curraheen Road as far as the junction with Hawke's Road. At this location, buses would divert to Hawke's Road through to the R849 Bishopstown Road. Cyclists would remain on Curraheen Road, with both buses and cyclists merging at the Curraheen Road/Bishopstown Road junction and continuing on the Bishopstown Road to the Wilton Roundabout (as per Option 1).

It is envisaged that this option would accommodate a total of 6 bus stops in each direction.

7.1.3.2 Indicative Scheme Design

Figure 32 illustrates the indicative scheme design for this route option, the relevant cross sections have been noted on previous options.

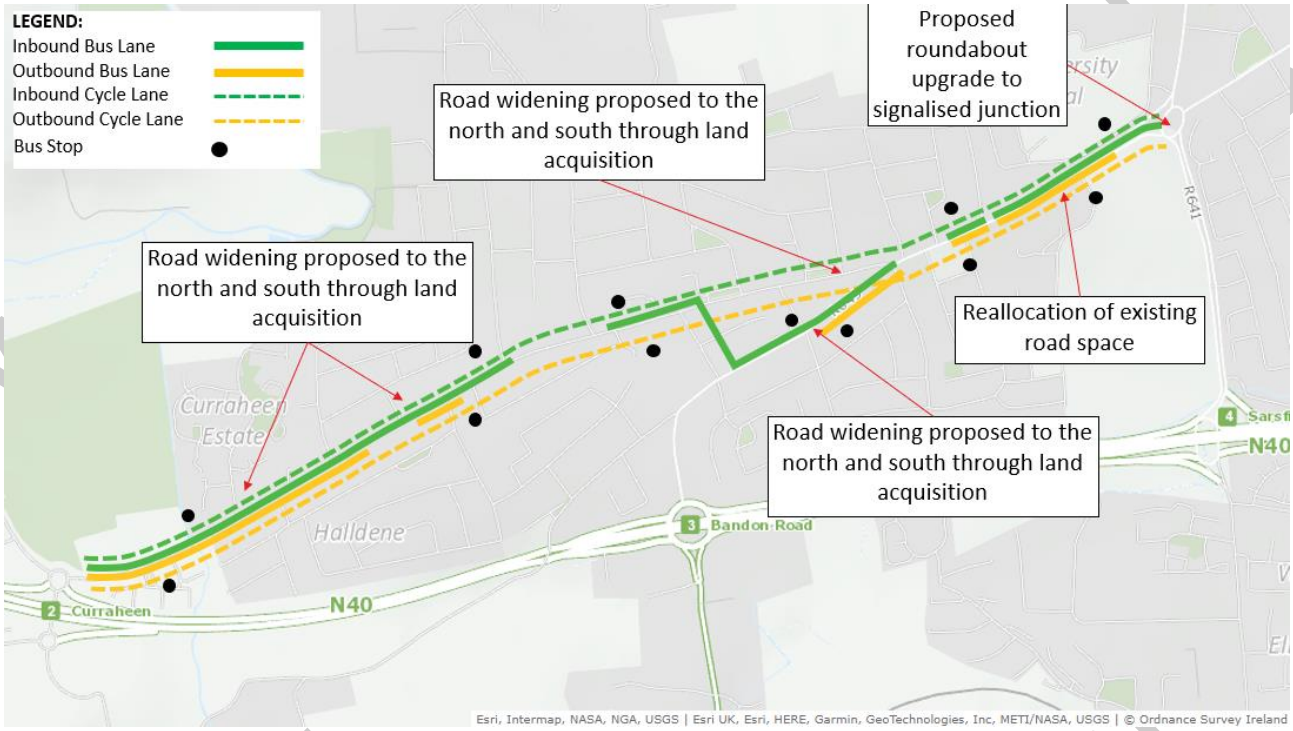

Figure 32: Section 1, Proposed Option 3 – indicative Scheme Design

From the Curraheen Interchange to the junction with Uam Var Drive, as per Option 1 it is possible to provide bus lanes and raised adjacent cycle lanes on both sides of the route through redesignation of the existing road space and localised widening/land acquisition. Between Uam Var Drive and Rossa Avenue the provision of bus lanes would vary due to localised pinch points, with partial inbound and outbound bus lanes proposed, but raised adjacent cycle lanes retained on both sides of the route.

East of Rossa Avenue it is not possible to provide bus lanes in either direction to the junction with Ashgrove Park; however, east of Ashgrove Park an inbound bus lane is possible through localised widening. Along Hawke's Road it is possible to provide a single bus lane only through localised widening works; an inbound (i.e., southbound) bus lane is proposed at this location. On the Bishopstown Road, between Hawke's Road and the junction with Barrett's Lane again an inbound (towards the city) bus lane only is proposed, whereas between Barrett's Lane and the junction with the Curraheen Road bus lanes are proposed on both sides of the route (facilitated through localised widening/land acquisition).

Raised adjacent cycle lanes are proposed along the entirety of this portion of the route (between Rossa Avenue and the Bishopstown Road).

From the Curraheen Road/Bishopstown Road junction, similar to Options 1 and 2 continuing east on the Bishopstown Road to the junction with Bishopscourt Road it is not possible to provide bus lanes due to localised constraints (raised adjacent cycle lanes are retained), but bus lanes are proposed in both directions from Bishopscourt Road to Wilton Avenue (along with raised adjacent cycle lanes). East of Wilton Avenue there is a further pinch point where bus lanes are not proposed before the route widens into the existing dual carriageway on the approach to the entrance to Cork University Hospital. Along this section of the route, bus lanes are proposed in both directions to the Wilton Roundabout through redesignation of the existing carriageway lanes and raised adjacent cycle facilities are also provided.

This option would also involve implementation of traffic signal control or the upgrade of existing signalised junctions on the Curraheen Road and Bishopstown Road, including the junctions with Rossa Avenue, Melbourn Road, Hawkes Road, the Curraheen Road/Bishopstown Road junction, Wilton Avenue, the CUH/Cardinal Way entrance junction and a significant upgrade of the Wilton Roundabout to a signalised junction.

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

- Bus lanes on both sides of the majority of the Curraheen Road, between the N40 interchange and Rossa Avenue (with short sections between Uam Var Drive and Uam Var Avenue and between Rossa Avenue and Hawke's Road, where there would be an inbound bus lane only);
- An inbound bus lane on Hawke's Road between the Curraheen Road and the R849 Bishopstown Road, and an inbound bus lane on the R849 Bishopstown Road between Hawke's Road and Barrett's Lane, and bus lanes on both sides of the R849 Bishopstown Road between Barrett's Lane and the Curraheen Road junction (the Bishopstown Bar);
- Inbound and outbound bus lanes on the Bishopstown Road between the Wilton Roundabout and the junction with Curraheen Road (with short sections between the Curraheen Road junction and Bishopscourt Road, and adjacent to Wilton Avenue where no bus lanes are proposed);
- Raised adjacent cycle lanes along the entire route;
- Upgrade of a number of existing junctions along the route;
- Upgrade of the Wilton Roundabout to a signalised crossroad junction; and
- Land acquisition estimated from 109 properties.

7.1.4 Option 4 – Routing via the N40 Cork South Ring Road and R849 Bishopstown Road (with cyclists remaining on Curraheen Road)

7.1.4.1 Route Description

Route Option 4 is presented in Figure 33 and described in the following text.

Figure 33: Section 1, Proposed Option 4 – Route Option Overview

Option 4 provides for buses using the N40 South Ring Road from the Curraheen Interchange to the Bandon Road Interchange, at which point buses would use the R849 Bishopstown Road through to the Wilton Roundabout. Cyclists would remain on the Curraheen Road throughout.

It is envisaged that this option would accommodate a total of 4 bus stops in each direction.

7.1.4.2 Indicative Scheme Design

Figure 34 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

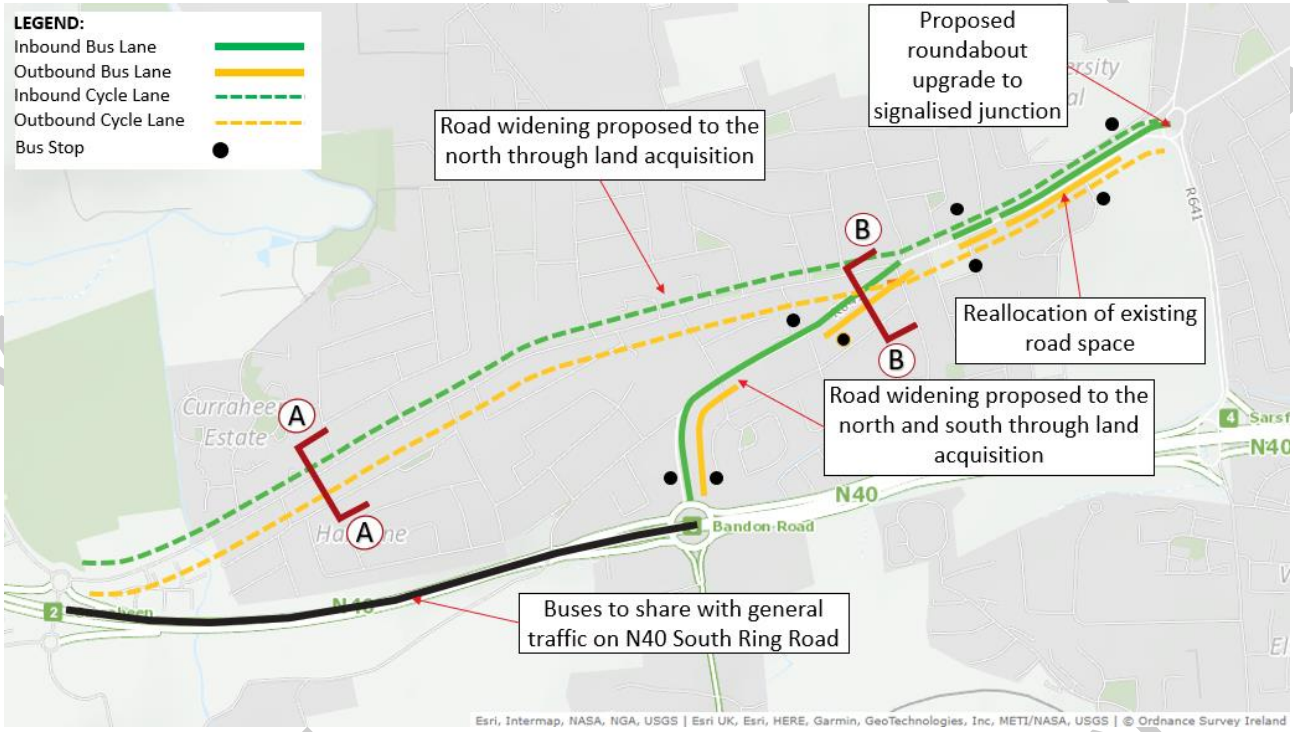

Figure 34: Section 1, Proposed Option 4 – indicative Scheme Design

For this option, between the Curraheen Interchange and the Bandon Road Interchange on the N40 there would be no proposed bus lanes; buses would share with general traffic along this portion of the route.

Upon exiting the N40 at the Bandon Road Interchange, it is possible to provide bus lanes on both sides of the R849 Bishopstown Road through to the junction at Hawke's Road through road widening/land acquisition. Between Hawke's Road and Barrett's Lane it is not possible to provide bus lanes in both directions, therefore an inbound bus lane is proposed, which is facilitated through road widening/land acquisition. East of Barrett's Lane it is possible to provide bus lanes in both directions through to the Bishopstown Road/Curraheen Road junction through road widening/land acquisition.

As the N40 is not a suitable route for cyclists, in this option raised adjacent cycle lanes are proposed along both sides of the Curraheen Road, from the Curraheen Interchange to the junction with the Bishopstown Road. This is achieved using the existing available land for the most part, with some localised road widening/land acquisition required.

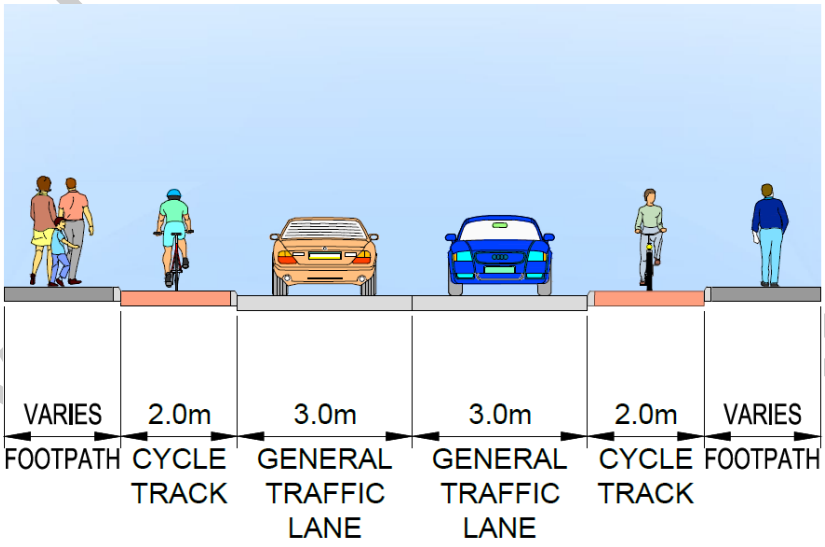

Figure 35: Section 1, Proposed Option 4 – Cross Section A-A

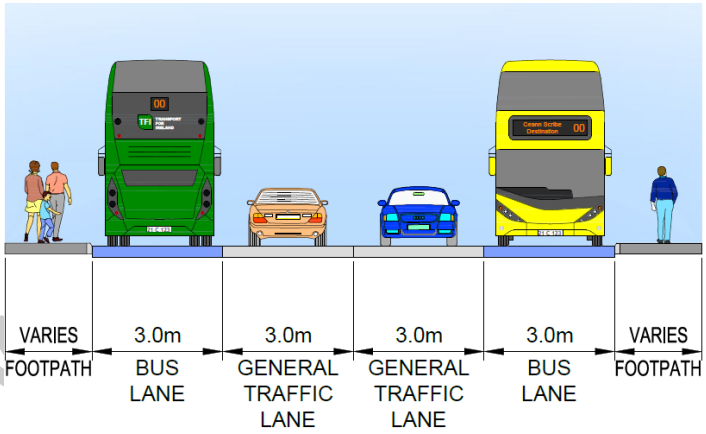

Figure 36: Section 1, Proposed Option 4 – Cross Section B-B

From the Curraheen Road/Bishopstown Road junction, similar to Options 1-3 continuing east on the Bishopstown Road to the junction with Bishopscourt Road it is not possible to provide bus lanes due to localised constraints (raised adjacent cycle lanes are retained), but bus lanes are proposed in both directions from Bishopscourt Road to Wilton Avenue (along with raised adjacent cycle lanes). East of Wilton Avenue there is a further pinch point where bus lanes are not proposed, before the route widens into the existing dual carriageway on the approach to the entrance to Cork University Hospital. Along this section of the route, bus lanes are proposed in both directions to the Wilton Roundabout through redesignation of the existing carriageway lanes and raised adjacent cycle facilities are also provided.

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

- Bus lanes on both sides of the R849 Bishopstown Road, between the N40 Bandon Road Interchange and Hawke's Road, an inbound bus lane on the R849 Bishopstown Road between Hawke's Road and Barrett's Lane, and bus lanes on both sides of the R849 Bishopstown Road, between Barrett's Lane and the Curraheen Road;
- Inbound and outbound bus lanes on the Bishopstown Road between the Wilton Roundabout and the junction with Curraheen Road (with short sections between the Curraheen Road junction and Bishopscourt Road, and adjacent to Wilton Avenue where no bus lanes are proposed);
- Raised adjacent cycle lanes along the entire route;
- Upgrade of a number of existing junctions along the route;
- Upgrade of the Wilton Roundabout to a signalised crossroad junction; and
- Land acquisition estimated from 62 properties.

7.1.5 Option 5 – Routing via the N40 Cork South Ring Road and R641 Sarsfield Road

7.1.5.1 Route Description

Route Option 5 is presented in Figure 37 and described in the following text.

Figure 37: Section 1, Proposed Option 5 – Route Option Overview

Option 5 is similar to Option 4 but would see buses use the N40 South Ring Road from the Curraheen Interchange and instead continue to the Sarsfield Road Interchange, at which point buses would use the R641 Sarsfield Road through to the Wilton Roundabout. Cyclists would remain on the Curraheen Road throughout.

It is envisaged that this option would accommodate a total of 2 bus stops in each direction.

7.1.5.2 Indicative Scheme Design

Figure 38 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

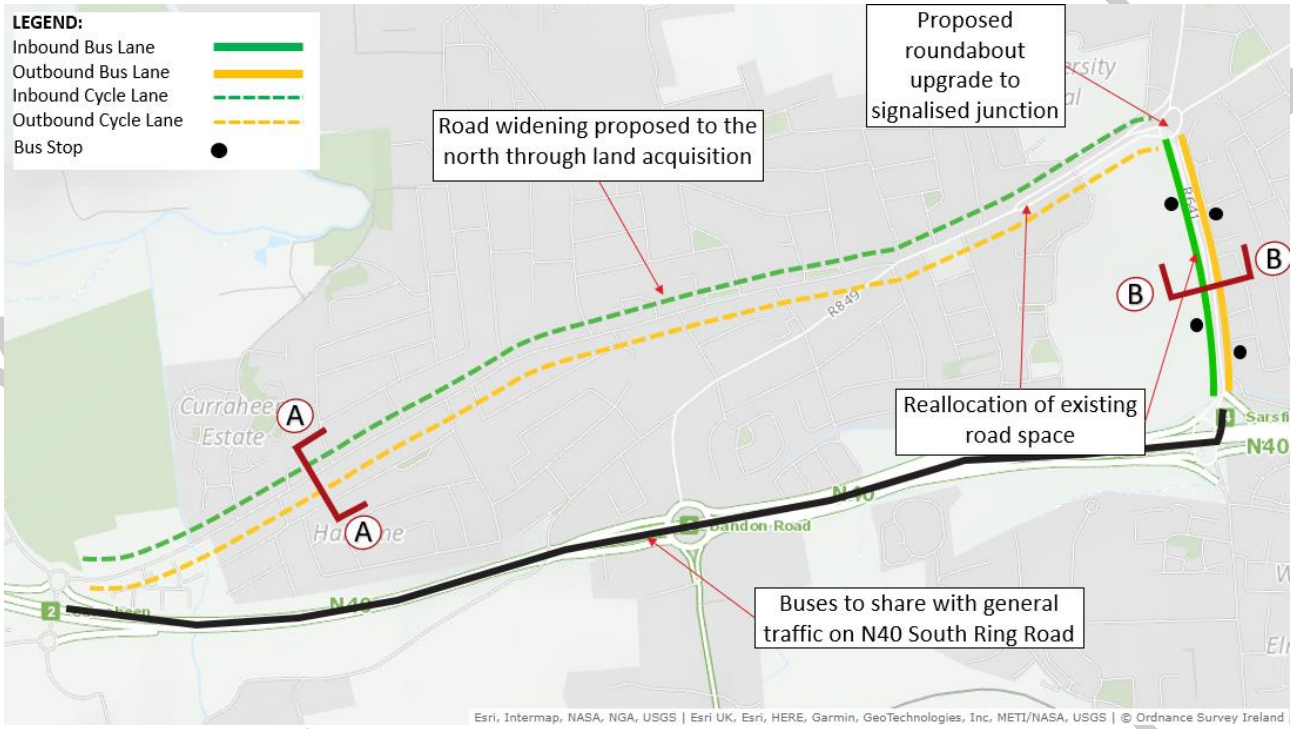

Figure 38: Section 1, Proposed Option 5 – indicative Scheme Design

For this option, as with Option 4 between the Curraheen Interchange and the Sarsfield Road Interchange on the N40 there would be no proposed bus lanes; buses would share with general traffic. Upon exiting the N40 at the Sarsfield Road Interchange, it is possible to provide bus lanes on both sides of the R641 Sarsfield Road through to Wilton Roundabout through road widening and re-designation of the existing road space.

As with Option 4, as the N40 is not a suitable route for cyclists, in this option raised adjacent cycle lanes are proposed along both sides of the Curraheen Road, from the Curraheen Interchange to the junction with the Bishopstown Road and on to the Wilton Roundabout. This is achieved using the existing carriageway space for the most part, with some localised road widening/land acquisition required.

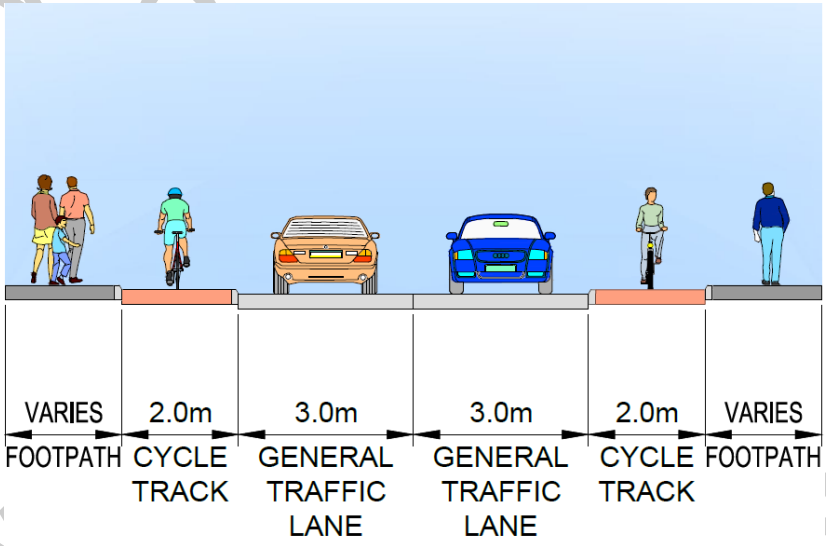

Figure 39: Section 1, Proposed Option 5 – Cross Section A-A

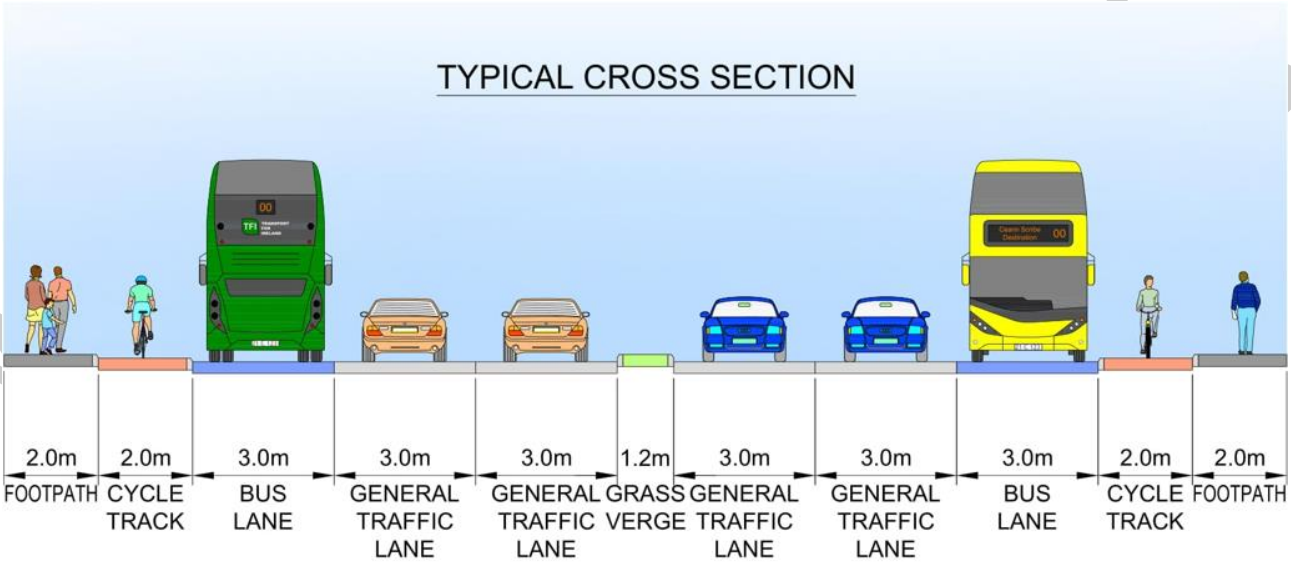

Figure 40: Section 1, Proposed Option 5 – Cross Section B-B

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

- Bus lanes on both sides of the R641 Sarsfield Road, between the N40 Sarsfield Road Interchange and the Wilton Roundabout;
- Raised adjacent cycle lanes along the entire route;
- Upgrade of a number of existing junctions along the route;
- Upgrade of the Wilton Roundabout to a signalised crossroad junction; and
- Land acquisition estimated from 30 properties.

7.1.6 Route Options Assessment

Details of the Stage 2 route options assessment undertaken for the options outlined above for Section 1 are presented in detail in Appendix A and the relative ranking of route options against the scheme assessment sub-criteria is summarised in Table 9.

Table 9: Section 1, Curraheen to Wilton Roundabout Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	RO 1	RO 2	RO 3	RO 4	RO 5
Economy	Capital Cost					
	Transport Reliability					
Integration	Land Use Integration					
	Catchments					
	Transport Network Integration					
	Cycling Integration					
	Pedestrian Network Integration					
Accessibility & Social Inclusion	Key Trip Attractors					
	Deprived Geographic Areas					
Safety	Road Safety					
Environment	Archaeology Architectural and Cultural Heritage					
	Biodiversity					
	Soils and Geology					
	Hydrology					
	Landscape and Visual					
	Air Quality, Noise & Vibration					
	Land Use Character					

From the **Economy** perspective, Route Options 4 and 5 are considered the most favourable as they follow the existing N40 National Road and require less road widening compared to Options 1, 2 and 3. Options 1, 2 and 3 all have a similar cost to one another, with a similar number of properties potentially affected. Options 4 and 5 also are less favourable in terms of transport reliability and quality of service due to the sharing of buses with general traffic along the N40 South Ring Road for a portion of their routes, with Options 1-3 all seen to perform similarly.

In terms of **Integration**, Options 4 and 5 are not are considered favourable with respect to land use integration or serving population and employment catchments. Route 2 has a poorer overall cycling integration as cyclists are directed away from their natural desire line through residential streets. Option 1 and Option 3 both perform well under the Integration heading.

All Options perform well with respect to cycling connectivity while only Option 5 is considered to perform poorly with respect to pedestrian integration due to the extent of the route using higher order strategic traffic routes (the N40 South Ring Road and Sarsfield Road).

From an **Accessibility and Social Inclusion** perspective, Options 1, 2 and 3 provide greater connectivity to key attractors located along Curraheen Road and Bishopstown Road, with all options serving Wilton Shopping Centre and Cork University Hospital directly. Options 4 and 5 have a reduced level of connectivity however the routing of Option 5 does serve a small portion of the Togher/ Mahon/ Ballyphehane RAPID area within its walking catchment.

In terms of **Safety**, Options 4 and 5 are considered to perform best as they have the least amount of conflicts owning to the fact that they are routed along the N40 National Road which has less junctions and correspondingly less opportunity for conflict. Options 1-3 are similar.

For **Environment**, Option 4 and Option 5 are the most favourable in that these options would require a significantly reduced number of trees to be felled, when compared to the other options. This would result in favourable impacts on biodiversity and on the landscape and visual setting. Option 5 would require the least amount of land-take and has the least number of residential receptors along its route. However, Option 5 would involve 2 river crossings (Twopot and Glasheen Rivers) compared to 1 river crossing with Option 4 (Twopot River).

From the above assessment, **Option 1** has been identified as the preferred route as it provides good bus priority along a key corridor in the southwestern part of Cork City providing direct access to a number of key attractors including Cork University Hospital and Wilton Shopping Centre. The delivery of the proposed infrastructure as identified along Route Option 1 will have similar impacts on the receiving built and natural environment as Option 2 and Option 3 but provides a more direct route for cyclists. Option 4 and Option 5 are not considered feasible as their routing along the N40 reduces their catchment and overall attraction.

It is therefore recommended that **Option 1** be considered the preferred option for this section of the study area.

7.2 Study Area Section 2A – Wilton Roundabout to Dennehy's Cross

This section of the CBC examines potential localised route options are available on the Wilton Road, between the junction at the Wilton Roundabout to the south and the junction at Dennehy's Cross to the north. These local options are assessed as part of Section 2A of CBC 7 with the preferred option then considered as part of the wider options included for in the assessment of Section 2 of CBC 7 (which will examine route options between the Wilton Roundabout and the city centre).

For Section 2A between Wilton Roundabout and Dennehy's Cross the following options have been identified:

- **Option 1** – buses and cyclists route via Wilton Road with full dedicated infrastructure provided to both modes;
- **Option 2** – buses and cyclists route via Wilton Road with reduced bus infrastructure provided; and

- **Option 3** – buses route via the Wilton Road with full dedicated infrastructure provided, with cyclists diverted and routed via Glasheen Road/Liam Lynch Park/Presentation Brothers Sports Grounds/Wilton Road/Magazine Road.

7.2.1 Option 1 – Routing buses and cyclists via Wilton Road

7.2.1.1 Route Description

Route Option 1 is presented in **Figure 41** and described in the following text.

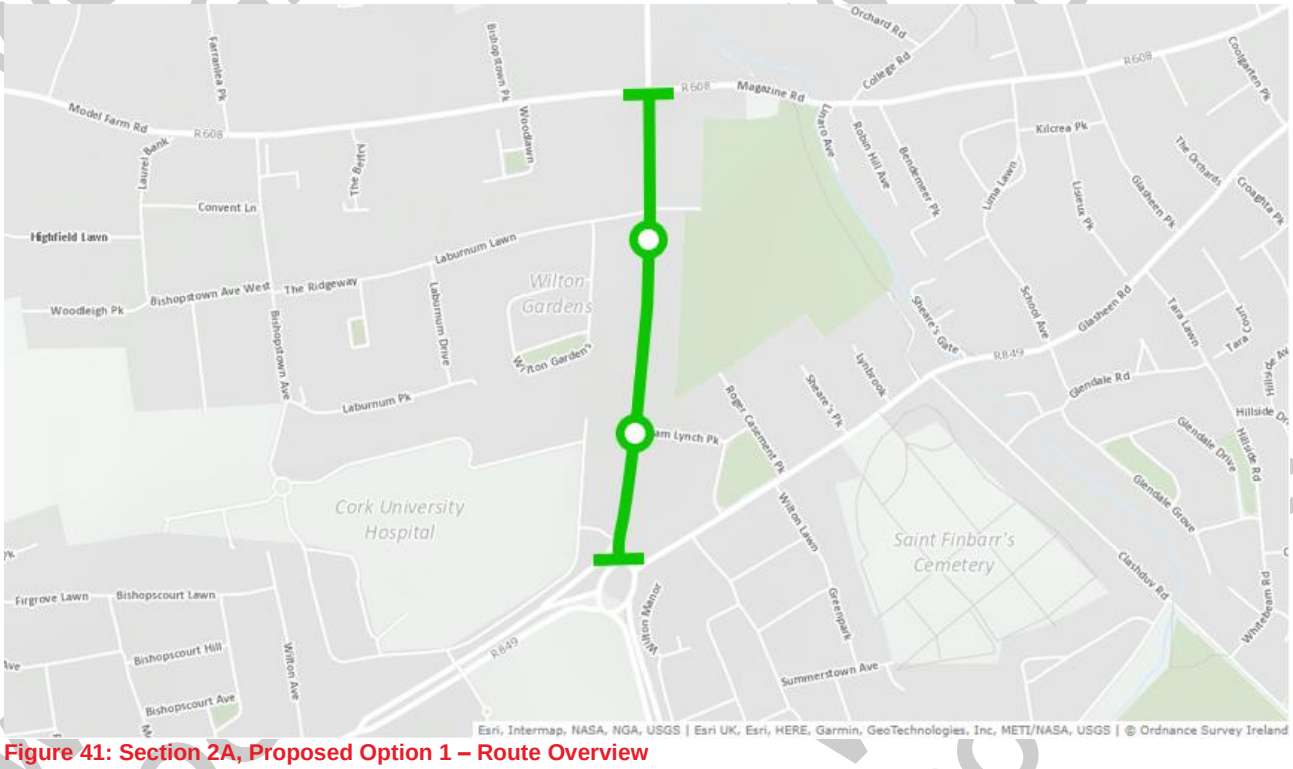

Figure 41: Section 2A, Proposed Option 1 – Route Overview

Option 1 would see both buses and cyclists routed along the entirety of the Wilton Road between the Wilton Roundabout and Dennehy's Cross. It is envisaged that this option would accommodate a total of 2 bus stops in each direction.

