Client:

Galway City Council

Project:

BusConnects Galway: Dublin Road

Report:

Option Selection Report

BARRY TRANSPORTATION

Table of Contents

List of Abbreviations:

ATU	Atlantic Technological University
CAF	Common Appraisal Framework
DTTAS	Department of Transport
EPA	Environmental Protection Agency
EU	European Union
GCC	Galway City Council
GTS	Galway Transport Strategy 2016
NIFTI	National Investment Framework for Transport in Ireland
NPF	The National Planning Framework
NS	National Strategic Outcome
NSMP	National Sustainable Mobility Policy
NTA	National Transport Authority
OS	Ordinance Survey
PMP	Project Management Plan
RMP	Recorded Monuments and Protected Structures
RSA	Road Safety Audit
RSES	Regional Spatial and Economic Strategy
SAR	Strategic Assessment Report
SDG	Sustainable Development Goal
SDZ	Strategic Development Zone
TFI	Transport for Ireland
TII	Transport Infrastructure Ireland
UN	United Nations

EXECUTIVE SUMMARY

Barry Transportation was appointed by Galway City Council (GCC) to prepare an Options Selection Report for BusConnects Galway: Dublin Road. This report details the route selection process for a high quality multi modal corridor between the Moneenageisha Junction in the west and the Doughiska Junction in the east.

Figure 1-1 BusConnects Galway: Dublin Road Scheme Area

Project Objectives

The overall objective of BusConnects Galway: Dublin Road is to provide enhanced walking, cycling and bus infrastructure which will deliver efficient, safe and integrated sustainable transport from the east of Moneenageisha Junction to Doughiska Road Junction which aligns with the strategic aim of the Galway Transport Strategy.

Six key scheme specific objectives have been identified under the six criteria of the Common Appraisal Framework (CAF), these are outlined in the following paragraphs.

Economy

To enhance and support sustainable growth of Galway City through the provision of a continuous high-quality multi-modal corridor which will improve bus journey times and journey time reliability along the R338 Dublin Road.

Safety

Enhance pedestrian and cyclist safety through the provision of improved and segregated walking and cycling facilities along the R338 Dublin Road.

Integration

Improve multi-modal network connectivity between (a) Galway City Centre and its neighbourhoods such as Renmore, Ballybane, Doughiska, Parkmore and Ardaun; (b) Galway City and regional towns such as Oranmore, Athenry and Gort; and (c) Galway City and the inter-urban motorway network through the provision of a high-quality multi-modal corridor.

Environment

Increase modal share for public transport and active travel modes through the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets.

Accessibility and Social Inclusion

Improve access to all services and outdoor areas, e.g., Merlin Park Woods, Ballyloughane Beach, along R338 Dublin Road by improving transport options for everyone, especially for people with disabilities, mobility issues and people travelling with children.

Physical Activity

To enable local opportunities for walking and cycling activity in communities as a result of improved and segregated walking and cycling facilities which will help increase physical activity.

Sub-Objectives

A total eight scheme specific sub-objectives have been identified for the proposed scheme under four of the CAF criteria and are outlined in the following paragraphs.

Economy:

- To provide an economically efficient scheme.

Safety:

- To ensure that the scheme aligns with the hierarchy of users wherein the safety of pedestrians and cyclists are considered first.
- Enhance pedestrian and cyclist safety through the provision of improved and segregated walking and cycling facilities along the R338 Dublin Road.
- To complement the Governments Road Safety Strategy.

Integration:

- To be compatible with land use objectives as set out in regional and local land use plans.

Environment:

- To improve the environment in the context of air quality along the R338 Dublin Road.
- Minimise the environmental impact including minimising the private land take required for the scheme.
- Support the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets.

Route Options Assessment Process

A two-stage options assessment process was adopted.

At Stage 1 all feasible route options, and options previously identified in the long list of options in the Strategic Assessment Report (SAR) underwent a high-level assessment or 'sifting' process to assess their suitability and ability to provide for a continuous multi-modal transport corridor. This qualitative assessment evaluated each potentially viable route option in terms of ability to achieve the previously identified scheme

objectives and was based on professional judgement and an appreciation of the existing physical conditions and environmental constraints within the study area.

This assessment stage focused on high-level engineering and environmental constraints, comprising a desk study supplemented with site visits. The purpose of this assessment stage was to determine which route options were the most viable and should be considered for further detailed assessment.

Following the Stage 1 'sifting' assessment, initial indicative scheme designs were developed based on the specific constraints along a particular area.

The indicative scheme for each route option was then progressed to 'Stage 2' of the assessment process, Multi-Criteria Analysis (MCA) in accordance with the Department of Transport "Guidelines on a Common Appraisal Framework for Transport Projects published by the Department of Transport (DTTAS), March 2016 (Updated October 2021).

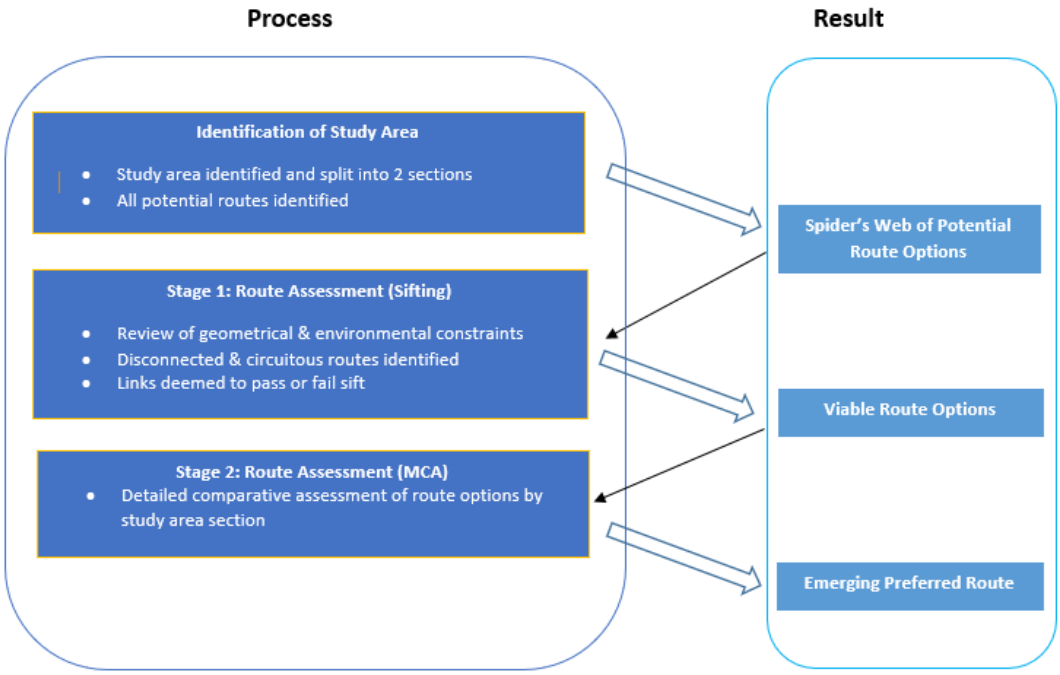


Figure 1-2 Assessment Methodology Overview

The MCA considered Economy, Integration, Accessibility and Social Inclusion, Safety and Environment for each scheme indicative option. Physical Activity, which is a criteria in the Common Appraisal Framework, would be encouraged by provision of a high quality pedestrian and cycle network, the level of provision for pedestrians and cyclists is assessed as part of the pedestrian and cyclist integration criteria, for this reason to avoid double counting Physical Activity is not included as its own section in the MCA. Each route option was comparatively assessed against sub-criteria under each of these main criteria and also in terms of performance against the scheme objectives. The scheme options were then ranked accordingly to identify the Emerging Preferred Route Option. A multi-disciplinary team worked on the development of the multi-modal transport corridor and the options were assessed by experts in their fields for each of the criteria.

The Emerging Preferred Route

Based on the results of the analysis carried out as described in this report, an Emerging Preferred Route has been identified, as shown in Appendix A.

For the full length of the route a dedicated bus lane, segregated cycle lanes and footpaths are proposed on either side of the road. Dublin Road remains two-way for general traffic. All major junctions along the route,

including the Skerrit Roundabout, are proposed to be upgraded to include for bus priority measures, signalised pedestrian crossings and segregated cyclist facilities.

A more detailed description of the route can be found in Section 8 Emerging Preferred Route.

SECTION 1: INTRODUCTION

Barry Transportation have been appointed by Galway City Council (GCC) to undertake the Feasibility and Option Selection Report for BusConnects Galway: Dublin Road. This report details the route assessment process for a high quality multi modal corridor between the Moneenageisha Junction in the west to the Doughiska Junction in the east.

This project is identified in the (GTS) which outlines proposals for public transport infrastructure and cycle infrastructure within Galway City. Specific proposals for the R338 Dublin Road include the provision of bus lanes along the full length of the road, provision of cycling facilities, and improvements and upgrades to footpaths and pedestrian crossings. The primary aim of this project is to enhance bus provision on this corridor, remove current delays on the bus network and enable a reliable bus service that can provide a faster alternative to car traffic along these routes, making bus transport a more attractive alternative to car travel. An added benefit is that it will make the overall bus system more efficient, faster bus journeys means that more people can be moved with the same level of vehicle and driver resources.

Furthermore, CycleConnects (2022) identifies Dublin Road as an urban primary cycle route with several urban primary, secondary and feeder networks linking into it, provision for these future cycle routes to feed into the junctions on Dublin Road will be provided. This project would provide segregated cycle facilities and upgrade existing pedestrian infrastructure and crossings to encourage a modal shift towards active travel as a key transport alternative to the car. This in turn would help to reduce vehicle related carbon emissions and promote active and healthy lifestyles for people in Galway.

1.1 Report Structure

This report is structured as follows:

- **Chapter 2** – This chapter outlines the general background information to the project and the proposed multi-modal corridor. It also outlines the policy context in which this was developed and presents the concept of BusConnects Galway: Dublin Road as outlined in the Galway Transport Strategy. The objectives for the scheme are set out and any other transport policies relevant to this corridor are presented.
- **Chapter 3** – This chapter outlines the previous studies undertaken along this corridor and summarises the 1st Non-Statutory Public Consultation that took place in October 2020.
- **Chapter 4** – In this chapter, the study area is detailed and divided into two distinct sections. Scheme specific constraints and opportunities are discussed.
- **Chapter 5** – This chapter describes the methodology used for Stage 1 and Stage 2 assessments performed for this scheme.
- **Chapter 6** – This chapter details the Stage 1 (sifting) assessment of the route.
- **Chapter 7** – This chapter details the Options Assessment Stage 2 (MCA) route selection process.
- **Chapter 8** – This chapter gives the overall conclusions of the scheme options assessment process and identifies and describes the Emerging Preferred Route.
- **Chapter 9** – This chapter details the “next steps” in the delivery of the project.

SECTION 2: PLANNING POLICY AND CONTEXT

2.1 Overview

The need for BusConnects Galway: Dublin Road aligns with the following National, Regional and Local policy documents.

International Policy Context:

- United Nations Sustainable Development Goals

European Policy Context:

- European Union (EU) Transport White Paper 6
- European Union Green Deal

National Policy Context:

- National Planning Framework - Project Ireland 2040
- National Development Plan 2021-2030 - Project Ireland 2040
- National Investment Framework for Transport in Ireland
- National Sustainable Mobility Policy 2022-2030
- National Sustainable Mobility Policy Action Plan 2022-2025
- Road Safety Authority Road Safety Strategy 2021-2030; and
- Climate Action Plan 2021.

Regional Policy Context:

- Regional Spatial and Economic Strategy - Northern and Western Region

Local Policy Context:

- Galway Transport Strategy
- Galway City Development Plan 2017 – 2023
- Galway City Development Plan 2023 - 2029

2.2 International Policy Context:

2.2.1 United Nations Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by both developed and developing countries - in a global partnership.

Figure 2-1: Relevant UN (United Nations) Sustainable Development Goals

The BusConnects Galway: Dublin Road project, as a multi-modal transport corridor, is aligned with the overarching goal of sustainable development and will directly contribute to 6 of the 17 SDGs. The scheme will align with these goals by promoting a modal shift to active travel and public transport (SDG 3), improve access to quality employment for commuters from the suburbs with reduced journey times and improved journey time reliability (SDG 8), improving the public realm by upgrading and improving public infrastructure with new and improved quality bus corridors and active travel facilities (SDG 9), promoting a modal shift to sustainable modes of public transport for a cleaner and more environmentally conscious city (SDG 11), reducing harmful greenhouse gas emissions by reducing private vehicle numbers and with the transition of the bus fleet to hybrid and zero emission vehicles (SDG 13), and improvements to the visual and social amenities of the city by providing quality and timely public transport links from the surrounding areas to Galway city centre and the regional transport hubs of Ceannt Train Station and Galway Bus station (SDG 15).

2.3 European Policy Context:

2.3.1 EU Transport White Paper 6

The European Union Transport White Paper 6 (2011) focused on the reduction of emissions from transport and established a series of target actions for Member States, including supporting increasing demand for mobility whilst meeting the 60% emission reduction target.

In Ireland, between 1990 and 2016, transport emissions increased by 139% with road transport increasing by 145%. Nearly 20% of Ireland's greenhouse gas emissions come from transport and it accounts for the largest share of energy use. Transport emissions have been the fastest growing source of Ireland's greenhouse gas emissions in recent years.

The Environmental Protection Agency (EPA) projects that without intervention transport sector emissions will increase by 11.3% over the period 2020 to 2035.

Therefore, essential interventions are needed to shift Ireland onto a low carbon ethos as it manages an increasing population and increased demand for housing, employment, and transport infrastructure. Investing in high quality multi-modal transport corridors will promote a modal shift to lower carbon forms of transport (public transport, cycling and walking) from private car use reducing private vehicle numbers on our country's national and regional road networks in both urban and rural settings. By encouraging this modal shift transportation emissions will be reduced an addition to journey times and journey time reliability improvements due to reduced traffic on our road network.

Reductions in private vehicle numbers on the network reduces potential conflicts with pedestrians and cyclists on the network improving safety and aligning with the emission reduction targets in the European Union Transport White Paper.

2.3.2 European Union Green Deal

The EU aims to be climate neutral in 2050. The European Green Deal (2019) provides an action plan to achieve this by boosting the efficient use of resources by moving to a clean, circular economy, restoring biodiversity, and cutting pollution.

The plan outlines investments needed and financing tools available and explains how to ensure a just and inclusive transition. For the transport sector, the EU Green Deal targets the roll out of "cleaner, cheaper and healthier forms of private and public transport".

The BusConnects Galway: Dublin Road project will contribute to achieving this by increasing the availability of buses on the network with cheaper fares for customers using Leap Card compared to traditional cash fares. The implementation of next generation ticketing technology will streamline the process and align with the cheaper forms of public transport objective of this EU policy. The transition to hybrid and zero emissions bus fleets currently underway by Transport for Ireland TFI will align with the cleaner forms of public transport objective of this EU policy, this combined with the increased shift towards public transport as a result of this project, will contribute to lowering Irelands transport related carbon emissions.

2.4 National Policy Context:

2.4.1 National Planning Framework - Project Ireland 2040

The National Planning Framework (NPF) was published in 2018 and provides a framework to guide public and private investment, and to create and promote opportunities, while protecting and enhancing the environment. The NPF sets out the Government's high-level strategic plan for shaping the future growth and development of Ireland out to the year 2040. Its overarching visions are to:

- Develop a new region-focused strategy for managing growth
- Linking this to a new 10-year investment plan, the Project Ireland 2040 National Development Plan 2021 - 2030
- Using state lands for certain strategic purposes
- Supporting this with strengthened, more environmentally focused planning at local level; and
- Backing the framework up in law with an Independent Office of the Planning Regulator.

The purpose of the NPF is to enable all parts of Ireland, whether rural or urban, to successfully accommodate growth and change, by facilitating a shift towards Ireland's regions and cities other than Dublin, while also recognising Dublin's ongoing key role. Under the framework three regional assemblies have been identified: Eastern & Midland, Northern & Western and Southern. Each of the assemblies is illustrated in Figure 2-2 below.

Figure 2-2 NPF Configuration of the Regional Assemblies in Ireland

The NPF identifies 10 National Strategic Outcomes, as illustrated in, Figure 2-3: National Strategic Outcomes (NS) which are the shared goals and benefits for every community across the country.

Figure 2-3: National Strategic Outcomes

Improved road infrastructure for vulnerable road users will support the National Strategic Outcomes as follows:

Compact Growth – NS01

This involves managing the sustainable growth of cities, towns and villages to create more attractive places in which people can live and work. Provision of an improved bus corridor and active travel facilities on the Dublin Road will enhance the attractiveness, viability and vibrancy of settlements as a means of achieving more sustainable patterns and forms of development.