7.2.1.2 Indicative Scheme Design

Figure 42 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

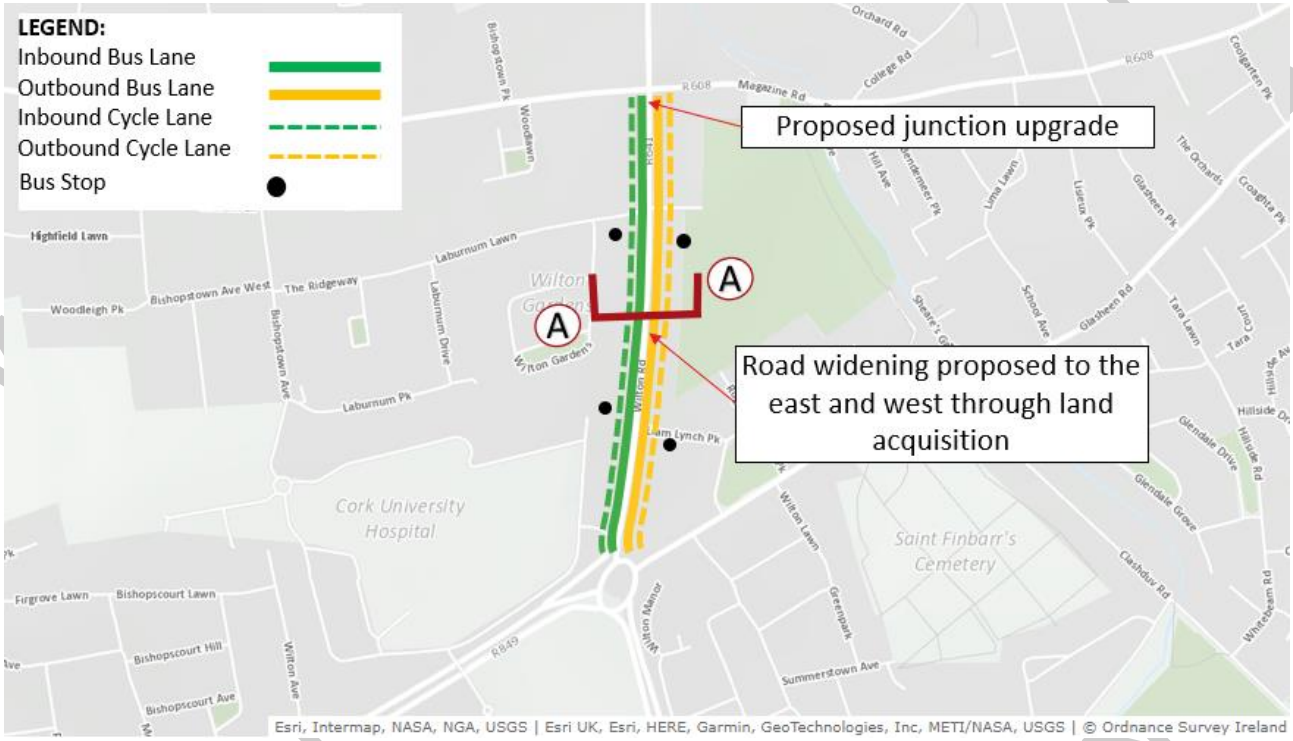

Figure 42: Section 2A, Proposed Option 1 – Indicative Scheme Design

In this option, bus lanes are proposed in both directions between Wilton Roundabout and Dennehy's Cross (i.e., along the entire section). Raised adjacent cycle lanes are also proposed on both sides of the section.

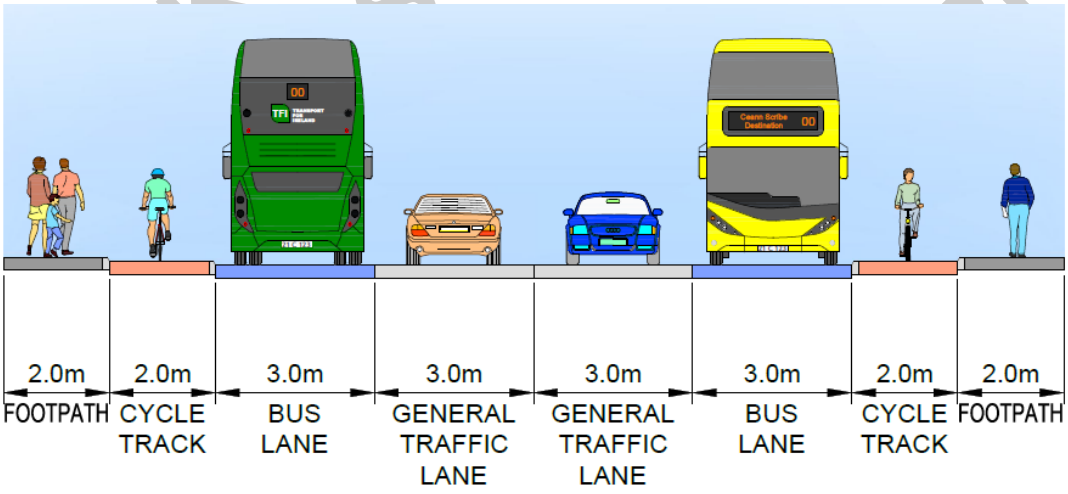

Figure 43: Section 2A, Proposed Option 1 – Cross Section A-A

This option would require significant road widening and re-grading works to the existing front gardens along Wilton Road and would require significant land acquisition. To the north, the junction at Dennehy's Cross would also be upgraded to improve pedestrian and cycle facilities through the junction and to allow for bus priority.

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

- Bus lanes on both sides of the Wilton Road between the Wilton Roundabout and Dennehy's Cross;
- Raised adjacent cycle lanes along the entirety of the route;
- Upgrade of the junction at Dennehy's Cross; and
- Land acquisition estimated from 96 properties.

7.2.2 Option 2 – Routing via Wilton Road

7.2.2.1 Route Description

Route Option 2 is presented in **Figure 44** and described in the following text.

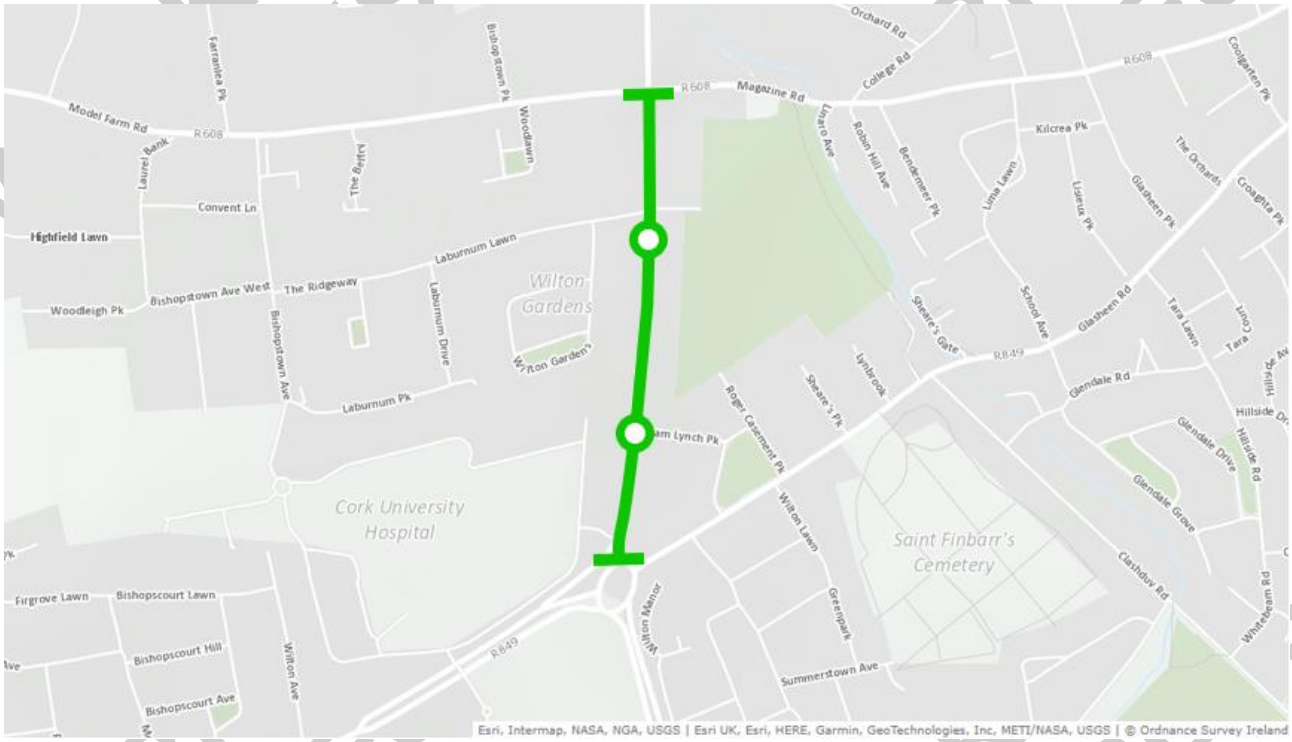

Figure 44: Section 2A, Proposed Option 2 – Route Overview

Option 2 is similar to Option 1 would see both buses and cyclists routed along the entirety of the Wilton Road between the Wilton Roundabout and Dennehy's Cross. It is envisaged that this option would accommodate a total of 2 bus stops in each direction.

7.2.2.2 Indicative Scheme Design

Figure 42 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

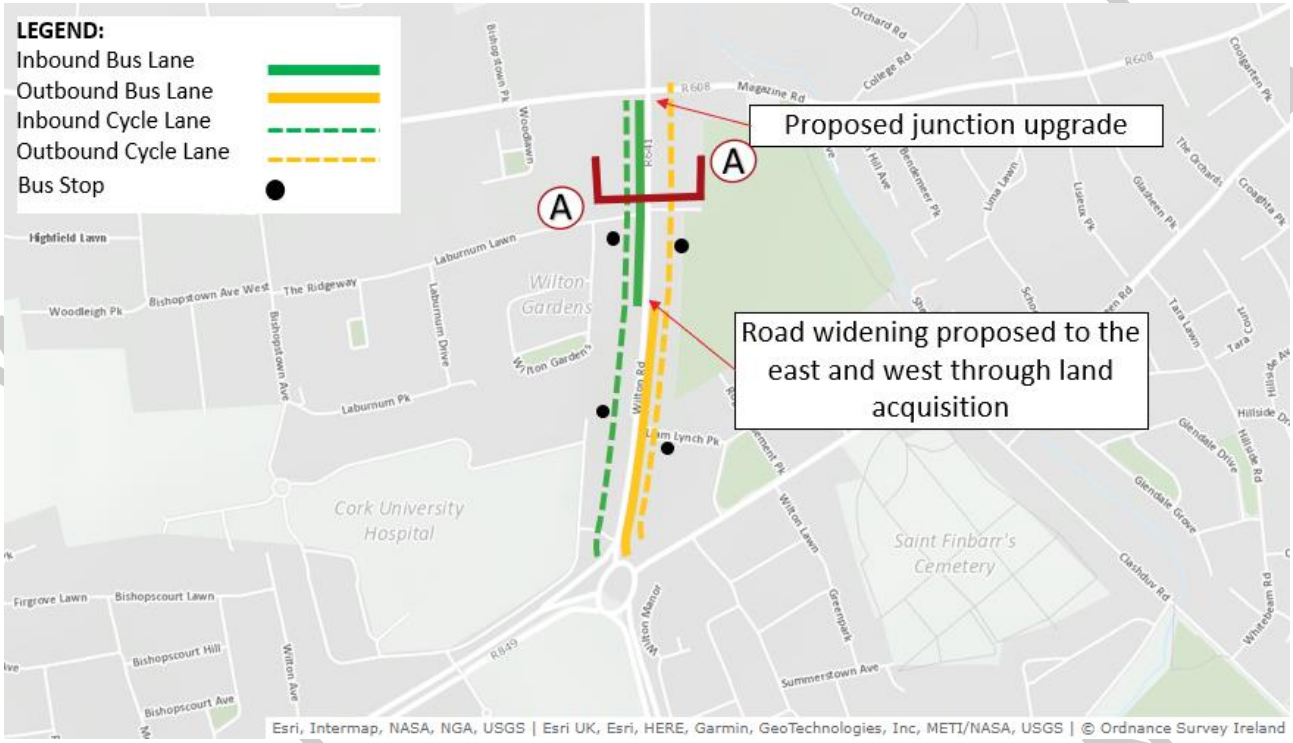

Figure 45: Section 2A, Proposed Option 2 – Indicative Scheme Design

In this option, unlike Option 1, bus lanes are proposed in one direction only on the Wilton Road, alternating between a southbound bus lane approaching the Wilton Roundabout and a northbound bus lane approaching the junction at Dennehy's Cross. Raised adjacent cycle lanes are also proposed on both sides of the section.

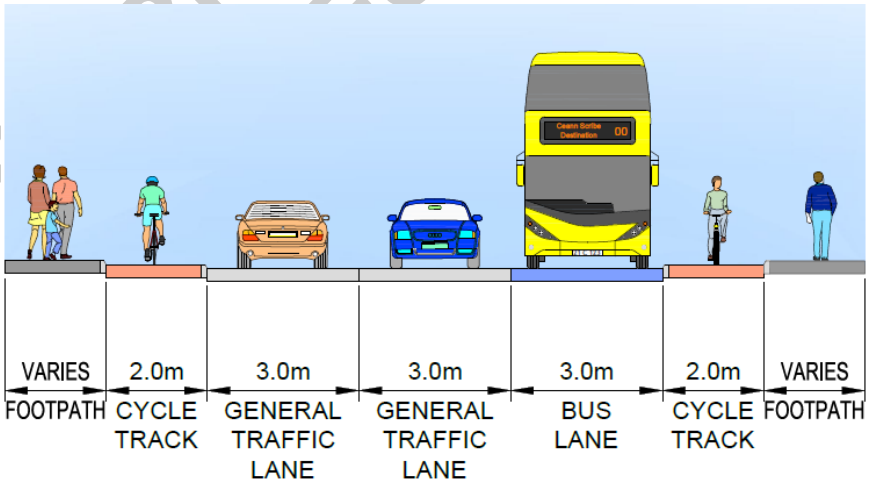

Figure 46: Section 2A, Proposed Option 2 – Cross Section A-A

As with Option 1, this option would require significant road widening and re-grading works to existing front gardens and land acquisition along the entire section (with less land acquisition required due to the reduced cross-section width compared to Option 1). To the north, the junction at Dennehy's Cross would also be upgraded to improve pedestrian and cycle facilities through the junction and to allow for bus priority.

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

- A northbound bus lane on the western side of the Wilton Road approaching the junction at Dennehy's Cross, and a southbound bus lane on the eastern side, approaching the Wilton Roundabout;
- Raised adjacent cycle lanes along the entirety of the route;
- Upgrade of the junction at Dennehy's Cross; and

- Land acquisition estimated from 94 properties.

7.2.3 Option 3 – Routing via Wilton Road (with cyclists diverted)

7.2.3.1 Route Description

Route Option 3 is presented in **Figure 47** and described in the following text.

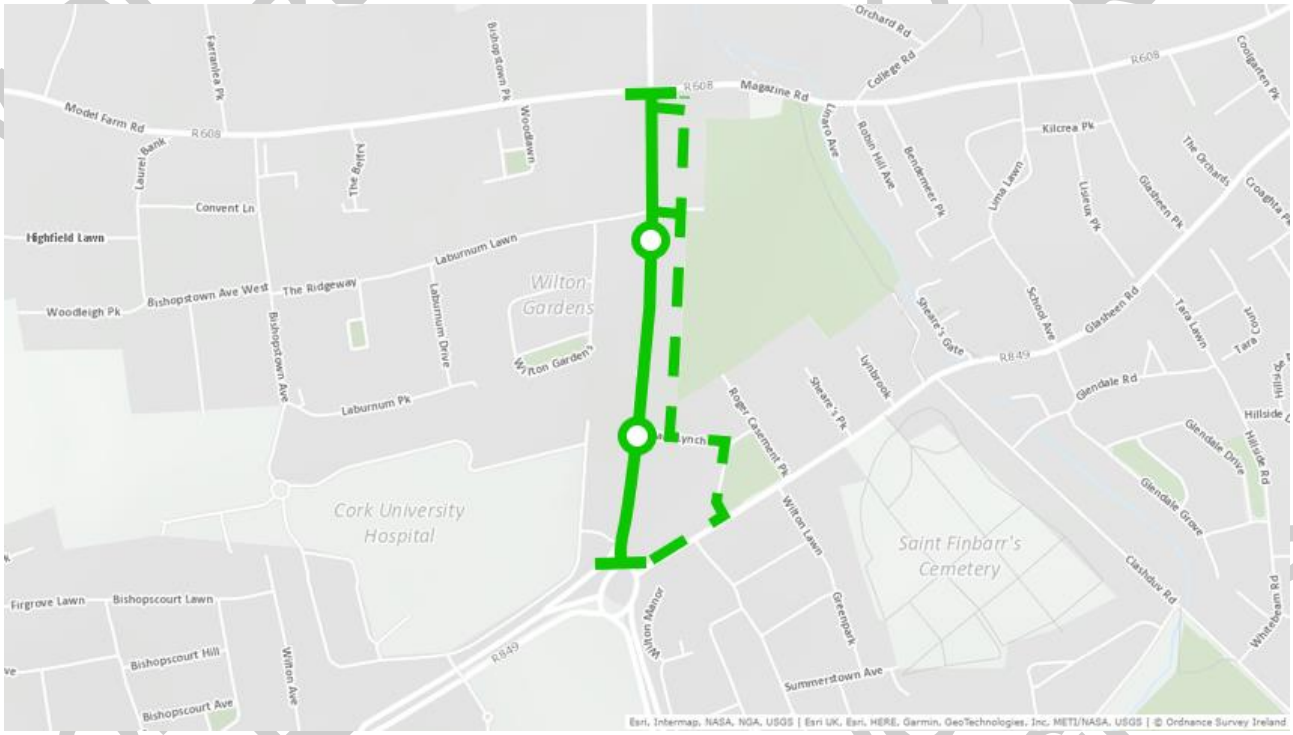

Figure 47: Section 2A, Proposed Option 3 – Route Overview

Option 3 is similar to Options 1 and 2 as it would see buses routed along the entirety of the Wilton Road between the Wilton Roundabout and Dennehy's Cross. However, this option would route cyclists via an alternative route that avoids the Wilton Road entirely, using the Glasheen Road and Liam Lynch Park before routing along a new link to be created within the grounds of the Presentation Brothers College sports grounds (along the western site boundary, running parallel to the Wilton Road). Cyclists would then have the option of re-joining the Wilton Road at the Wilton Gardens junction, or continuing along the link to the east of the residential properties and connecting to Wilton Road through the Dennehy's Cross Pharmacy site or connecting through to Magazine Road via a new link through the existing industrial complex

It is envisaged that this option would accommodate a total of 2 bus stops in each direction.

7.2.3.2 Indicative Scheme Design

Figure 48 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

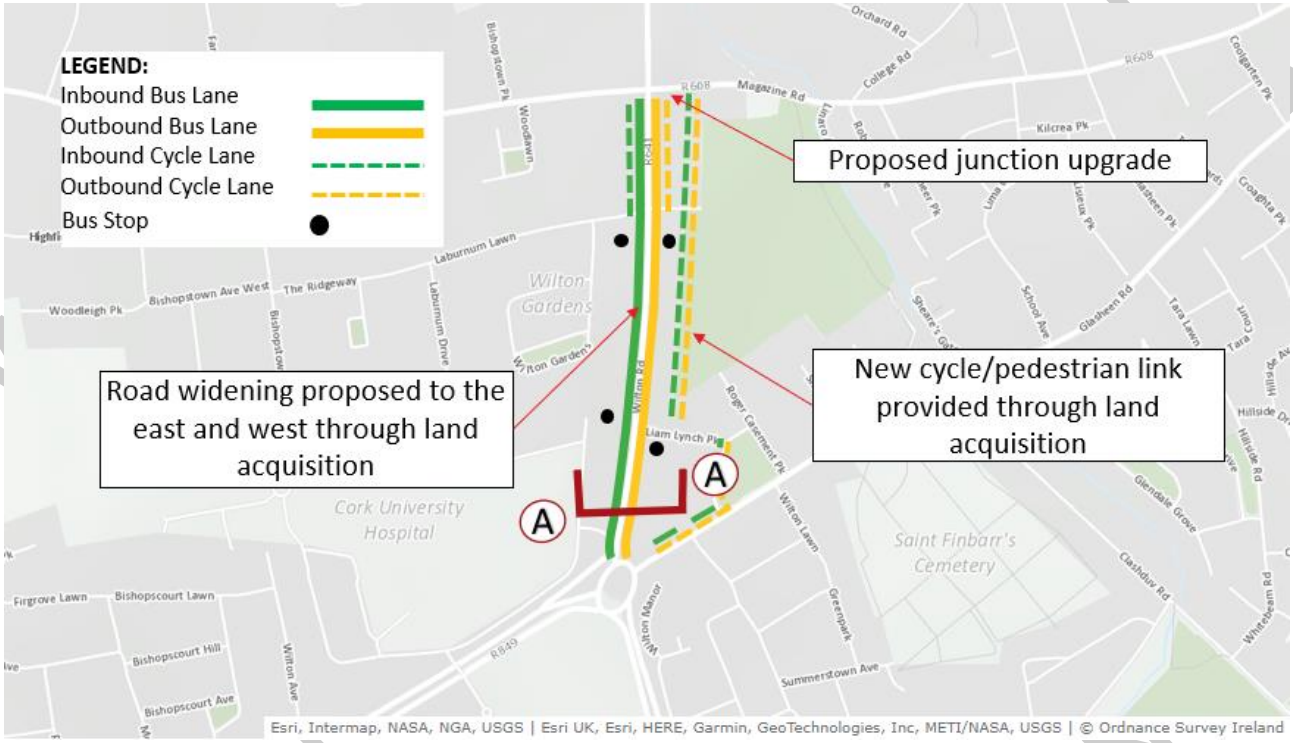

Figure 48: Section 2A, Proposed Option 3 – Indicative Scheme Design

In this option, as with Option 1 bus lanes are proposed on both sides of the Wilton Road along the entire length of the section.

A two-way raised adjacent cycle facility is proposed along the Glasheen Road to the junction with Liam Lynch Park and through the green area, before cyclists transition to a shared area with general traffic on Liam Lynch Road before routing through the new link road through the Presentation College grounds (this link will be for shared cyclist and pedestrian use). Continuing north along this new link, cyclists can divert back to the Wilton Road at the Wilton Gardens junction, where there are proposed raised adjacent cycle lanes on both sides of the Wilton Road to the junction at Dennehy's Cross. Alternatively, cyclists can continue to share with pedestrians along the new link road, through to the Dennehy's Cross Pharmacy site or directly through to Magazine Road (where there is a short section of Magazine Road with proposed raised adjacent cycle lanes on both sides to connect back to Dennehy's Cross.

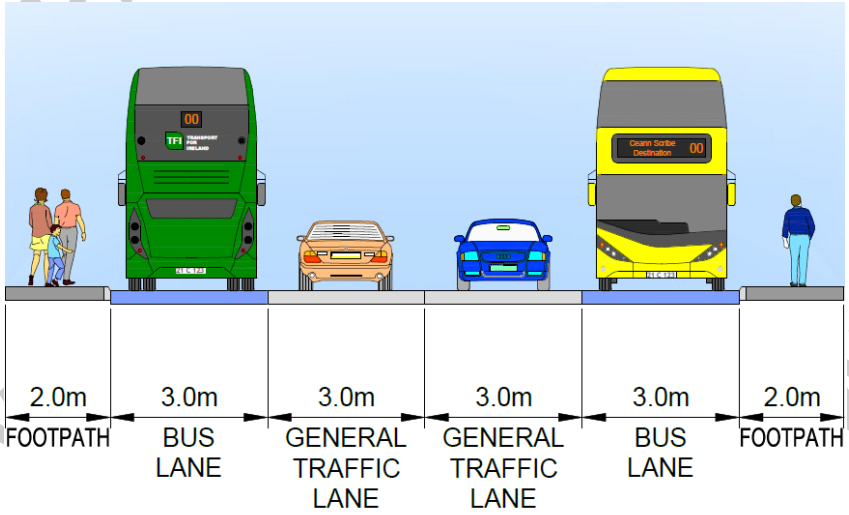

Figure 49: Section 2A, Proposed Option 3 – Cross Section A-A

As with Option 1 and 2, this option would require significant road widening and re-grading works to the existing front gardens on the Wilton Road with land acquisition along the entire section required. There is expected to be less land acquisition required due to the reduced cross-section width compared to Options 1 and 2. However, additional land acquisition would also be required to implement the new cycle facilities on

Glasheen Road, the new pedestrian/cycle link through the Presentation College grounds and between the new pedestrian/cycle link and Wilton Road/ Magazine Road.

To the north, the junction at Dennehy's Cross would also be upgraded to improve pedestrian and cycle facilities through the junction and to allow for bus priority.

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

- Bus lanes on both sides of the Wilton Road between the Wilton Roundabout and the junction at Dennehy's Cross;
- A two-way raised adjacent cycle facility along the Glasheen Road and through Liam Lynch Park;
- Raised adjacent cycle facilities on both sides of the Wilton Road between the Wilton Gardens and Dennehy's Cross;
- A new pedestrian/cycle link adjacent to a number of residential properties and through the Presentation College sports grounds;
- Connections from this new pedestrian/cycle link to the Wilton Road at Wilton Gardens, at the Dennehy's Cross Pharmacy site and directly through to Magazine Road;
- Upgrade of the junction at Dennehy's Cross; and
- Land acquisition estimated from 98 properties.

7.2.4 Route Options Assessment

Details of the Section 2A route options assessment undertaken for the options outlined above are presented in detail in Appendix A and the relative ranking of route options against the scheme assessment sub-criteria is summarised in Table 10.

Table 10: Section 2A, Wilton Roundabout to Dennehy's Cross Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	RO 1	RO 2	RO 3
Economy	**Capital Cost**			
	Transport Reliability			
Integration	**Land Use Integration**			
	Catchments			
	Transport Network Integration			
	Cycling Integration			
	Pedestrian Network Integration			
Accessibility & Social Inclusion	**Key Trip Attractors**			
	Deprived Geographic Areas			

Assessment Criteria	Assessment Sub-Criteria	RO 1	RO 2	RO 3
Safety	**Road Safety**			
Environment	**Archaeology Architectural and Cultural Heritage**			
	Biodiversity			
	Soils and Geology			
	Hydrology			
	Landscape and Visual			
	Air Quality, Noise & Vibration			
	Land Use Character			

From the **Economy** perspective, Route Option 2 is considered the most favourable as less construction and associated land take is required. Route Options 1 and 3 are considered similar in terms of costs, with Option 3 having less impact on Wilton Road but incurring additional costs associated with the new pedestrian/cycle facility in the grounds of the Presentation Brother's Sports Grounds. Both Option 1 and 3 perform very well in terms of bus journey time reliability with dedicated bus lanes provided in both directions along this very important corridor, while Option 2 performs poorly by comparison with incomplete bus lanes resulting in potential delays to bus users as the Wilton Road is typically a very busy traffic route serving the southwestern sector of the city.

In terms of **Integration**, all options perform similarly however as the dedicated cycle facilities associated with Option 3 are slightly diverted from the direct desire line along the Wilton Road it is considered that Option 3 performs slightly less favourable than the other options. Although, it is recognised that Option 3 does provide good cycle facilities, suitable for cyclist of all capabilities, confident cyclists (particularly in the downhill direction) would nevertheless have the use of an alternative route using the proposed bus lanes on Wilton Road.

From an **Accessibility and Social Inclusion** as well as a **Safety** perspective all three options perform similarly.

From an **Environment** point of view, Option 2 is the most favourable in that it would require a reduced number of trees to be felled, when compared to the other options. This would result in more favourable impacts on biodiversity and on the landscape and visual setting. Option 3 would have a similar impact along the Wilton Road as Option 2; however the construction works within the Presentation Brother's Sports Ground and on Glasheen Road would result in a greater impact on the environment compared to Option 2. Finally, Option 1 would entail the greatest change to Wilton Road including the construction of new retaining walls and the loss of trees as noted earlier impacting on the receiving environment.

From the above assessment, **Option 3** has been identified as the preferred route as it provides the necessary bus priority along Wilton Road, with manageable impacts on the residential properties along Wilton Road. It is acknowledged that under Option 3 the delivery of the cycle facilities will have a slightly greater impact on the receiving environment compared to other options the overall impact on the receiving environment is very modest and can be mitigated through the provision of new trees and improved biodiversity investment along the route.

7.3 Study Area Section 2B – Bandon Road to City Centre

7.3.1 Introduction

This section examines potential localised route options available between the junction of the Bandon Road/ Lough Road and the city centre. These local options are assessed as part of Section 2B of CBC 7 with the preferred option then considered as part of the wider options included for in the assessment of Section 2 of CBC 7 (which will examine route options between the Wilton Roundabout and the city centre).

For Section 2B between Bandon Road and the city centre the following options have been identified:

- **Option 1** – buses in both directions route via St Finbarr's Road, Noonan Road, Gregg Road and Bishop Street, with the route then splitting with inbound buses continuing via Sharman Crawford Street, St Finbarr's Bridge and Washington Street and outbound buses routing via Washington Street, South Main Street and Proby's Quay. Cyclists follow the same two-way route as buses until Bishop Street, at which point inbound cyclists use the existing contra-flow cycle facilities in place on Bishop Street/Proby's Quay/South Main Street and continue via Washington Street, while outbound cyclists route via Washington Street, Wandesford Quay/Clarke's Bridge, Crosses Green and Proby's Quay/Bishop Street;
- **Option 2** – buses in both directions route via Bandon Road, Noonan Road, Gregg Road, Bishop Street, with the route then splitting, with inbound buses continuing via Sharman Crawford Street, St Finbarr's Bridge and Washington Street, and outbound buses routing via Washington Street, South Main Street and Proby's Quay. Cyclists would route via St. Finbarr's Road to the junction of Noonan Road/Gregg Road and then continue as per Option 1 inbound and outbound; and
- **Option 3** – buses in both directions route via Bandon Road, Noonan Road, Gregg Road, Bishop Street, Sharman Crawford Street, St Finbarr's Bridge and Washington Street (i.e., no splitting of inbound and outbound routing), with cyclists routing via St. Finbarr's Road to the Noonan Road/Gregg Road junction and then continuing as per Option 1 and 2.

7.3.2 Option 1 – Routing via St Finbarr's Road

7.3.2.1 Route Description

Route Option 1 is presented in **Figure 50** and described in the following text.

Figure 50: Section 2B, Proposed Option 1 – Route Overview

For Option 1 of Section 2B, inbound buses are directed along St Finbarr's Road, Noonan Road, Gregg Road, Gillabbey Street, Bishop Street, Sharman Crawford Street, Wandesford Quay and on to Washington Street to the city centre, with outbound buses from the city centre running along Washington Street, South Main Street, Proby's Quay/French's Quay, Bishop Street, Gillabbey Street, Gregg Road, Noonan Road and St Finbarr's Road.

Inbound cyclists are directed along St Finbarr's Road, Noonan Road, Gregg Road, Gillabbey Street, Bishop Street, Proby's Quay (using the existing contra-flow facility) and finally connecting with the existing inbound cycle lane on South Main Street to Washington Street and continuing to the city centre. In the outbound direction, the cycle route from the city centre routes along Washington Street to Hanover Place before diverting to route over Clarkes Bridge and Crosses Green, turning on to Proby's Quay, Bishop Street, Gillabbey Street, Gregg Road, Noonan Road and terminating at the junction of Lough Road/ St Finbarr's Road.

It is envisaged that this option would accommodate a total of 4 bus stops in each direction.

7.3.2.2 Indicative Scheme Design

Figure 51 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

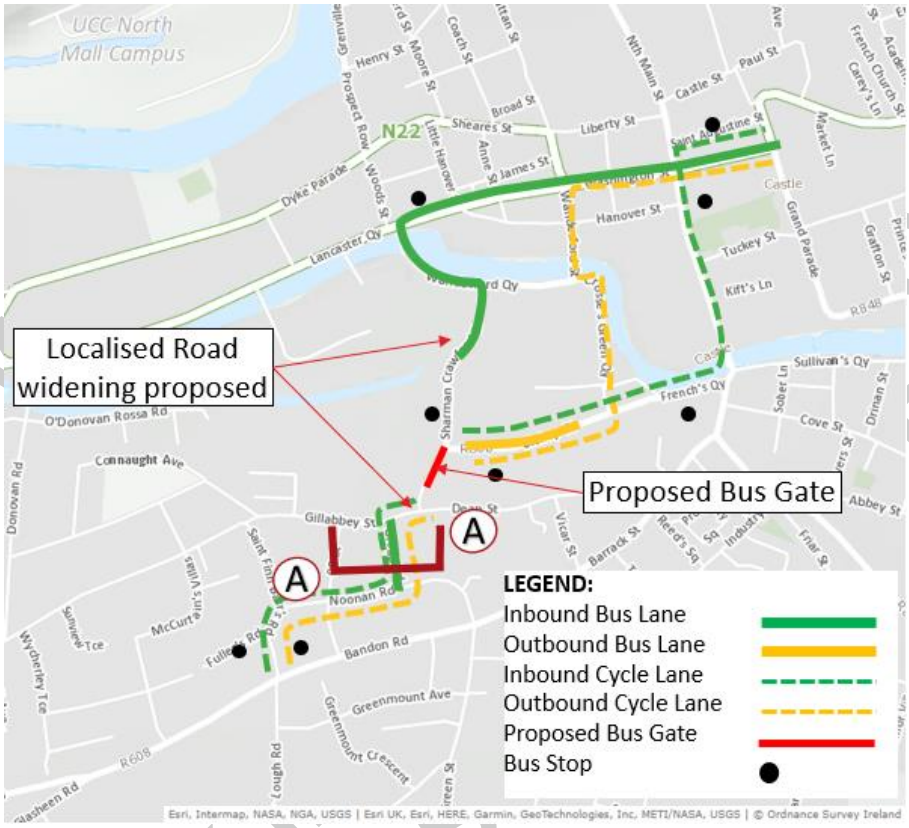

Figure 51: Section 2B, Proposed Option 1 – Indicative Scheme Design

There is limited opportunity to provided dedicated bus lanes in both direction; therefore the extent of bus priority measures is limited to proposed inbound bus lanes on Gregg Road, on Sharman Crawford Street and Wandesford Quay, and on Washington Street. Outbound buses would share with general traffic on Washington Street, South Main Street and a portion of Proby's Quay, with a short section of outbound bus lane proposed on Bishop Street approaching the junction with Sharman Crawford Street. Provision of the inbound bus lane on Sharman Crawford Street would be facilitated via localised land acquisition.

To complement the dedicated bus priority lanes, a bus gate is proposed on Bishop Street to the south of the junction with Sharman Crawford Street. This will restrict through traffic flow in both the inbound and outbound directions and will further support improved bus journey time reliability.

In terms of cyclists, dedicated inbound cycle lanes are proposed along St Finbarr's Road (with a short section approaching the junction with Lough Road where cyclists would share with general traffic), Noonan Road, Gregg Road, Gillabbey Street, Bishop Street (again here there is a short section where dedicated cycle facilities cannot be provided), Proby's Quay (using the existing facility) and finally connecting with the inbound cycle lane on South Main Street.

In the outbound direction, the cycle route is via Washington Street before diverting to Hanover Place (where a southbound contra-flow cycle lane will be provided), Clarke's Bridge (again with a dedicated contra-flow cycle facility in the southbound direction), on to Crosses Green (where the route will facilitate shared road space with general traffic on a very low flow, low-speed route), Proby's Quay (with additional cycle facilities proposed between Crosses Green and Sharman Crawford Street, through Bishop Street (in a shared environment), on to Gillabbey Street, Gregg Road and Noonan Road (to include dedicated raised adjacent cycle facilities) and finally stopping just short of St Finbarr's Road where there will be need for another short section of shared use roadway. Provision of the section of cycle facilities proposed on Gillabbey Street between Gregg Road and Bishop Street would be facilitated via localised widening.

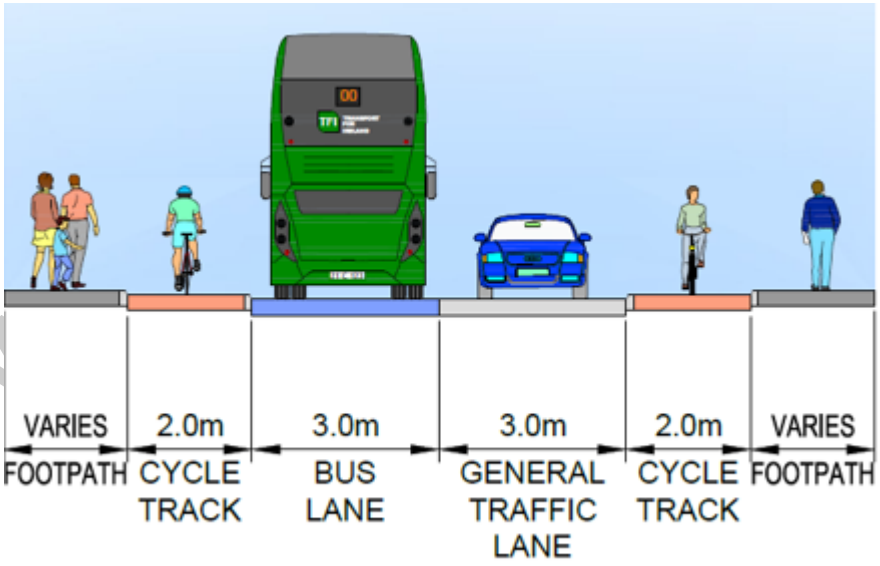

Figure 52: Section 2B, Proposed Option 1 – Cross Section A-A

To facilitate the delivery of the proposed bus and cycle infrastructure proposed in this option the following changes in traffic management will be necessary:

- Convert Gregg Road to one-way southbound;
- Remove through traffic from Bishop's Street through provision of a bus gate;
    - Remove outbound traffic from Wandesford Quay (from Washington Street) and convert to an inbound bus lane); and
    - Provision of an inbound bus lane on Washington Street, between St. Finbarr's Bridge and Grand Parade.

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

- Raised adjacent cycle facilities provided in each direction on Noonan Road between Gregg Road and St Finbarr's Road;
    - An inbound bus only lane and raised adjacent cycle facilities in each direction provided on Gregg Road;
    - Bus priority provided on Bishop's Street through the introduction of traffic restrictions;
    - A short inbound bus lane on Sharman Crawford Street approaching its junction with Wandesford Quay and continuing to Washington Street;
    - Outbound cycle lane on Hanover Street, over Clarke's Bridge and onward to a portion of Crosse's Green;
    - Short section of outbound cycle lane on Proby's Quay between Crosses Green and Bishop Street
    - Cycle facilities in each direction on Gillabbey Street;
    - Cycle facilities provided on St Finbarr's Road; and
    - Land acquisition estimated from 4 properties.

7.3.3 Option 2 – Routing via Bandon Road

7.3.3.1 Route Description

Route Option 2 is presented in Figure 53 and described in the following text.

Figure 53: Section 2B, Proposed Option 2 – Route Overview

For Option 2 of Section 2B, inbound buses are not routed via St. Finbarr's Road, but instead are directed along Bandon Road before turning onto Noonan Road and then follow the same route as Option 1, via Gregg Road, Gillabbey Street, Bishop Street, Sharman Crawford Street, Wandesford Quay and on to Washington Street to the city centre, with outbound buses from the city centre running along Washington Street, South Main Street, Proby's Quay/French's Quay, Bishop Street, Gillabbey Street, Gregg Road, Noonan Road and Bandon Road.

Inbound cyclists are directed along the same route as per Option 1, via St Finbarr's Road, Noonan Road, Gregg Road, Gillabbey Street, Bishop Street, Proby's Quay (using the existing contra-flow facility) and finally connecting with the existing inbound cycle lane on South Main Street to Washington Street and continuing to the city centre. In the outbound direction, the cycle route from the city centre routes along Washington Street to Hanover Place before diverting to route over Clarkes Bridge and Crosses Green, turning on to Proby's Quay, Bishop Street, Gillabbey Street, Gregg Road, Noonan Road and terminating at the junction of Lough Road/ St Finbarr's Road.

In summary, this option differs from Option 1 where buses are routed away from St. Finbarr's Road and instead use Bandon Road to get to Noonan Road before proceeding as per Option 1.

7.3.3.2 Indicative Scheme Design

Figure 42 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

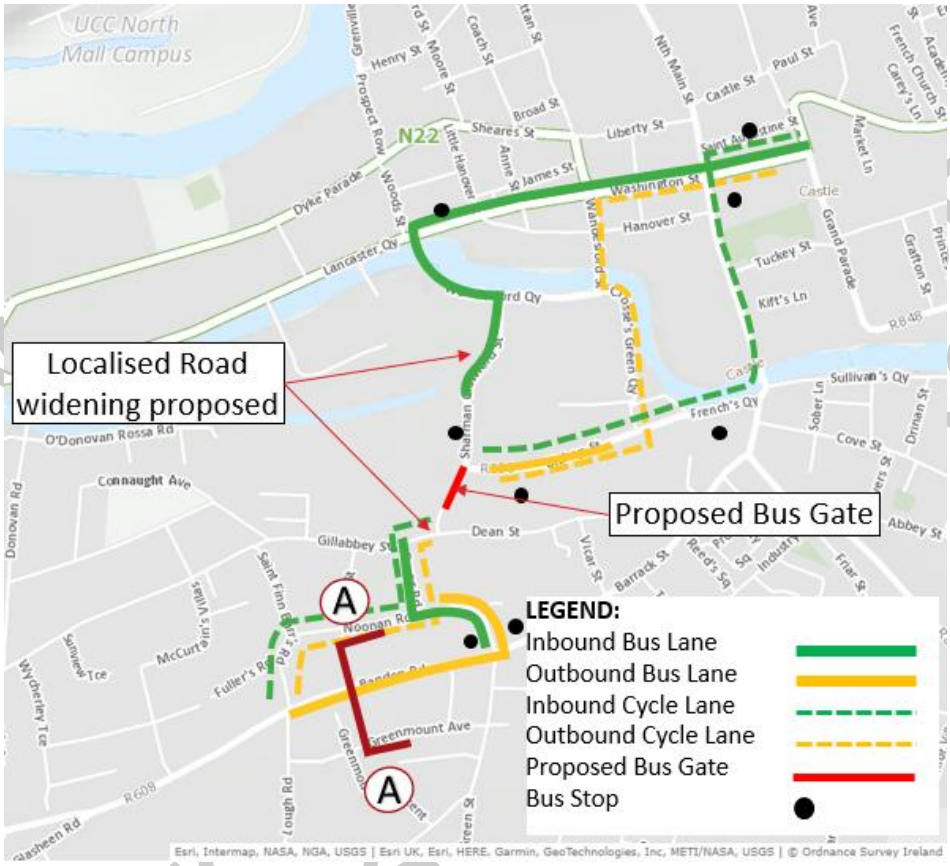

Figure 54: Section 2B, Proposed Option 2 – Indicative Scheme Design

There is limited opportunity to provided dedicated bus lanes in both direction; therefore, the extent of bus priority measures is limited to a proposed inbound bus lane on Gregg Road, on Sharman Crawford Street, Wandesford Quay, and on Washington Street. Outbound buses would share with general traffic on Washington Street, South Main Street and a portion of Proby's Quay, with a short section of outbound bus lane proposed on Bishop Street approaching the junction with Sharman Crawford Street. An outbound bus lane is also proposed on Bandon Road, between the Noonan Road and St. Finbarr's Road junction replacing an existing general traffic lane. Provision of the inbound bus lane on Sharman Crawford Street would be facilitated via localised land acquisition.

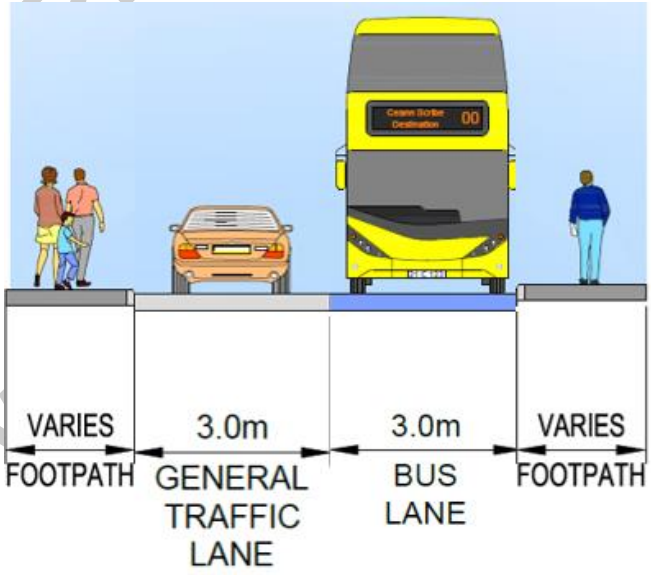

Figure 55: Section 2B, Proposed Option 2 – Cross Section A-A

To complement the dedicated bus priority lanes, a bus gate is proposed on Bishop Street to the south of the junction with Sharman Crawford Street. This will restrict through traffic flow in both the inbound and outbound directions and will further support improved bus journey time reliability.

In terms of cyclists, dedicated inbound cycle lanes are proposed along St Finbarr's Road (with a short section approaching the junction with Lough Road where cyclists would share with general traffic), Noonan Road, Gregg Road, Gillabbey Street, Bishop Street (again here there is a short section where dedicated cycle facilities cannot be provided), Proby's Quay (using the existing facility) and finally connecting with the inbound cycle lane on South Main Street.

In the outbound direction, the cycle route is via Washington Street before diverting to Hanover Place (where a southbound contra-flow cycle lane will be provided), Clarke's Bridge (again with a dedicated contra-flow cycle facility in the southbound direction), on to Crosses Green (where the route will facilitate shared road space with general traffic on a very low flow, low-speed route), Proby's Quay (with additional cycle facilities proposed between Crosses Green and Sharman Crawford Street, through Bishop Street (in a shared environment), on to Gillabbey Street, Gregg Road and Noonan Road (to include dedicated raised adjacent cycle facilities) and finally stopping just short of St Finbarr's Road where there will be need for another short section of shared use roadway. The provision of cycle facilities proposed on Gillabbey Street between Gregg Road and Bishop Street would be facilitated via localised widening.

To facilitate the delivery of the proposed bus and cycle infrastructure proposed in this option the following changes in traffic management will be necessary:

- Convert Noonan Road from two-way to one-way westbound between Gregg Road and Green Street;
- Convert Bandon Road to one-way eastbound between Lough Road and Green Street;
- Convert Gregg Road to one-way southbound;
- Remove through traffic from Bishop's Street through provision of a bus gate;
- Remove outbound traffic from Wandesford Quay (from Washington Street) and convert to an inbound bus lane); and
- Provision of an inbound bus lane on Washington Street, between St. Finbarr's Bridge and Grand Parade.

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

- An outbound (westbound) bus lane on Bandon Road;
- Bus lanes provided in each direction on Noonan Road between Bandon Road and Gregg Road;
- Raised adjacent cycle facilities provided in each direction on Noonan Road between Gregg Road and St Finbarr's Road;
- An inbound bus only lane and raised adjacent cycle facilities in each direction provided on Gregg Road;
- Bus priority provided on Bishop's Street through the introduction of traffic restrictions;
- A short inbound bus lane on Sharman Crawford Street approaching its junction with Wandesford Quay and continuing to Washington Street;
- Outbound cycle lane on Hanover Street, over Clarke's Bridge and onward to a portion of Crosses Green;
- Short section of outbound cycle lane on Proby's Quay between Crosses Green and Bishop Street
- Cycle facilities in each direction on Gillabbey Street;
- Cycle facilities provided on St Finbarr's Road; and

- Land acquisition estimated from 4 properties.

7.3.4 Option 3 – Routing via Sharman Crawford Street (two-way buses)

7.3.4.1 Route Description

Route Option 3 is presented in Figure 56and described in the following text.

Figure 56: Section 2B, Proposed Option 3 – Route Overview

Option 3 of Section 2B is similar to Option 2 with inbound buses directed along Bandon Road before turning onto Noonan Road and following the same route as Option 1, via Gregg Road, Gillabbey Street, Bishop Street, Sharman Crawford Street, Wandesford Quay and on to Washington Street to the city centre. However, in this option outbound buses from the city centre are routed along Washington Street, as far as St. Finbarr's Bridge and then on to Wandesford Quay, Sharman Crawford Street, Bishop Street, Gillabbey Street, Gregg Road, Noonan Road and Bandon Road.

Inbound cyclists are directed along the same route as per Option 1 and 2, via St Finbarr's Road, Noonan Road, Gregg Road, Gillabbey Street, Bishop Street, Proby's Quay (using the existing contra-flow facility) and finally connecting with the existing inbound cycle lane on South Main Street to Washington Street and continuing to the city centre. In the outbound direction, the cycle route from the city centre routes along Washington Street to Hanover Place before diverting to route over Clarkes Bridge and Crosses Green, turning on to Proby's Quay, Bishop Street, Gillabbey Street, Gregg Road, Noonan Road and terminating at the junction of Lough Road/ St Finbarr's Road.

In summary, this option differs from Option 2 by converting Sharman Crawford Street into a two-way route and allowing bus services in the inbound and outbound direction to use Sharman Crawford Street as the connection between Bishop Street and Washington Street.

7.3.4.2 Indicative Scheme Design

Figure 57 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

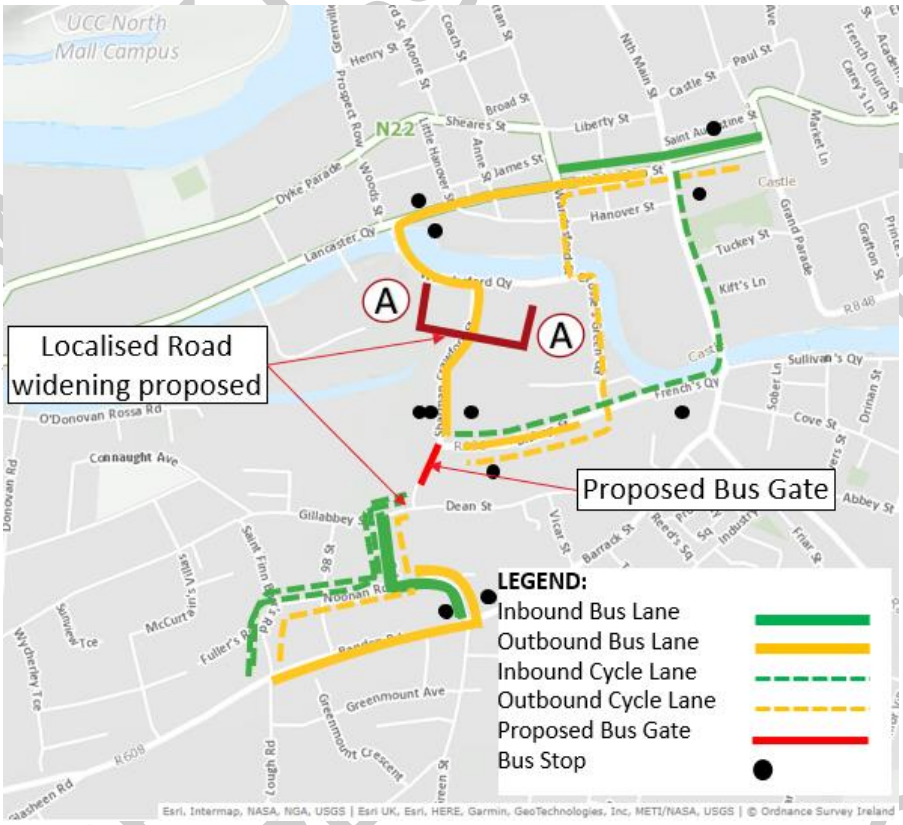

Figure 57: Section 2B, Proposed Option 3 – Indicative Scheme Design

As with Options 1 and 2 there is limited opportunity to provided dedicated bus lanes in both direction; therefore, the extent of bus priority measures is limited to proposed inbound bus lanes on Gregg Road and on Washington Street. Outbound buses would share with general traffic on Washington Street to the junction with South Main Street before using a proposed bus lane to the junction with St. Finbarr's Bridge, and on to Wandesford Quay and through to Sharman Crawford Street, where the existing outbound traffic lane on Wandesford Quay would be converted to an outbound bus lane and widening works on Sharman Crawford Street would facilitate an outbound bus lane to the junction at Bishop Street. Finally, an outbound bus lane is also proposed on Bandon Road, between the Noonan Road and St. Finbarr's Road junction. Provision of the outbound bus lane on Sharman Crawford Street would be facilitated via localised land acquisition along the front of the Crawford College of Art and Design.

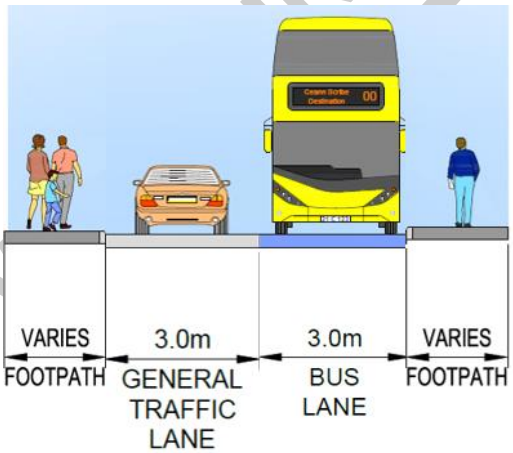

Figure 58: Section 2B, Proposed Option 3 – Cross Section A-A

To complement the dedicated bus priority lanes, a bus gate is proposed on Bishop Street to the south of the junction with Sharman Crawford Street. This will restrict through traffic flow in both the inbound and outbound directions and will further support improved bus journey time reliability.

In terms of cyclists, dedicated inbound cycle lanes are proposed along St Finbarr's Road (with a short section approaching the junction with Lough Road where cyclists would share with general traffic), Noonan Road, Gregg Road, Gillabbey Street, Bishop Street (again here there is a short section where dedicated cycle facilities cannot be provided), Proby's Quay (using the existing facility) and finally connecting with the inbound cycle lane on South Main Street.

In the outbound direction, the cycle route is via Washington Street before diverting to Hanover Place (where a southbound contra-flow cycle lane will be provided), Clarke's Bridge (again with a dedicated contra-flow cycle facility in the southbound direction), on to Crosses Green (where the route will facilitate shared road space with general traffic on a very low flow, low-speed route), Proby's Quay (with additional cycle facilities proposed between Crosses Green and Sharman Crawford Street, through Bishop Street (in a shared environment), on to Gillabbey Street, Gregg Road and Noonan Road (to include dedicated raised adjacent cycle facilities) and finally stopping just short of St Finbarr's Road where there will be need for another short section of shared use roadway. Provision of the section of cycle facilities proposed on Gillabbey Street between Gregg Road and Bishop Street would be facilitated via localised widening.

To facilitate the delivery of the proposed bus and cycle infrastructure proposed in this option the following changes in traffic management will be necessary:

- Convert Noonan Road from two-way to one-way westbound between Gregg Road and Green Street;
- Convert Bandon Road to one-way eastbound between Lough Road and Green Street
- Convert Gregg Road to one-way southbound
- Remove through traffic from Bishop's Street through provision of a bus gate;
- Provide an outbound bus lane on Sharman Crawford Street
- Remove outbound traffic from Wandesford Quay (from Washington Street) and convert to an outbound bus lane); and
- Provision of an outbound bus lane on Washington Street, between St. Finbarr's Bridge and Grand South Main Street.

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

- An outbound (westbound) bus lane on Bandon Road;
- Bus lanes provided in each direction on Noonan Road between Bandon Road and Gregg Road;
- Raised adjacent cycle facilities provided in each direction on Noonan Road between Gregg Road and St Finbarr's Road;
- An inbound bus only lane and raised adjacent cycle facilities in each direction provided on Gregg Road;
- Bus priority provided on Bishop's Street through the introduction of traffic restrictions;
- An outbound bus lane on Wandesford Quay and Sharman Crawford Street between Washington Street and Bishop Street;
- Outbound cycle lane on Hanover Street, over Clarke's Bridge and onward to a portion of Crosses Green;
- Short section of outbound cycle lane on Proby's Quay between Crosses Green and Bishop Street
- Cycle facilities in each direction on Gillabbey Street;

- Cycle facilities provided on St Finbarr's Road; and

- Land acquisition estimated from 7 properties.

7.3.5 Route Options Assessment

Details of the Section 2B route options assessment undertaken for the options outlined above are presented in detail in Appendix A and the relative ranking of route options against the scheme assessment sub-criteria is summarised in Table 11.

Table 11: Section 2B, Bandon Road to City Centre Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	RO 1	RO 2	RO 3
Economy	Capital Cost			
	Transport Reliability			
Integration	Land Use Integration			
	Catchments			
	Transport Network Integration			
	Cycling Integration			
	Pedestrian Network Integration			
Accessibility & Social Inclusion	Key Trip Attractors			
	Deprived Geographic Areas			
Safety	Road Safety			
Environment	Archaeology and Cultural Heritage			
	Biodiversity			
	Soils and Geology			
	Hydrology			
	Landscape and Visual			
	Air Quality			

Assessment Criteria	Assessment Sub-Criteria	RO 1	RO 2	RO 3
	Land Use Character			

From the **Economy** perspective, all three route options are considered similar in terms of overall costs with Option 3 considered slightly more expensive than the other options due to the additional widening works required on Sharman Crawford Street. In terms of journey time reliability and quality of service, Option 3 is considered the most favourable as this route provides both a good level of bus priority along with enhanced service network integration by removing the split route nature of the bus services on this corridor (i.e. all bus services would use Wandesford Quay and Sharman Crawford Street to both enter and exit the city centre). Option 2 is preferred to Option 1 as it provides a greater degree of bus priority on Bandon Road and Noonan Road.

In terms of **Integration**, again Option 3 is considered the most favourable as all bus services can run on the same corridor providing a better service to the existing catchments in the area.

From an **Accessibility and Social Inclusion** and a **Road Safety** perspective all options performed similarly.

Under the **Environment** criteria, Option 3 is considered not possible due to the impact road widening will have on the existing historic built environment along Sharman Crawford Street in particular, with the existing wall and railing likely to require setback to facilitate two-way traffic flow on Sharman Crawford Street. The street network in this area of Cork City has been unchanged in a very long time and any road widening would negatively impact the current integrity of the street. Option 1 and Option 2 have limited impact on the receiving built or natural environment and both rank similarly.

From the above assessment, both **Option 1** and **Option 2** are ranked similarly, however **Option 2** is deemed the preferred option to be brought forward as it provides a greater extent of dedicated bus priority through the provision of dedicated bus facilities on Noonan Road and Bandon Road compared to Option 1, with slightly more favourable journey time reliability as a result.

It is worth noting that should any emerging preferred route materialise for CBC 7 that travels through Section 2B that the emerging preferred route and associated bus and cycle priority measures for CBC 8 will need to be integrated and a single compatible proposal identified for both routes travelling through Section 2B. Should the CBC 7 route recommendation exclude Section 2B then only the requirements of CBC 8 will need to be considered for this study area.

7.4 Study Area Section 2C – Bandfield to City Centre

Following the Stage 1 sift, a total of 5 options have been developed for consideration for Section 2c, as follows:

- **Option 1a/1b** – Buses and cyclists route via Lancaster Quay/Washington Street;
- **Option 2** – Buses route via Lancaster Quay/Washington Street, whilst cyclists route via Dyke Parade/Sheares Street/Liberty Street;
- **Option 3** – Inbound buses and cyclists route via Dyke Parade/Sheares Street, with outbound buses and cyclists remaining on Washington Street/Lancaster Quay;
- **Option 4** – As per Option 3, but two-way cycling is provided on Dyke Parade (in addition to outbound cycling on Washington Street/Lancaster Quay); and
- **Option 5** – Inbound buses route via Dyke Parade, outbound buses route via Washington Street/Lancaster Quay, and both inbound and outbound cyclists route via Washington Street/Lancaster Quay.

These options are presented in greater detail below.

7.4.1 Option 1a/1b – Routing via Lancaster Quay/Washington Street (buses and cyclists)

7.4.1.1 Route Description

Route Option 1a/1b is presented in Figure 59 and described in the following text.

Figure 59: Section 2C, Proposed Option 1a/1b – Route Option Overview

Option 1a/1b would see both buses and cyclists route from the junction at Bandfield along Lancaster Quay and Washington Street to the junction at Grand Parade. It is envisaged that this option would accommodate a total of 3 bus stops.

7.4.1.2 Indicative Scheme Design

Figure 60 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

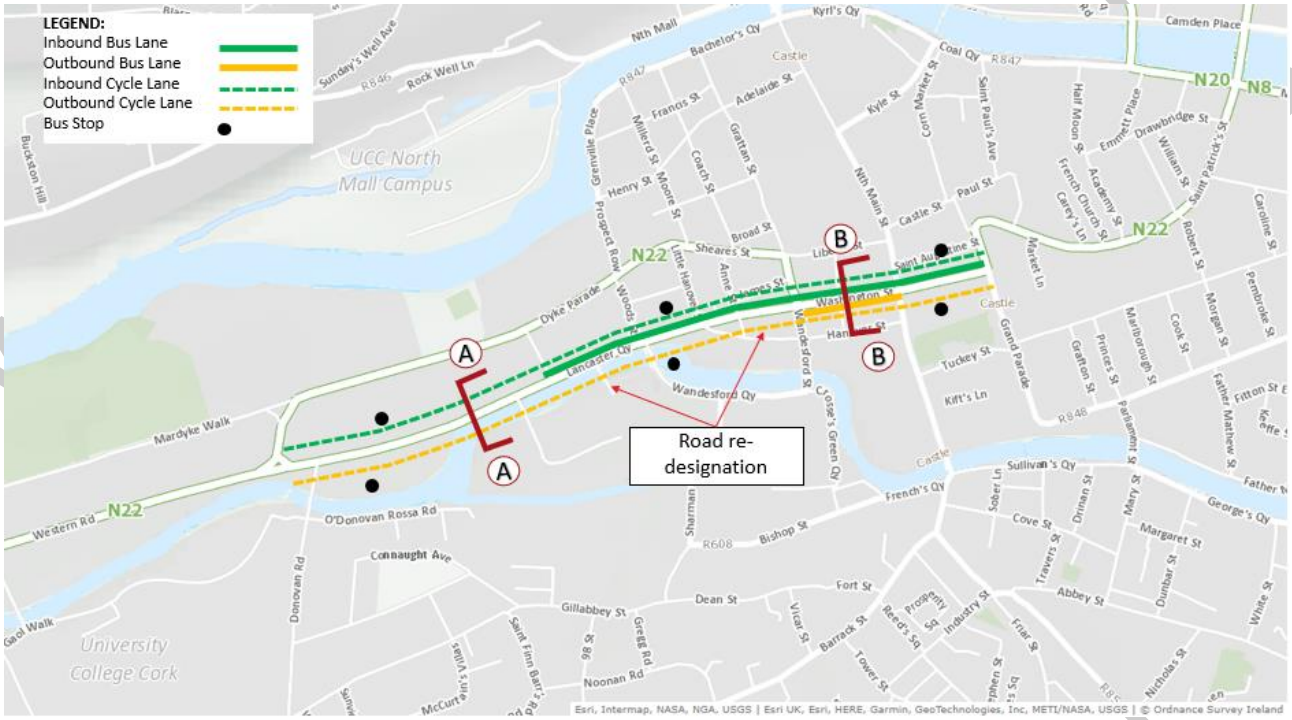

Figure 60: Section 2C, Proposed Option 1a – Indicative Scheme Design

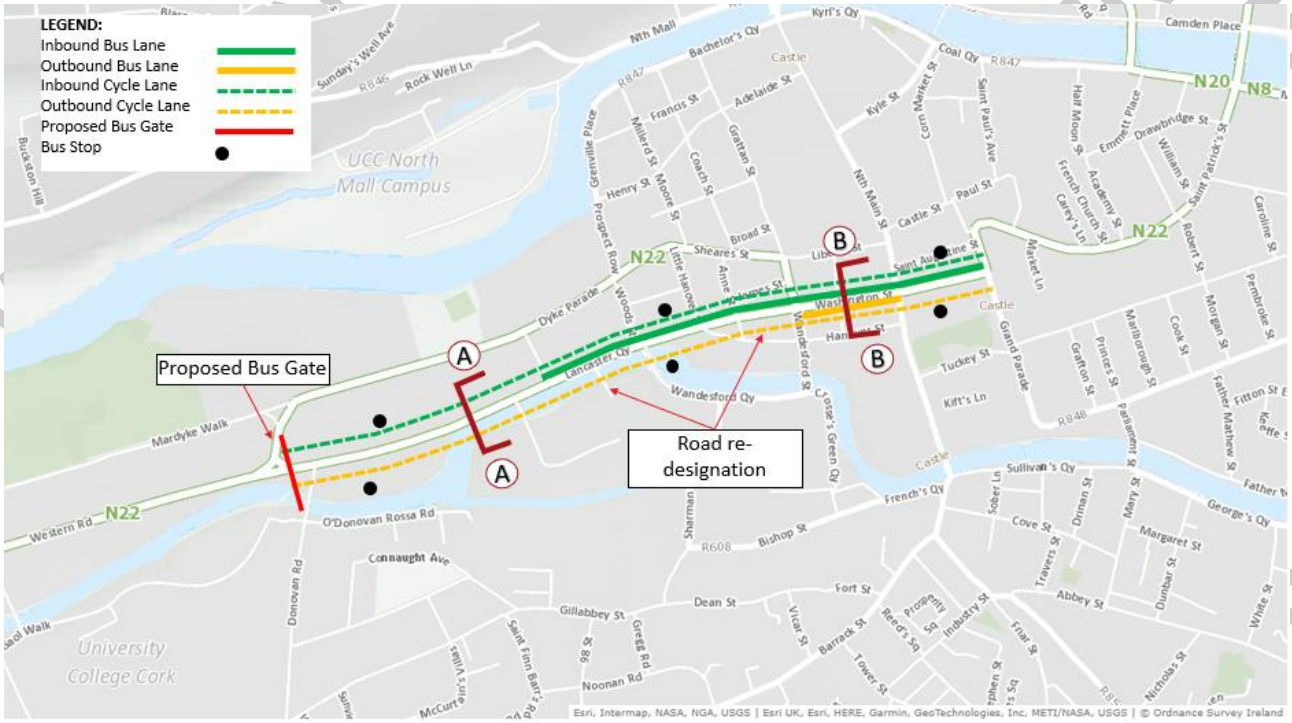

Figure 61: Section 2C, Proposed Option 1b – Indicative Scheme Design

For both Options 1a and 1b, it is proposed to route both buses and cyclists in both directions along Lancaster Quay and Washington Street. Due to the requirement to maintain local access along this portion of the route, it is not possible to provide bus lanes in both directions along the entirety of this section. The only difference between both options is the introduction of additional traffic restrictions at the junction of Donovan's Road/Western Road (the Bandfield), where Option 1b proposes an additional bus gate to prevent any through traffic flow between Lancaster Quay and Western Road, in order to improve bus journey time reliability.

Currently, inbound buses and general traffic route from the Bandfield junction via Dyke Parade/Sheare's Street and Courthouse Street to Washington Street, and outbound buses and general traffic route via Washington Street and Lancaster Quay (i.e., a one-way gyratory system for the majority of the route, with a short two-way section on Washington Street between Courthouse Street and the city centre).