Enhanced Regional Accessibility – NS02

Linked to compact growth is enhanced accessibility between centres of population which will enable these population centres to activate unrealised potential. Galway City is located on the Atlantic Economic Corridor which seeks to lead the transformation of the Atlantic economy. The provision of an improved bus corridor and active travel facilities on the Dublin Road will improve journey times and hence accessibility as well as making for a safer journey with reduction in mix of heavy traffic and pedestrians/cyclists.

Strengthened Rural Economics and Communities – NS03

This involves retaining and strengthening rural economies and communities and ensures that the countryside remains as a living and working community. The provision of an improved bus corridor and active travel facilities on the Dublin Road will ensure access to critical services such as education, healthcare and employment for the rural communities located to the east of Galway City.

Sustainable Mobility – NS04

This is the provision of safe active travel infrastructure such as segregated cycling and walking facilities which will encourage walking and cycling within the area. It will improve the infrastructure for leisure, recreational and commuter users by providing a safe and comfortable route. As well as meet climate action

objectives by providing viable alternatives to using motorised modes and particularly reducing private car travel.

A Strong Economy, supported by Enterprise, Innovation and Skills – NS05

This involves creating places that can foster innovation and enterprise, thereby attracting talent and investment. It also calls for high quality digital connectivity. The construction of an improved bus corridor and active travel facilities on the Dublin Road enables increased connectivity which can attract and retain talent and investment. It would also increase economic activity within the local areas along the route.

Enhanced Amenity and Heritage – NS07

This will ensure the city can offer a good quality of life through a well-designed public realm which includes public spaces, parks and streets, as well as recreational infrastructure. It also includes activity-based tourism such as blueways, greenways and peatways.

Access to Quality Childcare, Education and Health Services – NS10

Compact smart growth in urban areas combined with strong and stable rural communities will enable the provision of a range of childcare, education and health services. The provision of an improved bus corridor and active travel facilities on the Dublin Road will improve access to childcare, education and health services along the route corridor and the wider community.

The National Planning Framework also identifies a number of key growth enablers for Galway City. These include:

- Provision of a Citywide public transport network, with enhanced accessibility between existing and proposed residential areas and the City Centre, third level institutions and the employment areas to the east of the city:
- Improving access and sustainable transport links to, and integration with, the existing employment areas to the east of the City at Parkmore, Ballybrit and Mervue; and
- Development of a strategic cycleway network with a number of high-capacity flagship routes.

2.4.2 National Development Plan – 2021 – 2030

The National Development Plan 2021 - 2030 was published in 2021 as an early update to the 2018 National Development Plan. The 2018 National Development Plan was published along with the National Planning Framework as part of Project Ireland 2040. The 2018 National Development Plan was developed to drive Irelands long term economic, environmental, and social progress across all parts of the country over the next two decades and underpins the successful implementation of the new National Planning Framework. The updated National Development Plan 2021 – 2030 extends the funding available to support all sectors and regions in Ireland. It will guide national, regional and local planning investment decisions over the coming decade. It also illustrates the commitment to reforming how public investment is planned and delivered. This will be done through a decisive shift to integrated regional investment plans and stronger co-ordination of sectoral strategies.

The National Development Plan provides €156 billion, which will underpin the National Planning Framework and drive its implementation over the next ten years. This will ensure accessibility between key urban centres of population and their regions which will include the Northern and Western Regions. It will also ensure rural areas are strengthened and rural contribution is harnessed as a major part of Ireland's strategic development. This funding will allow for the development and upgrading of existing and new public transport infrastructure. The BusConnects Galway: Dublin Road scheme will deliver quality bus corridors along the length of the scheme to provide the area with a dedicated, reliable and efficient bus service, connecting the surrounding areas to the city centre. This will improve the accessibility and social inclusion of the suburban region through which this scheme will run, in accordance with sustainable urban development best practices.

In terms of active travel, €360 million is being committed to the development of walking and cycling infrastructure all over Ireland over the next 10 years. Active travel facilities will be improved where required

and installed as new in areas along the scheme route where they are lacking. This will improve the opportunities for users to walk or cycle for work, education of leisure within the scheme area and beyond as it ties into existing and proposed schemes in the immediate and wider areas.

2.4.3 National Investment Framework for Transport in Ireland (NIFTI)

The National Investment Framework for Transport in Ireland (NIFTI) is the Department of Transports contribution to Project Ireland 2040. This document provides the framework to prioritise future investment in the land transport network to support the delivery of the National Strategic Outcomes identified in the NPF. The following four priorities are noted in terms of investment:

Figure 2-4: NIFTI Investment Priorities

NIFTI states that the use of the most sustainable travel modes should be utilised to facilitate Mobility of People and Goods in Urban Areas. It states that measures must be designed with the needs of a diverse range of users in mind so that sustainable mobility alternatives are accessible to all residents of urban areas

In terms of Enhanced Regional and Rural Connectivity, the NIFTI states that measures should be implemented to ensure access to jobs, leisure, and public services and in particular for people living in rural areas.

According to NIFTI, investment in sustainable modes so that transport users have safe, accessible, reliable and efficient alternatives to the private car will result in decarbonisation of the transport sector whilst also catering for growing populations.

NIFTI acknowledges that Protection and Renewal of assets includes both steady state maintenance of existing infrastructure as well as improvements to ensure safety or increase accessibility.

BusConnects Galway: Dublin Road will support the objectives of the NIFTI providing access to critical services such as education, healthcare and employment for the community within the Galway City area. As well as, providing safe, comfortable and reliable public transport infrastructure that will encourage public transport use within the area.

Under the NIFTI Modal Hierarchy, sustainable modes, starting with active travel (walking, wheeling and cycling) and then public transport, should be considered first before less sustainable modes such as the private car. The modal hierarchy is illustrated in Figure 2-5 following:

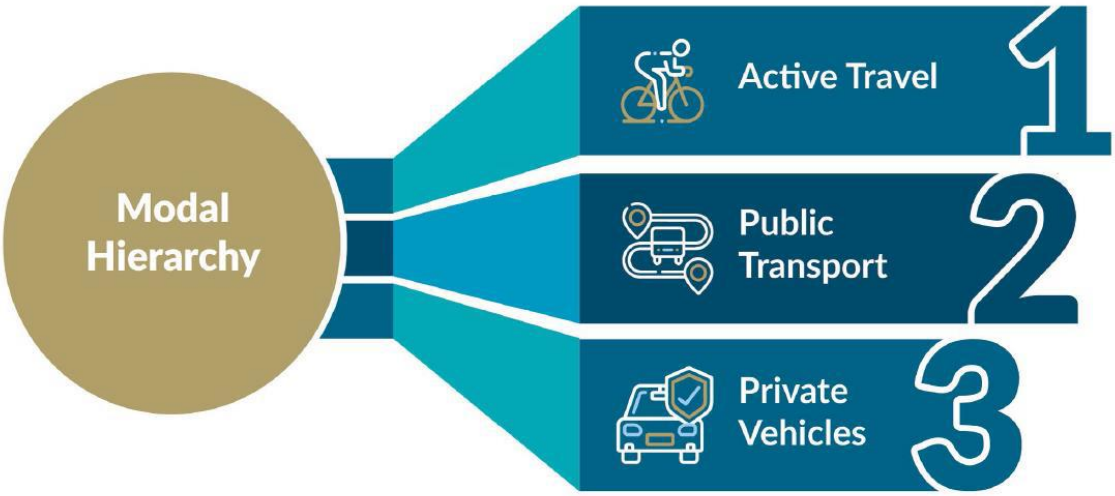


Figure 2-5: NIFTI Modal Hierarchy

BusConnects Galway: Dublin Road will support the modal hierarchy of the NIFTI. The provision of active travel and public transport facilities would ensure that active travel and public transport modes become viable alternatives to private vehicles.

Under the NIFTI Intervention Hierarchy, illustrated in Figure 2-6 following, protecting and renewing the existing transport network through maintenance should, where possible, be the first solution considered when assessing potential project options, followed by maximising the value of the network through optimising its use. Interventions to improve existing infrastructure will then be considered after these two categories have been assessed as inappropriate given the identified project objectives, and before the final possibility of outright new infrastructure.

Figure 2-6: NIFTI Intervention Hierarchy

It is anticipated that BusConnects Galway: Dublin Road will align with the “optimise and improve” tiers of the intervention hierarchy of the NIFTI.

2.4.4 National Sustainable Mobility Policy

The policy sets out a strategic framework to 2030 for active travel and public transport to support Ireland’s overall requirement to achieve a 51% reduction in carbon emissions by the end of this decade.

The policy sets a target to deliver at least 500,000 additional daily active travel and public transport trips which will be supported through expanding public transport availability and infrastructure across the country, including quality bus corridors and ensuring that these new sustainable mobility infrastructure meets the highest safety standards.

This policy is underpinned by three main principles, supported by ten core goals as set out in the policy:

Table 2-1: National Sustainable Mobility Policy (NSMP) Principles and 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

BusConnects Galway: Dublin Road will directly align with goals 1,2, 3, 5, 6, 7, 9 and 10 of the NSMP. This will be done by reducing safety risks for vulnerable road users, pedestrians and cyclists, particularly at junctions, increase the availability of buses and improve journey time reliability and make public transport and active travel more inclusive and safer for all road users. The objectives of this scheme, particularly Integration, Environment and Safety run directly parallel to the goals of the NSMP.

2.4.5 RSA Road Safety Strategy 2021 – 2030

The Road Safety Authority (RSA) Road Safety Strategy 2021 - 2030, sets out targets to be achieved in terms of road safety in Ireland as well as policy to achieve these targets. At the core of the 2021–2030 strategy is the aim to achieve Vision Zero in Ireland by 2050.The primary target of the 2021 – 2030 strategy is:

"To reduce road deaths and serious injuries by 50% by 2030."

The plan sets out strategies for engineering and infrastructure in terms of the benefits that they can have in reducing collisions. The plan acknowledges that there is a substantial difference in fatal and serious injury risks across different modes of travel and are higher for pedestrians and cyclists and recognises the importance of providing safe and healthy modes of travel from societal, environmental and health perspectives.

By improving public transport provision along the Dublin Road and improving junction safety and that of pedestrians and cyclists along the route, this scheme would support and complement this RSA strategy.

2.4.6 Climate Action Plan 2021

The Climate Action Plan 2021 sets out a major programme for change in response to reducing Ireland's greenhouse gas emissions. The plan aims to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and to reach net-zero emissions by no later than 2050. It is envisaged that these proposals will also have associated positive economic and societal benefits, including cleaner air, warmer homes and a more sustainable economy in the longer term.

The Climate Action Plan makes a commitment to delivering an additional 500,000 public transport and active travel journeys daily by 2035. BusConnects Galway: Dublin Road will support this objective by increasing the number of active travel and public transport users along the entirety of the route. The implementation of this scheme will increase the speed and reliability of buses along the route, and improve the safety and level of priority for pedestrians and cyclists. This will help create a modal shift to public transport and active travel from private vehicles, thus delivering on the target of an additional 500,000 daily public transport and active travel trips. By capitalising upon the ongoing bus fleet transition from traditional diesel-powered buses to hybrid and zero emission buses now and into the future, the harmful greenhouse emissions of the transport fleet will be reduced. This is in line with the target set out in the Climate Action Plan which sets an emissions reduction target from the transport sector of at least 51% by 2030.

2.5 Regional Planning Context

2.5.1 Regional Spatial and Economic Strategy - Northern and Western Region

The Regional Spatial and Economic Strategy (RSES) for the Northern and Western Region came into effect on 24th January 2020. The document is positioned as an implementing strategy for the NPF, supporting the programme for change set out in Project Ireland 2040.The primary focus of the plan is on the Metropolitan Area Strategic Plan for Galway, prepared as part of this plan, which provides a framework for development plans and investment prioritisation over the plan period. As part of this development plan and investment prioritisation, optimising the bus network and fleet to deliver a quality, efficient and reliable bus service to serve the needs of the community for leisure, education and employment related travel.

The plan acknowledges the need to significantly improve the integration of Land-use and Transport Planning across the region in order to facilitate compact growth. To achieve this, the implementation of the Galway Transport Strategy is identified as an objective of the Galway Metropolitan Area Strategic Plan. The implementation of a city-wide bus strategy and by improving the level of infrastructure along the network for current and future population levels will facilitate compact growth of Galway City in a sustainable and managed manner.

BusConnects Galway: Dublin Road aligns with Growth Ambitions 3, and 4 as well as aligning with the All-Island Cohesion aim. This will be achieved by investing in quality bus corridors along the scheme length to create a vibrant and connected city in alignment with the scheme objectives, in particular Integration.

2.6 Local Planning Context

2.6.1 Galway Transport Strategy

The Galway Transport Strategy, published in 2016, sets out a series of proposed actions and measures for implementation. These measures cover infrastructural, operational, and transport policy requirements.

The Galway Transport Strategy is a key part of facilitating Galway's growth as a city both physically and economically, whilst creating the potential for improvements of the urban environment. Walking, cycling, bus, rail, road, and traffic management measures are included in the Galway Transport Strategy, as well as mobility management proposals to reduce reliance on private motorised transport and hence increase the use of sustainable travel modes.

The Galway Transport Strategy identified proposals for Public Transport Infrastructure and Cycle Infrastructure within Galway City. Specific proposals for the R338 Dublin Road in relation to public transport, cycling, and pedestrian infrastructure include the provision of bus lanes along the full length of the road, provision of cycling facilities, and improvements and upgrades to footpaths and pedestrian crossings.

The implementation of the proposals set out in the Galway Transport Strategy will result in positive outcomes for Galway. The benefits highlighted in the Galway Transport Strategy are listed as follows:

- Future-proofing the city to ensure that Galway can continue to grow as an economic and cultural centre in the West of Ireland
- Facilitating new transport infrastructure including BusConnects and walking and cycling routes
- Improved efficiency of the overall transport network, facilitating a greater degree of access to the city
- Improve environment, urban realm, and ambience – enhancing the streetscape, reducing noise and air pollution (including CO_2 emissions), and freeing up more space where people can walk, shop, socialise, and enjoy the city
- Tourism, commercial, and retail benefits – additional transport capacity for shoppers and visitors accessing the city centre and tourist locations such as the Galway Racecourse

2.6.2 Galway City Development Plan 2017 - 2023

The Galway City Development Plan is a statutory planning document which references and gives legal status to the Galway Transport Strategy. The Plan includes specific transport objectives for cycling, public transport, and traffic and road network. These objectives are:

Cycling

- Implement traffic management and infrastructural changes to facilitate the development of a cycle network including for a core, secondary and feeder network in accordance with the Galway Transport Strategy.

Public Transport

- Implement traffic management and infrastructural changes to facilitate the development of a public bus network in accordance with the Galway Transport Strategy.
- Support the improvement of access for public transport, pedestrian and cyclists to and within major employment areas and institutions.
- Explore the provision of an on-road quality bus corridor to serve Merlin Park Hospital, Doughiska and Ardaun
- Provide bus shelters on all routes within the city capable of incorporating future integrated ticketing and future real-time scheduling.
- Provide for park and ride schemes at strategic locations on approach roads to the city and at key modal change locations in particular to the east and west of the city as part of the proposals in the Galway Transport Strategy.

Traffic and Road Network

- Implement the programme of actions and measures as provided for in the Galway Transport Strategy in partnership with the National Transport Authority (NTA) and on a phased and co-ordinated basis, based on priority needs.
- Investigate and develop road improvements, junction improvements and traffic management solutions in the context of the Galway Transport Strategy and strategic developments, to maximise the operating efficiency and safety of the network having regard to the requirements of all categories of road users and road network capacity constraints.

Galway City Council have commenced a review of the current city development plan and preparation of a new plan for 2023-2029 in early 2021.

2.6.3 Galway City Council Draft City Development Plan 2023-2029

The Draft Galway City Development Plan 2023-2029 sets out Galway City Council's policies and objectives to guide the sustainable development of the City over the lifetime of the Plan to 2029. It provides an integrated, coherent spatial framework which has been prepared following extensive consultation with members of the public, statutory bodies and relevant stakeholders.

The Draft Plan public consultation phase commenced and ran from Friday 28th January 2022 to Wednesday 13th April 2022. The Draft Plan includes specific transport objectives for cycling, public transport, and traffic and road network. These objectives are:

Sustainable Mobility

- Facilitate cycling on the proposed BusConnects Routes where appropriate including on the proposed Cross-City Link

Public Transport

- Support the implementation of BusConnects Galway and the overall bus transport network which will include for a high frequency cross-city network of services and all associated infrastructural requirements, traffic management and priority arrangements.
- Promote the availability of the city bus network including the priority measures for use by the national, regional and tour bus services.
- Promote access to public transport services for those attending primary and post primary schools in consultation with the Department of Education and Skills.
- Support the modal change to public transport under the Galway Transport Strategy (GTS) through modal change targets for walking, cycling, and public transport within the lifetime of the City Development Plan.