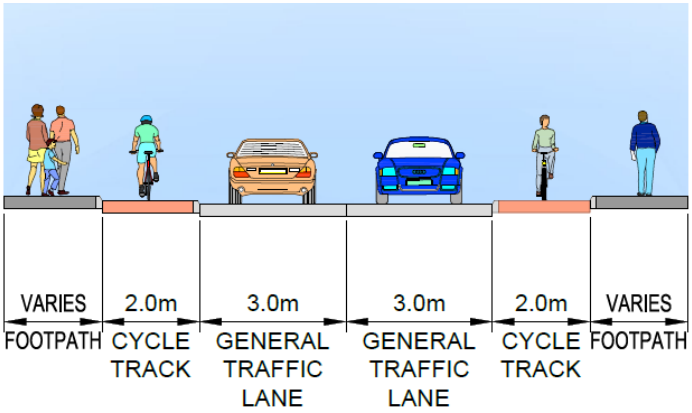

Figure 62: Section 2C, Proposed Option 1a/1b – Cross Section A-A

Therefore, to ensure a sufficient degree of bus journey time reliability along this portion of the route, a revised approach to traffic management and traffic flow is proposed for both Option1a/1b that would result in the following changes to traffic flow:

- Inbound and outbound general traffic flow from Western Road would be permitted to use Dyke Parade, which would become a two-way traffic route;
- Sheare's Street would also become a two-way traffic route to the junction with Grattan Street/Courthouse Street;
- From this junction, inbound general traffic will continue through to Liberty Street, turning right to Cross Street (which will be converted to a one-way southbound route) and then turning left to Washington Street;
- Outbound general traffic on Washington Street seeking to route west will be diverted onto Courthouse Street (which will be converted to a single-lane, one-way northbound traffic route) and then will turn left to Sheare's Street and travel west along Dyke Parade; No through traffic will be permitted along Washington Street at its junction with Courthouse Street;
- Outbound general traffic on Washington Street will also be diverted via South Main Street/Proby's Quay/Bishop Street/Sharman Crawford Street/Wandesford Quay before routing back on to Washington Street in order to then continue west to access Donovan's Road;
- Woods Street, north of the junction with Lynch's Street would be closed to general traffic (which would instead be diverted to Mardyke Street) in order to facilitate improved pedestrian linkage through from Washington Street to Prospect Row at this location;
- Local access to Hanover Place and Hanover Street will be facilitated via Little Cross Street; and
- Traffic approaching from the north (via Grattan Street) seeking to travel east will be permitted to turn left to Liberty Street and right on to Cross Street, and traffic seeking to travel west would be permitted to turn right on to Sheares Street (which will be converted to a two-way traffic route).

In addition to the above the following additional changes in traffic management have been proposed for Option 1b.

- The connection from Lancaster Quay through to Western Road (at the junction with Donovan's Road) would become a bus-only section, with a proposed bus gate to permit two-way bus flow but to prohibit through-traffic flow;
- Inbound and outbound general traffic flow from Donovan's Road will route onto Lancaster Quay/Washington Street as far as the junction with Mardyke Street, at which point this traffic will be diverted to Dyke Parade, and outbound traffic on Lancaster Quay will only be permitted to turn left to Donovan's Road (i.e., general westbound traffic from the city will not be permitted to access Western Road via Lancaster Quay, but will access it via either Courthouse Street/Sheare's Street/Dyke Parade or Mardyke Street/Dyke Parade);

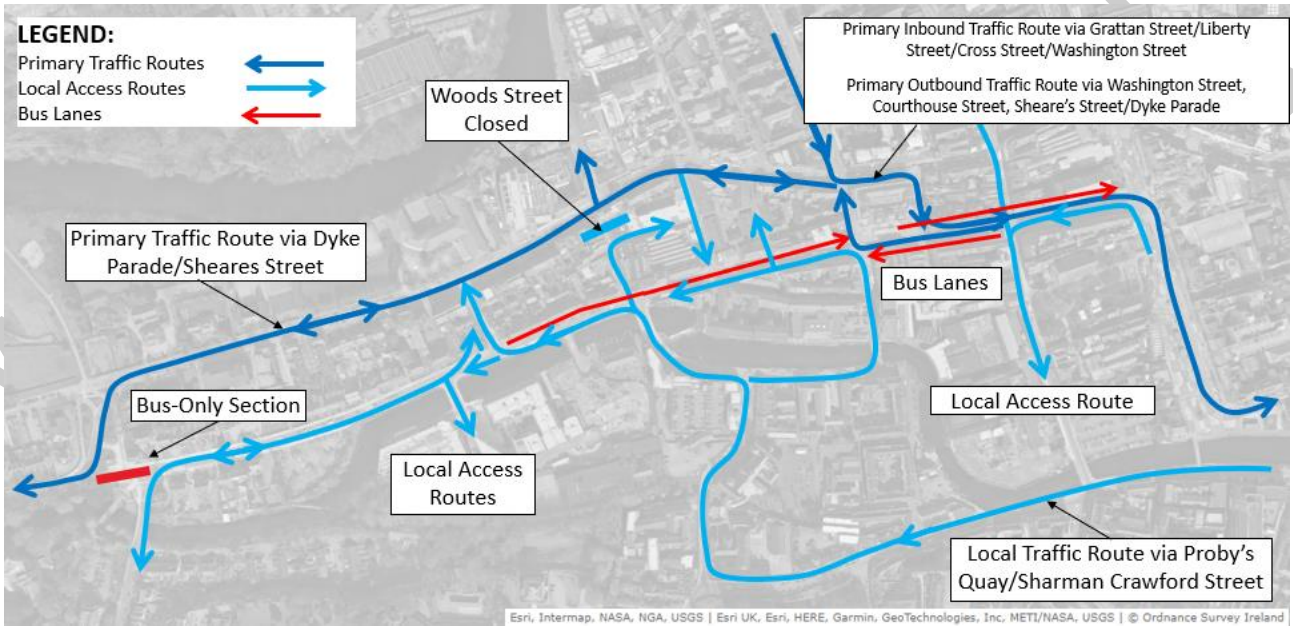

Figure 63: Section 2C, Proposed Option 1b – Traffic Management Measures Proposed

The above changes to traffic flow would facilitate the implementation of an inbound bus lane between Mardyke Street and Grand Parade, and an outbound bus lane between South Main Street and Courthouse Street. The existing inbound bus lane on Sheare's Street would also be retained to facilitate local bus turning movements (e.g., for local bus turning movements from Washington Street back to Dyke Parade via Mardyke Street and then back towards Liberty Street). The existing bus gate on Sheare's Street would be retained to facilitate this movement.

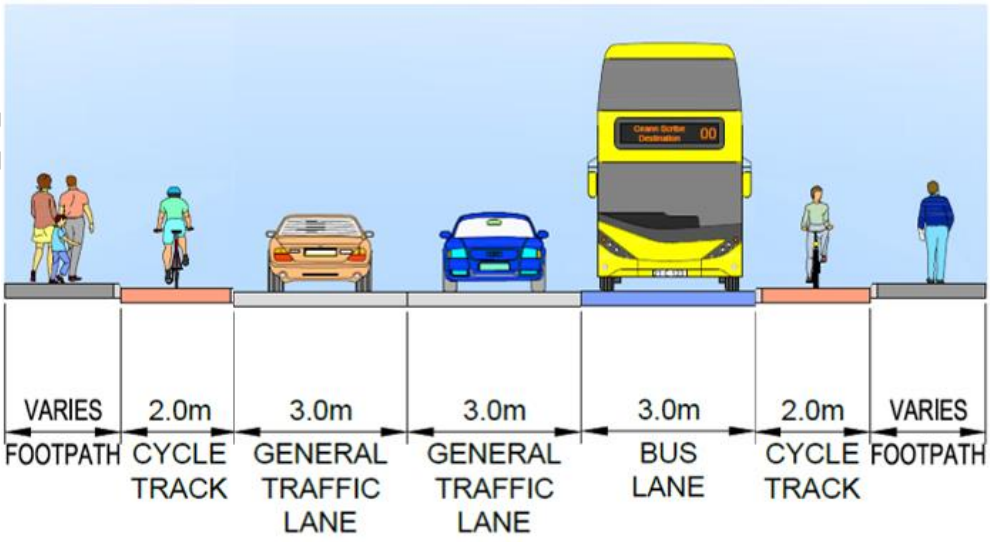

Figure 64: Section 2C, Proposed Option 1a/1b – Cross Section B-B

As it would no longer be fed by two traffic lanes from either Sheare's Street or Grattan Street, Courthouse Street would also be reduced to a single traffic lane in order to facilitate improvements to the existing narrow footpaths present here.

This option would require the removal of a portion of on-street parking present on Lancaster Quay/Washington Street between Mardyke Street and Grand Parade, with some loading spaces proposed between Hanover Place and Hanover Street. On-street parking would also be retained on both sides of the majority of Dyke Parade, and on one side of Sheare's Street

Raised adjacent cycle facilities would also be provided along both sides of Lancaster Quay/Washington Street in this option.

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

- An inbound bus lane on Washington Street between the junction at Mardyke Street and Grand Parade;
- An outbound bus lane on Washington Street between the junction of South Main Street and Courthouse Street;
- A bus-only section of Lancaster Quay, between Donovan's Road and Western Road (Option1b only);
- Raised adjacent cycle lanes along the entirety of the route;
- Closure of the northern end of Woods Street, including its' junction with Dyke Parade;
- Footpath improvement works on Courthouse Street;
- Changes to the existing traffic circulation system in place for general traffic; and
- Land acquisition of one property.

7.4.2 Option 2 – Routing via Lancaster Quay/Washington Street (buses only)

7.4.2.1 Route Description

Route Option 2 is presented in Figure 65 and described in the following text.

Figure 65: Section 2C, Proposed Option 2 – Route Option Overview

Option 2 would see buses route from the junction at Bandfield along Lancaster Quay and Washington Street to the junction at Grand Parade. Cyclists would route via Dyke Parade/Sheare's Street and Liberty Street to the junction with South Main Street. From this location, inbound cyclists can route via Castle Street or via South Main Street/Washington Street, and outbound cyclists would share with buses on Washington Street as far as Cross Street, from which point they would route north via a raised adjacent cycle facility on Cross Street to connect to the proposed outbound cycle lane on Liberty Street.

It is envisaged that this option would accommodate a total of 3 bus stops.

7.4.2.2 Indicative Scheme Design

Figure 66 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

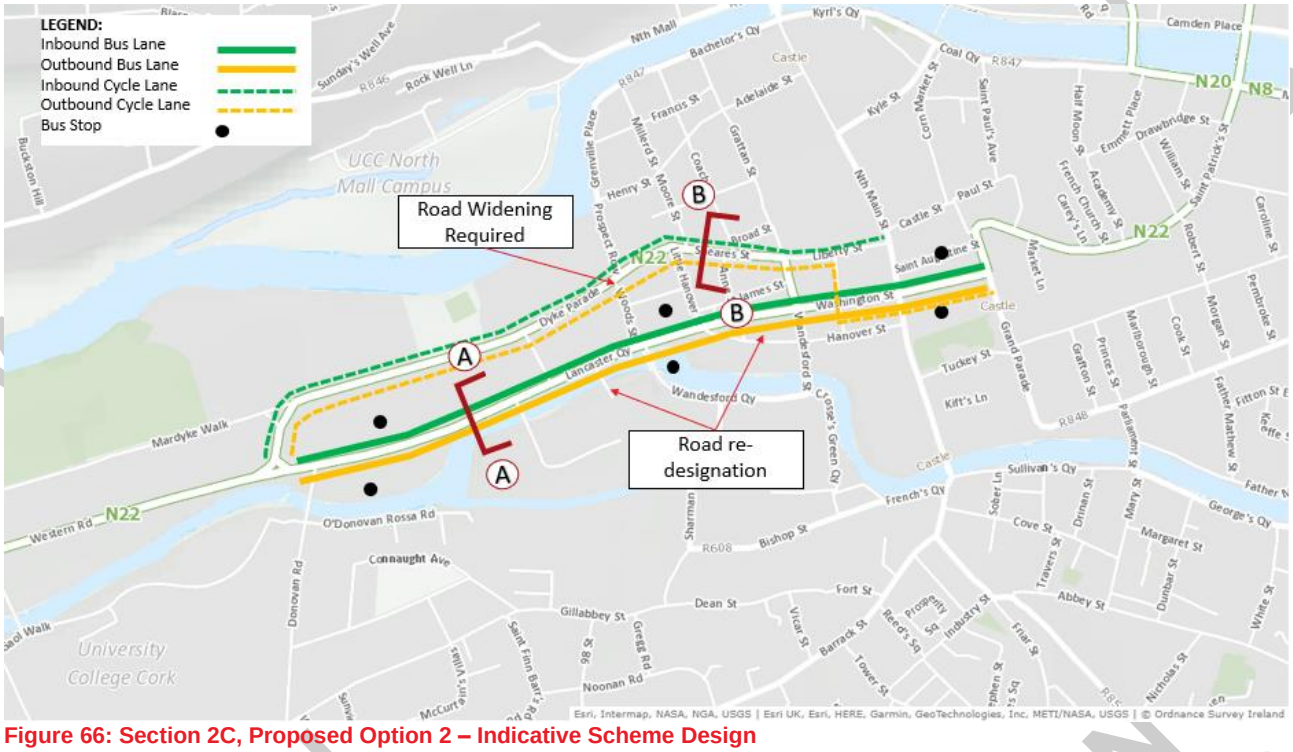

Figure 66: Section 2C, Proposed Option 2 – Indicative Scheme Design

For this option, two-way bus flow would be facilitated along Lancaster Quay and Washington Street, between the junction at Donovan's Road and the junction with Grand Parade. It is possible to provide bus lanes in both directions along this entire section through redesignation of the existing road space; however, this would require removal of the existing inbound contra-flow cycle lane and removal of a substantial amount of the existing on-street parking present on the route.

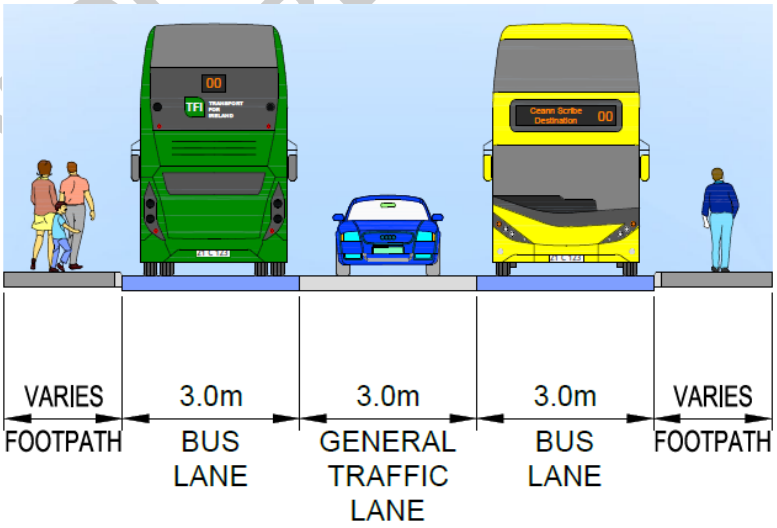

Figure 67: Section 2C, Proposed Option 2 – Cross Section A-A

Cyclists would be routed via Dyke Parade/Sheare's Street/Liberty Street in this option, with raised adjacent cycle facilities proposed on both sides of the route along these streets, to be facilitated by reallocation of the road space (the existing inbound bus lane on Dyke Parade would no longer be required) and removal of on-street parking. Liberty Street, east of the junction with Cross Street would also become a one-way westbound traffic route to facilitate the implementation of raised adjacent cycle facilities on this street.

At the junction of Dyke Parade/Prospect Row/Sheare's Street some minor land acquisition would be necessary to facilitate the continuation of the proposed cycle facilities and an inbound traffic lane through the pinch point.

General traffic routing would remain similar to the existing situation, with inbound traffic routing via Dyke Parade/Sheare's Street/Courthouse Street/Washington Street, and outbound traffic remaining on Washington

Street. The removal of inbound buses from Dyke Parade would facilitate the implementation of the proposed raised adjacent cycle facilities, and on-street parking would be retained along the southern side of Dyke Parade.

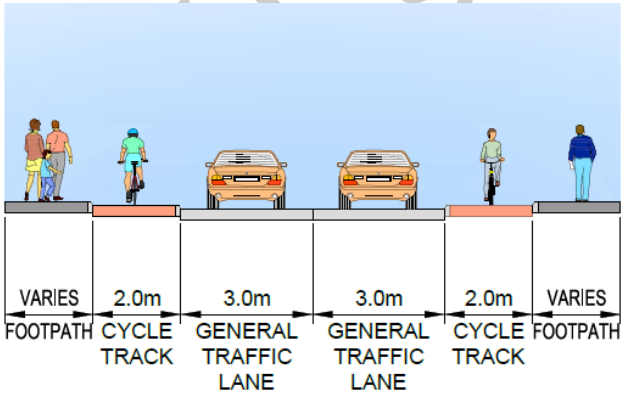

Figure 68: Section 2C, Proposed Option 2 – Cross Section B-B

As with Option 1a/1b, it is proposed to close the northern end of Woods Street to facilitate an improvement to the pedestrian environment at this location. Courthouse Street would remain unchanged in this option as it would be fed by two traffic lanes from Sheare's Street and Grattan Street.

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

- Bus lanes on Lancaster Quay/Washington Street between the junction at Bandfield and Grand Parade;
- Raised adjacent cycle lanes along the entirety of the route;
- Closure of the northern end of Woods Street, including its' junction with Dyke Parade and associated footpath improvements; and
- Land acquisition estimated from one property.

7.4.3 Option 3 – Routing inbound via Dyke Parade/Sheare's Street/Courthouse Street/Washington Street and outbound via Washington Street/Lancaster Quay

7.4.3.1 Route Description

Route Option 3 is presented in Figure 69 and described in the following text.

Figure 69: Section 2C, Proposed Option 3 – Route Option Overview

Option 3 would see inbound buses route from the junction at Bandfield via Dyke Parade, Sheare's Street and Courthouse Street and on to Washington Street, with outbound buses routing via Washington Street and Lancaster Quay. This option therefore represents a continuation of the existing bus routing in place in this section.

In this option, inbound cyclists would follow the same route as inbound buses as far as the junction with Courthouse Street, at which point cyclists would continue to Liberty Street and on to the junction with South Main Street. From here, inbound cyclists can route via Castle Street, or via South Main Street/Washington Street. Outbound cyclists would route via Washington Street/Lancaster Quay.

It is envisaged that this option would accommodate a total of 3 bus stops in each direction.

7.4.3.2 Indicative Scheme Design

Figure 70 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

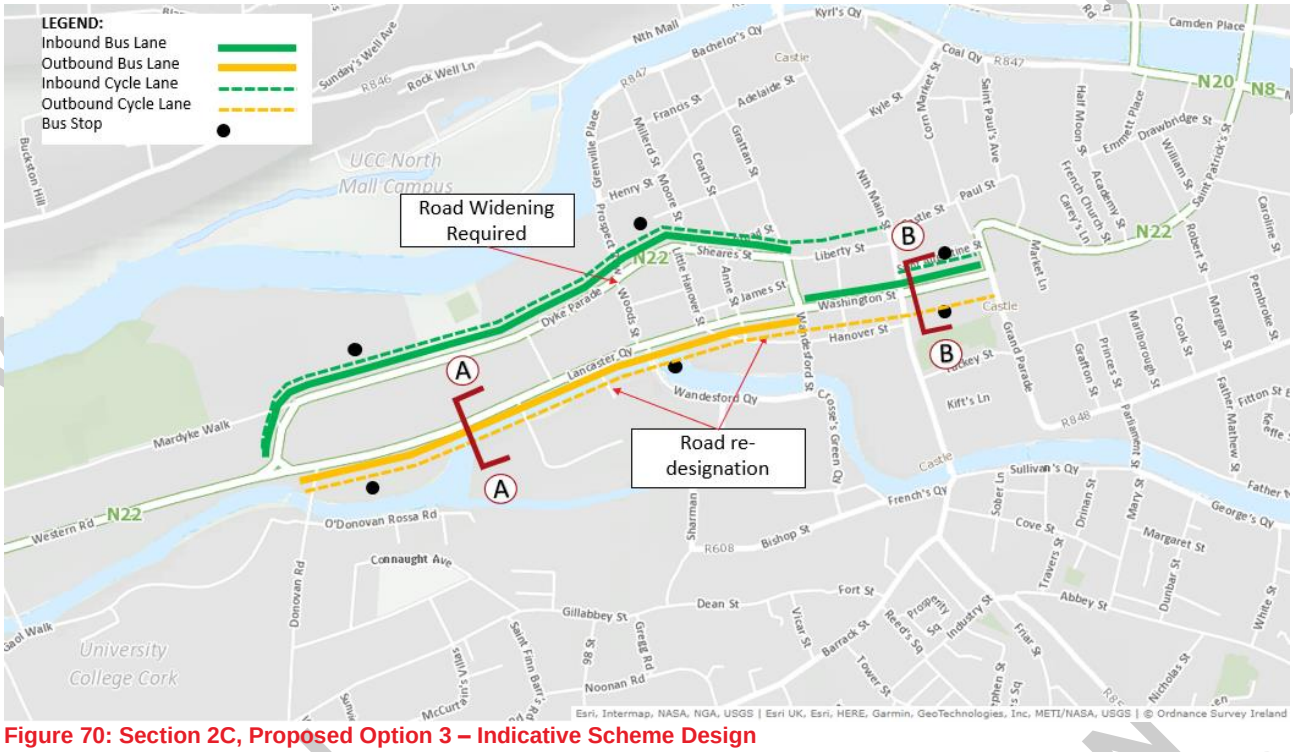

Figure 70: Section 2C, Proposed Option 3 – Indicative Scheme Design

For this option, an inbound bus lane would be provided along Dyke Parade and through to Sheare's Street using the existing bus lane and the removal of an existing inbound traffic lane on Dyke Parade between Mardyke Street and Sheare's Street. The existing bus gate from Sheare's Street to Courthouse Street would be retained, and inbound buses would share with general traffic on Courthouse Street, before turning on to Washington Street and using the existing inbound bus lane at this location.

An outbound bus lane would be provided west of the junction with Wandesford Street through to the Bandfield (i.e., as per the existing scenario).

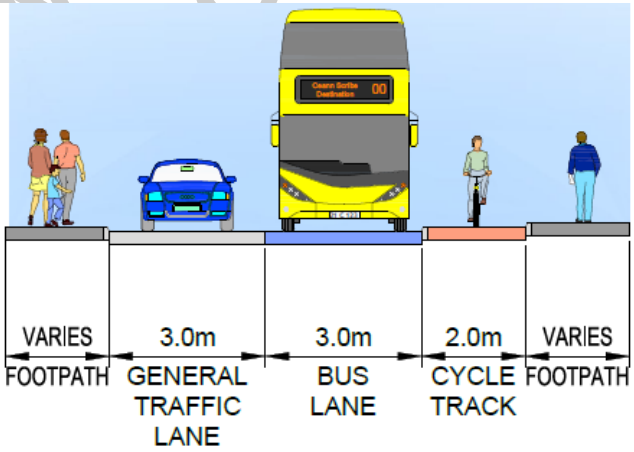

Figure 71: Section 2C, Proposed Option 3 – Cross Section A-A

Inbound cyclists would route via Dyke Parade/Sheare's Street and through to Liberty Street, with a raised adjacent cycle lane proposed. This would require widening works and removal of a portion of the on-street parking on Dyke Parade and Sheare's Street, and localised widening works at the junction with Prospect Row/Sheare's Street. A portion of the on-street parking on Liberty Street would also be removed. From Liberty Street, cyclists would have to share with general traffic on South Main Street, before turning on to Washington Street and using a raised adjacent cycle lane between South Main Street and Grand Parade. A raised adjacent cycle lane would be provided along the entirety of the outbound route.

As with Options 1 and 2, it is proposed to close the northern end of Woods Street to facilitate an improvement to the pedestrian environment at this location. Courthouse Street would remain unchanged in this option as it would continue to be fed by two traffic lanes from Sheare's Street and Grattan Street.

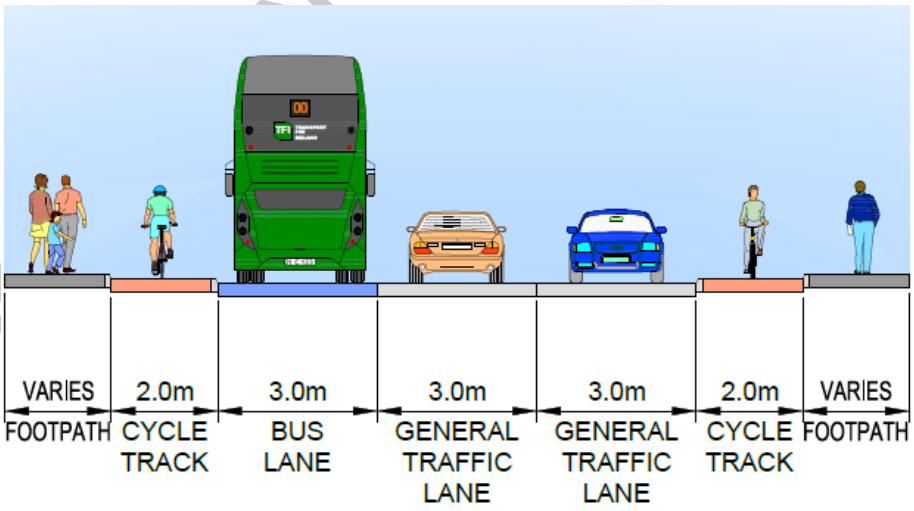

Figure 72: Section 2C, Proposed Option 3 – Cross Section B-B

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

- An inbound bus lane on Dyke Parade/Sheare's Street and on Washington Street from the junction with Courthouse Street;
- An outbound bus lane on Washington Street/Lancaster Quay from Courthouse Street to the Bandfield;
- A raised adjacent inbound cycle lane along the entirety of the route, with the exception of on South Main Street between Liberty Street and Washington Street;
- An outbound raised adjacent cycle lane along the entirety of the route;
- Closure of the northern end of Woods Street, including its' junction with Dyke Parade and associated footpath improvements; and
- Land acquisition estimated from 1 property.

7.4.4 Option 4 – Routing inbound via Dyke Parade/Sheare's Street/Courthouse Street/Washington Street and outbound via Washington Street/Lancaster Quay

7.4.4.1 Route Description

Route Option 4 is presented in Figure 73 and described in the following text.

Figure 73: Section 2C, Proposed Option 4 – Route Option Overview

Option 4 is largely similar to Option 3 and would see inbound buses route from the junction at Bandfield via Dyke Parade, Sheare's Street and Courthouse Street and on to Washington Street, with outbound buses routing via Washington Street and Lancaster Quay. This option therefore represents a continuation of the existing bus routing in place in this section.

However, in this option, it is proposed to provide a two-way cycle route alongside the inbound bus route on Dyke Parade and Sheare's Street, where cyclists would follow the same route as inbound buses as far as the junction with Courthouse Street, at which point cyclists would continue to Liberty Street, and inbound cyclists through to South Main Street, and outbound cyclists routing from Washington Street to Liberty Street via Cross Street.

In addition, outbound cyclists would also be facilitated directly on the route via Washington Street/Lancaster Quay as this represents a heavily-used existing cycle route. A two-way cycle route is proposed in this option so as to integrate better with the use of Mardyke Walk as a cycling route (as is proposed as part of options in Section 3 of CBC 6).

It is envisaged that this option would accommodate a total of 3 bus stops in each direction.

7.4.4.2 Indicative Scheme Design

Figure 74 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

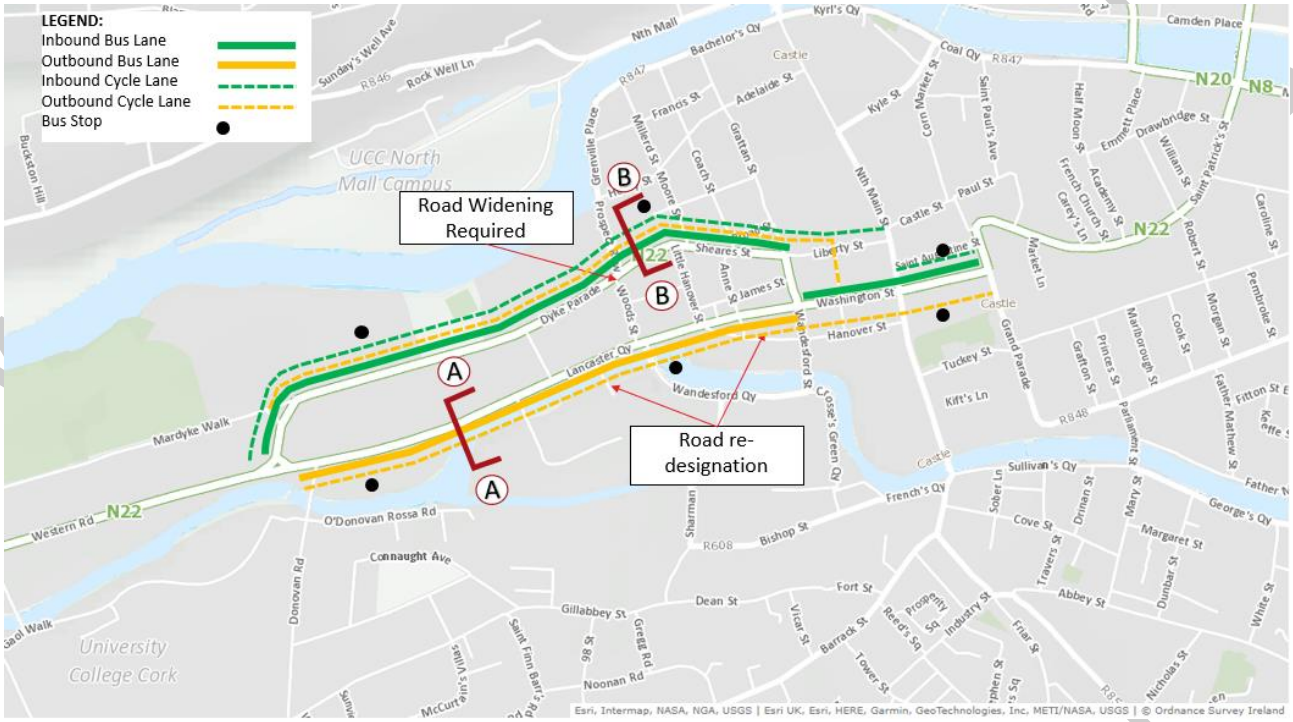

Figure 74: Section 2C, Proposed Option 4 – Indicative Scheme Design

For this option, similar to Option 3 an inbound bus lane would be provided along Dyke Parade and through to Sheare's Street using the existing bus lane and the removal of an existing inbound traffic lane on Dyke Parade between Mardyke Street and Sheare's Street. The existing bus gate from Sheare's Street to Courthouse Street would be retained, and inbound buses would share with general traffic on Courthouse Street, before turning on to Washington Street and using the existing inbound bus lane at this location.

An outbound bus lane would be provided west of the junction with Wandesford Street through to the Bandfield (i.e., as per the existing scenario).

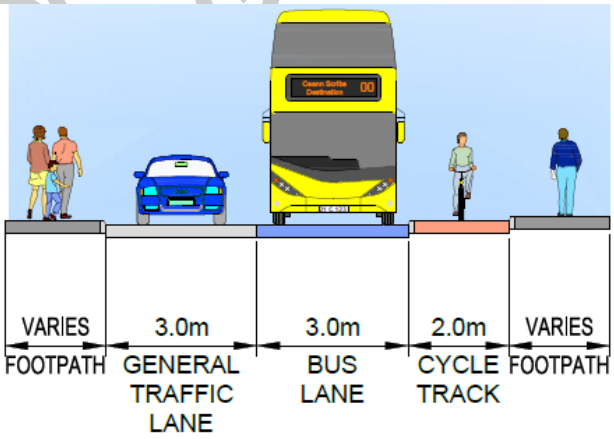

Figure 75: Section 2C, Proposed Option 4 – Cross Section A-A

Inbound and outbound cyclists would route via Dyke Parade/Sheare's Street and through to Liberty Street, with a two-way raised adjacent cycle lane proposed. This would require widening works and removal of a substantial portion of the on-street parking on Dyke Parade and Sheare's Street, and localised widening works at the junction with Prospect Row/Sheare's Street. The proposed inbound bus lane would also have to terminate for a short section approaching Prospect Row to facilitate the two-way cycle facility (recommencing thereafter). A portion of the on-street parking on Liberty Street would also be removed.

From Liberty Street, inbound cyclists would have to share with general traffic on South Main Street, before turning on to Washington Street and using a raised adjacent cycle lane between South Main Street and Grand Parade.

For outbound cyclists, a raised adjacent cycle lane would be provided along the entirety of the outbound route between Grand Parade and the Bandfield (remaining on Washington Street/Lancaster Quay) and an

additional raised adjacent cycle facility would be provided on the western side of Cross Street to connect from Washington Street to the proposed two-way cycle facility on Liberty Street.

As with Options 1-3, it is proposed to close the northern end of Woods Street to facilitate an improvement to the pedestrian environment at this location. Courthouse Street would remain unchanged in this option as it would continue to be fed by two traffic lanes from Sheare's Street and Grattan Street.

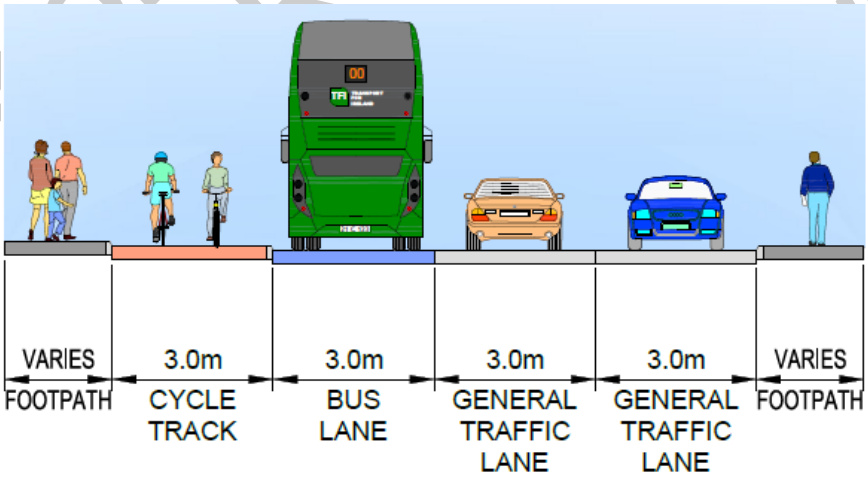

Figure 76: Section 2C, Proposed Option 4 – Cross Section B-B

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

- An inbound bus lane on Dyke Parade/Sheare's Street and on Washington Street from the junction with Courthouse Street;
- An outbound bus lane on Washington Street/Lancaster Quay from Courthouse Street to the Bandfield;
- A raised adjacent two-way cycle lane along the entirety of the inbound bus route between Bandfield and Liberty Street, with inbound cyclists continuing through to Liberty Street (east) and on to South Main Street on a raised adjacent cycle lane, and sharing with general traffic on South Main Street before connecting to a raised adjacent inbound cycle lane between Liberty Street and Washington Street;
- An outbound raised adjacent cycle lane along the entirety of the route between Grand Parade and Bandfield, and on the western side of Cross Street to connect to the two-way cycle facility on Liberty Street;
- Closure of the northern end of Woods Street, including its' junction with Dyke Parade and associated footpath improvements; and
- Land acquisition estimated from one property.

7.4.5 Option 5 – Routing inbound via Dyke Parade/Sheare's Street/Courthouse Street/Washington Street and outbound via Washington Street/Lancaster Quay

7.4.5.1 Route Description

Route Option 5 is presented in Figure 77 and described in the following text.

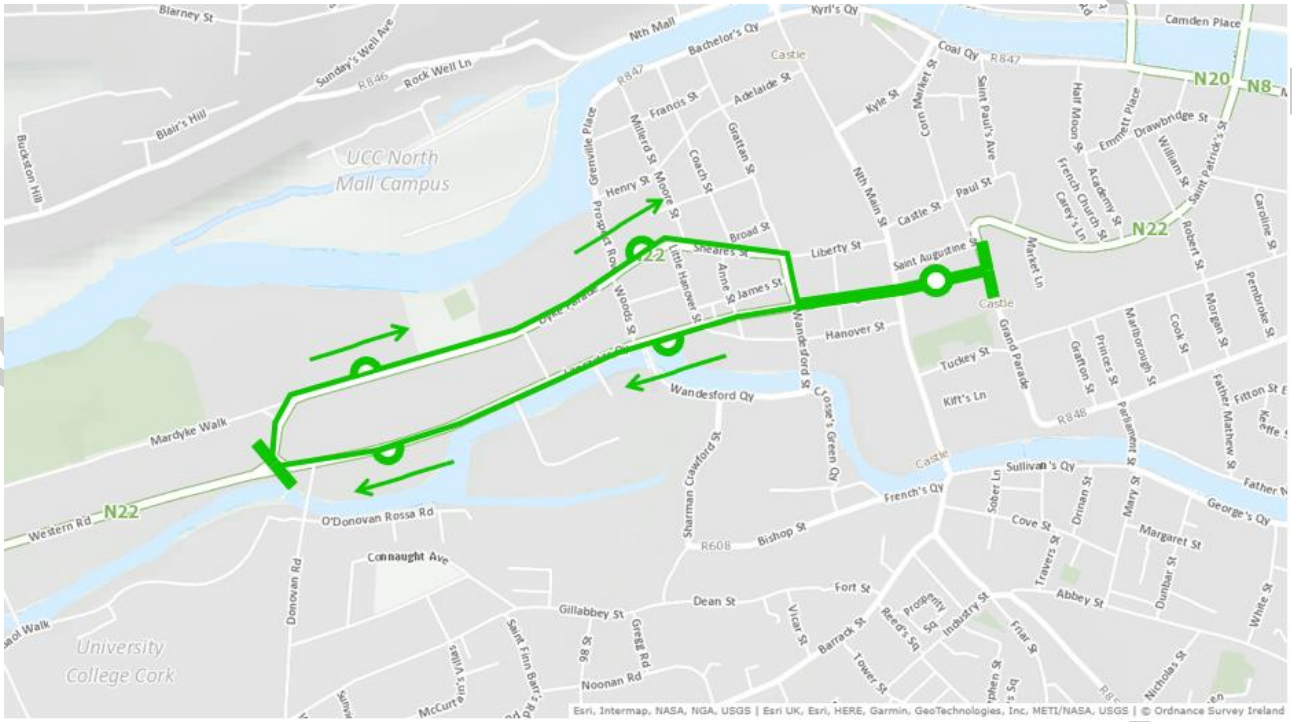

Figure 77: Section 2C, Proposed Option 5 – Route Option Overview

Option 5 is largely similar to Options 3 and 4 and would see inbound buses route from the junction at Bandfield via Dyke Parade, Sheare's Street and Courthouse Street and on to Washington Street, with outbound buses routing via Washington Street and Lancaster Quay. This option therefore represents a continuation of the existing bus routing in place in this section.

However, in this option it is proposed to route inbound and outbound cyclists via Lancaster Quay and Washington Street only.

It is envisaged that this option would accommodate a total of 3 bus stops in each direction.

7.4.5.2 Indicative Scheme Design

Figure 78 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

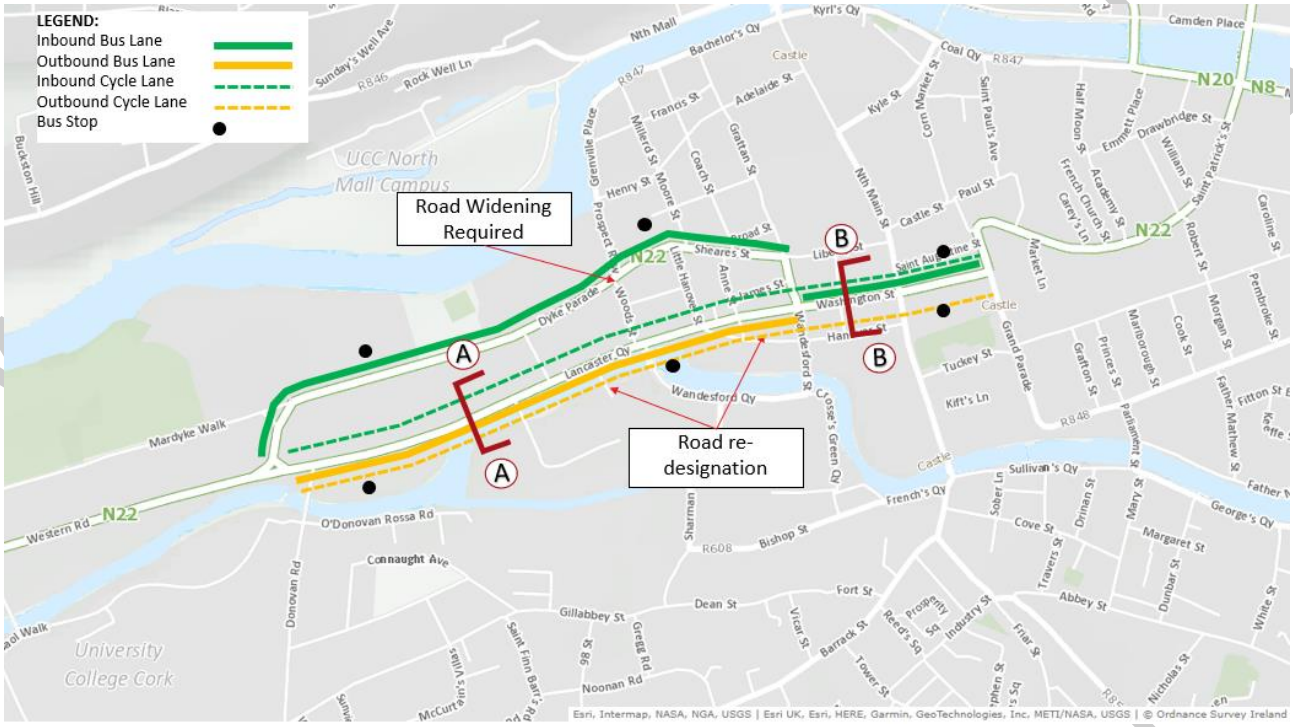

Figure 78: Section 2C, Proposed Option 5 – Indicative Scheme Design

For this option, similar to Option 3 and Option 4 an inbound bus lane would be provided along Dyke Parade and through to Sheare's Street using the existing bus lane and the removal of an existing inbound traffic lane on Dyke Parade between Mardyke Street and Sheare's Street. The existing bus gate from Sheare's Street to Courthouse Street would be retained, and inbound buses would share with general traffic on Courthouse Street, before turning on to Washington Street and using the existing inbound bus lane at this location.

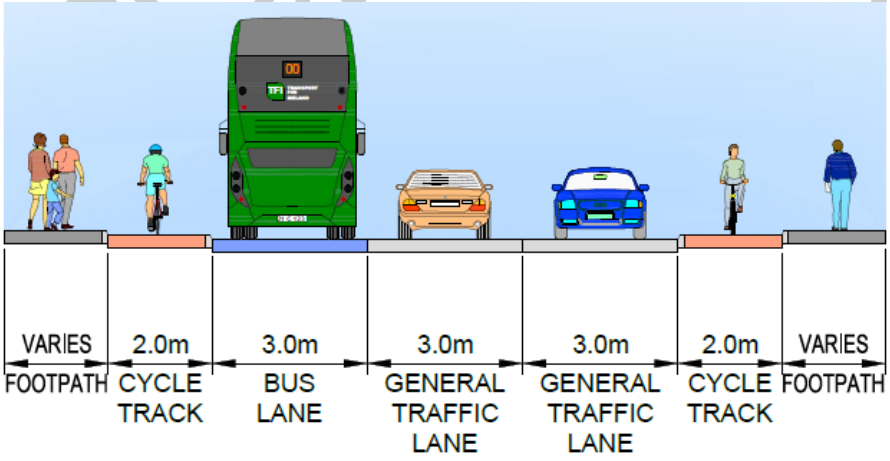

Figure 79: Section 2C, Proposed Option 5 – Cross Section A-A

An outbound bus lane would be provided west of the junction with Wandesford Street through to the Bandfield (i.e., as per the existing scenario).

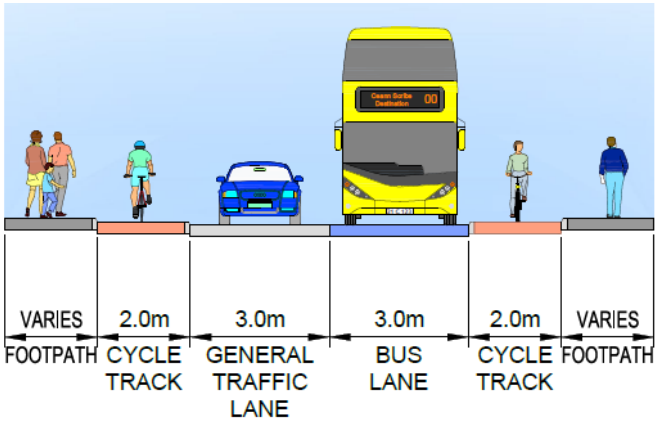

Figure 80: Section 2C, Proposed Option 5 – Cross Section A-A

Inbound and outbound cyclists would route via Lancaster Quay/Washington Street, with raised adjacent cycle lanes proposed on both sides of the route. This would require removal of a substantial portion of the on-street parking on Lancaster Quay/Washington Street and a slight narrowing of the footpaths on Washington Street between South Main Street and Grand Parade.

As with Options 1-4, it is proposed to close the northern end of Woods Street to facilitate an improvement to the pedestrian environment at this location. Courthouse Street would remain unchanged in this option as it would continue to be fed by two traffic lanes from Sheare's Street and Grattan Street.

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

- An inbound bus lane on Dyke Parade/Sheare's Street and on Washington Street from the junction with Courthouse Street;
- An outbound bus lane on Washington Street/Lancaster Quay from Courthouse Street to the Bandfield;
- Raised adjacent cycle lanes on both sides of the route between Grand Parade and Bandfield;
- Closure of the northern end of Woods Street, including its' junction with Dyke Parade and associated footpath improvements; and
- Land acquisition estimated from one property.

7.4.6 Route Options Assessment

Details of the Stage 2 route options assessment undertaken for the options outlined above for Section 2C are presented in detail in Appendix A and the relative ranking of route options against the scheme assessment sub-criteria is summarised in Table 12.

Table 12: Section 2C, Bandfield to City Centre Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	RO 1a	RO 1b	RO 2	RO 3	RO 4	RO 5
Economy	**Capital Cost**						
	Transport Reliability						
Integration	**Land Use Integration**						
	Catchments						

Assessment Criteria	Assessment Sub-Criteria	RO 1a	RO 1b	RO 2	RO 3	RO 4	RO 5
	Transport Network Integration						
	Cycling Integration						
	Pedestrian Network Integration						
Accessibility & Social Inclusion	**Key Trip Attractors**						
	Deprived Geographic Areas						
Safety	**Road Safety**						
Environment	**Archaeology and Cultural Heritage**						
	Biodiversity						
	Soils and Geology						
	Hydrology						
	Landscape and Visual						
	Air Quality						
	Land Use Character						

From the **Economy** perspective, all options have similar capital costs with Option 1a/1b having a slightly greater overall capital cost in addition Option 1a has less dedicated bus priority measures compared to the other options.

In terms of **Integration**, all options perform similarly under land use integration, catchment and pedestrian integration due the central location of the route options in the city centre. In terms of transport integration Option 1a is expected to perform slightly better than the other options as less traffic management is proposed compared to all the other options. Finally in terms of cyclists, Option 3 is considered to perform less favourable than the other options as cyclists are split between two different routes although it should be noted that Option 3 does provide dedicated safe facilities for cyclists on both routes.

From an **Accessibility and Social Inclusion** perspective there was no material difference between the options.

In terms of **Safety**, Options 1a, 1b and 2 are considered to perform slightly better than the other options by routing buses directly along Lancaster Quay and Washington Street, rather than splitting the bus routes and routing inbound buses down Sheare's Street as these options offer direct access to the city centre and have less junctions to negotiate.

Under **Environment,** Options 1a and 1b are equally favourable in that these routes have significantly less features of historical significance and residential receptors located along the routes and would require less tree loss when compared with the other options. Route Options 2, 3, 4 and 5 are broadly similar.

From the above assessment it can be seen that **Option 1b** is the preferred option as it provides good bus priority along Western Road in both directions, avoiding the requirement to split inbound and outbound bus services onto two separate streets and aiding the overall passenger legibility of the bus network. In addition, Option 1b provides direct cycle connection along the corridor focusing on the key desire line between the city centre and University College Cork. Option 1b is therefore recommended as the preferred option for this section of the route.

7.5 Study Area Section 2 – Wilton Roundabout to City Centre

For Section 2 between the Wilton Roundabout and the City Centre the following route options have been identified. The generation of the route options has included for the preferred route options associated with the sub-sections 2A, 2B and 2C. Therefore, route options that consider these sub-areas will include the preferred options for these localised areas.

- **Option 1** – Buses route via Wilton Road (as per Section 2A), College Road and Donovan's Road, accessing the city along Western Road and Washington Street (as per Section 2C). Cyclists also route along a proposed facility parallel to and east of Wilton Road with dedicated cycling facilities provided along Western Road/Victoria Cross Road, while a traffic-calmed environment is provided along College Road which is also suitable for cyclist use.
- **Option 2** – Buses route via Wilton Road (as per Section 2A), College Road and Gillabbey Street, accessing the city via Bishop Street (as per Section 2B). Cyclists also route along a proposed facility parallel to and east of Wilton Road, before routing via College Road and through to Gillabbey Street and onwards to Bishop Street using the cycle infrastructure proposed as per Section 2B. A traffic-calmed environment is provided along College Road/Gillabbey Street.
- **Option 3** – Buses route via Glasheen Road and Noonan Road/Gregg Road to get to Bishop Street and continue to the city (as per Section 2B). Cyclists can use Glasheen Road as it will be traffic-calmed and there will be some dedicated cycling infrastructure provided between Bandon Road and the city centre (as per Section 2B).

7.5.1 Option 1 – Routing via College Road/ Donovan Road/Western Road

7.5.1.1 Route Description

Route Option 1 is presented in Figure 81 and described in the following text.

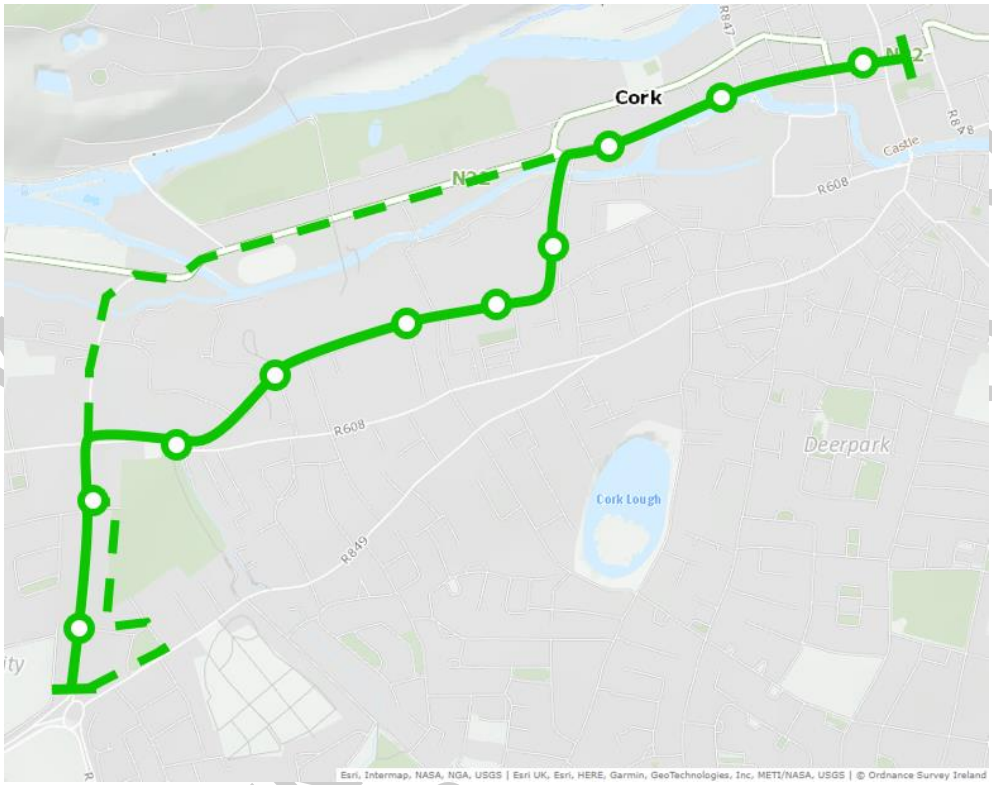

Figure 81: Section 2, Proposed Option 1 – Route Option Overview

Option 1 provides for bus services along Wilton Road (as per Section 2A), and routing onwards to College Road, accessing the city centre via Donovan's Road and Western Road/Washington Street (as per Section 2C). It is envisaged that this option would accommodate a total of 10 bus stops in each direction.

Cyclists are provided with dedicated cycle facilities to the east of Wilton Road (as per Section 2A) and are then redirected onto Victoria Road and Western Road and access the city centre along Washington Street. It is noted that cyclists can also route vial College Road/Donovan's Road if desired.

7.5.1.2 Indicative Scheme Design

Figure 82 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

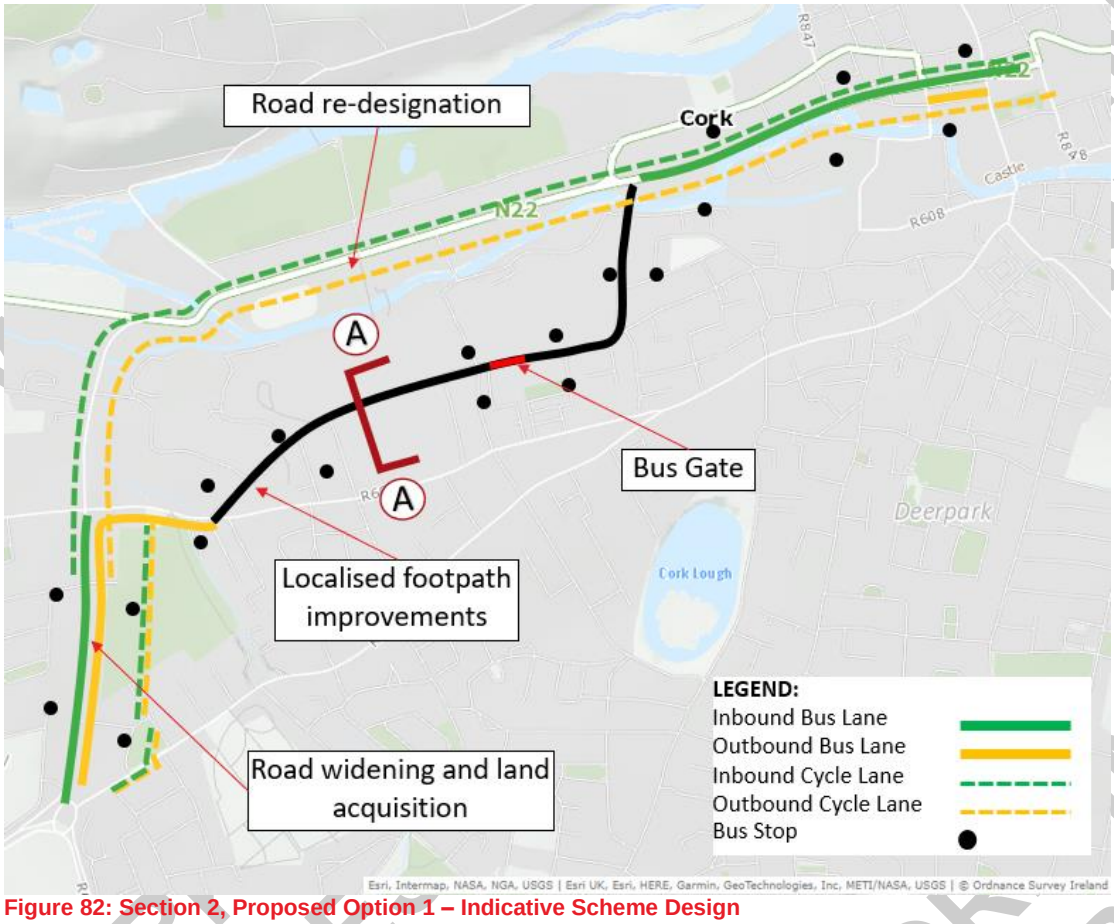

Figure 82: Section 2, Proposed Option 1 – Indicative Scheme Design

For this option, buses are routed along the entirety of the Wilton Road between the Wilton Roundabout and Dennehy's Cross, as per Section 2A. Bus lanes in both directions are provided along Wilton Road. Along Magazine Road a short outbound bus lane is proposed while on College Road it is proposed to introduce traffic restrictions at its junction with Gaol Cross which will provide the necessary bus priority along this link. Finally, buses will access the city via Donovan's Road and Western Road which will benefit from the proposed bus infrastructure proposed for Washington Street as per Section 2C. It is envisaged that this option would accommodate a total of 10 bus stops.

Cyclists will follow the route determined in Section 2A between Wilton Roundabout and Dennehy's Cross and will be directed along Glasheen Road and Liam Lynch Park and to a new link created within the grounds of the Presentation Brothers College sports grounds (along its western site boundary). Cyclists would then have the option of re-joining the Wilton Road at the Wilton Gardens junction or continuing to connect through to Magazine Road via a new link through the existing industrial complex.

From here, cyclists will have the option of routing along Victoria Road and Western Road on dedicated cycle infrastructure and finally re-joining the bus route at Donovan's Road and continuing along Western Road and Washington Street – again dedicated cycle infrastructure will be provided, as per Section 2C. The traffic calmed environment on College Road would also provide an environment suitable for cycling via College Road and Donovan's Road as an alternative. Localised footpath improvement works are also proposed on College Road and Magazine Road at various locations (including implementation of new footpaths where there are currently gaps). Proposed improvement works will also be carried out at Donovan's Bridge to improve pedestrian facilities, with a parallel pedestrian structure proposed to the west in the grounds of University College Cork.

All the junctions along the proposed route would be upgraded including the conversion of the roundabout at the junction of College Road/Magazine Road to a traffic signal-controlled junction.

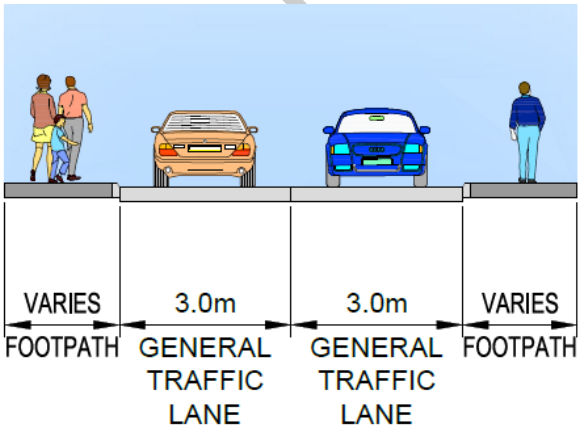

Figure 83: Section 2, Proposed Option 1 – Cross Section A-A

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

- Bus lanes on both sides of the Wilton Road between the Wilton Roundabout and the junction at Dennehy's Cross;
- A two-way raised adjacent cycle facility along the Glasheen Road and through Liam Lynch Park;
- Raised adjacent cycle facilities on both sides of the Wilton Road between Wilton Gardens and Dennehy's Cross;
- A new pedestrian/cycle link adjacent to a number of residential properties and through the Presentation College Sports Grounds;
- Connections from this new pedestrian/cycle link to the Wilton Road at Wilton Gardens, at the Dennehy's Cross Pharmacy site and directly through to Magazine Road;
- Upgrade of the junction at Dennehy's Cross;
- An outbound bus lane between the College Road/Magazine Road junction and Dennehy's Cross;
- Footpath improvement works on College Road, Donovan's Road, and on Magazine Road (approaching Dennehy's Cross);
- A proposed bus-only section on College Road, east of the junction with Gaol Walk;
- Upgrade of the College Road/Magazine Road junction to convert to a signalised junction;
- Raised adjacent cycle facilities on both sides of the route from Dennehy's Cross through Victoria Cross and Western Road to the junction at Bandfield;
- Upgrade of Donovan's Bridge to provide improved pedestrian facilities;
- An inbound bus lane on Washington Street between the junction at Mardyke Street and Grand Parade;
- An outbound bus lane on Washington Street between the junction of South Main Street and Courthouse Street;
- A bus-only section of Lancaster Quay, between Donovan's Road and Western Road;
- Raised adjacent cycle lanes along the entirety of the route;
- Closure of the northern end of Woods Street, including its' junction with Dyke Parade;
- Footpath improvement works on Courthouse Street;
- Changes to the existing traffic circulation system in place for general traffic; and

- Land acquisition estimated from 123 properties

7.5.2 Option 2 – Routing via College Road/Proby's Quay/Sharman Crawford St

7.5.2.1 Route Description

Route Option 2 is presented in Figure 84 and described in the following text.

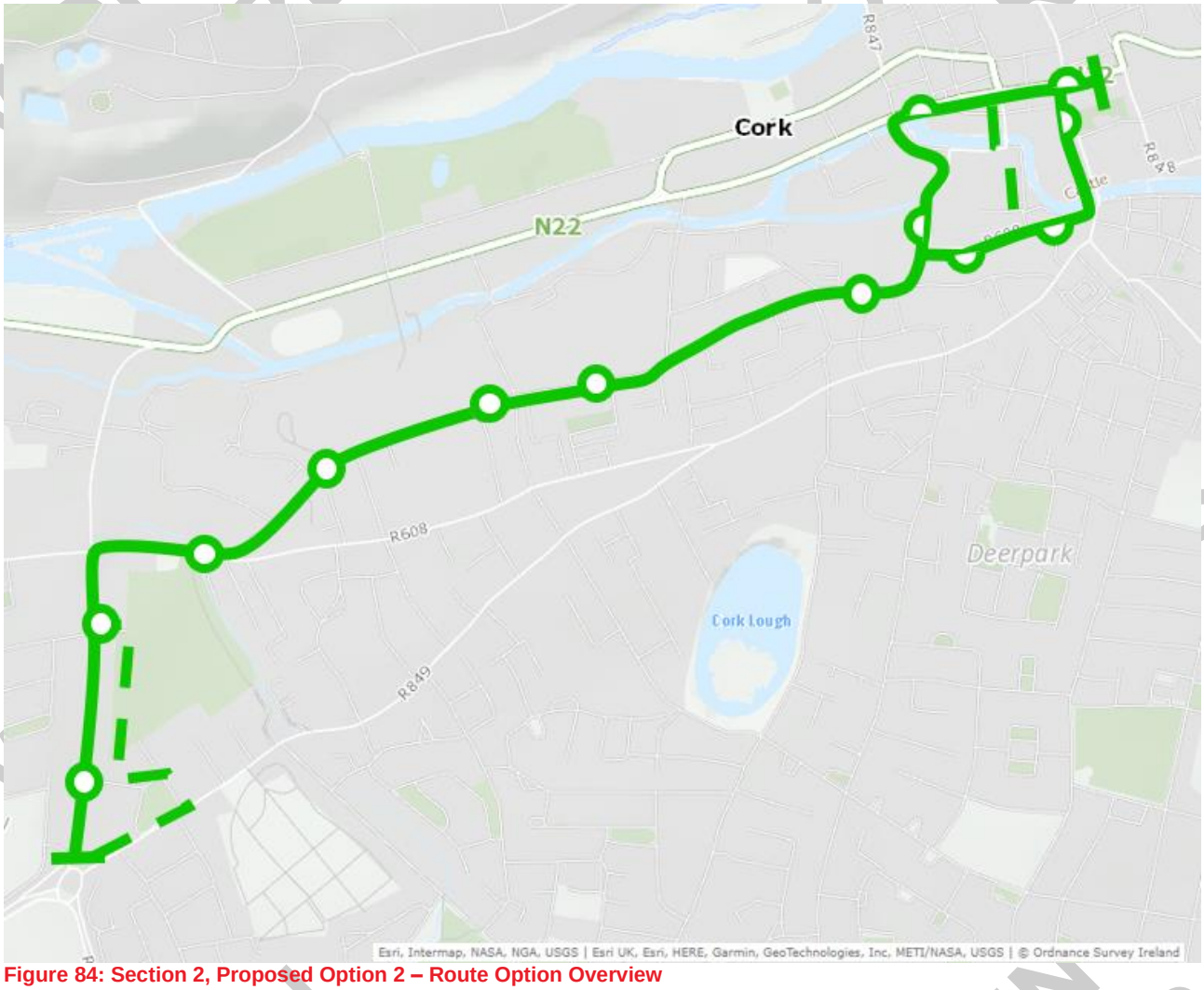

Figure 84: Section 2, Proposed Option 2 – Route Option Overview

Option 2 provides for bus services along Wilton Road and College Road accessing the city centre via Gillabbey Street and Sharman Crawford Street. It is envisaged that this option would accommodate a total of 10 bus stops in each direction. This option involves a splitting of the bus route at Bishop Street (as per Section 2B).

Cyclists are provided with dedicated cycle facilities to the east of Wilton Road and are then redirected via College Road and Gillabbey Street and on through Bishop Street (as per Section 2B).

7.5.2.2 Indicative Scheme Design

Figure 85 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

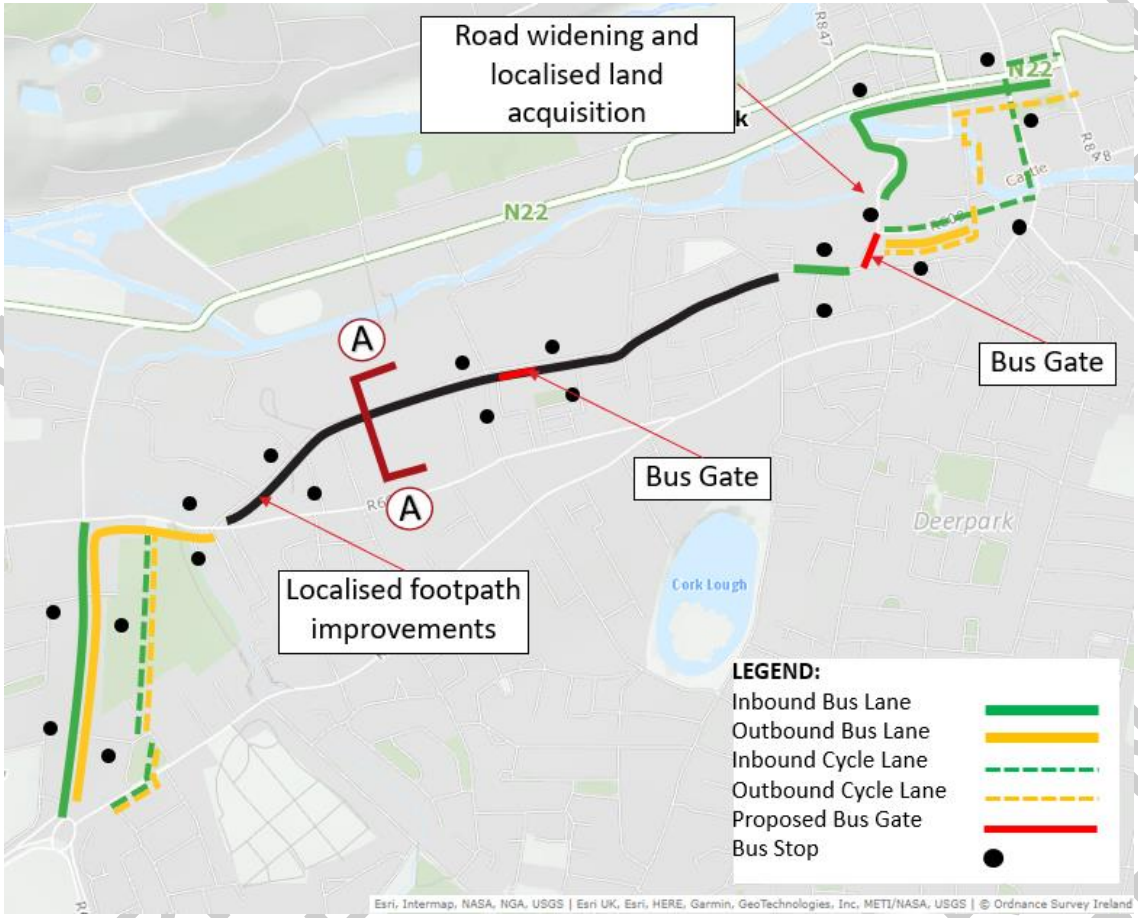

Figure 85: Section 2, Proposed Option 2 – Indicative Scheme Design

For this option, buses are routed along the entirety of the Wilton Road between the Wilton Roundabout and Dennehy's Cross (as per Section 2A). Bus lanes in both directions are provided along Wilton Road. Along Magazine Road a short outbound bus lane is proposed while on College Road it is proposed to introduce traffic restrictions at its junction with Gaol Cross which will provide the necessary bus priority along this link. Finally, buses will access the city via Gillabbey Street and Sharman Crawford Street (as per Section 2B). A bus gate is proposed for Bishop Street to provide the right level of bus priority on this section of the network. An inbound bus lane is proposed over St Finbarr's Bridge and on to Washington Street to the city centre and a short section of outbound bus lane is proposed on Bishop Street approaching the junction with Sharman Crawford Street.