Traffic and Road Network

- Support the proposals in the Galway Transport Strategy for design interventions, revised traffic management arrangements and priority arrangements for walking, cycling and public transport on the road network.
- Implement improvements on the general road network, including new links and junction revisions where needed in the interest of safety and convenience.
- Implement best practice in road and street design as set out in the Design Manual for Urban Roads and Streets (2013) as updated (2019).

2.6.4 CycleConnects 2022

CycleConnects identifies a cycle network for the whole of Ireland, from a national to a regional and local level. The CycleConnects project finished its public consultation phase on 18th November 2022 and may be subject to change as a result of that. There are four levels of route classifications identified as shown in the figure below:

Name	Function
Urban Primary	High quality cycle route that can accommodate a high volume of cyclists typical in most urban areas. These will look to feature on major desire lines in town centres and form distinctive radial and orbital cycle routes in the major towns and cities. These primary routes should also form a cohesive and connected network within the urban area that will be simple for all types of cyclists to navigate.
Urban Secondary	Second tier cycle route in major urban areas to link with urban primary network to add greater route density and options on the network. These will typically be passing through residential areas, school and employment areas
Interurban	On-road cycle route to link all key settlements and destinations outside urban areas. These may have potential to provide off-road/segregated routes parallel to the existing road in later years.
Greenway	Off-road cycle route with no adjacent traffic for the majority of its route. These are typically located on old rail trails or Blueways (routes along rivers, lakes and canals) with cyclists sharing the route with pedestrians.

Figure 2-7 CycleConnects Route Classifications (Source CycleConnects)

In the CycleConnects Plan Dublin Road is identified as an urban primary cycle route for the whole length of the BusConnects Galway: Dublin Road scheme. There are also four other urban primary routes, two urban secondary routes, three feeder routes and one greenway that connect to Dublin Road.

This identifies Dublin Road as a key part of the overall cycling network for Galway City.

2.7 Project Objectives

The overall objective of BusConnects Galway: Dublin Road is to provide enhanced walking, cycling and bus infrastructure which will deliver efficient, safe and integrated sustainable transport from the west of Bohermore to Roscam which aligns with the strategic aim of the Galway Transport Strategy.

The scheme specific objectives, against which the scheme will be assessed, are defined in terms of the Common Appraisal Framework (CAF) criteria of:

1) Economy
2) Safety
3) Integration
4) Environment
5) Accessibility and Social Inclusion; and
6) Physical Activity.

2.8 Key Project Objectives

Six key scheme specific objectives have been identified for the proposed scheme under the six criteria outlined in the following paragraphs.

2.8.1 Economy

The large volumes of existing traffic and discontinuous nature of existing bus facilities results in an economically inefficient route with long and unreliable journey times for buses. The following economy objectives have been defined:

- To enhance and support sustainable growth of Galway City through the provision of a continuous high-quality multi-modal corridor which will improve bus journey times and journey time reliability along the R338 Dublin Road.

2.8.2 Safety

The lack of continuous appropriate public transport and active travel facilities can result in conflict points between private cars and pedestrians/cyclists at a number of locations, particularly at junctions within the study area, increasing the risk of a collision. The following economy objectives have been defined:

- Enhance pedestrian and cyclist safety through the provision of improved and segregated walking and cycling facilities along the R338 Dublin Road.

2.8.3 Integration

The proposed scheme is required to integrate with Transport, Land-Use, Geographical and Government policies. The following integration objectives have been defined:

- Improve multi-modal network connectivity between (a) Galway City Centre and its neighbourhoods such as Renmore, Ballybane, Doughiska, Parkmore and Ardaun; (b) Galway City and regional towns such as Oranmore, Athenry and Gort; and (c) Galway City and the inter-urban motorway network through the provision of a high-quality multi-modal corridor.

2.8.4 Environment

The use of private cars to travel from west of the Moneenageisha Junction to the Doughiska Junction results in the emission of CO2 and particulate emissions which are contributing factors to health issues such as asthma, emphysema and other respiratory issues, as well as potential noise issues and negative impacts on the environment resulting in climate change. The key environment objectives are therefore:

- Increase modal share for public transport and active travel modes through the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets.

2.8.5 Accessibility and Social Inclusion

In order to provide additional transport benefit for those who may be socially excluded, the following objectives are defined:

- Improve access to all services and outdoor areas, e.g., Merlin Park Woods, Ballyloughane Beach, ATU (GMIT), along R338 Dublin Road by improving transport options for everyone especially for people with disabilities, mobility issues and people travelling with children.

2.8.6 Physical Activity

Private car users are the predominant users within the study area, and the network in its current configuration is set up to facilitate this. Therefore, there is little scope to promote non-motorised travel and encourage increased physical activity with current road layout and traffic movement. The key physical activity objectives are therefore:

- To enable local opportunities for walking and cycling activity in communities as a result of improved and segregated walking and cycling facilities which will help increase physical activity.

2.9 Sub-Objectives

Eight scheme specific sub-objectives have been identified for the proposed scheme under four of the CAF criteria and are outlined in the following paragraphs.

2.9.1 Economy

- To provide an economically efficient scheme.

2.9.2 Safety

- To ensure that the scheme aligns with the hierarchy of users wherein the safety of pedestrians and cyclists are considered first.
- Enhance pedestrian and cyclist safety through the provision of improved and segregated walking and cycling facilities along the R338 Dublin Road.
- To complement the Governments Road Safety Strategy.

2.9.3 Integration

- To be compatible with land use objectives as set out in regional and local land use plans.

2.9.4 Environment

- To improve the environment in the context of noise and air quality along the R338 Dublin Road.
- Minimise the environmental impact including minimising the private land take required for the scheme.

To support the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets

SECTION 3: PREVIOUS STUDIES AND PUBLIC CONSULTATION SUMMARY

Galway City Council previously bought forward an emerging preferred route for the provision of a multi-modal transport corridor on Dublin Road. This emerging preferred route was taken to a non-statutory public consultation in October 2020. Since this consultation, significant changes in design and procurement guidance required a review of the proposed design, to ensure compliance with current 'good practice'. These changes include updates to the Public Spending Code, revised design guidance on layouts for bus corridors, and revised National Transport Authority Project Approval Guidelines. The option selection process has been performed again adopting an updated design and incorporating the feedback from the 1st non-statutory public consultation findings and responses to it which are summarised in this report. More detail on the first public consultation can be found in Appendix B: BusConnects Galway: Dublin Road 1st Non Statutory Public Consultation Report (less appendices).

3.1 1st Non Statutory Public Consultation Summary

GCC carried out a 12 week non-statutory public consultation event between 8th October 2020 to 7th January 2021. Due to the COVID-19 restrictions in place throughout that period the event was carried out online on a website and a virtual consultation room with route maps and brochures available to download, postal submissions and telephone enquiries were also invited and promoted via a leaflet letter drop. As a non-statutory consultation this has no legal status, the consultation was carried out to seek views from those likely to be interested in or affected by the proposals, which could then be taken into consideration in the decision-making process and the design going forward. This is the first formal and coordinated public and stakeholder consultation on the project. In total 168 submissions received.

3.2 Overarching Feedback

In general, stakeholders acknowledged and supported the need for improvements along the Dublin Road in terms of amenity value, traffic congestion and improvement of bus services. Allowance for bus and cycle/pedestrian infrastructure was broadly welcomed to decrease dependence on cars thus reducing traffic, fuel consumption, cost, and emissions.

100 respondents (60% of overall respondents) expressed their overall support for the scheme.

3.3 Key Issues Raised

Although the overall support for the scheme was positive, some issues were raised in relation to:

- Environmental concerns - 50%
- Access points along the route - 22%
- Social and amenity issues - 26%

Key environmental concerns were loss of green space and the potential for noise and air pollution. In relation to access points, the layout, and changes to accesses at housing estates and at Merlin Park Hospital were raised as concerns. Social and amenity concerns raised mainly related to cycle safety, loss of green space, the existing anti-social behaviour that occurs adjacent to the route, and which may become more of a problem if pedestrian and cycle access through housing areas is increased.

3.4 Stakeholder Suggestions and Responses

3.4.1 Scheme Wide

Suggestion	Response
Safe segregation of modes, particularly with respect to cyclists interacting with cars, and cyclists interacting with pedestrians	It is proposed that pedestrians, cyclists and cars are fully segregated from each other for the length of the route using kerbs and level difference. There will be appropriate crossings provided at potential conflict points.
Differentiate lanes using kerb protection as opposed to line markings to enhance cyclist safety.	To be included as part of design.
Incorporate more pedestrian crossings into the scheme.	Crossing locations reviewed and updated to include crossings at every junction, and at every bus stop location.

3.4.2 Specific Locations

There were a number of specific locations throughout the project where alternative suggestions were provided.

Rosshill Road Junction

Suggestion	Response
Introduce a short bus lane after the Rosshill Junction.	Bus lanes would be included on Dublin Road for the full length of Dublin Road, including this location.
Include a segregated cycle lane to connect the coast road to Galway Crystal.	Segregated cycle facilities are proposed be in place to connect these locations.
Introduce a two-way cycling lane from Rosshill Junction to Merlin Park Hospital	Segregated cycle facilities are proposed to connect these locations, these are proposed on either side of the road, toucan crossings in appropriate locations are proposed to allow a direct route.
Create an opening at the Rosshill woods to the new footpath along the Dublin Road. Encourage people to walk in nature.	To be at considered at preliminary design stage.

Belmont / Flannery`s / Galwegian`s Entrance

Suggestion	Response
Avoid mixing of residential and commercial traffic at Belmont / Galwegians / Flannery`s entrances	Access into each is now being kept separate as per existing (except with the location of Belmont entrance moved).
Explore cycle lane and pedestrian options that lessen the impact on the green areas within the estates adjacent to the Dublin Road.	Options have been explored and re-aligning of the footpath and cycle track on the northern side of the road has been undertaken to minimise impact on greenspace and trees between Michael Collins Road and Renmore Road.
Retain greenspace within the estate.	By no longer having access to Galwegians / Flannery's from Belmont access more greenspace within Belmont Estate has been retained.

Skerritt Roundabout / ATU

Suggestion	Response
Build underpasses from ATU grounds to the other side of the road.	A crossing has been provided in lieu of this, due to the reduced likelihood of antisocial behaviour, the cost and the reduced environmental impact.
Consider location of pedestrian crossing outside of ATU	Crossing location updated to provide more direct access to ATU.

Woodhaven

Suggestion	Response
Change the location of the entrance to the estate to connect either to Merlin Park Hospital entrance to the east or the Corrib Great Southern site to the west. The existing entrance could then be closed off to vehicular traffic and made a pedestrian only entrance.	Connecting through either Merlin Park Hospital or the former Corrib Great Southern site to the west would require passage through private lands and significant extra land acquisition. The current entrance to the estate has been maintained to minimise impact and it has been upgraded to allow for improved pedestrian crossing and cycle priority across it.
Relocate the cycleway outside of the Woodhaven boundary wall.	The cycleway along the front of Woodhaven estate is proposed to be located outside of the relocated boundary wall.

Wellpark

Suggestion	Response
The introduction of a pedestrian crossing near the Dublin Road entrance to Wellpark retail park was suggested as an there are high incidences in the number of people running across the road at this location.	This falls under the BusConnects Galway: Cross City Link scheme extents, so is not included as part of this design.

Further detail on these issues can be found in the BusConnects Galway: Dublin Road 1st Non Statutory Public Consultation 2021 Report (less appendices) found in **Appendix B.**

SECTION 4: STUDY AREA

For the purpose of developing options for assessment, the study area was split into 2 sub sections, to the east and to the west of the Skerrit Roundabout. This was chosen as the area to the west of the Skerrit Roundabout generally has a more urban characteristic, with a higher density of accesses, housing and services present along the route. To the east of the Skerrit roundabout the area is more rural, with a lower density of accesses, houses and services present, meaning that different solutions might be preferable in each area.

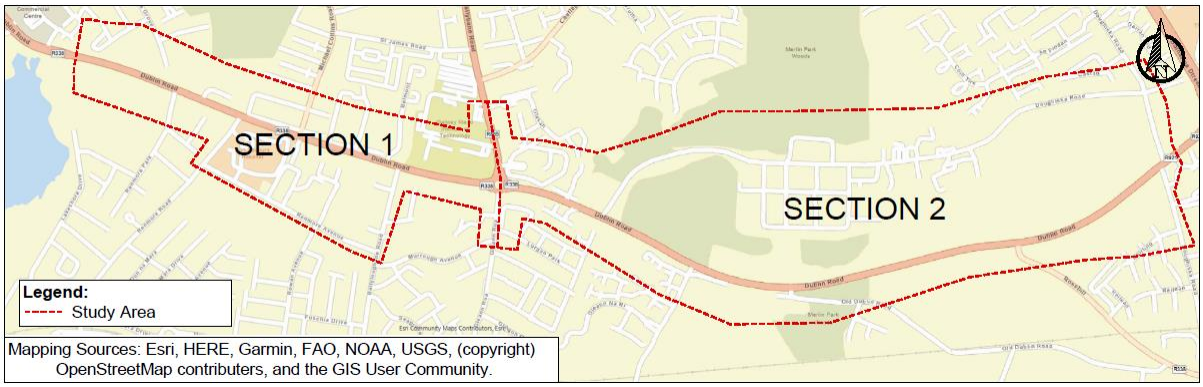


Figure 4-1 Study Area Sections

4.1 Section 1

The general existing cross section to the west of Renmore Road consists of an outbound bus lane, outbound traffic lane and inbound traffic lane. To the east of Renmore Road the bus lane changes direction to be in the inbound direction. There are footpaths on both sides of the road and right-hand turning lane on the approach to several side roads. The general cross section is approx. 16m wide including footpaths. On the southern side the route is generally bounded by public & private greenspace, Bon Secours Hospital Car Park and private front gardens / driveways, on the northern side it is bounded by a mix of public and private greenspace. Currently there are no cycle facilities present along the route. Pedestrian footpaths are provided both sides of the road for the full length of the route, and signalised crossings are provided across Dublin Road at the junction with Renmore Road, at Michael Collins Road, and east of the entrance to Belmont. The side roads of Renmore, Michael Collins and the entrance to Galway Hospice Foundation also have signalised crossings, all other side road crossings are uncontrolled.

4.2 Skerrit Roundabout

This junction lies between Section 1 and Section 2 of the study area. It is currently an uncontrolled roundabout with 4 arms, there are 2 approach lanes on each arm. There are wide turning radii and clear sight lines which allow traffic to go round the roundabout at relatively high speeds. There is no cycle provision or signalised pedestrian crossings provided, although uncontrolled pedestrian crossing points are present at each arm.

4.3 Section 2

The general existing cross section of this section of the route consists of a single inbound bus lane and traffic lanes in both directions. There is a footpath on the southern side of the road, a hard shoulder on the northern side of the carriageway, and grass verges both sides. The general cross section is approx. 16m boundary to boundary including the footpath, the narrow hard shoulder and grass verges. The route is generally bounded by greenspace to both sides, and a stone wall on the south adjacent to the woodland. The route is lined by trees on both sides, particularly between Coast Road and Doughiska Road. Currently there are no cycle facilities present along the route. Pedestrian footpaths are provided for the full length of

the route on the south side of the road carriageway, on the north of the road carriageway the footpath is dropped between Galway Crystal and Doughiska. Signalised crossings are provided across Dublin Road at the junction with Murrough Road, Coast Road and Doughiska, signalised crossings are also provided across the side roads of those junctions.

4.4 Physical Constraints and Opportunities

There are a number of features in the natural and built environment within the study area which constrain scheme options or provide opportunities for enhanced integration. These are considered within the scheme assessment process and include the following:

- Planned and committed developments including Ardaun, Doughiska and the new development adjacent to the junction with Coast Road.
- Public transport & public transport infrastructure including existing bus stop locations, and Galway City Bus Services.
- Trees and other natural and ecological features.
- Architectural, archaeological and heritage sites and features, including Lynch's Stone
- Protected structures adjacent to the route
- Existing urban and sub-urban roads, street networks and accesses to private properties & estates.
- Limited availability of land in urban and suburban areas.