Localised improvement works will also be carried out College Road and Magazine Road to improve existing footpaths and to implement footpaths in a number of locations where there are currently none.

Cyclists will be directed to Glasheen Road and Liam Lynch Park and to a new link to be created within the grounds of the Presentation Brothers College sports grounds (along its western site boundary) as per Section 2A. Cyclists would then have the option of re-joining the Wilton Road at the Wilton Gardens junction or continuing to connect through to Magazine Road via a new link through the existing industrial complex. Cyclists can then share with buses along College Road, through to Gillabbey Street and on to Bishop Street. Cyclists will then pass the proposed bus gate Bishop Street, sharing this portion of the route with local traffic and buses and then avail of the inbound and outbound infrastructure to and from the city as determined in Section 2B (with inbound cyclists using Bishop Street/Proby's Quay/South Main Street/Washington Street and outbound cyclists using Washington Street/Hanover Place/Clarke's Bridge and sharing with local traffic through Crosse's Green before connecting to Proby's Quay and heading west to Bishop Street).

All the junctions along the proposed route would be upgraded including the conversion of the roundabout at the junction of College Road/Magazine Road to a traffic signal-controlled junction.

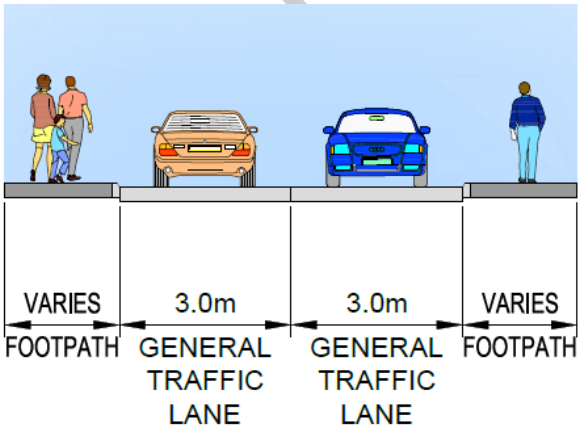

Figure 86: Section 2, Proposed Option 2 – Cross Section A-A

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

- Bus lanes on both sides of the Wilton Road between the Wilton Roundabout and the junction at Dennehy's Cross;
- A two-way raised adjacent cycle facility along the Glasheen Road and through Liam Lynch Park;
- Raised adjacent cycle facilities on both sides of the Wilton Road between the Wilton Gardens and Dennehy's Cross;
- A new pedestrian/cycle link adjacent to a number of residential properties and through the Presentation College sports grounds;
- Connections from this new pedestrian/cycle link to the Wilton Road at Wilton Gardens, at the Dennehy's Cross Pharmacy site and directly through to Magazine Road;
- Inbound cycle facilities on Bishop Street/Proby's Quay and South Main Street;
- A new outbound cycle lane on Hanover Place and contra-flow across Clarke's Bridge, connecting through to Crosse's Green (where cyclists would share with general traffic), and a new outbound cycle lane on Proby's Quay/Bishop Street between Crosse's Green and Sharman Crawford Street;
- Upgrade of the junction at Dennehy's Cross;
- An outbound bus lane between the College Road/Magazine Road junction and Dennehy's Cross;
- Footpath improvement works on College Road, and on Magazine Road (approaching Dennehy's Cross);
- A proposed bus-only section on College Road, east of the junction with Gaol Walk;
- Upgrade of the College Road/Magazine Road junction to convert to a signalised junction;
- An eastbound (inbound) section of bus lane on Gillabbey Street approaching Gregg Road;
- Bus priority provided on Bishop's Street through the introduction of traffic restrictions (a bus gate);
- A short inbound bus lane on Sharman Crawford Street approaching its junction with Wandesford Quay;
- A short section of outbound bus lane on Bishop Street approaching the junction with Sharman Crawford Street;
- An inbound bus lane on Wandesford Quay and over St Finbarr's Bridge;
- Proposed inbound bus lane on Washington Street from St. Finbarr's Bridge to Grand Parade; and

- Land acquisition estimated from 132 properties.

7.5.3 Option 3 – Routing via Glasheen Road/Bandon Road

7.5.3.1 Route Description

Route Option 3 is presented in Figure 87 and described in the following text.

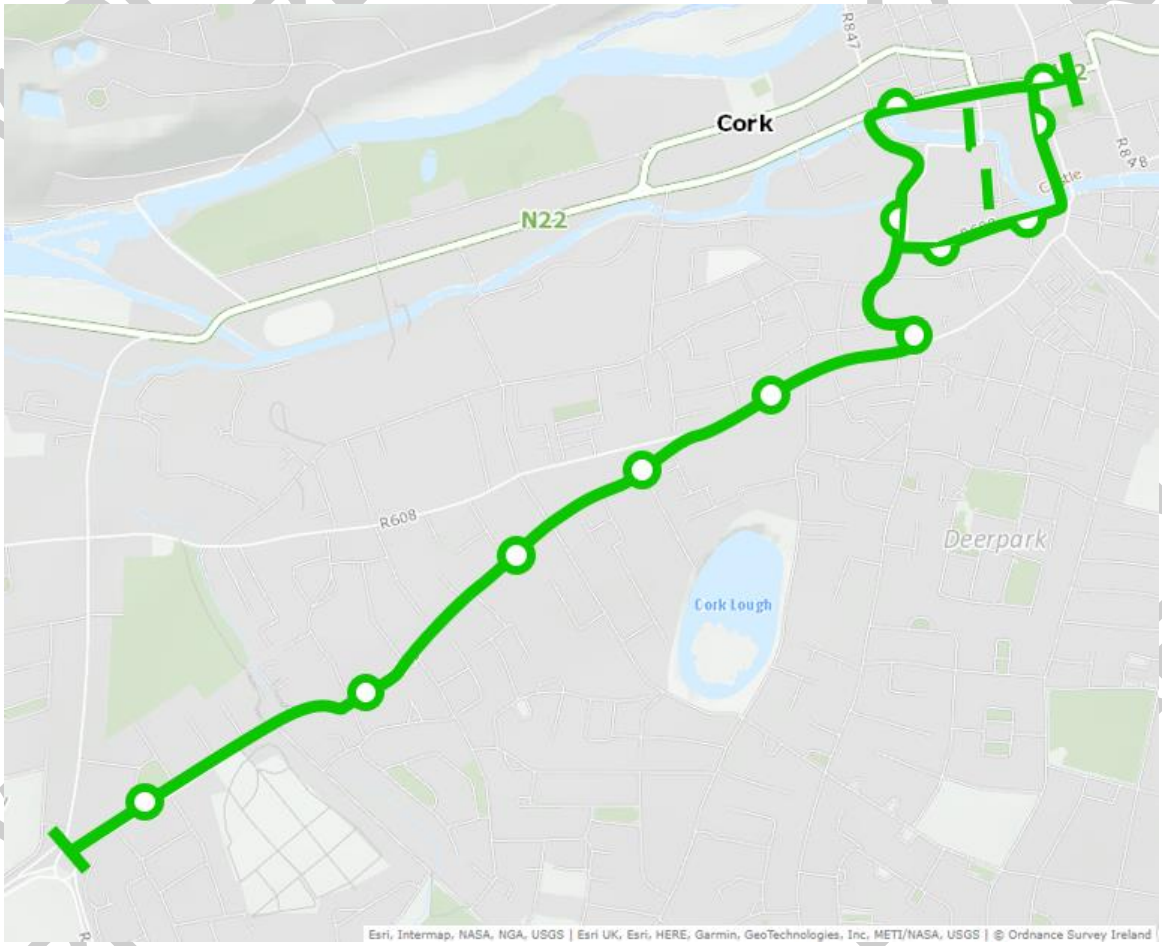

Figure 87: Section 2, Proposed Option 3 – Route Option Overview

Option 3 provides for bus services along Glasheen Road and Bandon Road accessing the city centre via Gillabbey Street and Sharman Crawford Street (as per Section 2B). It is envisaged that this option would accommodate a total of 9 bus stops in each direction.

Cyclists will share with general traffic in a traffic-calmed environment until reaching the proposed cycle infrastructure in the vicinity of Bishop Street (as per Section 2B). Cyclists will also have the option of connecting to Magazine Road/College Road via Schoolboy's Lane and using College Road/Donovan's Road as an alternative cycle route.

7.5.3.2 Indicative Scheme Design

Figure 88 illustrates the indicative scheme design for this route option along with the location of cross sections and junctions referenced in subsequent sections.

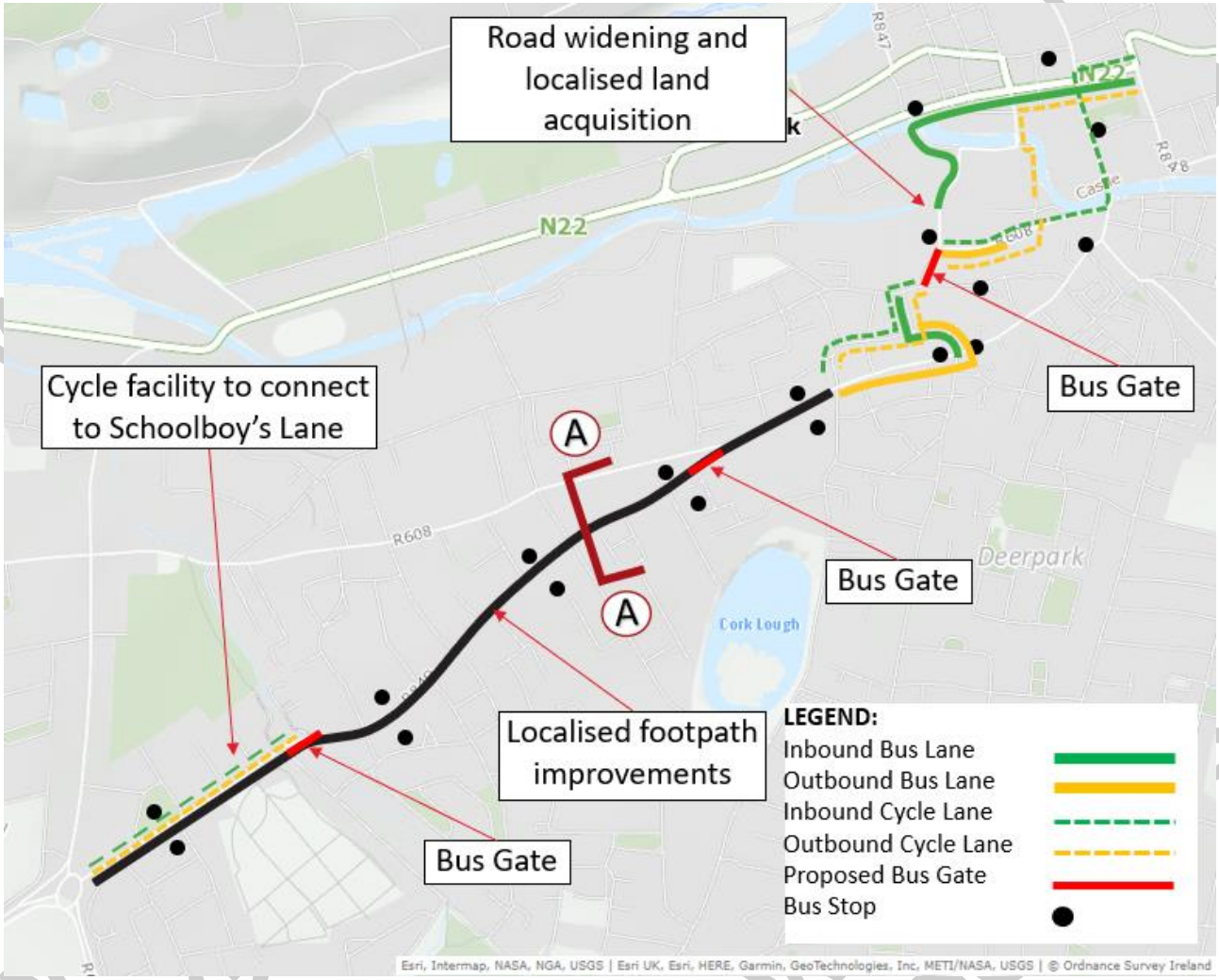

Figure 88: Section 2, Proposed Option 3 – Indicative Scheme Design

For this option, buses are routed along Glasheen Road from the Wilton Roundabout, where it is proposed to introduce bus gates (i.e., bus-only sections) along Glasheen Road at two locations; the first of these is north of Clashduv Road and the second is west of Magazine Road. The introduction of both these bus gates will provide the required bus priority along Glasheen Road and ensure no inappropriate through-traffic routing occurs along Glasheen Road. Along this portion of Glasheen Road, localised improvement works will also be carried out to improve footpaths.

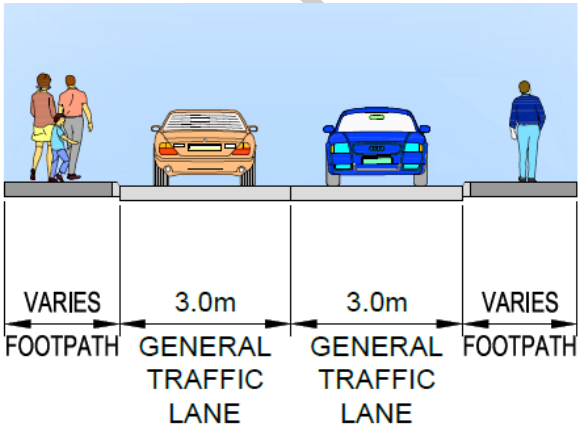

Figure 89: Section 2, Proposed Option 3 – Cross Section A-A

No bus priority measures are proposed along Bandon Road between Magazine Road and St Finbarr's Road, with an outbound bus lane proposed for the section of Bandon Road between Noonan Road/Green Street and St Finbarr's Road. Bus lanes are proposed in both directions along Noonan Road between Green Street and

Gregg Road, and also on Gregg Road itself (inbound only). This will result in a section of the route where general traffic routes on a one-way basis along Bandon Road and Noonan Road in order to facilitate local access but to ensure a degree of bus priority.

A bus gate is also proposed for Bishop Street to the south of the junction with Sharman Crawford Street in order to maintain local access from the south to properties along Bishop Street but also to provide a sufficient level of bus priority on this section of the network. An inbound bus lane is also proposed on Sharman Crawford Street approaching Wandesford Quay, on Wandesford Quay itself and over St Finbarr's Bridge. From here, an inbound bus lane is proposed along Washington Street to Grand Parade. For outbound buses, a short section of outbound bus lane is proposed on Bishop Street, approaching the junction with Sharman Crawford Street (outbound buses will route from the city centre via Washington Street, South Main Street, Proby's Quay and Bishop Street).

In this option, cyclists would be provided with a dedicated two-way facility on Glasheen Road to the connection with the cycle route through Schoolboy's Lane, to connect to Magazine Road. For cyclists wishing to remain on Glasheen Road, the proposed bus gates on Glasheen Road and on Bishop Street at the aforementioned locations will provide a low-flow, low-speed environment that will support cycling with general traffic. At the junction of Bandon Road/St. Finbarr's Road, cyclists can turn from Bandon Road to St. Finbarr's Road (sharing with general traffic through the junction); from here, dedicated inbound and outbound cycle lanes are proposed on St. Finbarr's Road, Noonan Road, Gregg Road and Gillabbey Street to the junction with Bishop Street.

Cyclists will pass through Bishop Street, sharing with local traffic and buses and then avail of the inbound and outbound infrastructure to and from the city as determined in Section 2B (with inbound cyclists using Bishop Street/Proby's Quay/South Main Street/Washington Street and outbound cyclists using Washington Street/Hanover Place/Clarke's Bridge and sharing with local traffic through Crosse's Green before connecting to Proby's Quay and heading west to Bishop Street).

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

- Dedicated cycle facilities on both sides of the street along Washington Street between Hanover Place and the city centre;
- A two-way cycle facility on Glasheen Road between Wilton Roundabout and the cycle facilities on Schoolboy's Lane;
- Inbound and outbound cycle lanes on St. Finbarr's Road, Noonan Road, Gregg Road and Gillabbey Street;
- Inbound cycle facilities on Bishop Street/Proby's Quay and South Main Street (similar to the existing facilities);
- A new outbound cycle lane on Hanover Place and contra-flow across Clarke's Bridge, connecting through to Crosse's Green, where outbound cyclists will share with local traffic to the junction at Proby's Quay;
- Traffic restrictions in the format of proposed bus gates on Glasheen Road to provide priority for buses along this section of the route;
- Footpath improvement works on Glasheen Road;
- An outbound bus lane on Bandon Road between Noonan Road and St. Finbarr's Road;
- Bus lanes provided in each direction on Noonan Road between Bandon Road and Gregg Road;
- An inbound bus lane on Gregg Road;
- Bus priority provided on Bishop Street through the introduction of traffic restrictions via a proposed bus gate;

- A short inbound bus lane on Sharman Crawford Street approaching its junction with Wandesford Quay;
- An inbound bus lane on Wandesford Quay and crossing over St Finbarr's Bridge;
- Proposed inbound bus lane on Washington Street St. Finbarr's Bridge to Grand Parade;
- A short section of outbound bus lane on Bishop Street approaching the junction with Sharman Crawford Street; and
- Land acquisition estimated from 24 properties.

7.5.4 Route Options Assessment

Details of the Stage 2 route options assessment undertaken for the options outlined above for Section 2 are presented in Appendix A and the relative ranking of route options against the scheme assessment sub-criteria is summarised in Table 13.

Table 13: Section 2, Wilton Roundabout to City Centre Options Assessment Summary (Sub-Criteria)

Assessment Criteria	Assessment Sub-Criteria	RO 1b	RO 2	RO 3
Economy	Capital Cost			
	Transport Reliability			
Integration	Land Use Integration			
	Catchments			
	Transport Network Integration			
	Cycling Integration			
	Pedestrian Network Integration			
Accessibility & Social Inclusion	Key Trip Attractors			
	Deprived Geographic Areas			
Safety	Road Safety			
Environment	Archaeology Architectural and Cultural Heritage			
	Biodiversity			
	Soils and Geology			
	Hydrology			

Assessment Criteria	Assessment Sub-Criteria	RO 1b	RO 2	RO 3
	Landscape and Visual			
	Air Quality, Noise & Vibration			
	Land Use Character			

From the **Economy** perspective, Route Options 1 and 2 are considered more expensive to Option 3 which has less construction associated with its delivery as both bus priority and cycle infrastructure is delivered via bus gates on Glasheen Road. Option 1 is deemed the optimum performance in terms of journey time reliability with the majority of bus priority provided via a combination of bus lanes and the introduction of traffic management restrictions.

In terms of **Integration**, Option 1 has a slightly higher employment catchment compared against both Option 2 and 3, although its residential catchment is slightly less. In terms of cyclists, All Options are considered to perform well in terms of cycling with each option having dedicated cycle infrastructure along the Victoria Cross/Western Corridor.

From an **Accessibility and Social Inclusion** perspective again Option 1 and 2 are considered the more favourable due to their direct connection with University College Cork on College Road.

In terms of **Safety**, Option 1 is considered to perform slightly better than the other options by routing buses more directly along College Road, Donovan's Road, Lancaster Quay and Washington Street, rather than directing the buses through Bishop's Street and Sharman Crawford Street.

For **Environment,** Option 3 is the most favourable, when compared with Option 1 and 2, in that it would require a reduced number of trees to be felled. This would result in favourable impacts on biodiversity and on the landscape and visual setting. Option 3 also requires a significantly less amount of land-take than the other options.

From the above assessment, **Option 1** is the preferred option as it provides good bus priority along College Road and connects well with the proposed bus priority measures on Western Road, Lancaster Quay and Washington Street which also serves other CBC corridors. Option 1 also provides direct access to University College Cork, and while this has a potentially greater impact on the environment the projected impacts are relatively modest.

7.6 End-to-End Option

Following the analyses conducted in the previous sections of this assessment, which sought to identify a recommended preferred option within each individual sub-section of the overall CBC 7 study area, only a single end-to-end route has been identified utilising the emerging preferred option for Section 1 combined with the emerging preferred option for Section 2. Figure 90 presents the alignment of this option.

Figure 90: End-to-End Route Option

8. Emerging Preferred Route

8.1 Introduction

The earlier sections of this report presented an appraisal of each of the potential route options for the individual study area sections identified. Within each study area section, where potential route options were considered to be available, they have been assessed in accordance with the methodology set out under a 'Multi-Criteria Analysis' under the headings of Economy, Integration, Accessibility and Social Inclusion, Safety and Environment.

Following this appraisal, emerging preferred route sections were combined to create a number of potentially viable end-to-end emerging routes, which have been subject to a further multi-criteria analysis to identify an overall emerging preferred end-to-end route option.

This section of the report presents and describes the emerging preferred route identified and the concept scheme design developed.

8.2 Recommended Preferred Route

The emerging preferred route is presented in Figure 91 and described in this section in the Curraheen to city centre direction and as illustrated the buses and cyclists to follow separate routes on approach to the city centre.

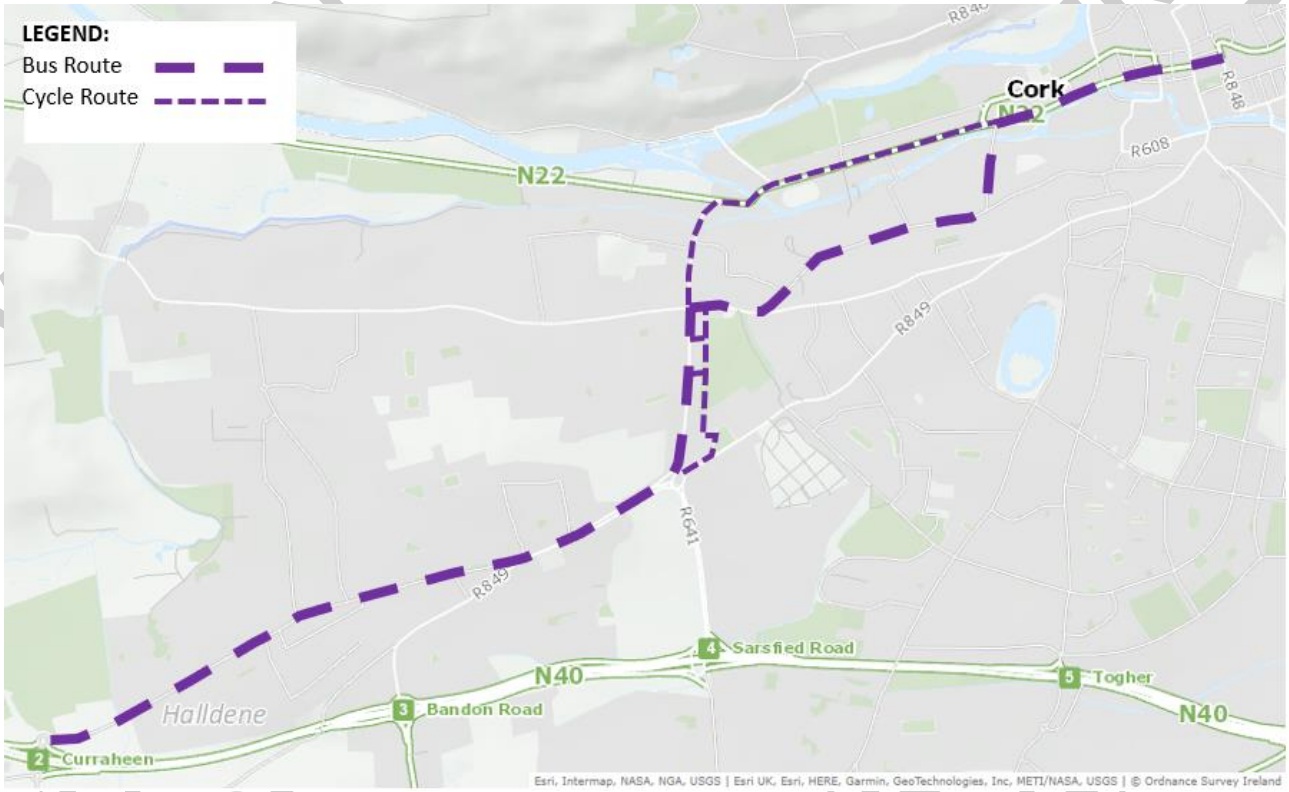

Figure 91: Emerging Preferred Route – CBC 7

The proposed route starts at the Curraheen Interchange, to the north the N22 National Road and travels eastwards towards Melbourn Road in Bishopstown. The proposed bus/cycle route remains on Curraheen until its intersection with the Bishopstown Road before travelling in front of Cork University Hospital and the Wilton Shopping Centre. At the Wilton Roundabout buses are directed down Wilton Road while cyclists are provided with dedicated infrastructure along Glasheen Road and through Liam Lynch Park before joining a new link provided through the grounds of the Presentation Brothers College Sports Grounds. Cyclists will avail of this parallel facility to Magazine Road, with additional connections to Wilton Road at Wilton Gardens and in the vicinity of the junction at Dennehy's Cross.

From Dennehy's Cross buses are directed onto Magazine Road, College Road and O'Donovan's Road as far as the Bandfield while cyclists are directed along Victoria Cross Road and Western Road and continuing along Wester Road to the junction of Donovan's Road/Lancaster Quay (at the Bandfield). At this location, the proposed cycle route and bus route merge and continue along Lancaster Quay/Washington Street to the junction of Washington Street and Grand Parade.

The following lists the proposed interventions along CBC 7:

Walking/Cycling:

- The signalisation of the junction of Melbourn Road and Curraheen Road to include dedicated pedestrian and cycle crossings;
- New dedicated cycle facilities in both directions along Curraheen Road between the Curraheen Interchange and Bishopstown Road;
- Upgrade of the junction of Curraheen Road and Rossa Avenue to include enhanced pedestrian and cycle facilities;
- The signalisation of the junction of Hawke's Road and Curraheen Road to include dedicated pedestrian and cycle crossings;
- Enhanced pedestrian and cycle facilities at the signalised junction of Bishopstown Road/Curraheen Road;
- New dedicated cycle facilities in both directions along Bishopstown Road between Curraheen Road and Wilton Road;
- Enhanced pedestrian and cycle facilities at the junction of Bishopstown Road/Wilton Avenue;
- An enhanced pedestrian environment along Bishopstown Road with the provision of new landscaping zones and the potential to widen footpaths opposite the Wilton Shopping Centre and Cork University Hospital;
- Enhanced pedestrian and cycle facilities at the entrance to Cork University Hospital/ Wilton Shopping Centre;
- The upgrade of the Wilton Roundabout to a full traffic signal-controlled junction with dedicated pedestrian and cycle facilities;
- New two-way cycle facility on Glasheen Road between Bishopstown Road and Liam Lynch Park;
- New two-way cycle facility within Liam Lynch Park;
- New shared cycle/pedestrian route travelling along the western boundary of the Presentation Brothers College Sports Grounds;
- Upgrade to the existing pedestrian crossing on Wilton Road serving Cork University Hospital to include cycle facilities;
- The signalisation of the junction of Wilton Road and Wilton Gardens to included dedicated pedestrian and cycle facilities;
- Enhanced pedestrian and cycle facilities at the junction of Model Farm Road/Wilton Road;
- The signalisation of the junction of College Road and Magazine Road to provide enhanced pedestrian facilities;
- Enhanced pedestrian facilities along O'Donovan's Road including a new pedestrian bridge within the grounds of University College Cork;
- Raised adjacent cycle lanes in both directions on Victoria Cross Road/Western Road between Dennehy's Cross and the Bandfield; and
- Raised adjacent cycle lanes in both directions along the entire length of Lancaster Quay and Washington Street, between the Bandfield junction and the junction of Washington Street and Grand Parade.

Public Transport:

- Proposed inbound bus lane on Curraheen Road between the Curraheen Interchange and Rossa Avenue;
- Proposed outbound bus lane on Curraheen Road between Halldene Villas and Uam Var Avenue, and between Uam Var Avenue and the Curraheen Interchange;
- Proposed outbound bus lane on Curraheen Road between the east side of Barratt's Lane and Hawke's Road;
- Proposed inbound bus lane on Curraheen Road between Melbourn Road and Bishopstown Road;
- Sections of inbound and outbound bus lane provision on Bishopstown Road, between Bishopstown Road and Wilton Avenue;

- Dedicated bus lanes in both directions on Bishopstown Road between the western side of CUH and the Wilton Roundabout;
- Upgrade of the Wilton Roundabout to a signalised junction with dedicated approach bus lanes;
- Proposed outbound and inbound bus lanes on Wilton Road;
- Provision of traffic restrictions on College Road include the provision of a bus only sections to ensure priority for buses through this section of the network; and
- Sections of inbound and outbound bus lane on Lancaster Quay/Washington Street, from the Western Road/Donovan's Road junction to the Washington Street/Grand Parade junction.

9. Recommendations for progression to consultation

9.1 Overlap between CBC 6 and CBC 7

Following the determination of the emerging preferred route for CBC 7, a further check has been undertaken to investigate the relationship between CBC 7 and CBC 6 (Ballincollig to City) and CBC 8 (Togher to City Centre). It is noted that the emerging preferred route for CBC 7 proposes to route buses in a north-south direction along Wilton Road before the corridor then turns east on to Magazine Road/College Road at Dennehy's Cross, whereas the emerging preferred route for CBC 6 proposes to route buses approaching from the west along Model Farm Road before this corridor then turns north on to Victoria Cross Road, again at Dennehy's Cross. Figure 92 shows the overlap between CBC 7 and Route CBC 6.

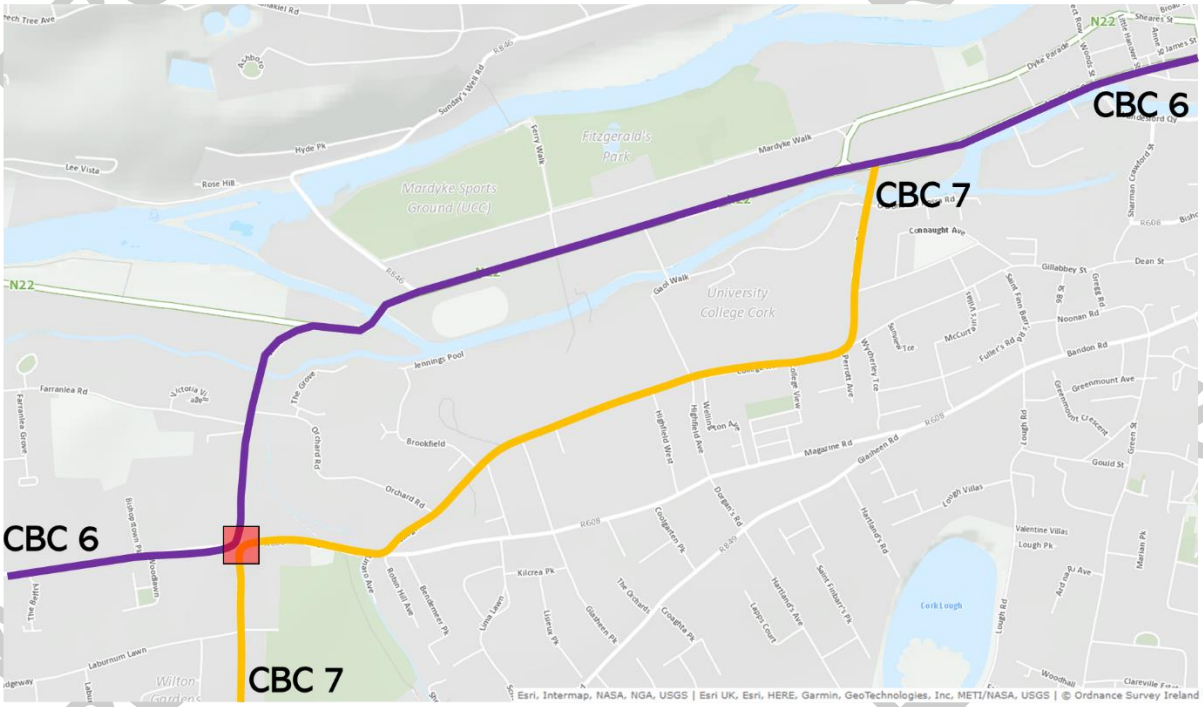

Figure 92: Overlap between CBC 6 and CBC 7

Both CBC 6 and CBC 7 intersect at Dennehy's Cross. However, the required turning movements for the two routes at Dennehy's Cross would introduce inefficiencies to the operation of the bus services and a more appropriate solution would be to continue both CBC 6 and CBC 7 straight through the junction at Dennehy's Cross on their respective approaches without having to turn.

Therefore, it is recommended that the CBC 7 corridor should continue directly northwards through the junction at Dennehy's Cross and route along Victoria Cross Road and Western Road to the junction of Western Road/Lancaster Quay (at the Bandfield). Along this location, the proposals for dedicated bus and cycle priority facilities as outlined in the CBC 6 Corridor Study would be utilised for the CBC 7 route corridor as well.

It is also consequently recommended that CBC 6 should continue directly eastbound through the junction at Dennehy's Cross, before continuing to Magazine Road, College Road, Donovan's Road and onwards to the Bandfield junction and buses on this corridor would continue to the city centre from here. Where the two routes meet (at the Bandfield junction), it is recommended that CBC 6 would terminate and tie into the CBC 7 proposals, continuing to the city centre, with both routes utilising the same proposed infrastructure.

It is also recommended that the proposed cycle facilities in CBC 6 at this location (routing via Victoria Cross Road, Western Road, Mardyke Walk, Lancaster Quay and Washington Street) would be retained for CBC 7, as dedicated cycling facilities are not proposed on College Road as part of CBC 7 – CBC 7 proposes that cyclists would avail of dedicated facilities on Victoria Cross Road and Western Road in addition to the traffic-controlled environment on College Road.

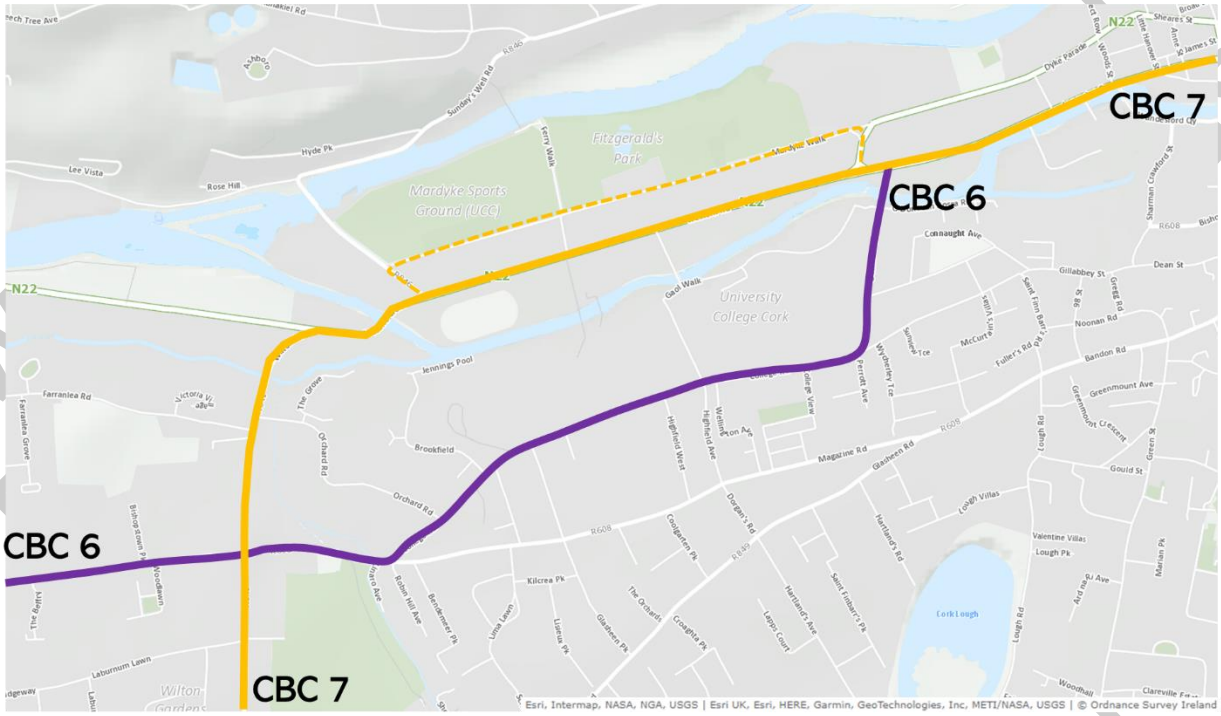

Figure 93: Revised CBC 6 and CBC 7 routing between Dennehy's Cross and City Centre

9.2 Overlap between CBC 7 and CBC 8

It is noted that the proposed CBC 8 Route Corridor recommends that inbound buses on the corridor would route north along Sharman Crawford Street and cross over Clarke's Bridge and on to Hanover Place, before continuing to the city centre via Washington Street. Outbound buses are recommended to route via Washington Street, South Main Street, Proby's Quay and Bishop Street.

Inbound cyclists are recommended in CBC 8 to route via Bishop Street, Crosse's Green, Clarke's Bridge and Hanover Place, before turning to Washington Street and continuing to the city centre. Outbound cyclists are recommended to route on Washington Street before turning on to Hanover Place, crossing Clarke's Bridge using a contra-flow cycle lane and routing through Crosse's Green and on to Proby's Quay and continuing west along Bishop Street.

It is therefore recommended that where the CBC 8 corridor proposals for buses and cyclists coincide with the CBC 7 proposals (namely along Washington Street) that the CBC 8 proposals would terminate and the CBC 7 proposals would take precedence, ensuring continued bus and cycle facilities accessing the city centre.

9.3 Recommended amendments to Emerging Preferred Route

The following additional changes to the emerging preferred route outlined above are recommended for inclusion within the scheme concept design to be progressed to public consultation:

- In line with the renaming of the Core Bus Corridor schemes for BusConnects Cork as 'Sustainable Transport Corridor' schemes, and the re-titling of the individual routes, CBC 7 will be progressed to consultation as **'Sustainable Transport Corridor F – Bishopstown to City'**;
- It is recommended that the proposed bus and cycle facilities would commence on Curraheen Road at its junction with Melbourn Road – it is not considered that dedicated bus priority measures would be required yet further west of this location, and cycle facilities along the remainder of the corridor will be progressed by Cork City Council independently under a separate scheme;
- As outlined above, in order to minimise delays for both CBC routes 6 and 7 it is recommended that both routes would interchange their infrastructure proposals at the junction at Dennehy's Cross, with the CBC 6 bus route proposed to continue on to College Road and Donovan's Road and terminate at the Lancaster Quay/Donovan's Road junction (Bandfield), tying in to the CBC 7 corridor. The CBC 7 proposals for bus routing are proposed to continue straight to Victoria Cross Road and to continue

onwards through Bandfield and terminate in city centre. This proposal will eliminate the need for additional bus turning movements for both CBC's at Dennehy's Cross and optimise the efficiency of both corridors as a result;

- The cycle facilities proposed between Dennehy's Cross and the city centre as part of CBC 6 (with cyclists using dedicated infrastructure on Victoria Cross Road/Mardyke Walk/Washington Street) will be retained and used for CBC 7 and will also be available for use for CBC 6 (as dedicated cycle infrastructure cannot be provided on College Road/Donovan's Road);
- Finally, it is also recommended that the proposals for bus and cycle facilities for CBC 8 would terminate and tie-in to the proposals for CBC 7 along Washington Street between Hanover Place and the city centre.

Appendix A

Route Option Assessment Tables

A.1 Section 1 – Curraheen to Wilton Roundabout

Assessment Criterion	Assessment Sub-Criterion	Section 1 Option 1	Section 1 Option 2	Section 1 Option 3	Section 1 Option 4	Section 1 Option 5
Economy (Cost Assessment and Transport Economic Indicators)	Capital Cost	***Total Capital Cost*** (€17.79m) ***Indicative Scheme Infrastructure Works Cost*** (€5.03m) ***Land Acquisition Cost*** (€12.76m) This section of the route requires the acquisition of 8,504m2 of land, 4,950 of which are private lands and 3,554 are public lands.	***Total Capital Cost*** (€16.85m) ***Indicative Scheme Infrastructure Works Cost*** (€5.37m) ***Land Acquisition Cost*** (€11.48m) This section of the route requires the acquisition of 7,653m2 of land, 4,739 of which are private lands and 2,914 are public lands.	***Total Capital Cost*** (€16.67m) ***Indicative Scheme Infrastructure Works Cost*** (€4.78m) ***Land Acquisition Cost*** (€11.89m) This section of the route requires the acquisition of 7,926m2 of land, 5,336 of which are private lands and 2,590 are public lands.	***Total Capital Cost*** (€11.56m) ***Indicative Scheme Infrastructure Works Cost*** (€4.81m) ***Land Acquisition Cost*** (€6.75m) This section of the route requires the acquisition of 4,499m2 of land, 3,310 of which are private lands and 1,189 are public lands.	***Total Capital Cost*** (€6.92m) ***Indicative Scheme Infrastructure Works Cost*** (€2.59m) ***Land Acquisition Cost*** (€4.33m) This section of the route requires the acquisition of 2,886m2 of land, 1,345 of which are private lands and 1,541 are public lands.
	Rank					
	Transport Reliability and Quality of Service	Journey Time: 7 mins The length of the cycle section is 3195m and the length of the bus section is 3195m. No. of Major/ Signalised Junctions: 6 Outbound bus lanes are provided along 52% of this route option, and inbound bus lanes are provided along 69% of this route option, resulting in good journey time reliability of bus services.	Journey Time: 7.6 mins The length of the cycle section is 3070m and the length of the bus section is 3535m. No. of Major/ Signalised Junctions: 6 Outbound bus lanes are provided along 51% of this route option, and inbound bus lanes are provided along 70% of this route option, resulting in good journey time reliability of bus services.	Journey Time: 7.7 mins The length of the cycle section is 3195m and the length of the bus section is 3350m. No. of Major/ Signalised Junctions: 7 Outbound bus lanes are provided along 45% of this route option, and inbound bus lanes are provided along 70% of this route option, resulting in good journey time reliability of bus services.	Journey Time: 9.2 mins The length of the cycle section is 3195m and the length of the bus section is 3390m. No. of Major/ Signalised Junctions: 7 Outbound bus lanes are provided along 29% of this route option, and inbound bus lanes are provided along 36% of this route option, resulting in good journey time reliability of bus services.	Journey Time: 10 mins The length of the cycle section is 3195m and the length of the bus section is 3760m. No. of Major/ Signalised Junctions: 3 Outbound Bus Lanes are provided along 17% of this route option, and inbound bus lanes are provided along 17% of this route option, resulting in poor journey time reliability of bus services.

	Rank					
Integration	Land Use Integration	This route serves an area which is largely developed, with limited scope for further development.	This route serves an area which is largely developed, with limited scope for further development.	This route serves an area which is largely developed, with limited scope for further development.	This route serves an area which is largely developed, with limited scope for further development. The initial section of this route runs along the N40, offering less integration with the surrounding area.	This route serves an area which is largely developed, with limited scope for further development. A significant section of this route runs along the N40, offering less integration with the surroundign area.
	Rank					
	Residential Population and Employment Catchments	***Residential Population Catchments*** 5 minute walking catchment of approximately 3,800 10 minute walking catchment of approximately 8,100 15 minute walking catchment of approximately 11,400 ***Employment catchments*** 5 minute walking catchment of approximately 4,500 10 minute walking catchment of approximately 7,300 15 minute walking catchment of approximately 8,400	***Residential Population Catchments*** 5 minute walking catchment of approximately 3,800 10 minute walking catchment of approximately 8,100 15 minute walking catchment of approximately 11,400 ***Employment catchments*** 5 minute walking catchment of approximately 4,500 10 minute walking catchment of approximately 7,300 15 minute walking catchment of approximately 8,400	***Residential Population Catchments*** 5 minute walking catchment of approximately 3,700 10 minute walking catchment of approximately 8,000 15 minute walking catchment of approximately 11,400 ***Employment catchments*** 5 minute walking catchment of approximately 4,500 10 minute walking catchment of approximately 7,200 15 minute walking catchment of approximately 8,400	***Residential Population Catchments*** 5 minute walking catchment of approximately 2,700 10 minute walking catchment of approximately 6,200 15 minute walking catchment of approximately 10,400 ***Employment catchments*** 5 minute walking catchment of approximately 3,800 10 minute walking catchment of approximately 7,000 15 minute walking catchment of approximately 8,000	***Residential Population Catchments*** 5 minute walking catchment of approximately 1,700 10 minute walking catchment of approximately 4,700 15 minute walking catchment of approximately 10,400 ***Employment catchments*** 5 minute walking catchment of approximately 1,400 10 minute walking catchment of approximately 4,600 15 minute walking catchment of approximately 7,900
	Rank					
	Transport Network Integration	This route coincides with portions of existing bus routes 201, 205, 208, 214, 216 and 219.	This route coincides with portions of existing bus routes 201, 205, 208, 214, 216 and 219.	This route coincides with portions of existing bus routes 201, 205, 208, 214, 216 and 219.	This route coincides with portions of existing bus routes 201, 205, 208, 214, 216 and 219.	This route coincides with portions of existing bus routes 201, 205, 208, 214, 216 and 219.
		There would be Some impact on general traffic.	There would be Some impact on general traffic.	There would be Some impact on general traffic.	There would be Marginal impact on general traffic.	There would be Marginal impact on general traffic.

	Rank					
	Cycling integration	This route option is identified in CMATS as forming parts of primary routes CSW-U12, CSW-U12A, CSW-U13, CSW-U14, CSW-U15, unnamed primary routes, secondary route CSW-U25, greenway route CU-GW1. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 83% of this route, and are proposed in the inbound for 83% of this route	This route option is identified in CMATS as forming parts of primary routes CSW-U12, CSW-U12A, CSW-U13, CSW-U14, CSW-U15, unnamed primary routes, secondary routes CSW-U23, CSW-U25, unnamed secondary routes, greenway route CU-GW1, unnamed interurban routes. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 73% of this route, and are proposed in the inbound for 73% of this route	This route option is identified in CMATS as forming parts of primary routes CSW-U12, CSW-U12A, CSW-U13, CSW-U14, CSW-U15, unnamed primary routes, secondary routes CSW-U23, CSW-U25, unnamed secondary routes, greenway route CU-GW1. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 83% of this route, and are proposed in the inbound for 83% of this route	This route option is identified in CMATS as forming parts of primary routes CSW-U12, CSW-U12A, CSW-U13, CSW-U14, CSW-U15, unnamed primary routes, secondary routes CSW-U23, CSW-U25, unnamed secondary routes, greenway route CU-GW1, unnamed interurban routes. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 83% of this route, and are proposed in the inbound for 83% of this route	This route option is identified in CMATS as forming parts of primary routes CSW-U12, CSW-U12A, CSW-U13, CSW-U14, CSW-U15, unnamed primary routes, secondary routes CSW-U10, CSW-U25, greenway routes CU-GW1, unnamed greenway routes. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 83% of this route, and are proposed in the inbound for 83% of this route
	Rank					
	Pedestrian Integration	The existing pedestrian network is good and will be further enhanced as part of the proposed development	The existing pedestrian network is good and will be further enhanced as part of the proposed development	The existing pedestrian network is good and will be further enhanced as part of the proposed development	The existing pedestrian network is good and will be further enhanced as part of the proposed development	The existing pedestrian network is good but access to the South Ring Road is poor for pedestrians
	Rank					
Accessibility and Social Inclusion	Key Trip Attractors (Education/Health/Commercial/Employment)	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 4 primary schools, 1 special primary school, 2 offices, 35 shops, 1 restaurant/bar/pub and 2 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 4 primary schools, 1 special primary school, 2 offices, 35 shops, 1 restaurant/bar/pub and 2 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 4 primary schools, 1 special primary school, 2 offices, 35 shops, 1 restaurant/bar/pub and 2 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 2 primary schools, 1 special primary school, 2 offices, 37 shops, 1 restaurant/bar/pub and 2 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 22 shops, 1 restaurant/bar/pub and 2 tourist facilities/attractions.
	Rank					

	Deprived Geographic Areas	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% disadvantaged, 20% marginally below average, 60% marginally above average, 20% affluent and less than 5% very affluent. The route does not serve any RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% disadvantaged, 20% marginally below average, 60% marginally above average, 20% affluent and less than 5% very affluent. The route does not serve any RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% disadvantaged, 20% marginally below average, 60% marginally above average, 20% affluent and less than 5% very affluent. The route does not serve any RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% disadvantaged, 20% marginally below average, 50% marginally above average, 20% affluent and less than 5% very affluent. The route does not serve any RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 20% marginally below average, 50% marginally above average and 20% affluent. The 10-min walking catchment of the route includes approximately 10% of the Togher/Mahon/Ballyphehane RAPID area.
	Rank					
Safety	Road Safety	No. of Junctions: 20 0 turning movements are required in each direction (0 left and 0 right in both inbound and outbound directions).	No. of Junctions: 20 0 turning movements are required in each direction (0 left and 0 right in both inbound and outbound directions).	No. of Junctions: 22 2 turning movements are required in each direction (1 left and 1 right in both inbound and outbound directions).	No. of Junctions: 11 1 turning movements are required in each direction (1 left and 0 right in both inbound and outbound directions).	No. of Junctions: 3 1 turning movements are required in each direction (1 left and 0 right in both inbound and outbound directions).
	Rank					
Environment	Archaeology Architectural and Cultural Heritage	This section of the proposed route does not cross any Architectural Conservation Areas.	This section of the proposed route does not cross any Architectural Conservation Areas.	This section of the proposed route does not cross any Architectural Conservation Areas.	This section of the proposed route does not cross any Architectural Conservation Areas.	This section of the proposed route does not cross any Architectural Conservation Areas.
		There are no structures listed in the NIAH along this option. There is 1 No. protected structure along this option, of which none have the potential to be impacted by the proposed project.	There are no structures listed in the NIAH along this option. There is 1 No. protected structure along this option, of which none have the potential to be impacted by the proposed project.	There are no structures listed in the NIAH along this option. There is 1 No. protected structure along this option, of which none have the potential to be impacted by the proposed project.	There are no structures listed in the NIAH along this option. There is 1 No. protected structure along this option, of which none have the potential to be impacted by the proposed project.	There are no structures listed in the NIAH along this option. There is 1 No. protected structure along this option, of which none have the potential to be impacted by the proposed project.
		There is 1 No. recorded monument located along this route which has the	There is 1 No. recorded monument located along this route which has the	There is 1 No. recorded monument located along this route which has the	There is 1 No. recorded monument located along this route which has the	There is 1 No. recorded monument located along this route which has the

		potential to be impacted by the works	potential to be impacted by the works	potential to be impacted by the works	potential to be impacted by the works	potential to be impacted by the works
	Rank					
	Biodiversity	This option has the potential to result in the loss of 81 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening associated with this section of the proposed route is located within 500m of a SPA.	This option has the potential to result in the loss of 80 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening associated with this section of the proposed route is located within 500m of a SPA.	This option has the potential to result in the loss of 78 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening associated with this section of the proposed route is located within 500m of a SPA.	This option has the potential to result in the loss of 24 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening associated with this section of the proposed route is located within 500m of a SPA.	This option has the potential to result in the loss of 16 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening associated with this section of the proposed route is located within 500m of a SPA.
	Rank					
	Soils and Geology	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.
	Rank					

	Hydrology	This section of the proposed route traverses 1 River (Twopot River), and as such, there is potential for either direct or indirect effects on the water source as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 River (Twopot River), and as such, there is potential for either direct or indirect effects on the water source as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 River (Twopot River), and as such, there is potential for either direct or indirect effects on the water source as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 River (Twopot River), and as such, there is potential for either direct or indirect effects on the water source as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 2 Rivers (Twopot River, Glasheen River), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.
	Rank					
	Landscape and Visual	This section of the proposed route infringes on an area of High Landscape Sensitivity. This option has the potential to result in the loss of 81 trees as well as grass verges which may be of ecological value.	This section of the proposed route infringes on an area of High Landscape Sensitivity. This option has the potential to result in the loss of 80 trees as well as grass verges which may be of ecological value.	This section of the proposed route infringes on an area of High Landscape Sensitivity. This option has the potential to result in the loss of 78 trees as well as grass verges which may be of ecological value.	This section of the proposed route infringes on an area of High Landscape Sensitivity. This option has the potential to result in the loss of 24 trees as well as grass verges which may be of ecological value.	This section of the proposed route infringes on an area of High Landscape Sensitivity. This option has the potential to result in the loss of 16 trees as well as grass verges which may be of ecological value.
	Rank					
	Air Quality, Noise & Vibration	Of the 238 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a	Of the 308 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a	Of the 299 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a	Of the 312 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a	Of the 270 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a

		result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.
	Rank					
	Land Use Character	This section of the route requires the acquisition of 8,504m2 of land, 4,950 of which are private lands and 3,554 are public lands.	This section of the route requires the acquisition of 7,653m2 of land, 4,739 of which are private lands and 2,914 are public lands.	This section of the route requires the acquisition of 7,926m2 of land, 5,336 of which are private lands and 2,590 are public lands.	This section of the route requires the acquisition of 4,499m2 of land, 3,310 of which are private lands and 1,189 are public lands.	This section of the route requires the acquisition of 2,886m2 of land, 1,345 of which are private lands and 1,541 are public lands.
	Rank					

A.2 Section 2A –Wilton Roundabout to Dennehy's Cross

Assessment Criterion	Assessment Sub-Criterion	Section 2A Option 1	Section 2A Option 2	Section 2A Option 3
Economy (Cost Assessment and Transport Economic Indicators)	Capital Cost	***Total Capital Cost*** (€6.86m) ***Indicative Scheme Infrastructure Works Cost*** (€1.64m) ***Land Acquisition Cost*** (€5.22m) This section of the route requires the acquisition of 3,533 m2 of land, 3,483 m2 of which are private lands and 50 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 96 properties.	***Total Capital Cost*** (€4.08m) ***Indicative Scheme Infrastructure Works Cost*** (€1.39m) ***Land Acquisition Cost*** (€2.69m) This section of the route requires the acquisition of 1,831 m2 of land, 1,794 m2 of which are private lands and 37 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 94 properties.	***Total Capital Cost*** (€6.04m) ***Indicative Scheme Infrastructure Works Cost*** (€1.15m) ***Land Acquisition Cost*** (€4.89m) This section of the route requires the acquisition of 4,051 m2 of land, 3,259 m2 of which are private lands and 792 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 98 properties.
	Rank			
	Transport Reliability and Quality of Service	Journey Time: 1.6 mins The length of the cycle section is 690m and the length of the bus section is 690m. No. of Major/ Signalised Junctions: 2 Outbound bus lanes are provided along 93% of this route option, and inbound bus lanes are provided along 93% of this route option, resulting in good journey time reliability of bus services.	Journey Time: 2.2 mins The length of the cycle section is 690m and the length of the bus section is 690m. No. of Major/ Signalised Junctions: 2 Outbound bus lanes are provided along 46% of this route option, and inbound bus lanes are provided along 46% of this route option, resulting in good journey time reliability of bus services.	Journey Time: 1.6 mins The length of the cycle section is 900m and the length of the bus section is 690m. No. of Major/ Signalised Junctions: 2 Outbound bus lanes are provided along 93% of this route option, and inbound bus lanes are provided along 93% of this route option, resulting in good journey time reliability of bus services.

	Rank			
Integration	Land Use Integration	This route serves an area which is largely developed, with limited scope for further development.	This route serves an area which is largely developed, with limited scope for further development.	This route serves an area which is largely developed, with limited scope for further development.
	Rank			
	Residential Population and Employment Catchments	***Residential Population Catchments*** 5 minute walking catchment of approximately 1,700 10 minute walking catchment of approximately 5,600 15 minute walking catchment of approximately 10,700 ***Employment catchments*** 5 minute walking catchment of approximately 1,500 10 minute walking catchment of approximately 4,800 15 minute walking catchment of approximately 8,900	***Residential Population Catchments*** 5 minute walking catchment of approximately 1,700 10 minute walking catchment of approximately 5,600 15 minute walking catchment of approximately 10,700 ***Employment catchments*** 5 minute walking catchment of approximately 1,500 10 minute walking catchment of approximately 4,800 15 minute walking catchment of approximately 8,900	***Residential Population Catchments*** 5 minute walking catchment of approximately 1,700 10 minute walking catchment of approximately 5,600 15 minute walking catchment of approximately 10,700 ***Employment catchments*** 5 minute walking catchment of approximately 1,500 10 minute walking catchment of approximately 4,800 15 minute walking catchment of approximately 8,900
	Rank			
	Transport Network Integration	This route coincides with portions of existing bus routes 201, 208, 214 and 216.	This route coincides with portions of existing bus routes 201, 208, 214 and 216.	This route coincides with portions of existing bus routes 201, 208, 214 and 216.
		This option offers potential for interchange with 0. There would be No impact on general traffic.	This option offers potential for interchange with 0. There would be No impact on general traffic.	This option offers potential for interchange with 0. There would be No impact on general traffic.
	Rank			
	Cycling integration	This route option is identified in CMATS as forming parts of primary routes CSW-U11, unnamed primary routes, unnamed feeder routes.	This route option is identified in CMATS as forming parts of primary routes CSW-U11, unnamed primary routes, unnamed feeder routes.	This route option is identified in CMATS as forming parts of primary routes CSW-U11, CSW-U9, unnamed primary routes, unnamed feeder routes.

		Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 93% of this route, and are proposed in the inbound for 93% of this route	Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 93% of this route, and are proposed in the inbound for 93% of this route	Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 43% of this route, and are proposed in the inbound for 43% of this route Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 43% of this route, and are proposed in the inbound for 43% of this route. The remainder of the route is made up of a segregated cycle track.
	Rank			
	Pedestrian Integration	Good Pedestrian Connectivity	Good Pedestrian Connectivity	This option provides enhanced pedestrian facilities
	Rank			
Accessibility and Social Inclusion	Key Trip Attractors (Education/Health/Commercial/Employment)	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 1 primary school, 1 special primary school, 9 shops, 2 restaurants/bars/pubs and 1 tourist facility/attraction.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 1 primary school, 1 special primary school, 9 shops, 2 restaurants/bars/pubs and 1 tourist facility/attraction.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 1 primary school, 1 special primary school, 9 shops, 2 restaurants/bars/pubs and 1 tourist facility/attraction.
	Rank			
	Deprived Geographic Areas	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are 20% marginally below average, 20% marginally above average, 50% affluent and 10% very affluent. The route does not serve any RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are 20% marginally below average, 20% marginally above average, 50% affluent and 10% very affluent. The route does not serve any RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are 20% marginally below average, 20% marginally above average, 50% affluent and 10% very affluent. The route does not serve any RAPID area.
	Rank			
Safety	Road Safety	No. of Junctions: 4 0 turning movements are required in each direction (0 left and 0 right in both inbound and outbound directions).	No. of Junctions: 4 0 turning movements are required in each direction (0 left and 0 right in both inbound and outbound directions).	No. of Junctions: 4 0 turning movements are required in each direction (0 left and 0 right in both inbound and outbound directions).
	Rank			
Environment	Archaeology Architectural	This section of the proposed route does not cross any Architectural Conservation Areas.	This section of the proposed route does not cross any Architectural Conservation Areas.	This section of the proposed route does not cross any Architectural Conservation Areas.

	and Cultural Heritage	There are 4 No. structures listed on the NIAH along this option (4 of regional significance). Of these, 2 structures of regional significance (2 No. house) have the potential to be impacted by the proposed project, in the absence of intervention. There are 2 No. protected structures along this option, of which none have the potential to be impacted by the proposed project. There are no recorded monuments to be potentially impacted by the proposed route.	There are 4 No. structures listed on the NIAH along this option (4 of regional significance). Of these, 2 structures of regional significance (2 No. house) have the potential to be impacted by the proposed project, in the absence of intervention. There are 2 No. protected structures along this option, of which none have the potential to be impacted by the proposed project. There are no recorded monuments to be potentially impacted by the proposed route.	There are 5 No. structures listed on the NIAH along this option (5 of regional significance). Of these, 3 structures of regional significance (3 No. house) have the potential to be impacted by the proposed project, in the absence of intervention. There are 8 No. protected structures along this option, of which 5 have the potential to be impacted by the proposed project, in the absence of intervention. There are no recorded monuments to be potentially impacted by the proposed route.
	Rank			
	Biodiversity	This option has the potential to result in the loss of 12 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening associated with this section of the proposed route is located within 500m of a SPA. No road widening associated with this section of the proposed route is located within 500m of a SAC.	This option has the potential to result in the loss of 9 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening associated with this section of the proposed route is located within 500m of a SPA. No road widening associated with this section of the proposed route is located within 500m of a SAC.	This option has the potential to result in the loss of 41 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening associated with this section of the proposed route is located within 500m of a SPA. No road widening associated with this section of the proposed route is located within 500m of a SAC.
	Rank			

	Soils and Geology	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.
	Rank			
	Hydrology	This section of the proposed route does not traverse any streams or rivers so diversion works or construction of bridges or culverts is not required.	This section of the proposed route does not traverse any streams or rivers so diversion works or construction of bridges or culverts is not required.	This section of the proposed route does not traverse any streams or rivers so diversion works or construction of bridges or culverts is not required.
	Rank			
	Landscape and Visual	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 12 trees as well as grass verges which may be of ecological value.	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 9 trees as well as grass verges which may be of ecological value.	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 41 trees as well as grass verges which may be of ecological value.
		The extent of road widening along Wilton Road will require changes to the existing levels within the front gardens and/or the construction of retaining structures		
	Rank			
	Air Quality, Noise & Vibration	Of the 99 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 99 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 135 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.

	Rank			
	Land Use Character	This section of the route requires the acquisition of 3,534m2 of land, 3,483 of which are private lands and 51 are public lands.	This section of the route requires the acquisition of 1,832m2 of land, 1,794 of which are private lands and 38 are public lands.	This section of the route requires the acquisition of 4,053m2 of land, 3,261 of which are private lands and 792 are public lands.
		The large land take on Wilton Road will impact on the existing gardens significantly along this route		The location of the pedestrian/cycleway within a private sports ground will impact the existing land use character of this area
	Rank			

A.3 Section 2B – Bandon Road to City Centre

Assessment Criterion	Assessment Sub-Criterion	Section 2B Option 1	Section 2B Option 2	Section 2B Option 3
Economy (Cost Assessment and Transport Economic Indicators)	Capital Cost	***Total Capital Cost*** (€4.98m) ***Indicative Scheme Infrastructure Works Cost*** (€4.81m) ***Land Acquisition Cost*** (€0.17m) This section of the route requires the acquisition of 205 m2 of land, 115 m2 of which are private lands and 90 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 4 properties.	***Total Capital Cost*** (€5.22m) ***Indicative Scheme Infrastructure Works Cost*** (€4.86m) ***Land Acquisition Cost*** (€0.36m) This section of the route requires the acquisition of 332 m2 of land, 242 m2 of which are private lands and 90 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 4 properties.	***Total Capital Cost*** (€5.27m) ***Indicative Scheme Infrastructure Works Cost*** (€4.75m) ***Land Acquisition Cost*** (€0.52m) This section of the route requires the acquisition of 439 m2 of land, 349 m2 of which are private lands and 90 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 7 properties.
	Rank			
	Transport Reliability and Quality of Service	Journey Time: 9.9 mins The length of the inbound cycle section is 1225m and the length of the outbound cycle section is 1240m; and the length of the inbound bus section is 1290m and the length of the outbound bus section is 1225m. No. of Major/ Signalised Junctions: 6 Outbound bus lanes are provided along 11% of this route option, and inbound bus lanes are provided along 59% of this route option, resulting in good journey time reliability of bus services.	Journey Time: 9.6 mins The length of the inbound cycle section is 1225m and the length of the outbound cycle section is 1240m; and the length of the inbound bus section is 1430m and the length of the outbound bus section is 1365m. No. of Major/ Signalised Junctions: 7 Outbound bus lanes are provided along 37% of this route option, and inbound bus lanes are provided along 62% of this route option, resulting in good journey time reliability of bus services.	Journey Time: 9.3 mins The length of the inbound cycle section is 1225m and the length of the outbound cycle section is 1240m; and the length of the inbound bus section is 1430m and the length of the outbound bus section is 1430m. No. of Major/ Signalised Junctions: 7 Outbound bus lanes are provided along 71% of this route option, and inbound bus lanes are provided along 29% of this route option, resulting in good journey time reliability of bus services.