4.5 Integration with Existing and Proposed Public Transport Network

City, Regional and National buses will play a crucial role in the connectivity and mobility of Galway in the future. The Galway Transport Strategy proposes a revised bus network for Galway City comprising of five cross-city bus services, with two of the services (the Green and the Brown service) travelling along Dublin Road. The BusConnects Galway: Dublin Road scheme would help transform the operation of Galway City's bus services, which include the following features:

- Buses would travel into and out of the city without being delayed in traffic, improving journey times and reliability;
- Buses that spend less time stuck in traffic are available to run more frequent services;
- As more people use the bus, private bus operators would become more confident to invest in their business and fleet; and
- Provision of bus priority measures in and out of the city is an important support for future Park & Ride proposals identified in the GTS;
- Tourist buses would be more willing to travel to Galway on day trips due to the reliability of journey times and reduced risk of encountering delays due to traffic congestion.

For the purposes of this report, it has been assumed that these bus routes will all be put in place before or in tandem with the implementation of this scheme.

4.6 Integrating with Existing and Proposed Active Travel Network

Galway is well suited to cycling as a means of transport due to its relatively flat topography and a compact city centre, but the existing cycling facilities are limited and discontinuous.

4.6.1 Galway Transport Strategy

The cycle network proposed in the GTS will provide high quality dedicated cycling facilities and improve priority for cyclists, encouraging cycling both for commuting and as a leisure activity in the city and surrounding areas.

The cycle network has been formed on the basis of three levels: Primary, Secondary and Feeder, in addition to the proposed Greenways to and through the city.

Where possible, the proposed routes should fully segregated, with cyclists physically separated from motorised traffic. This is particularly the case for the greenways and the primary network. In some cases, the network includes on-road cycle lanes and/or wide bus lanes to cater for both buses and cyclists along the same route. The combination of facilities reinforces connections to provide a safe and comfortable environment for cyclists in the city and surrounding areas.

The Dublin Road forms part of the primary and secondary cycle network as outlined in the GTS, this directly connects to a further 5 primary network links and 2 feeder networks. Therefore, by upgrading the cycling infrastructure on Dublin Road this link would form a key part of the overall cycle network in Galway City.

The GTS states that pedestrian infrastructure in Galway is generally of reasonably good quality, but is limited in some locations with sub-standard footpaths, lack of crossing facilities and greater priority given to other modes. BusConnects Galway: Dublin Road would where possible revise junction layouts to provide dedicated pedestrian crossings, reduce pedestrian crossing distances and provide more direct pedestrian routes.

4.6.2 CycleConnects

As described in Section 2.6.4, the CycleConnects Plan identifies Dublin Road as a primary cycle route for the whole length of the BusConnects Galway: Dublin Road scheme. There are 4 routes that join Dublin Road that are Urban Primary routes as well as 1 greenway, 2 Urban Secondary and 3 Feeder Routes.

This identifies Dublin Road as a key part of the overall cycling network for Galway City

SECTION 5: METHODOLOGY

5.1 Sifting Methodology

A two-step process has been used for the sifting methodology. First all potential links in the area were assessed for their suitability of being used as the main multi-modal transport corridor route, and routes that were not suitable were discounted at this stage (note that routes discounted at this stage could still be considered as alternative routes for general traffic, but not for the main multi-modal transport corridor). Secondly, options were developed using the long list of options in the Strategic Assessment Report (SAR), often to a higher level of detail than given in the SAR, these were then assessed and un-suitable options were discounted at this stage.

5.2 Sifting all links in the Study Area

5.2.1 Spiders Web Development

An initial 'spiders-web' of potential route options that could possibly form part of a multi-modal transport corridor were identified for each study area section. This 'spider's-web' of route options was chosen with reference to the multi-modal transport corridor system characteristics and in order to meet the scheme objectives.

Initial route options identified also took cognisance of the physical constraints and opportunities present and the ability to integrate with other public transport modes. 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 for busses and thereby be able to practically accommodate bus lane priority.

Any road carrying an existing Galway City Bus service as well as any other plausible routes were included in the spider's web. Cul-de-sacs and narrow residential roads were discounted at this stage.

5.2.2 Sifting Process

Links identified as part of the spider's web underwent a high-level qualitative assessment based on professional judgement and general appreciation for existing physical conditions/constraints within the study area. This was based on a desktop study, using data collected in the data collection process and site visits. This exercise identified links that would either not achieve the scheme objectives or would be subject to significant cost and/or impact to achieve these objectives (e.g. excessive land-take).

This assessment stage focused on engineering constraints together with a desktop study, identifying geometrical constraints, high level environmental constraints and population/employment densities.

Assessment indicators used were as follows:

- Land take assessment, in particular impacts on residential front gardens or properties,
- Pinch points along the link,
- Presence of existing bus lanes and cycle facilities,
- Gradients and level differences,
- Junctions and their ability to accommodate measures to enhance bus priority,
- Functionality of the street – impact on-street parking and loading, availability,
- High level environmental constraints,
- High level population and employment catchment analysis,
- High level integration with the land use and transport plans

Links that did not address the scheme objectives or were considered "un-deliverable" were deemed to fail the first sifting stage and were not progressed. Links that did meet the objectives and could be delivered were brought forward to the next stage.

Following is the list of data collected and considered for the Sift Assessment:

- Background Mapping Ordinance Survey (OS) Tiles
- Land Use Zones & Strategic Development Zones (SDZs) part of Development Plans & Local Area Plans
- Galway Draft Development Plan 2023-2029
- Martin Junction Plans
- Cross City Link Plans
- Galway BusConnects: Dublin Road reports and proposals produced by RPS
- Tree Survey Data
- Locations of environmental constraints including Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas and proposed Natural Heritage Areas that could be of relevance to the project

5.3 Sifting all Options in the Strategic Assessment Report

The options in the long list in the SAR were developed and more detailed options for each of the study area sections was produced using these. All options were then looked at on a high level using the assessment criteria below to see if they could pass and progress to the Stage 2 MCA assessment. Options that didn't pass were discounted at this stage.

5.3.1 Assessment Criteria

The following sifting criteria were considered when assessing the options against the scheme objectives:

- Impact on wider road network
- Ability of the option to improve the bus journey times and reliability between the Moneenageisha Junction and the Martin Junction
- Pedestrian and cyclist quality of service and safety
- Potential cost and difficulty to deliver
- Potential negative impacts (requirement for land take, removal of on-street parking, impact on the environment, impact on biodiversity etc)

5.4 Stage 2 Assessment: Multi Criteria Analysis Methodology

All route options that progress to this stage have been compared against one another using a detailed Multi-Criteria Analysis in accordance with the Department of Transport Document "Common Appraisal Framework for Transport Projects and Programmes"

Each scheme has been comparatively assessed against the scheme objectives using the criteria and method of measurements identified below. The scheme options have then been 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 is captured under the Pedestrian and Cyclist Integration criteria.

All route options assessed follow the same route for cyclists and busses and have the same bus stop locations, therefore it was not necessary to consider the residential and employment catchment of each option as they would always performs equally. The same applies for deprived geographic areas and trip attractors. Furthermore, there were no significant watercourses identified in the area, and the route follows an existing corridor meaning at this stage the impact on water resources is deemed insignificant and equal for all options, so this has not been included as one of the environmental criteria.

The assessment criteria are detailed below:

Table 5-1 MCA Assessment Criteria

Assessment Criteria		Sub-Criteria
1	Economy	1.a. Capital Cost
		1.b. Bus Journey-time and Reliability
2	Integration	2.a. Land Use Integration
		2.b. Transport Network Integration
		2.c. Cyclists Integration
		2.d Pedestrian Integration
3	Accessibility and Social Inclusion	3.a. Vulnerable Groups
4	Safety	4. Road Safety
5	Environment	5.a. Archaeological, Architectural and Cultural Heritage
		5.b Biodiversity
		5.c Soils and Geology
		5.d. Landscape and visual
		5.e. Noise, Vibration and Air
		5.f. Land Use and the Built Environment
		5.g Climate and Carbon

5.5 Assessment criteria

5.5.1 Economy

1.a. Capital Cost

A comparative assessment was used for the capital cost criterion, with the options assigned a score based on if an individual option was likely to be more or less expensive than the other options being considered, taking into account cost of the works and for land take.

These were banded into the 5 levels, neutral against other options, minor positive, minor negative, major positive, major negative.

1.b. Bus Journey Time and Reliability

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

Buses travel at an assumed speed 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.

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.

5.5.2 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. 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 multi-modal transport corridor route duplicates a route with another public transport route over a significant distance this is 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 has also been factored in. The disadvantages experienced by motorists in respect of reduced junction capacity and restricted movements have been considered, with particular emphasis placed on TEN-T routes. For determination of the emerging preferred option, traffic assessment is based on previous studies, experience of similar scenarios and engineering judgement. Detailed transport modelling will be used during the next stage of design to validate the emerging preferred option.

2.c. Cyclist Integration

The compatibility of a scheme with CycleConnects and Galway City Cycle Network Routes is examined and the level of service of practically achievable cycle facilities is assessed. In some cases, it could be necessary

to provide an alternative cycle route on alternative streets to the multi-modal transport corridor and if done this is considered under this criterion.

2.d. Pedestrian Integration

The compatibility of a scheme with the aims of the Galway Transport Strategy was examined and the level of service of practically achievable pedestrian facilities is assessed under this criterion.

5.5.3 Accessibility and Social Inclusion

3.a. Vulnerable Groups

The ability of the options to meet the needs of vulnerable groups has been assessed.

5.5.4 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.

5.5.5 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) 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 multi-modal transport corridor 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. Any potential impacts to areas with an environmental designation are identified and the likely impacts are compared here, the environmental designations considered include but are not limited to: Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas and proposed Natural Heritage Areas.

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 multi-modal transport corridor has the potential to negatively impact on soils and geology, for example, through 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. Landscape and Visual

Provision of multi-modal transport corridor 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 regard to:

- Land Use Zonings (amenity, open space, recreation, sport)
- Landscape & Visual Objectives within Galway City Development Plan 2023 - 2029
- Landscape Preservation Zones
- Areas of High Landscape Value
- Recreation Access Routes / Designated Walkways
- Tree Preservation/Protection Objectives

5.e. Noise, Vibration and Air

Provision of multi-modal transport corridor 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.f. 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.g. Climate and Carbon

This criterion assesses the impacts of the scheme in terms of the likely long term effects on the climate, particularly with regard to Irelands aims to reduce transport related emissions. This mainly relates to how the scheme will impact user behaviour, for example a scheme could encourage a shift towards lower carbon modes of transport and therefore have the positive effect of reducing Irelands transport emissions.

5.6 Summary Table

Scheme options are 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 5.2 below.

Table 5.2 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
	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 is applied to arrive at the preferred option.

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

SECTION 6: SIFTING

6.1 Introduction

This chapter describes the process undertaken to reduce the long list of options to the options that were assessed using multi criteria analysis, using the methodology described in SECTION 5: Methodology.

First the links in the study area are sifted, then the long list of options in the SAR.

6.2 Sifting all Links in the Study Area

6.2.1 Spiders Web

The initial spiders web developed is shown below.

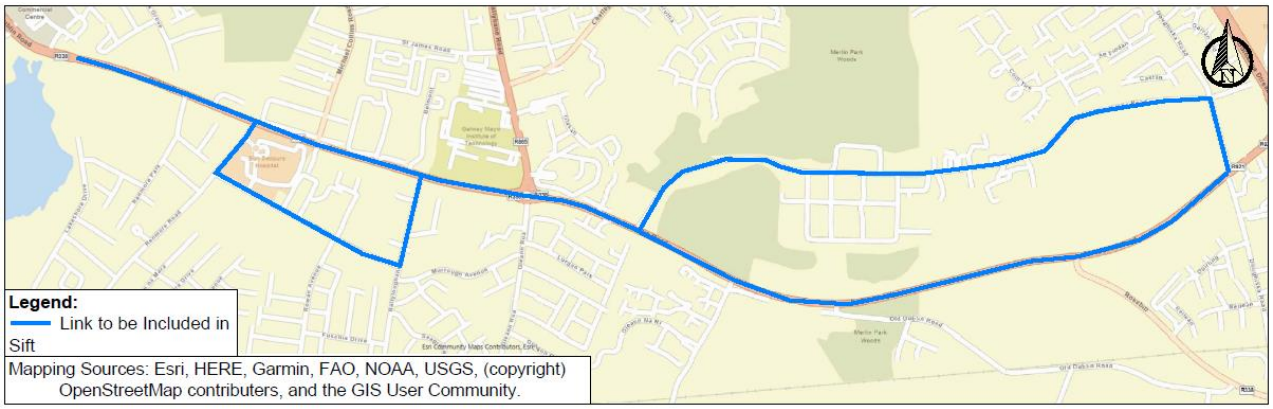


Figure 6-1 Initial Spiders Web

6.2.2 Link Numbering

Figure 6-2 Link Numbering

6.2.3 Sifting The Links

The table below details the sifting of the links identified in Figure 6-2.

Table 6-1 – Link Sifting

Link No.	Road Characteristics	Comments	Pass / Fail
L01	Regional Road	Dublin Road between Sáilín and Doughiska Rd. This link generally has a lane of general traffic in each direction and a bus lane in one direction for the length of the route. West of Renmore Road the bus lane is provided in the outbound direction. East of Renmore Road the bus lane is provided in the inbound direction. Generally on approach to junctions the carriageway is wider to provide right turn lanes, and the bus lane is used for left turning traffic. West of Galway Crystal bus Stop there are footpaths provided on both sides of the carriageway, east of this point there are generally footpaths on the south side of the carriageway only. This link caters for a high volume of traffic. The widths vary throughout but the narrowest point is approx. 13m of tarmac area with 0.5m grass verges on each side. West of the access to Merlin Park Hospital the route is designated as a primary cycle route in the Galway City Development Plan 2023-2029, to the east of this point it is a secondary cycle route. There are no cycle facilities currently on the link. This route is designated as a bus route in the Galway City Development Plan 2023-2029. A mix of grass verge, public and private greenspace, private parking, and properties bound this link. There is generally sufficient space along this link to provide dedicated bus lanes and cycle tracks as well as maintaining the existing traffic lanes. This is considered a viable route option for this multi-modal transport corridor.	Pass
L02	Urban / Residential	Renmore Road, Renmore Avenue and Ballyloughane Road. This link generally has a general traffic lane in each direction with footpaths on either side. The route is used for uncontrolled on-street parking in places, on Ballyloughane Road there are four dedicated parking bays, one of which is a disabled bay. There are 2 schools located along the link, and the link would be used for pick up and drop off during school hours.	Fail

Link No.	Road Characteristics	Comments	Pass / Fail
		This link is designated as a Feeder Cycle Network in the Galway City Development Plan 2023-2029, and has no existing cycle facilities. This route is not designated as a bus route in this plan. The link is bounded by a mix of private property, public and private greenspace and playing fields. At its narrowest point there is approx. 11.25m available width boundary to boundary. Widening the road to provide dedicated bus lanes and maintain two-way traffic would require up to 5m of private land take, it would also impact the on-street parking in the area and trees at the north of Renmore Road. Any bus route using this link would take a longer route requiring 4 extra turning movements and junctions than a route that followed Dublin Road. For these reasons, this is not considered a viable route option for busses for this multi-modal transport corridor. However, it would be possible to use this route as a diversion for general traffic, whilst allowing busses to use Dublin Road with less widening of the cross section. This is considered a viable route option and is assessed in more detail as Option 2 in the MCA.	
L03	Hospital access road and residential road.	Access Road to Merlin park Hospital from Dublin Road, Merlin Park Lane, and Doughiska Road. On the access road part of this link there is generally a traffic lane in each direction and footpaths on the north side of the road only, on Merlin Park lane the route is a single lane used by 2 way traffic and pedestrians. On Doughiska Road there is a lane of general traffic in each direction, footpaths on both sides of the road and cycle facilities on both directions. Parts of this link on Merlin Park Hospital access road and Doughiska Road are designated as primary cycle routes in the Galway City Development Plan 2023-2029. Between Dublin Road and the Hospital the route is highlighted as a bus route in the Galway City Development Plan 2023-2029, as is Doughiska Road. However Merlin Park Lane is not designated as a bus route in this plan. At its narrowest there is 5-6m available space boundary to boundary (on Merlin Park Lane), this is bounded by private properties on both sides of the road. Widening the road to provide dedicated bus lanes and footpaths while maintain two-way traffic would require up to 10m of private land take through this area. Merlin Park lane is a quiet residential route with a	Fail

Link No.	Road Characteristics	Comments	Pass / Fail
		significant number of trees and hedgerows adjacent to the traffic lane, this widening would have significant impact on the properties and natural heritage of the area. Any bus route using this link would take a longer route requiring 3 extra turning movements and junctions than a route that followed Dublin Road. For these reasons, this is not considered a viable route option for this multi-modal transport corridor.	

6.2.4 Post Sifting Spiders Web

Figure 6-3 Post Sifting Spiders Web

Following the first sift it was clear that all routes for cyclists and busses to be brought forward to the next assessment stage would follow Dublin Road. Options where general traffic could be re-routed onto alternative routes to reduce the impact on Dublin Road were also considered.

6.3 Sifting the Long List of Options

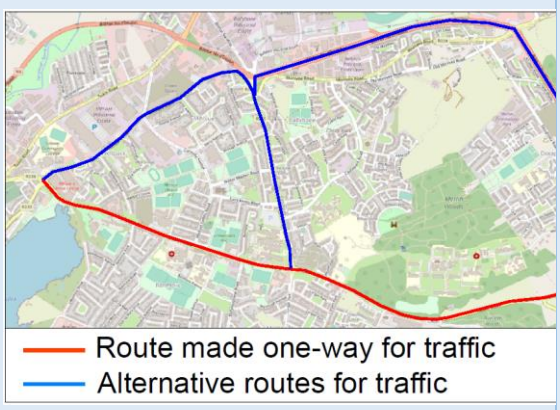
6.3.1 Introduction

Following the sifting of the links in the study area, the long list of options was examined, and in some cases developed further. These options were then assessed at a high level to determine if they were suitable to form part of the MCA assessment.

6.3.2 Whole Study Area Options

All options given in the SAR that are not in the table below were developed into the options for the 2 study area sections that are detailed below in Sections 6.3.3 to 6.3.10.

Option Description From SAR	Comments
1. Install bus priority traffic signals at all junctions and pinch points along the route to create "virtual bus lanes" providing clear bus priority along the route by allowing buses to use existing bus infrastructure and bus priority to get ahead of general traffic and improve journey times and journey time reliability.	Due to the length of the route current traffic queues it would not be possible to achieve a high level of bus priority without having large impacts on the existing traffic network. Furthermore, the Economic objective of the project specifies that a continuous multi-modal corridor should be used, this option does not meet this objective and so this is not considered a viable option for this multi-modal transport corridor.
2. Install a two-way cycle lane on the north side of the carriageway for the entire extent of the route, undertake minor junction upgrades (toucan crossings etc.) maintain existing public transport and pedestrian infrastructure.	This option would help meet the Safety and Physical Activity objectives given in the SAR that relate to providing continuous segregated cycle provision. However, it would not meet the main Economy, Integration, Environment and Accessibility and Social Inclusion objectives that specify bus and pedestrian improvements. For this reason this option is not carried forward to MCA.
3. Install a two-way cycle lane and/or footpath on the south side of the carriageway for the entire extent of the route, undertake minor junction upgrades (toucan crossings etc.) maintain existing public transport infrastructure.	This option would help meet the Safety and Physical Activity objectives given in the SAR that relate to providing continuous segregated cycle provision. However, it would not meet the main Economy, Integration, Environment and Accessibility and Social Inclusion objectives that specify bus and pedestrian improvements. For this reason this option is not carried forward to MCA.
4. Install full bus lanes on both sides of the carriageway for the entire extent of the route to provide dedicated infrastructure to allow buses to bypass traffic queues when travelling both west and east along the route. Cyclists will share the inbound and outbound bus lanes with buses.	Cyclists sharing the bus lane would reduce the effectiveness of the bus lanes as busses may have to wait behind cyclists. Therefore, this option would not meet the economy objectives of reducing journey times and improving reliability when compared to having segregated cycling infrastructure. It would also not meet the safety objective to enhance pedestrian and cyclist safety through the provision of improved and segregated walking and cycling facilities along the R338 Dublin Road.

Option Description From SAR	Comments
	For this reason, this option is not considered viable for this multi-modal transport corridor.
5. Provide a full-length outbound bus lane only. To allow eastbound buses to bypass traffic queues, inbound buses will share road space with outbound traffic.	There is more queuing in the inbound direction, therefore this option would be less beneficial than an option that has a dedicated inbound bus lane only and is not considered viable for this multi-modal transport corridor.
6. Install a two-way cycle lane on the south side of the carriageway and install dedicated bus lanes on both sides of the carriageway for inbound and outbound buses.	This option is the same as the option above, however to provide an offline cycle track to the south of the carriageway along the eastern section of the scheme would have a much larger impact on the private land that is present there, and a larger impact on biodiversity due to the presence of dense woodland. For this reason this option is not to be carried forward to MCA.
7. Provide a one-way traffic system with 2-way facilities for busses on the R338 Dublin Road.  	It would be possible to make Dublin Road one-way for the entire length of the scheme, with general traffic using the R339 and N6 as an alternative route. Alternatively, Dublin Road could be made one way on one side of the Skerrit Roundabout only, with general traffic using the R339 and R865 if the west of the roundabout is made one way, or the R865 and N6 if east of the roundabout is made one way. This would reduce the widening required on Dublin Road. However, the length of the detour required for general traffic is long, and the extra traffic volumes through the other roads and junctions is likely to cause increased traffic queues in other locations. For these reasons this is not considered a viable option for this multi-modal transport corridor.
8: Upgrade and signalise the Skerritt Roundabout to improve pedestrian and cyclist safety through the junction and to provide bus priority. Provide dedicated one-way cycle lanes in both directions. No other infrastructure modifications to be made on Dublin Road.	As the Skerrit Roundabout is not the only point on Dublin Road that causes traffic to queue upgrading it alone is unlikely to fully meet the key economic objective of improving journey times and journey time reliability for busses. It would also not meet the safety objective of enhancing pedestrian and cyclist safety through the provision of improved and segregated walking and cycling facilities along the R338 Dublin Road. For this reason , it is not considered viable for this multi-modal transport corridor. The junction is proposed to be upgraded along

Option Description From SAR	Comments
	with other improvements along Dublin Road, the options sifted for Skerrit Roundabout are detailed in Section 6.3.9.

6.3.3 Section 1 Options

Options Developed

Four route options for the general cross section have been developed for this section. These route options all follow Dublin Road, starting 120m east of Sáilín and finishing at the approach to Skerrit Roundabout. All options use the same route and the difference is in the cross section provided, all options have a footpath and cycle lane on both sides of the road.

Option 1: Bus lane and traffic lane in both directions for full length of route.

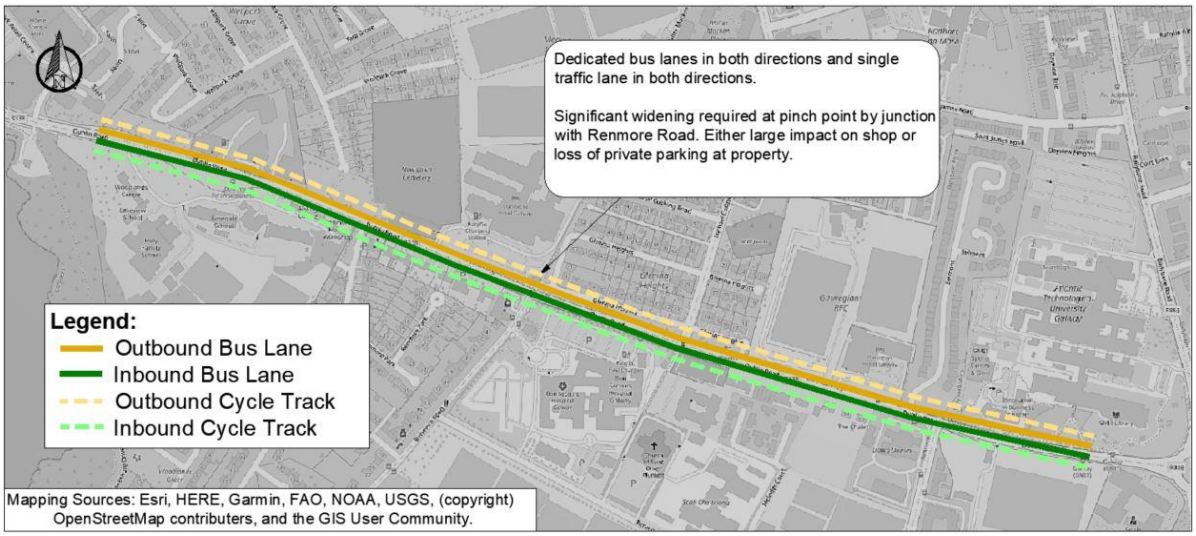


Figure 6-4 – Section 1 Option 1 Indicative Scheme Design

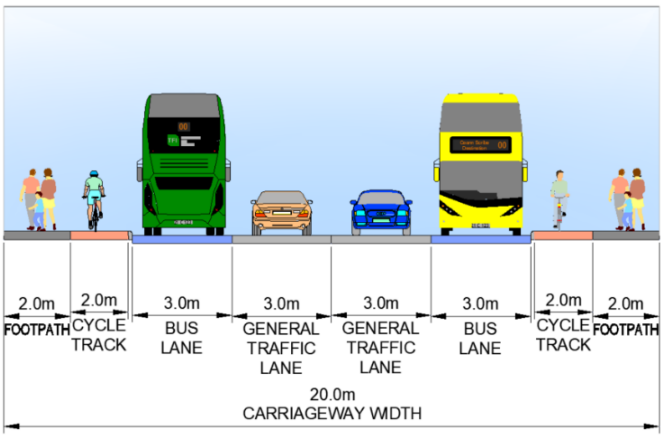


Figure 6-5 Section 1 Option 1 Indicative Cross Section

This route option would meet all six main project objectives by providing continuous bus lanes, cycle lanes and footpaths. It may have negative impacts associated with the wide cross section, particularly at the pinch point near Renmore Road, this area is looked at in more detail in the Renmore Road Sub-Options section. This is a viable option and is carried forward to MCA.

Option 2: Inbound traffic diverted around Renmore Road and Renmore Avenue, signals control traffic re-joining Dublin Road and give bus priority by doing so.

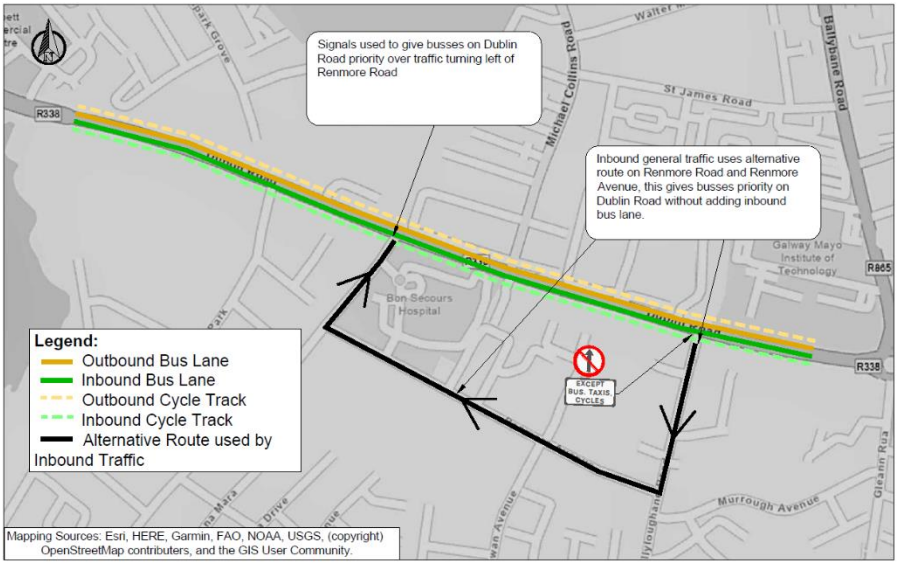


Figure 6-6 Section 1 Option 2 Indicative Scheme Design

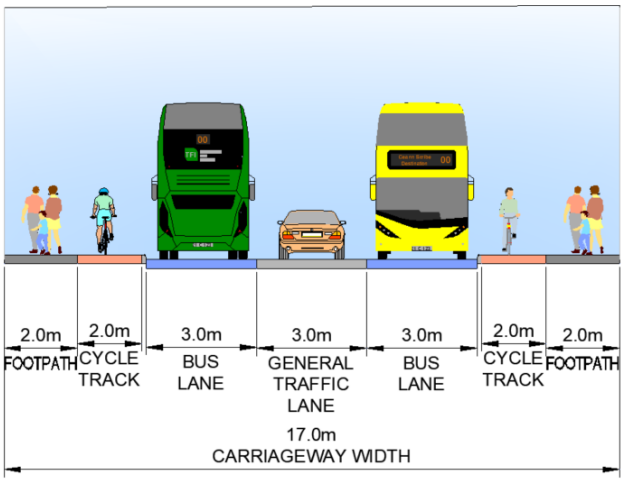


Figure 6-6 Section 1 Option 2 Indicative Cross Section

This route option would meet all six main project objectives by providing continuous bus lanes, cycle lanes and footpaths. This is a viable option and is carried forward to MCA. Note that there may be impacts to the traffic network associated with the traffic diversion, these are discussed in more detail at the MCA stage.

Option 3: Bus lanes on one side of the road at any one time (similar to the existing layout), generally placed on approach to junctions where there is queuing. General traffic lane in both directions.

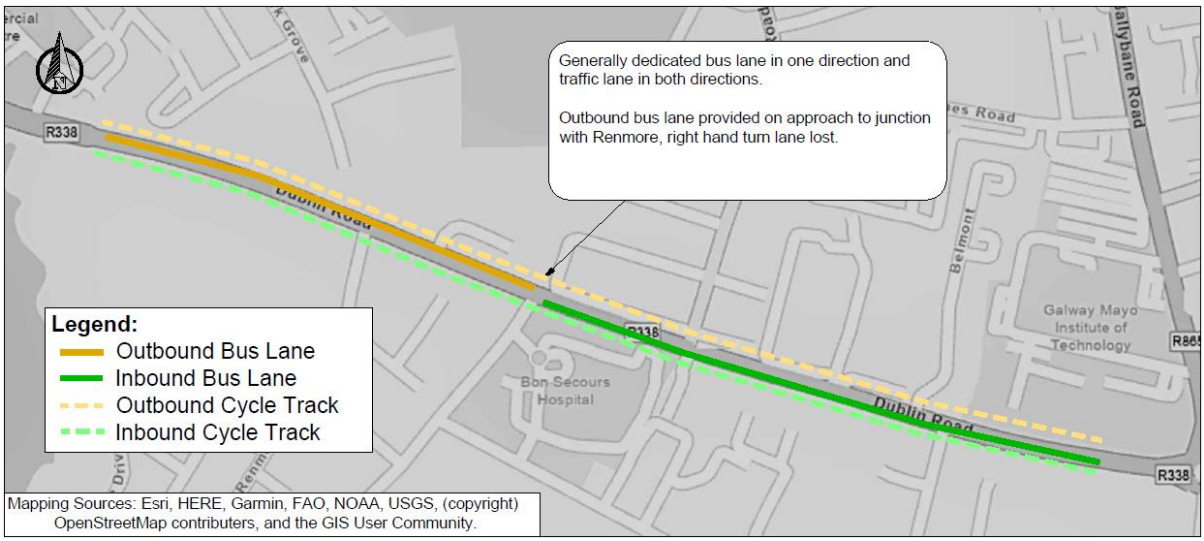


Figure 6-7 Section 1 Option 3 Indicative Scheme Design

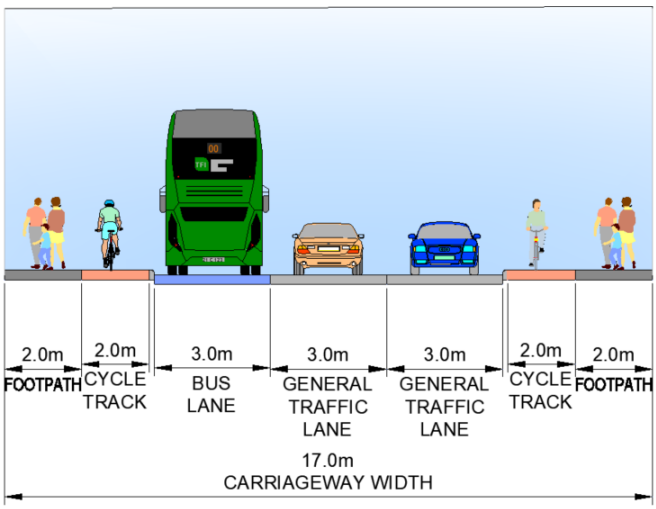


Figure 6-8 Section 1 Option 3 Indicative Cross Section

This route option would meet the project objectives relating to improving cycle lanes and footpaths. However, as the bus provision is not continuous, it does not meet the main Economy objective which specifies the provision of a continuous high-quality multi-modal corridor. For this reason, this is not considered a viable option and is not carried forward to MCA.

Option 4: This option has bus lanes in both directions but drops the inbound bus lane either side of Renmore Road junction to reduce the road widening needed. The bus would enter the general traffic lane for this section using a yellow box. This is the option that was previously bought forward to public consultation in 2020.