				This option include for buses running two-way on the same route which benefits overall wayfinding.
	Rank			
Integration	Land Use Integration	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides very good integration with land use.	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides very good integration with land use.	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides very good integration with land use.
	Rank			
	Residential Population and Employment Catchments	***Residential Population Catchments*** 5 minute walking catchment of approximately 5,400 10 minute walking catchment of approximately 14,100 15 minute walking catchment of approximately 24,200 ***Employment catchments*** 5 minute walking catchment of approximately 6,800 10 minute walking catchment of approximately 16,600 15 minute walking catchment of approximately 24,900	***Residential Population Catchments*** 5 minute walking catchment of approximately 5,900 10 minute walking catchment of approximately 14,600 15 minute walking catchment of approximately 24,100 ***Employment catchments*** 5 minute walking catchment of approximately 6,800 10 minute walking catchment of approximately 16,000 15 minute walking catchment of approximately 24,400	***Residential Population Catchments*** 5 minute walking catchment of approximately 7,100 10 minute walking catchment of approximately 15,500 15 minute walking catchment of approximately 25,700 ***Employment catchments*** 5 minute walking catchment of approximately 8,400 10 minute walking catchment of approximately 16,600 15 minute walking catchment of approximately 25,000
	Rank			
	Transport Network Integration	This route coincides with portions of existing bus routes 205, 208, 214, 216, 220, 220X and 226X.	This route coincides with portions of existing bus routes 205, 208, 214, 216, 220, 220X and 226X.	This route coincides with portions of existing bus routes 205, 208, 214, 216, 220, 220X and 226X.
		There would be Minimal impact on general traffic.	There would be Minimal impact on general traffic.	There would be Minimal impact on general traffic.
	Rank			

	Cycling integration	This route option is identified in CMATS as forming parts of primary routes CCC-U10, CCC-U2, CCC-U21, CCC-U22, CCC-U5, unnamed primary routes, secondary routes CCC-U40, CCC-U46. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 76% of this route, and are proposed in the inbound for 82% of this route	This route option is identified in CMATS as forming parts of primary routes CCC-U10, CCC-U2, CCC-U21, CCC-U22, CCC-U27, CCC-U5, unnamed primary routes, secondary routes CCC-U40, CCC-U46. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 76% of this route, and are proposed in the inbound for 82% of this route	This route option is identified in CMATS as forming parts of primary routes CCC-U10, CCC-U2, CCC-U21, CCC-U22, CCC-U27, CCC-U5, unnamed primary routes, secondary routes CCC-U40, CCC-U46. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 76% of this route, and are proposed in the inbound for 82% of this route
	Rank			
	Pedestrian Integration	Good Pedestrian Connectivity	Good Pedestrian Connectivity	Good Pedestrian Connectivity
	Rank			
Accessibility and Social Inclusion	Key Trip Attractors (Education/Health/Commercial/Employment)	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 3 primary schools, 1 post-primary school, 13 offices, 166 shops, 51 restaurants/bars/pubs and 14 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 4 primary schools, 1 post-primary school, 13 offices, 166 shops, 51 restaurants/bars/pubs and 14 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 4 primary schools, 2 post-primary schools, 16 offices, 176 shops, 53 restaurants/bars/pubs and 17 tourist facilities/attractions.
	Rank			
	Deprived Geographic Areas	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 30% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Fairhill/Gurranabraher/Farranree RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 30% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Fairhill/Gurranabraher/Farranree RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 30% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Knocknaheeny/Hollyhill/Churchfield RAPID area and the fringes of the Fairhill/Gurranabraher/Farranree RAPID area.
	Rank			
Safety	Road Safety	No. of Junctions: 11	No. of Junctions: 12	No. of Junctions: 12

		6 turning movements are required in each direction (3 left and 3 right in both inbound and outbound directions).	6 turning movements are required in each direction (3 left and 3 right in both inbound and outbound directions).	6 turning movements are required in each direction (3 left and 3 right in both inbound and outbound directions).
	Rank			
Environment		This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Southparish ACA; North Mall - Marsh Architectural Area Proposal. There are 102 No. structures listed on the NIAH along this option (1 of international significance, 1 of national significance, 100 of regional significance). Of these, none have the potential to be impacted by the proposed project. There are 77 No. protected structures along this option, of which none have the potential to be impacted by the proposed project.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Southparish ACA; North Mall - Marsh Architectural Area Proposal. There are 105 No. structures listed on the NIAH along this option (1 of international significance, 1 of national significance, 103 of regional significance). Of these, none have the potential to be impacted by the proposed project. There are 78 No. protected structures along this option, of which none have the potential to be impacted by the proposed project.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Southparish ACA; North Mall - Marsh Architectural Area Proposal. There are 105 No. structures listed on the NIAH along this option (1 of international significance, 1 of national significance, 103 of regional significance). The proposed widening on Sharman Crawford Street has the potential to negatively impact the regionally significant NIAH structure- the Crawford School of Art (Reg No. 20503401) in the absence of mitigation, through the realignment of the site boundary and associated railings. There are 78 No. protected structures along this option, of which 1 has the potential to be impacted by the proposed project, in the absence of intervention.
		There are 9 No. recorded monuments located along this section of the proposed route, of which none have the potential to be either directly or indirectly affected by the proposed project.	There are 9 No. recorded monuments located along this section of the proposed route, of which none have the potential to be either directly or indirectly affected by the proposed project.	There are 9 No. recorded monuments located along this section of the proposed route, of which none have the potential to be either directly or indirectly affected by the proposed project.
	Rank			

	Biodiversity	This option has the potential to result in the loss of 4 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. Road widening associated with this section of the proposed route occurs within 374m of the Cork Lough PNHA. No road widening associated with this section of the proposed route is located within 500m of a SPA.	This option has the potential to result in the loss of 4 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. Road widening associated with this section of the proposed route occurs within 374m of the Cork Lough PNHA. No road widening associated with this section of the proposed route is located within 500m of a SPA.	This option has the potential to result in the loss of 4 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. Road widening associated with this section of the proposed route occurs within 374m of the Cork Lough PNHA. No road widening associated with this section of the proposed route is located within 500m of a SPA.
	Rank			
	Soils and Geology	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.
	Rank			
	Hydrology	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.
	Rank			
	Landscape and Visual	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 4 trees as well as grass verges which may be of ecological value.	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 4 trees as well as grass verges which may be of ecological value.	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 4 trees as well as grass verges which may be of ecological value.
	Rank			

	Air Quality, Noise & Vibration	Of the 334 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 448 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 448 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.
	Rank			
	Land Use Character	This section of the route requires the acquisition of 186m2 of land, 96 of which are private lands and 90 are public lands.	This section of the route requires the acquisition of 313m2 of land, 223 of which are private lands and 90 are public lands.	This section of the route requires the acquisition of 421m2 of land, 331 of which are private lands and 90 are public lands.
	Rank			

A.4 Section 2C – Bandfield to City Centre

Assessment Criterion	Assessment Sub-Criterion	Section 4 Option 1A	Section 4 Option 1B	Section 4 Option 2	Section 4 Option 3	Section 4 Option 4	Section 4 Option 5
Economy (Cost Assessment and Transport Economic Indicators)	Capital Cost	***Total Capital Cost*** (€2.81m) ***Indicative Scheme Infrastructure Works Cost*** (€2.81m) ***Land Acquisition Cost*** (€0m) This section of the route requires the acquisition of 0 m2 of land, 0 m2 of which are private lands and 0 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 01 properties.	***Total Capital Cost*** (€2.67m) ***Indicative Scheme Infrastructure Works Cost*** (€2.67m) ***Land Acquisition Cost*** (€0m) This section of the route requires the acquisition of 0 m2 of land, 0 m2 of which are private lands and 0 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 01 properties.	***Total Capital Cost*** (€2.49m) ***Indicative Scheme Infrastructure Works Cost*** (€2.47m) ***Land Acquisition Cost*** (€0.02m) This section of the route requires the acquisition of 11 m2 of land, 11 m2 of which are private lands and 0 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 01 properties.	***Total Capital Cost*** (€1.53m) ***Indicative Scheme Infrastructure Works Cost*** (€1.5m) ***Land Acquisition Cost*** (€0.03m) This section of the route requires the acquisition of 11 m2 of land, 11 m2 of which are private lands and 0 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 01 properties.	***Total Capital Cost*** (€1.51m) ***Indicative Scheme Infrastructure Works Cost*** (€1.5m) ***Land Acquisition Cost*** (€0.01m) This section of the route requires the acquisition of 4 m2 of land, 4 m2 of which are private lands and 0 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 01 properties.	***Total Capital Cost*** (€1.51m) ***Indicative Scheme Infrastructure Works Cost*** (€1.5m) ***Land Acquisition Cost*** (€0.01m) This section of the route requires the acquisition of 4 m2 of land, 4 m2 of which are private lands and 0 m2 are public lands. This section of the proposed route has the potential to partially or fully impact 01 properties.
	Rank						
	Transport Reliability	Journey Time: 3.4 mins	Journey Time: 3.6 mins	Journey Time: 3 mins	Journey Time: 1.7 mins	Journey Time: 1.7 mins	Journey Time: 1.7 mins

	and Quality of Service	The length of the cycle route is 1,015m and the length of the bus route is 1,015m. No. of Major/ Signalised Junctions: 5	The length of the cycle route is 1,015m and the length of the bus route is 1,015m. No. of Major/ Signalised Junctions: 5	The length of the cycle route is 1,155m and the length of the bus route is 1,015m. No. of Major/ Signalised Junctions: 5	The length of the inbound cycle section is 1,155m and the outbound cycle section is 1,015m; and the length of the inbound bus section is 1,150m and the outbound bus section is 1,015m. No. of Major/ Signalised Junctions: 5	The length of the inbound cycle section is 1,155m and the outbound cycle section is 1,015m; and the length of the inbound bus section is 1,150m and the outbound bus section is 1,015m. No. of Major/ Signalised Junctions: 5	The length of the inbound cycle section is 1,015m and the outbound cycle section is 1,015m; and the length of the inbound bus section is 1,150m and the outbound bus section is 1,015m. No. of Major/ Signalised Junctions: 5
		Outbound bus lanes are provided along 12% of this route option, however the majority of the remainder is bus priority. Inbound bus lanes are provided along 94% of this route option, resulting in good journey time reliability of bus services. There is no bus gate at the Bandfield	Outbound bus lanes are provided along 16% of this route option, however the majority of the remainder is bus priority. Inbound bus lanes are provided along 60% of this route option, however the majority of the remainder is bus priority, resulting in good journey time reliability of bus services.	Outbound bus lanes are provided along 94% of this route option, and inbound bus lanes are provided along 94% of this route option, resulting in good journey time reliability of bus services.	Outbound bus lanes are provided along 100% of this route option, and inbound bus lanes are provided along 100% of this route option, resulting in good journey time reliability of bus services.	Outbound bus lanes are provided along 100% of this route option, and inbound bus lanes are provided along 100% of this route option, resulting in good journey time reliability of bus services.	Outbound bus lanes are provided along 100% of this route option, and inbound bus lanes are provided along 100% of this route option, resulting in good journey time reliability of bus services.
	Rank						
Integration	Land Use Integration	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides	This route serves an area which is largely developed, with limited scope for further development. As the surrounding area is high density, the route provides

		very good integration with land use.	very good integration with land use.	very good integration with land use.	very good integration with land use.	very good integration with land use.	very good integration with land use.
	Rank						
	Residential Population and Employment Catchments	***Residential Population Catchments*** 5 minute walking catchment of approximately 4,100 10 minute walking catchment of approximately 13,000 15 minute walking catchment of approximately 23,000 ***Employment catchments*** 5 minute walking catchment of approximately 8,500 10 minute walking catchment of approximately 17,900 15 minute walking catchment of approximately 25,800	***Residential Population Catchments*** 5 minute walking catchment of approximately 4,100 10 minute walking catchment of approximately 13,000 15 minute walking catchment of approximately 23,000 ***Employment catchments*** 5 minute walking catchment of approximately 8,500 10 minute walking catchment of approximately 17,900 15 minute walking catchment of approximately 25,800	***Residential Population Catchments*** 5 minute walking catchment of approximately 4,100 10 minute walking catchment of approximately 13,000 15 minute walking catchment of approximately 23,000 ***Employment catchments*** 5 minute walking catchment of approximately 8,500 10 minute walking catchment of approximately 17,900 15 minute walking catchment of approximately 25,800	***Residential Population Catchments*** 5 minute walking catchment of approximately 3,700 10 minute walking catchment of approximately 12,400 15 minute walking catchment of approximately 22,500 ***Employment catchments*** 5 minute walking catchment of approximately 8,100 10 minute walking catchment of approximately 17,600 15 minute walking catchment of approximately 25,600	***Residential Population Catchments*** 5 minute walking catchment of approximately 3,700 10 minute walking catchment of approximately 12,400 15 minute walking catchment of approximately 22,500 ***Employment catchments*** 5 minute walking catchment of approximately 8,100 10 minute walking catchment of approximately 17,600 15 minute walking catchment of approximately 25,600	***Residential Population Catchments*** 5 minute walking catchment of approximately 3,700 10 minute walking catchment of approximately 12,400 15 minute walking catchment of approximately 22,500 ***Employment catchments*** 5 minute walking catchment of approximately 8,100 10 minute walking catchment of approximately 17,600 15 minute walking catchment of approximately 25,600
	Rank						
	Transport Network Integration	Parts of this route coincide with portions of existing bus routes 220 and 220X. There would be Minor Impact on general traffic.	This route does not coincide with any existing bus routes. There would be Moderate impact on general traffic.	Parts of this route coincide with portions of existing bus routes 220 and 220X. There would be Moderate impact on general traffic.	Parts of this route coincide with portions of existing bus routes 220 and 220X. There would be Moderate impact on general traffic.	Parts of this route coincide with portions of existing bus routes 220 and 220X. There would be Moderate impact on general traffic.	Parts of this route coincide with portions of existing bus routes 220 and 220X. There would be Moderate impact on general traffic.
	Rank						

	Cycling integration	This route option is identified in CMATS as forming parts of primary routes CCC-U2, CCC-U5, unnamed primary routes, secondary route CCC-U4. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 94% of this route, and are proposed in the inbound for 94% of this route Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 94% of this route, and are proposed in the inbound for 94% of this route	This route option is identified in CMATS as forming parts of primary routes CCC-U2, CCC-U5, unnamed primary routes, secondary route CCC-U4. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 94% of this route, and are proposed in the inbound for 94% of this route Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 94% of this route, and are proposed in the inbound for 94% of this route	This route option is identified in CMATS as forming parts of primary routes CCC-U2, CCC-U5, unnamed primary routes, secondary routes CCC-U3, CCC-U4. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 78% of this route, and are proposed in the inbound for 79% of this route Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 78% of this route, and are proposed in the inbound for 79% of this route. However cyclists are diverted along Dyke parade which may not be optimal.	This route option is identified in CMATS as forming parts of primary routes CCC-U2, CCC-U5, unnamed primary routes, secondary routes CCC-U3, CCC-U4. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 100% of this route, and are proposed in the inbound for 100% of this route Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 100% of this route, and are proposed in the inbound for 100% of this route. However cyclists are diverted along Dyke parade which may not be optimal.	This route option is identified in CMATS as forming parts of primary routes CCC-U2, CCC-U5, unnamed primary routes, secondary routes CCC-U3, CCC-U4. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 100% of this route, and are proposed in the inbound for 100% of this route Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 100% of this route, and are proposed in the inbound for 100% of this route. However cyclists are diverted along Dyke parade which may not be optimal.	This route option is identified in CMATS as forming parts of primary routes CCC-U2, CCC-U5, unnamed primary routes, secondary routes CCC-U3, CCC-U4. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 94% of this route, and are proposed in the inbound for 94% of this route Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 94% of this route, and are proposed in the inbound for 94% of this route
	Rank						
	Pedestrian Integration	Excellent Pedestrian Connectivity	Excellent Pedestrian Connectivity	Excellent Pedestrian Connectivity	Excellent Pedestrian Connectivity	Excellent Pedestrian Connectivity	Excellent Pedestrian Connectivity
	Rank						

Accessibility and Social Inclusion	Key Trip Attractors (Education/ Health/Commercial/Employment)	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 2 primary schools, 2 post-primary schools, 19 offices, 164 shops, 51 restaurants/bars/pubs and 26 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 2 primary schools, 2 post-primary schools, 19 offices, 164 shops, 51 restaurants/bars/pubs and 26 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 2 primary schools, 2 post-primary schools, 19 offices, 164 shops, 51 restaurants/bars/pubs and 26 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 2 primary schools, 1 post-primary school, 17 offices, 162 shops, 51 restaurants/bars/pubs and 26 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 2 primary schools, 1 post-primary school, 17 offices, 162 shops, 51 restaurants/bars/pubs and 26 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 1 hospital, 2 primary schools, 1 post-primary school, 17 offices, 162 shops, 51 restaurants/bars/pubs and 26 tourist facilities/attractions.
	Rank						
	Deprived Geographic Areas	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 40% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Knocknaheeny/Holly hill/Churchfield RAPID area, the fringes of the Fairhill/Gurranabraher/Farranree RAPID area, the fringes of the Knocknaheeny/Holly	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 40% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Knocknaheeny/Holly hill/Churchfield RAPID area, the fringes of the Fairhill/Gurranabraher/Farranree RAPID area, the fringes of the Knocknaheeny/Holly	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 40% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Knocknaheeny/Holly hill/Churchfield RAPID area, the fringes of the Fairhill/Gurranabraher/Farranree RAPID area, the fringes of the Knocknaheeny/Holly	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 40% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Knocknaheeny/Holly hill/Churchfield RAPID area, the fringes of the Fairhill/Gurranabraher/Farranree RAPID area, the fringes of the Knocknaheeny/Holly	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 40% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Knocknaheeny/Holly hill/Churchfield RAPID area, the fringes of the Fairhill/Gurranabraher/Farranree RAPID area, the fringes of the Knocknaheeny/Holly	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 10% marginally below average, 40% marginally above average, 40% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Knocknaheeny/Holly hill/Churchfield RAPID area, the fringes of the Fairhill/Gurranabraher/Farranree RAPID area, the fringes of the Knocknaheeny/Holly

		hill/Churchfield RAPID area.	hill/Churchfield RAPID area.	hill/Churchfield RAPID area.	hill/Churchfield RAPID area.	hill/Churchfield RAPID area.	hill/Churchfield RAPID area.
	Rank						
Safety	Road Safety	No. of Junctions: 10 0 turning movements are required in each direction (0 left and 0 right in both inbound and outbound directions).	No. of Junctions: 10 0 turning movements are required in each direction (0 left and 0 right in both inbound and outbound directions).	No. of Junctions: 10 0 turning movements are required in each direction (0 left and 0 right in both inbound and outbound directions).	No. of Junctions: 10 2 turning movements are required in each direction (2 left and 2 right in both inbound and outbound directions).	No. of Junctions: 10 2 turning movements are required in each direction (2 left and 2 right in both inbound and outbound directions).	No. of Junctions: 10 2 turning movements are required in each direction (2 left and 2 right in both inbound and outbound directions).
	Rank						
Environment	Archaeology Architectural and Cultural Heritage	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; North Mall - Marsh Architectural Area Proposal; College Road, UCC Architectural Area Proposal. There are 74 No. structures listed on the NIAH along this option (1 of national significance, 73 of regional significance) which, in the absence of mitigation, have the potential to be impacted by this proposed route. There are 57 No.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; North Mall - Marsh Architectural Area Proposal; College Road, UCC Architectural Area Proposal. There are 74 No. structures listed on the NIAH along this option (1 of national significance, 73 of regional significance) which, in the absence of mitigation, have the potential to be impacted by this proposed route. There are 57 No.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Mardyke Architectural Conservation Area Proposal; North Mall - Marsh Architectural Area Proposal; College Road, UCC Architectural Area Proposal. There are 155 No. structures listed on the NIAH along this option (6 of national significance, 149 of regional significance) which, in the absence of mitigation, have the potential to be impacted by this proposed route. There are 112 No.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Mardyke Architectural Conservation Area Proposal; North Mall - Marsh Architectural Area Proposal; College Road, UCC Architectural Area Proposal. There are 155 No. structures listed on the NIAH along this option (6 of national significance, 149 of regional significance) which, in the absence of mitigation, have the potential to be impacted by this proposed route. There are 110 No.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Mardyke Architectural Conservation Area Proposal; North Mall - Marsh Architectural Area Proposal; College Road, UCC Architectural Area Proposal. There are 156 No. structures listed on the NIAH along this option (6 of national significance, 150 of regional significance) which, in the absence of mitigation, have the potential to be impacted by this proposed route. There are 111 No.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Mardyke Architectural Conservation Area Proposal; North Mall - Marsh Architectural Area Proposal; College Road, UCC Architectural Area Proposal. There are 154 No. structures listed on the NIAH along this option (6 of national significance, 148 of regional significance) which, in the absence of mitigation, have the potential to be impacted by this proposed route. There are 110 No.

		protected structures along this option, of which, in the absence of mitigation, have the potential to be impacted by this proposed route.	protected structures along this option, of which, in the absence of mitigation, have the potential to be impacted by this proposed route.	protected structures along this option which, in the absence of mitigation, have the potential to be impacted by this proposed route.	protected structures along this option, which, in the absence of mitigation, have the potential to be impacted by this proposed route.	protected structures along this option which, in the absence of mitigation, have the potential to be impacted by this proposed route.	protected structures along this option, which, in the absence of mitigation, have the potential to be impacted by this proposed route.
		There are 2 No. recorded monuments located along this section of the proposed route, which, in the absence of mitigation, have the potential to be impacted by this proposed route.	There are 2 No. recorded monuments located along this section of the proposed route, which, in the absence of mitigation, have the potential to be impacted by this proposed route.	There are 7 No. recorded monuments located along this section of the proposed route which, in the absence of mitigation, have the potential to be impacted by this proposed route.	There are 7 No. recorded monuments located along this section of the proposed route, which, in the absence of mitigation, have the potential to be impacted by this proposed route.	There are 7 No. recorded monuments located along this section of the proposed route, which, in the absence of mitigation, have the potential to be impacted by this proposed route.	There are 7 No. recorded monuments located along this section of the proposed route, which, in the absence of mitigation, have the potential to be impacted by this proposed route.
	Rank						
	Biodiversity	This option has the potential to result in the loss of 2 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening	This option has the potential to result in the loss of 2 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening	This option has the potential to result in the loss of 21 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening	This option has the potential to result in the loss of 18 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening	This option has the potential to result in the loss of 22 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening	This option has the potential to result in the loss of 11 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. This section of the proposed route does not cross any Proposed Natural Heritage Area. No road widening

		associated with this section of the proposed route is located within 500m of a SPA.	associated with this section of the proposed route is located within 500m of a SPA.	associated with this section of the proposed route is located within 500m of a SPA.	associated with this section of the proposed route is located within 500m of a SPA.	associated with this section of the proposed route is located within 500m of a SPA.	associated with this section of the proposed route is located within 500m of a SPA.
	Rank						
	Soils and Geology	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.
	Rank						
	Hydrology	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.
	Rank						
	Landscape and Visual	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This

		option has the potential to result in the loss of 2 trees as well as grass verges which may be of ecological value.	option has the potential to result in the loss of 2 trees as well as grass verges which may be of ecological value.	option has the potential to result in the loss of 21 trees as well as grass verges which may be of ecological value.	option has the potential to result in the loss of 18 trees as well as grass verges which may be of ecological value.	option has the potential to result in the loss of 22 trees as well as grass verges which may be of ecological value.	option has the potential to result in the loss of 11 trees as well as grass verges which may be of ecological value.
	Rank						
	Air Quality, Noise & Vibration	Of the 324 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 324 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 325 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 321 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 323 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 321 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.
	Rank						

	Land Use Character	This section of the route requires the acquisition of 35m2 of public/private land.	This section of the route requires the acquisition of 35m2 of public/private land.	This section of the route requires the acquisition of 73m2 of public/private land.	This section of the route requires the acquisition of 47m2 of public/private land.	This section of the route requires the acquisition of 44m2 of public/private land.	This section of the route requires the acquisition of 73m2 of public/private land.
	Rank						

A.5 Section 2 - Wilton Roundabout to City Centre

Assessment Criterion	Assessment Sub-Criterion	Section 2 Option 1	Section 2 Option 2	Section 2 Option 3
Economy (Cost Assessment and Transport Economic Indicators)	Capital Cost	***Total Capital Cost*** (€13.69m) ***Indicative Scheme Infrastructure Works Cost*** (€5.92m) ***Land Acquisition Cost*** (€7.77m) This section of the route requires the acquisition of 5,179m2 of land, 4,274 of which are private lands and 905 are public lands. This section of the proposed route has the potential to partially or fully impact 123 properties.	***Total Capital Cost*** (€13.7m) ***Indicative Scheme Infrastructure Works Cost*** (€6.79m) ***Land Acquisition Cost*** (€6.91m) This section of the route requires the acquisition of 4,605m2 of land, 4,526 of which are private lands and 79 are public lands. This section of the proposed route has the potential to partially or fully impact 132 properties.	***Total Capital Cost*** (€6.66m) ***Indicative Scheme Infrastructure Works Cost*** (€5.51m) ***Land Acquisition Cost*** (€1.15m) This section of the route requires the acquisition of 769m2 of land, 453 of which are private lands and 316 are public lands. This section of the proposed route has the potential to partially or fully impact 24 properties.
	Rank			
	Transport Reliability and Quality of Service	Journey Time: 8.7 mins The length of the inbound cycle section is 3500m and the length of the outbound cycle section is 3500m; and the length of the inbound bus section is 3325m and the length of the outbound bus section is 3325m. No. of Major/ Signalised Junctions: 7	Journey Time: 10.4 mins The length of the inbound cycle section is 3420m and the length of the outbound cycle section is 3440m; and the length of the inbound bus section is 3485m and the length of the outbound bus section is 3420m. No. of Major/ Signalised Junctions: 11	Journey Time: 10.3 mins The length of the inbound cycle section is 3140m and the length of the outbound cycle section is 3155m; and the length of the inbound bus section is 3340m and the length of the outbound bus section is 3280m. No. of Major/ Signalised Junctions: 8

		Outbound bus lanes are provided along 31% of this route option, and inbound bus lanes are provided along 46% of this route option, resulting in good journey time reliability of bus services.	Outbound bus lanes are provided along 31% of this route option, and inbound bus lanes are provided along 41% of this route option, resulting in good journey time reliability of bus services.	Outbound Bus Lanes are provided along 15% of this route option, and inbound bus lanes are provided along 26% of this route option, resulting in poor journey time reliability of bus services.
	Rank			
Integration	Land Use Integration	This route serves an area which is largely developed, with limited scope for further development.	This route serves an area which is largely developed, with limited scope for further development.	This route serves an area which is largely developed, with limited scope for further development.
	Rank			
	Residential Population and Employment Catchments	***Residential Population Catchments*** 5 minute walking catchment of approximately 9,500 10 minute walking catchment of approximately 22,100 15 minute walking catchment of approximately 34,900 ***Employment catchments*** 5 minute walking catchment of approximately 13,300 10 minute walking catchment of approximately 25,100 15 minute walking catchment of approximately 34,500	***Residential Population Catchments*** 5 minute walking catchment of approximately 10,100 10 minute walking catchment of approximately 22,700 15 minute walking catchment of approximately 34,900 ***Employment catchments*** 5 minute walking catchment of approximately 11,900 10 minute walking catchment of approximately 24,900 15 minute walking catchment of approximately 34,600	***Residential Population Catchments*** 5 minute walking catchment of approximately 10,600 10 minute walking catchment of approximately 23,100 15 minute walking catchment of approximately 36,400 ***Employment catchments*** 5 minute walking catchment of approximately 8,600 10 minute walking catchment of approximately 22,100 15 minute walking catchment of approximately 33,600
	Rank			
	Transport Network Integration	This route coincides with portions of existing bus routes 201, 205, 208, 214, 216, 220, 220X and 226X.	This route coincides with portions of existing bus routes 201, 205, 208, 214, 216, 220, 220X and 226X.	This route coincides with portions of existing bus routes 205, 208, 214, 216, 220, 220X and 226X.
		There would be Moderate impact on general traffic.	There would be Moderate impact on general traffic.	There would be Moderate impact on general traffic.
	Rank			

	Cycling integration	This route option is identified in CMATS as forming parts of primary routes CCC-U1, CCC-U2, CCC-U23, CCC-U25, CCC-U26, CCC-U5, CSW-U11, CSW-U21, CSW-U9, unnamed primary routes, secondary route CCC-U4, unnamed feeder routes. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 82% of this route, and are proposed in the inbound for 82% of this route	This route option is identified in CMATS as forming parts of primary routes CCC-U10, CCC-U2, CCC-U21, CCC-U22, CCC-U23, CCC-U25, CCC-U26, CCC-U5, CSW-U11, CSW-U21, unnamed primary routes, secondary routes CCC-U40, CCC-U46, unnamed feeder routes. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 37% of this route, and are proposed in the inbound for 39% of this route, however the proposed bus gate on college road creates a quietway route for the remainder of the route.	This route option is identified in CMATS as forming parts of primary routes CCC-U10, CCC-U2, CCC-U21, CCC-U22, CCC-U24, CCC-U26, CCC-U27, CCC-U5, CSW-U4, CSW-U9, unnamed primary routes, secondary routes CCC-U40, CCC-U46, CSW-U6. Dedicated raised adjacent cycle lanes are proposed in the outbound direction for 43% of this route, and are proposed in the inbound for 45% of this route
	Rank			
	Pedestrian Integration	Good Pedestrian Connectivity	Good Pedestrian Connectivity	Good Pedestrian Connectivity
	Rank			
Accessibility and Social Inclusion	Key Trip Attractors (Education/ Health/Commercial/Employment)	The following attractors are located within a 5-min walking distance of the route: 3 hospitals, 4 primary schools, 2 post-primary schools, 1 special primary school, 29 offices, 180 shops, 57 restaurants/bars/pubs and 33 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 3 hospitals, 5 primary schools, 1 post-primary school, 1 special primary school, 25 offices, 182 shops, 56 restaurants/bars/pubs and 23 tourist facilities/attractions.	The following attractors are located within a 5-min walking distance of the route: 2 hospitals, 6 primary schools, 1 post-primary school, 15 offices, 182 shops, 51 restaurants/bars/pubs and 17 tourist facilities/attractions.
	Rank			

	Deprived Geographic Areas	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 20% marginally below average, 40% marginally above average, 40% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Knocknaheeny/Hollyhill/Churchfield RAPID area and the fringes of the Fairhill/Gurranabraher/Farranree RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 20% marginally below average, 40% marginally above average, 30% affluent and 10% very affluent. The 10-min walking catchment of the route includes the fringes of the Fairhill/Gurranabraher/Farranree RAPID area and the fringes of the Knocknaheeny/Hollyhill/Churchfield RAPID area.	In terms of the Pobal Deprivation Index, the areas within the catchment of the proposed route option are less than 5% very disadvantaged, less than 5% disadvantaged, 20% marginally below average, 40% marginally above average, 30% affluent and 10% very affluent. The 10-min walking catchment of the route includes approximately 10% of the Togher/Mahon/Ballyphehane RAPID area and the fringes of the Fairhill/Gurranabraher/Farranree RAPID area.
	Rank			
Safety	Road Safety	No. of Junctions: 23 4 turning movements are required in each direction (2 left and 2 right in both inbound and outbound directions).	No. of Junctions: 25 6 turning movements are required in each direction (3 left and 3 right in both inbound and outbound directions).	No. of Junctions: 27 6 turning movements are required in each direction (3 left and 3 right in both inbound and outbound directions).
	Rank			
Environment	Archaeology Architectural and Cultural Heritage	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Mardyke Architectural Conservation Area Proposal; North Mall - Marsh Architectural Area Proposal; College Road, UCC Architectural Area Proposal.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: North Main Street ACA; Southparish ACA; North Mall - Marsh Architectural Area Proposal; College Road, UCC Architectural Area Proposal.	This section of the proposed route infringes or runs close to the following Architectural Conservation Areas: 39-43 Bandon Road.; North Main Street ACA; Southparish ACA; North Mall - Marsh Architectural Area Proposal.

		There are 131 No. structures listed on the NIAH along this option (2 of national significance, 129 of regional significance). Of these, 3 structures of regional significance (3 No. house) have the potential to be impacted by the proposed project, in the absence of intervention. There are 74 No. protected structures along this option, of which 5 have the potential to be impacted by the proposed project, in the absence of intervention.	There are 125 No. structures listed on the NIAH along this option (1 of international significance, 1 of national significance, 123 of regional significance). Of these, 2 structures of regional significance (2 No. house) have the potential to be impacted by the proposed project, in the absence of intervention. There are 80 No. protected structures along this option, of which none have the potential to be impacted by the proposed project.	There are 116 No. structures listed on the NIAH along this option (1 of international significance, 1 of national significance, 114 of regional significance). Of these, 1 structure of regional significance (1 No. house) has the potential to be impacted by the proposed project, in the absence of intervention. There are 85 No. protected structures along this option, of which 5 have the potential to be impacted by the proposed project, in the absence of intervention.
		There are 3 No. recorded monuments located along this section of the proposed route, of which none have the potential to be either directly or indirectly affected by the proposed project.	There are 9 No. recorded monuments located along this section of the proposed route, of which none have the potential to be either directly or indirectly affected by the proposed project.	There are 9 No. recorded monuments located along this section of the proposed route, of which none have the potential to be either directly or indirectly affected by the proposed project.
	Rank			
	Biodiversity	This option has the potential to result in the loss of 85 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. Road widening associated with this section of the proposed route occurs within 397m of the Cork Lough PNHA. No road widening associated with this section of the proposed route is located within 500m of a SPA.	This option has the potential to result in the loss of 24 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. Road widening associated with this section of the proposed route occurs within 397m of the Cork Lough PNHA. No road widening associated with this section of the proposed route is located within 500m of a SPA.	This option has the potential to result in the loss of 9 trees as well as grass verges which may be of ecological value. No road widening associated with this section of the proposed route is located within 500m of a Natural Heritage Area. Road widening associated with this section of the proposed route occurs within 195m of the Cork Lough PNHA. No road widening associated with this section of the proposed route is located within 500m of a SPA.
	Rank			

	Soils and Geology	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.	There are no geological heritage sites located along this option. There is no potential for impacts to soils and geology and no evidence of historic industries or gravel pits that could give rise to potential contamination.
	Rank			
	Hydrology	This section of the proposed route traverses 2 Rivers (Glasheen River, Maglin River), 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water sources as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 River (Glasheen River), 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water source as a result of pollution events, in the absence of intervention.	This section of the proposed route traverses 1 River (Glasheen River), 1 Tidal River (River Lee), and as such, there is potential for either direct or indirect effects on the water source as a result of pollution events, in the absence of intervention.
	Rank			
	Landscape and Visual	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 85 trees as well as grass verges which may be of ecological value.	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 24 trees as well as grass verges which may be of ecological value.	This section of the proposed route does not infringe on areas of High Landscape Sensitivity. This option has the potential to result in the loss of 9 trees as well as grass verges which may be of ecological value.
	Rank			
	Air Quality, Noise & Vibration	Of the 633 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 635 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.	Of the 814 residential receptors along this section of the proposed route, there is potential that road widening/road works along this section of the proposed route could bring traffic closer to residential receptors. This has potential to increase pollutant and noise concentrations at these receptors. However, any potential increase in proximity is expected to be marginal. Further, any decrease in air quality at residential receptors as a result of increased proximity to traffic is likely to be counteracted by the increased use of public and active travel which the proposed project will facilitate.
	Rank			

	Land Use Character	This section of the route requires the acquisition of 5,179m2 of land, 4,274 of which are private lands and 905 are public lands.	This section of the route requires the acquisition of 4,605m2 of land, 4,526 of which are private lands and 79 are public lands.	This section of the route requires the acquisition of 769m2 of land, 453 of which are private lands and 316 are public lands.
	Rank			

Appendix B

Traffic Management Drawings

B.1 Washington Street/Dyke Parade