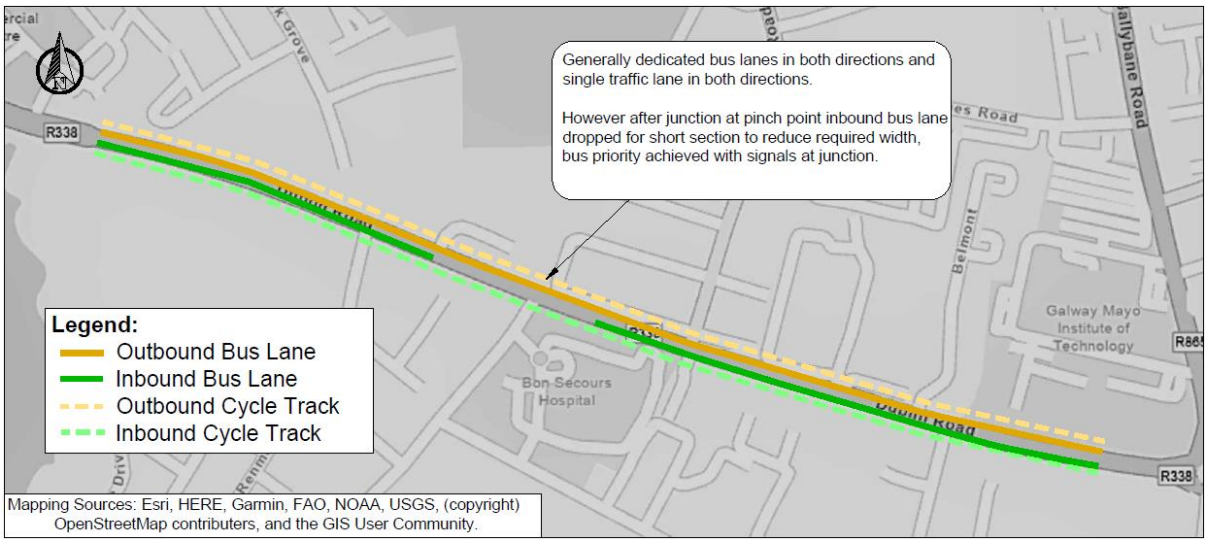


Figure 6-9 Section 1 Option 4 Indicative Scheme Design

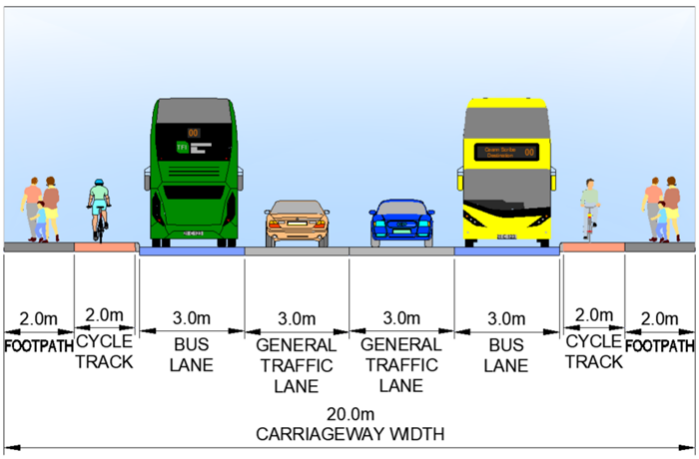


Figure 6-10 Section 1 Option 4 Indicative Cross Section

This route option would meet the project objectives relating to improving cycle lanes and footpaths. However, as the bus provision is not continuous, it does not meet the main Economy objective which specifies the provision of a continuous high-quality multi-modal corridor. However, as this was the emerging preferred option presented at the previous public consultation and was previously considered by the public it was progressed to MCA.

6.3.4 Section 1 Sifting Summary

Table 6-2 Section 1 Main Options Summary

Option	Comment
Option 1: Bus lane and traffic lane in both directions for full length of route.	Passed, Progressed to MCA
Option 2: Inbound traffic diverted around Renmore Road and Renmore Avenue, signals control traffic re-joining Dublin Road and give bus priority by doing so.	Passed, Progressed to MCA
Option 3: Bus lanes on one side of the road at any one time (similar to the existing layout), generally placed on approach to junctions where there is queuing. General traffic lane in both directions.	Failed, Not progressed to MCA
Option 4: Bus lanes in both directions but drops the inbound bus lane either side of Renmore Road junction to reduce the road widening needed. The bus would enter the general traffic lane for this section using a yellow box. This is the option that was previously bought forward to public consultation in 2020.	Passed, Progressed to MCA

6.3.5 Section 1 Renmore Road Sub Options

This signalised junction, pictured below, is located to the west of Bon Secours Hospital where Renmore Road meets Dublin Road. Due to the constrained nature of the cross section here, a subset of options were developed to assess the optimum layout for the junction.

The current layout has two general traffic lanes on all approaches to the junction and a single traffic lane exiting the junction on each arm. There are footpaths on all sides of the junction and pedestrian crossings for each arm. There are currently no bus lanes or cycle facilities around the junction. There is a private residence to the north of the carriageway, with a driveway that backs directly onto the junction, the property is set back 4.8m from the boundary. To the south the junction is bounded by greenspace within the Bon Secours hospital grounds and a private car park serving Duggan's Spar and adjacent local shops.

Figure 6-11 Renmore Road Junction Existing Layout

For all options dedicated, and protected cycle lanes would be provided in both directions, with provision for cyclists to safely make all turning movements. Pedestrian footpaths would also be provided on both sides of the road and signalised pedestrian crossings provided for each arm of the junction.

The options assessed for this junction are as follows:

Option 1

Dedicated bus lanes would be provided for the full length in both directions, general traffic lanes and a dedicated right turn lane for traffic turning onto Renmore Road would also be provided. Due to the width of the cross section here land take would be required that could have a large impact in the properties either side of the carriageway.

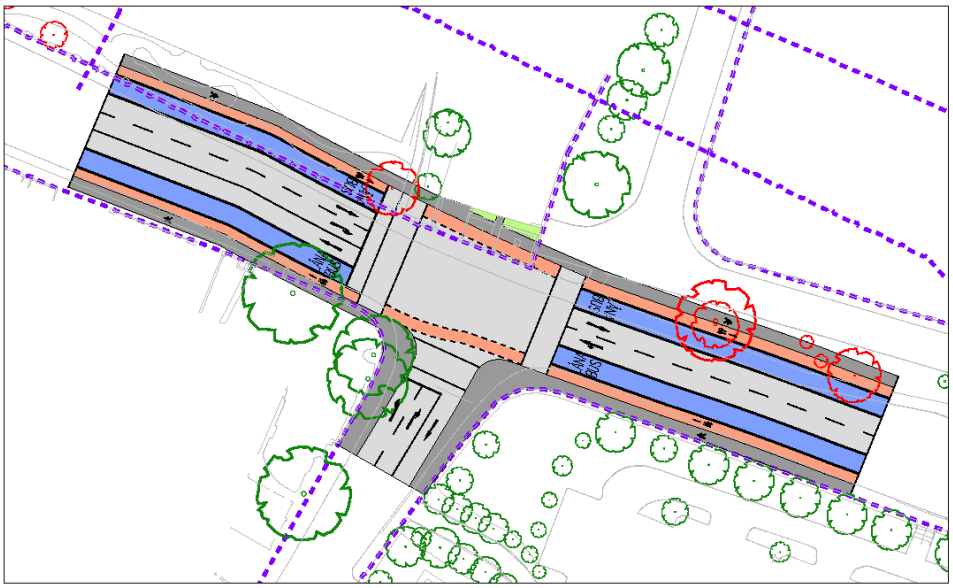


Figure 6-12 Renmore Road Option 1 Indicative Scheme Design

This option would meet all six main project objectives by providing continuous bus lanes, cycle paths and footpaths. For this reason this option is carried forward to MCA.

There are potential negative impacts associated with this option due to the land take requirements, sub options looking at where best to widen the cross section was considered at MCA.

Option 2

To reduce the amount of land take required at the junction this option has the inbound bus lane dropped for 30m after the junction. The bus lane is then picked up again after the pinch point on the road. Busses would be given their own signal at the junction so would be given priority at the signals and would be able to skip any queue forming.

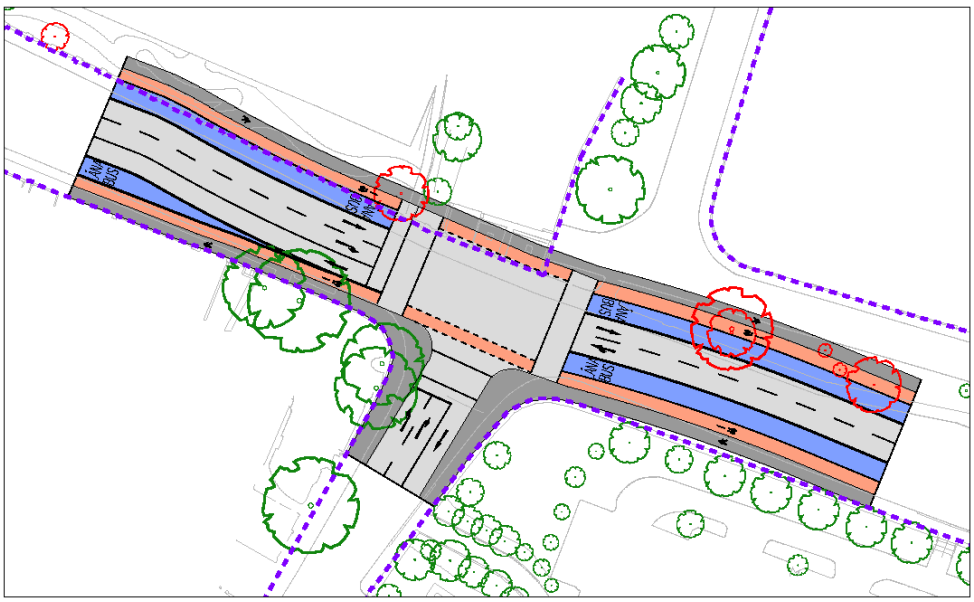


Figure 6-13 Renmore Road Option 2 Indicative Scheme Design

This route option would meet the project objectives relating to improving cycle lanes and footpaths. However, as the inbound bus lane on this option is not continuous, it does not meet the main Economy objective which specifies the provision of a continuous high-quality multi-modal corridor. Also, this option raises a safety concern in that as traffic merges with buses on the junction, the normal traffic lanes stagger over the junction which could result in inbound cars progressing through the junction and into the oncoming lane on the opposite side. For these reasons, this is not considered a viable option and is not carried forward to MCA stage.

Option 3

To reduce the amount of land take required this option has no dedicated right turn lane provided on Dublin Road for traffic queuing to turn into Renmore. This would reduce the volume of general traffic that can pass through the junction.

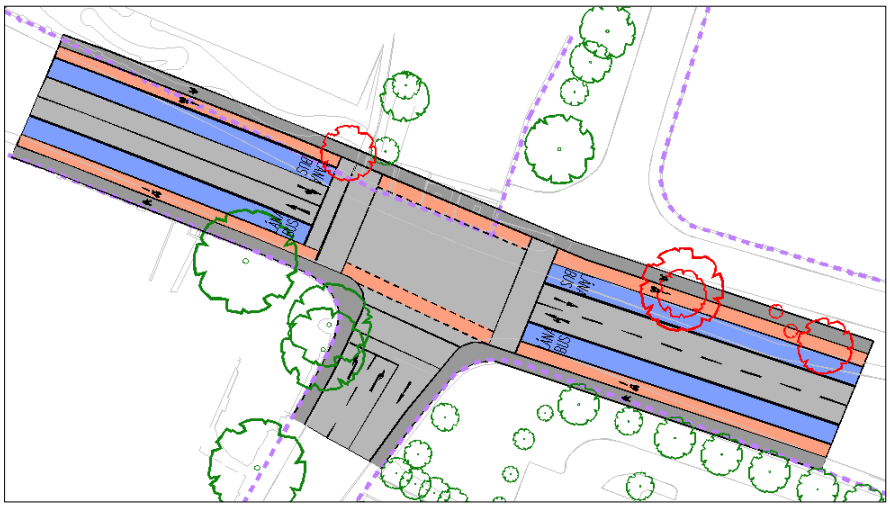


Figure 6-14 Renmore Road Option 3 Indicative Scheme Design

This option would meet all six main project objectives by providing continuous bus lanes, cycle paths and footpaths. For this reason, this option is carried forward to MCA.

There are potential negative impacts associated with this option due to the lack of right turn lane and land take requirements, sub options looking at where best to widen the cross section are considered at MCA stage.

Option 4

To reduce the amount of land take required this option has the inbound bus lane dropped for 30m after the junction. The bus lane is then picked up again after the pinch point. This option would also not have a dedicated right turn lane for general traffic.

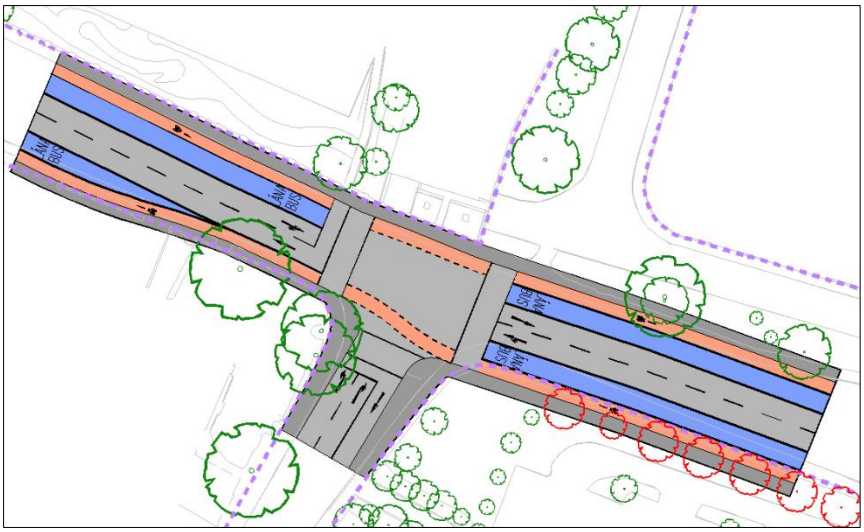


Figure 6-15 Renmore Road Option 4 Indicative Scheme Design

This route option would meet the project objectives relating to improving cycle lanes and footpaths. However, as the inbound bus lane on this option is not continuous, it does not meet the main Economy objective which specifies the provision of a continuous high-quality multi-modal corridor. Furthermore, there would likely be large impacts on the traffic network associated with dropping the right turn lane. For these reasons this is not a viable option and is not carried forward to MCA.

Option 5

This option has the narrowest cross section of all options considered in this assessment. To reduce the amount of land take required the inbound bus lane is dropped for 30m after the junction, the bus lane is then picked up again after the pinch point. The outbound bus lane is also dropped 30m before the junction and a yellow box would allow outbound busses to enter the outbound traffic lane there. No dedicated right turn lane is provided for general traffic turning into Renmore Road.

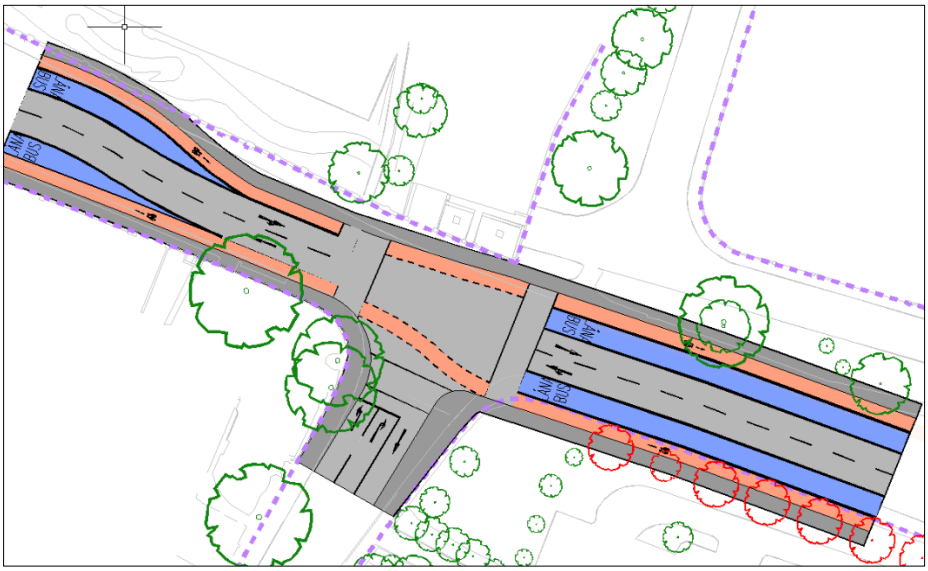


Figure 6-16 Renmore Road Option 5 Indicative Scheme Design

This route option would meet the main project objectives relating to improving cycle lanes and footpaths. However, as both bus lanes on this option are not continuous, it does not meet the main Economy objective which specifies the provision of a continuous high-quality multi-modal corridor. Furthermore, there would likely be large impacts on the traffic network associated with dropping the right turn lane. For these reasons this is not a viable option and is not carried forward to MCA.

6.3.6 Section 1 Renmore Road Sub Options Summary

Table 2-3 Section 1 Renmore Road Sub Options Summary

Option	Comment
Option 1: Full build, dedicated bus lanes provided in both directions for whole length, right turn lane provided on Dublin Road for traffic queuing to turn into Renmore.	Passed, Progressed to MCA
Option 2: Full build except inbound bus lane dropped for 30m after junction, busses get their own signal to allow them to pass through the junction.	Failed, Not progressed to MCA

Option	Comment
Option 3: Full build except no dedicated right turn lane provided on Dublin Road.	Passed, Progressed to MCA
Option 4: Inbound bus lane dropped for 30m after junction, and no dedicated right turn lane provided on Dublin Road for traffic queuing to turn into Renmore.	Failed, Not progressed to MCA
Option 5: Both inbound and outbound bus lanes dropped on approach to the junction and no dedicated right turn lane provided on Dublin Road for traffic queuing to turn into Renmore.	Failed, Not progressed to MCA

6.3.7 Section 1 Ballyloughane Road / Belmont Sub Options

These two un-signalised junctions, pictured below, are located where Ballyloughane Road and Belmont meet the Dublin Road. They are currently staggered approx. 25m apart. To the west of the junction on the north of the Carriageway is Flannery's Hotel and Galwegians Rugby Club, currently the entrance to these is directly onto Dublin Road, these options also assess moving the access to these to Belmont.

On the Dublin Road there is currently a general traffic lane in each direction and an inbound bus lane, this is shared by general traffic making a left turn on the last 20m of the approach to the junction with Ballyloughane. No right turn lanes are provided. There are footpaths on both sides of the road and a pedestrian crossing for Dublin Road, but not for the Ballyloughane Road or Belmont arms. There are currently no cycle facilities around the junction.

The junction is bounded by an industrial area to the south and private greenspace to the north.

Figure 6-17 Ballyloughane Road and Belmont Junction Existing Layout

For all options dedicated bus lanes and protected cycle lanes would be provided in both directions. Pedestrian footpaths would also be provided on both sides of the road.

The options assessed for this junction are as follows:

Option 1

Dedicated bus lanes would be provided for the full length in both directions, each junction remains separate and uncontrolled, the pedestrian crossing remains between the two junctions. No dedicated right turn lanes are provided. The existing entrance to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remains in place.

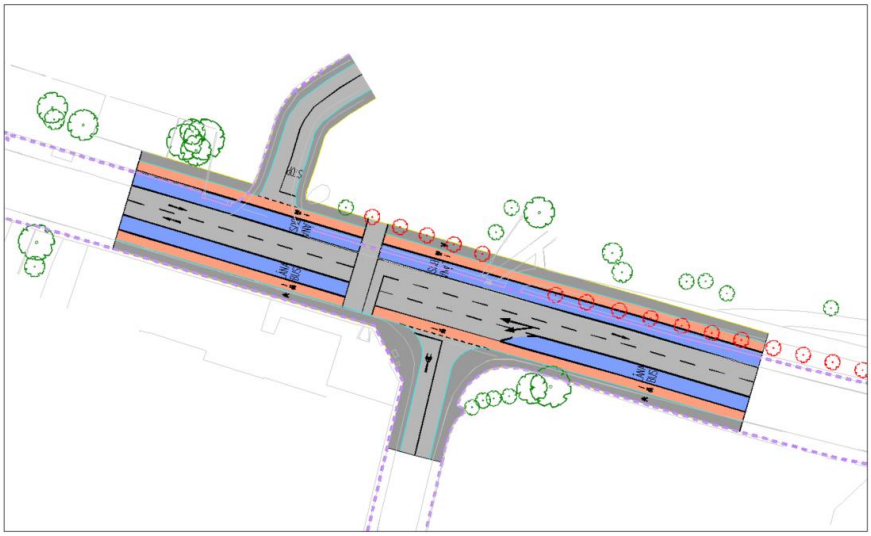


Figure 6-18 Ballyloughane Junction Option 1 Indicative Scheme Design

This option would meet all six main project objectives by providing continuous bus lanes, cycle paths and footpaths and therefore this option is carried forward to MCA.

Option 2A

Dedicated bus lanes would be provided for the full length in both directions, each junction remains separate but is signalised, right turn lanes are provided and there are pedestrian crossings provided opposite each junction. The entrance to Flannery's Hotel and Galwegians Rugby Club is moved to access via Belmont.

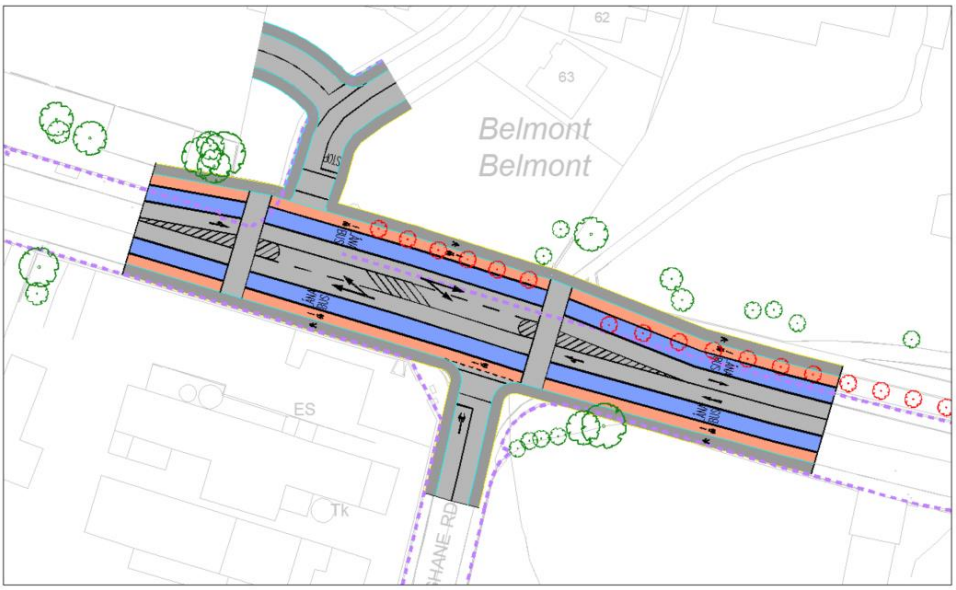


Figure 6-19 Ballyloughane Junction Option 2A Indicative Scheme Design

This option would meet all six main project objectives by providing continuous bus lanes, cycle paths and footpaths and therefore this option is carried forward to MCA.

Option 2B

Dedicated bus lanes would be provided for the full length in both directions, each junction remains separate but is signalised, right turn lanes are provided and there are pedestrian crossings provided opposite each junction. The existing entrance to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remains in place.

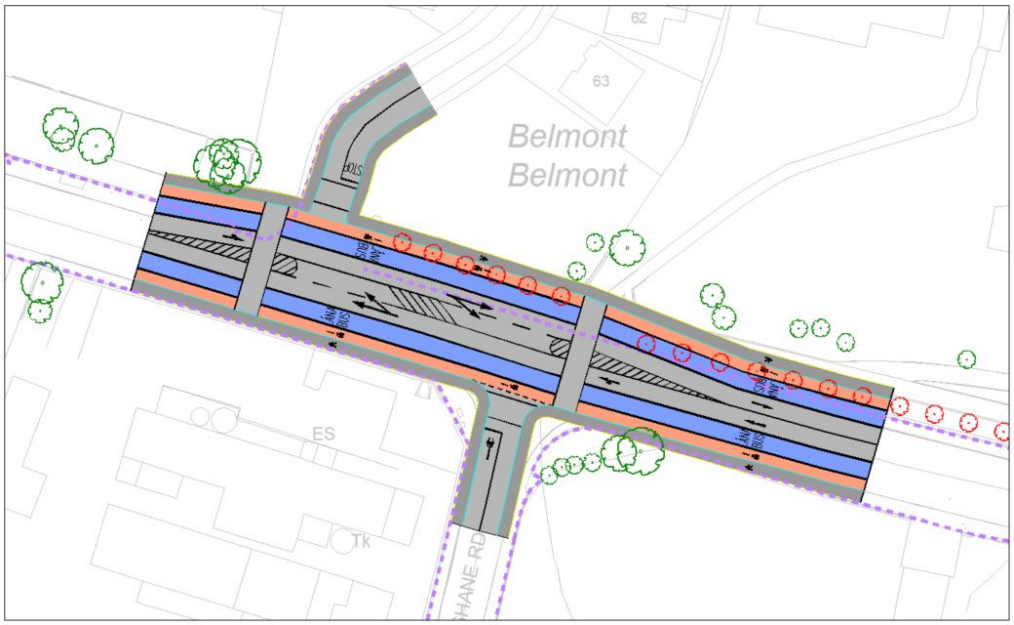


Figure 6-20 Ballyloughane Junction Option 2B Indicative Scheme Design

This option would meet all six main project objectives by providing continuous bus lanes, cycle paths and footpaths and therefore this option is carried forward to MCA.

Option 3A

Dedicated bus lanes would be provided for the full length in both directions, the junctions are bought together and signalised, right turn lanes are provided and there are pedestrian crossings provided on each arm of the junction. The entrance to Flannery's Hotel and Galwegians Rugby Club is moved to access via Belmont.

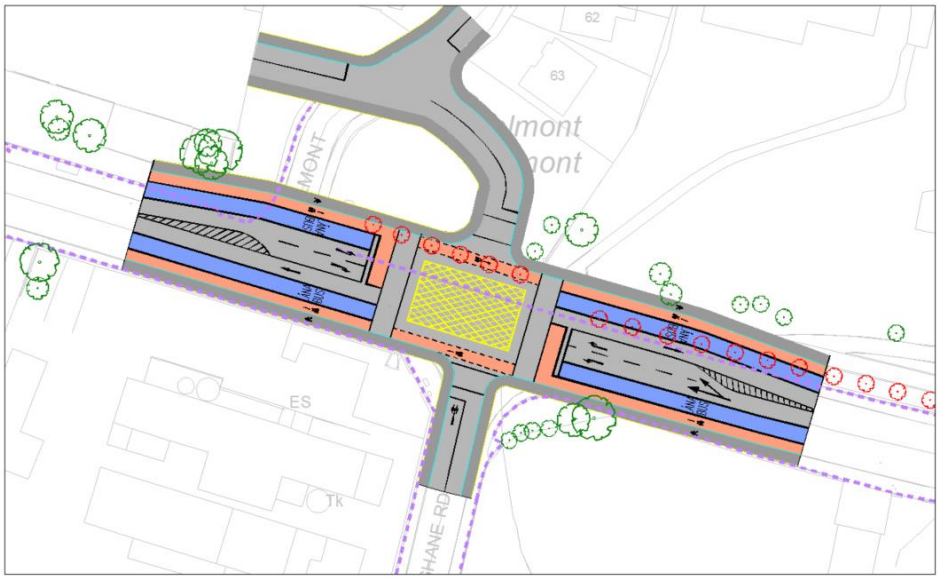


Figure 6-21 Ballyloughane Junction Option 3A Indicative Scheme Design

This option would meet all six main project objectives by providing continuous bus lanes, cycle paths and footpaths and therefore this option is carried forward to MCA.

Option 3B

Dedicated bus lanes would be provided for the full length in both directions, the junctions are bought together and signalised, right turn lanes are provided and there are pedestrian crossings provided on each arm of the junction. The existing entrance to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remains in place.

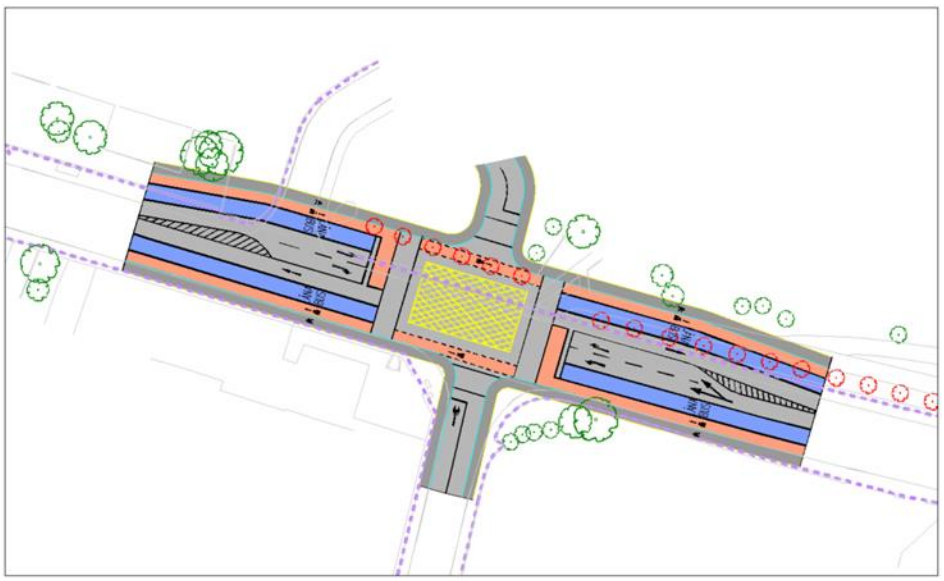


Figure 6-22 Ballyloughane Junction Option 3B Indicative Scheme Design

This option would meet all six main project objectives by providing continuous bus lanes, cycle paths and footpaths and therefore this option is carried forward to MCA.

6.3.8 Section 1 Ballyloughane Road / Belmont Sub Options Summary

Table 6.4 Section 1 Ballyloughane Road / Belmont Sub Options Summary

Option	Comment
Option 1: Keep as it currently is but with bus lanes in both directions	Passed, Progressed to MCA
Option 2A: Signalise, with the Belmont and Ballyloughane Road junctions remaining staggered, with a right turn lane provided. The existing entrance to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remains in place. The entrance to Flannery's Hotel and Galwegians Rugby Club is moved to access via Belmont.	Passed, Progressed to MCA
Option 2B: Signalise, with the Belmont and Ballyloughane Road junctions remaining staggered, with a right turn lane provided. The existing entrance to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remains in place.	Passed, Progressed to MCA
Option 3A: Signalise, bring the Belmont to meet Dublin Road directly across from Ballyloughane Road so that there is just one junction with 4 arms. Right turn lane provided for general traffic. The entrance to Flannery's Hotel and Galwegians Rugby Club is moved to access via Belmont.	Passed, Progressed to MCA
Option 3B: Signalise, bring the Belmont to meet Dublin Road directly across from Ballyloughane Road so that there is just one junction with 4 arms. Right turn lane provided for general traffic. The existing entrance to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remains in place.	Passed, Progressed to MCA

6.3.9 Skerrit Roundabout

This section looks at Skerrit Roundabout junction, it starts 75m west of the roundabout and finishes 75m east of the roundabout.

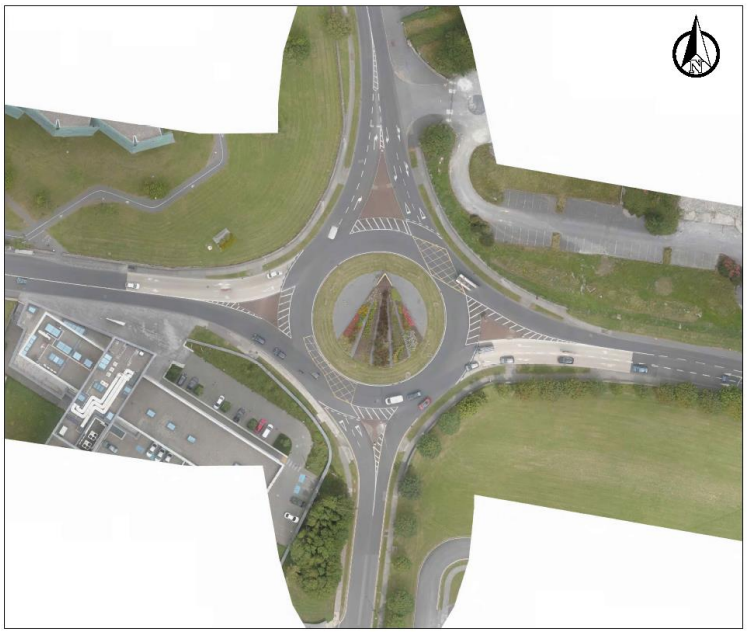
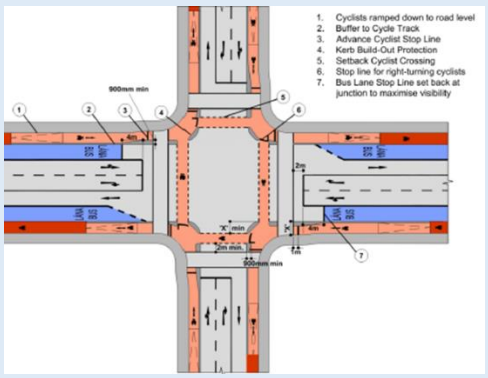


Figure 6-23 Skerrit Roundabout Existing Layout

The junction is currently an uncontrolled roundabout with 4 arms, there are 2 approach lanes on each arm. There are wide turning radii and clear sight lines which allow traffic to go round the roundabout at relatively high speeds. There is no cycle provision or signalised pedestrian crossings provided.

The options assessed for this junction include:

Table 6-5 Skerrit Roundabout Options

Option Description	Comments
Option 1: Rebuild as signalised junction as per BusConnects Guidance 	Upgrading the junction to a signalised crossing would allow bus priority to be controlled. By providing continuous bus, cycling and pedestrian infrastructure with signalised crossings this option would meet all 6 main objectives from the SAR. No large negative impacts are anticipated as a result of this option. For these reasons this option is carried forward to MCA.
Option 2: Keep as roundabout and have signalised toucan crossings provided on every arm, on approach to the junction in either direction on Dublin Road one of the traffic lanes is converted to a bus lane.	Upgrading the junction to provide signalised crossing would allow safe usage for pedestrians. By providing continuous bus, cycling and pedestrian infrastructure with signalised crossings this option would meet all six main objectives from the SAR. For these reasons this option is carried forward to MCA.

Option Description	Comments
	
Option 3: Convert the Skerrit Roundabout to a "Cyclops" style junction. 	Due to the amount of space around the Skerrit Roundabout there would be room to upgrade the junction to the Cyclops style layout. This would allow bus priority to be controlled and provide priority for pedestrians and cyclists. By providing continuous bus, cycling and pedestrian infrastructure with signalised crossings this option would meet all 6 main objectives from the SAR. No large negative impacts are anticipated as a result of this option. For these reasons this option is carried forward to MCA.
Option 4: Convert the Skerritt Roundabout to a "Dutch style" roundabout to make it safer for active travel users. General traffic will yield to buses and pedestrians under this option. Provide dedicated one-way cycle lanes in both directions.	A dutch style roundabout generally has a single lane of traffic at each arm of the junction. By adding more traffic lanes or bus lanes the roundabout no longer functions as a safe option for pedestrian and cyclist users. With only one lane at each arm of the roundabout the capacity of Skerrit roundabout would be significantly reduced, and it would not be possible to get busses to the front of the queue at the junction, thus reducing the effect of the bus lanes. Therefore, this option is not considered viable for this multi-modal transport corridor. However a modified verison of this where a signalised toucan crossing is provided at each of the arms of the junction, with a traffic lane and a bus lane maintaned on each approach and with dedicated one way cycle lanes in each direction is considered viable for this multi-modal transport corridor. This is Option 2 described above.
Option 5: Provide an active travel over bridge for the Skerritt Roundabout.	An overbridge structure would be very large, and would require 8 on / off ramps in order to serve all directions of travel, each ramp would require approximately 100m of

Option Description	Comments
	length to achieve the height necessary to clear the roundabout while maintaining appropriate gradients. A structure of this scale is likely to be imposing on the surrounding landscape, and there would be landscape and visual impacts associated with this. The ramps would also require cyclists and pedestrians, especially those with disabilities, mobility issues and people travelling with children to go up and down extra height and would create longer distance journeys. An at-grade crossing would provide a flatter and more cyclist and pedestrian friendly junction route. The longer distance journey also creates a safety issue in that many people will not use the less desirable overpass and will cross the road without safe crossing facilities. The advantage of this option is that it allows pedestrians and cyclists to remain fully segregated from traffic, means that they don't have to wait for a signal in order to cross the junction, and it increases the efficiency of the junction as pedestrian signals could be removed meaning more green time for traffic and busses. However, despite those advantages, due to the scale and cost of the works and due to the extra effort put on cyclists and pedestrians this is not considered a viable option for this multi-modal transport corridor.
Option 6: Provide an active travel underbridge for the Skerritt Roundabout. 	Similar to the overbridge option an underbridge structure for cyclists and pedestrians would require large scale works with potential significant environmental impact. As the underbridges would lack passive surveillance from the road there would be issues with safety, perceived safety as well as increased potential for anti-social behaviour. This may lead the safety issue in that many people will not use the less desirable underpass and will cross the road without safe crossing facilities. There could also be issues with drainage and flooding associated with the underpass, potentially impacting on the pedestrians and cyclists that would be utilising it. Similar to the overbridge option the advantages of this is that it allows pedestrians and cyclists to remain fully

Option Description	Comments
	segregated from traffic, means that they don't have to wait for a signal in order to cross the junction, and it increases the efficiency of the junction as pedestrian signals could be removed meaning more green time for traffic and busses. However, despite those advantages, due to the scale of the works required for this and the comparatively large disadvantages described above this is not considered a viable option for this multi-modal transport corridor.

6.3.10 Section 2

Existing Layout The general existing cross section of this route consists of a single bus lane and traffic lanes in both directions. There is a footpath on the southern side of the road and a hard shoulder on the northern side of the carriageway, and grass verges both sides. The general cross section is approx. 16m boundary to boundary including the footpath, buffer area and grass verges. The route is generally bounded by greenspace to both sides, and a stone wall on the south adjacent to the woodland there. There are a number of trees adjacent to the route on both sides, particularly between Coast Road and Doughiska Road.

All route options start 75m east of Skerrit Roundabout and at the junction between Old Dublin Road and Doughiska Road.

There are 9 full options considered and option 6 has 4 sub-options (6A, 6B, 6C & 6D), to give a total of 12 options. Options 1 - 4 & 9 have dedicated bus lanes for the length of the route. Options 5 – 8 have an inbound bus lane for the full length of the route, and an outbound bus lane on approach to junctions where queuing is most likely. All options have 2-way general traffic lanes for the length of the route.

Option 1
Footpaths and cycle tracks provided alongside the road carriageway for the length of the route, segregated with a grass verge. Bus lanes provided in both directions for full length of route.

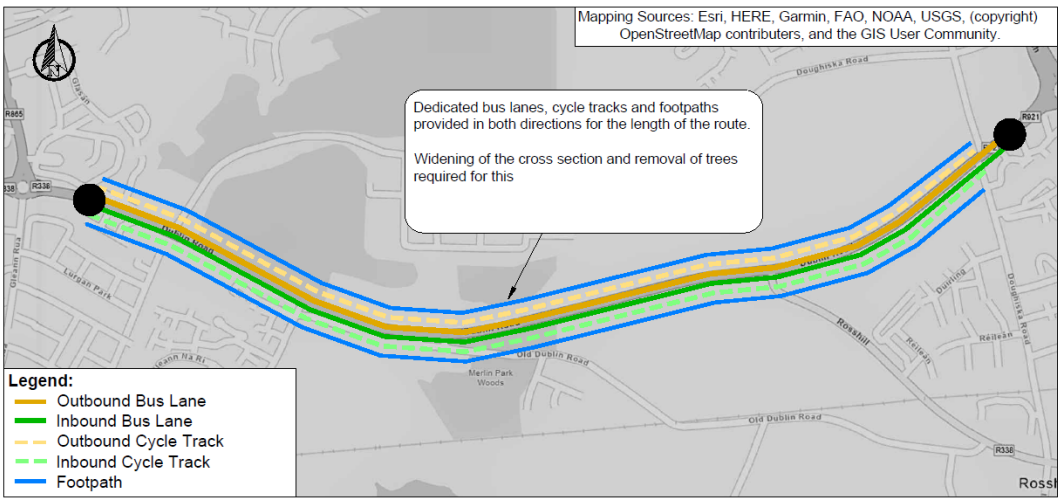


Figure 6-24 Section 2 Option 1 Indicative Scheme Design

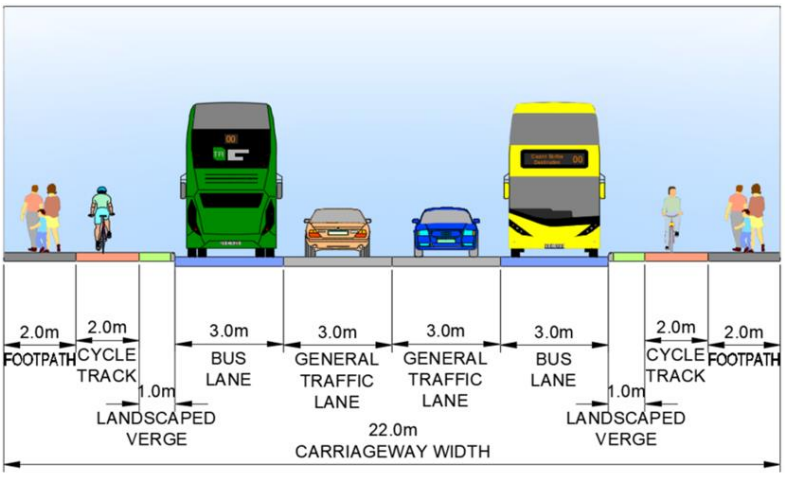


Figure 6-25 Section 2 Option 1 Indicative Cross Section

By providing continuous bus, cycle and pedestrian provision in both directions for the length of the scheme this option meets all 6 of the main objectives of the project. There are likely impacts to the trees that bound the existing carriageway, however it is likely that these impacts can be mitigated with planting.

For these reasons this option is carried forward to MCA.

Option 2

Cycle tracks on both sides and a footpath on the southern side of the road provided adjacent to the carriageway for the length of the route. Bus lanes provided in both directions for full length of route. Footpath on northern side of route provided only where there is currently footpath provision, this includes where there are accesses and bus stops, appropriate crossings would be provided to maintain all access.

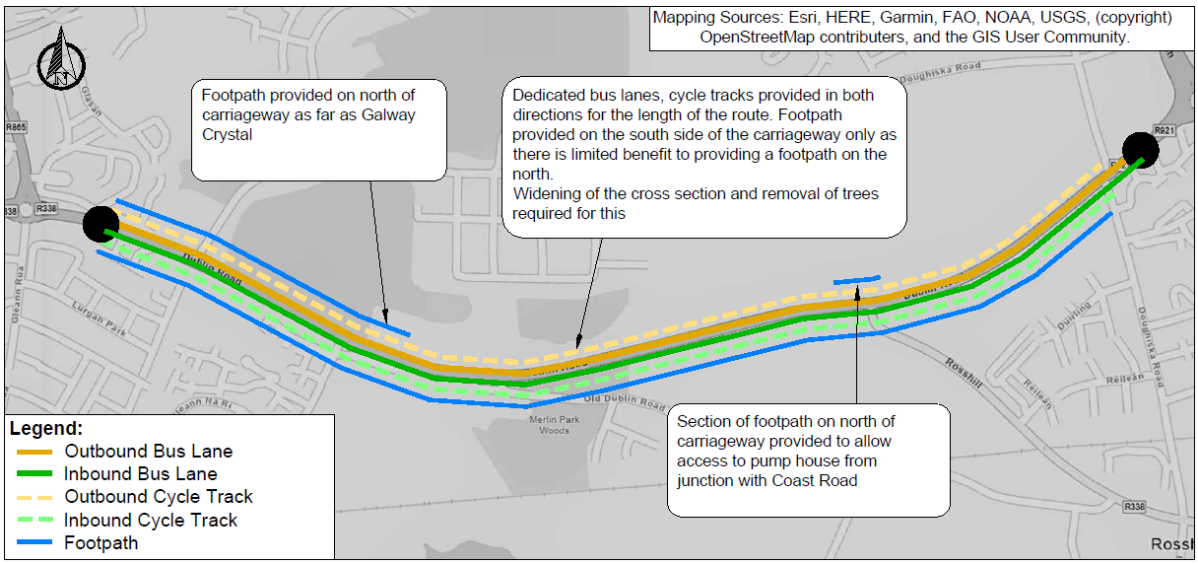


Figure 6-26 Section 2 Option 2 Indicative Scheme Design

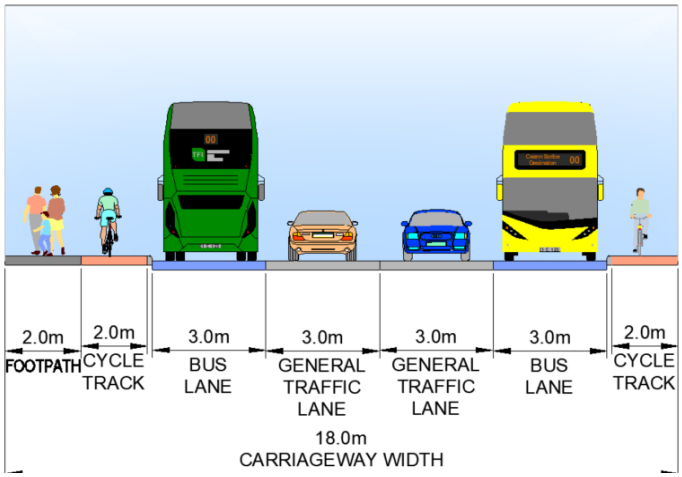


Figure 6-27 Section 2 Option 2 Indicative Cross Section

By providing continuous bus lanes, cycle lanes and improved footpaths this option would meet 5 of the 6 main project objectives. However, the Economy objective specifies that provision should be continuous, as the pedestrian provision for this scheme is not continuous this option does not fully meet that objective, although it does provide continuous cycling and bus infrastructure so mainly meets it. As this option provides a cycle path on the north of the carriageway but no footpath in some locations, it is likely that on occasion pedestrians will walk in the cycle path. This creates a potential conflict between pedestrians and cyclists, and could cause safety issues as a result of collisions or users being forced onto the road carriageway. Furthermore, due to the width of the cross section, the trees that bound the route will still be required to be removed even if the footpath is dropped on the north of the road. This means overall this option performs worse than the options that provide a full footpath on the north side of the road.

For these reasons, this option is not carried forward to MCA.

Option 3:
Inbound cycle track and footpath provided adjacent to the carriageway on south of road. Outbound cycle track and footpath provided away from road carriageway through greenspace to the north of the route. Bus lanes provided in both directions for full length of route.

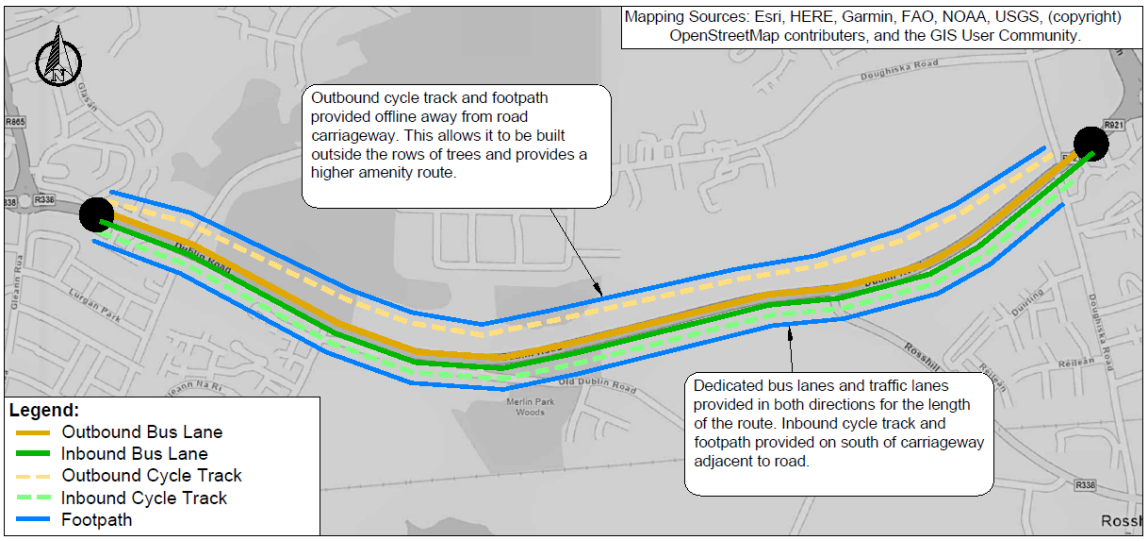


Figure 6-28 Section 2 Option 3 Indicative Scheme Design

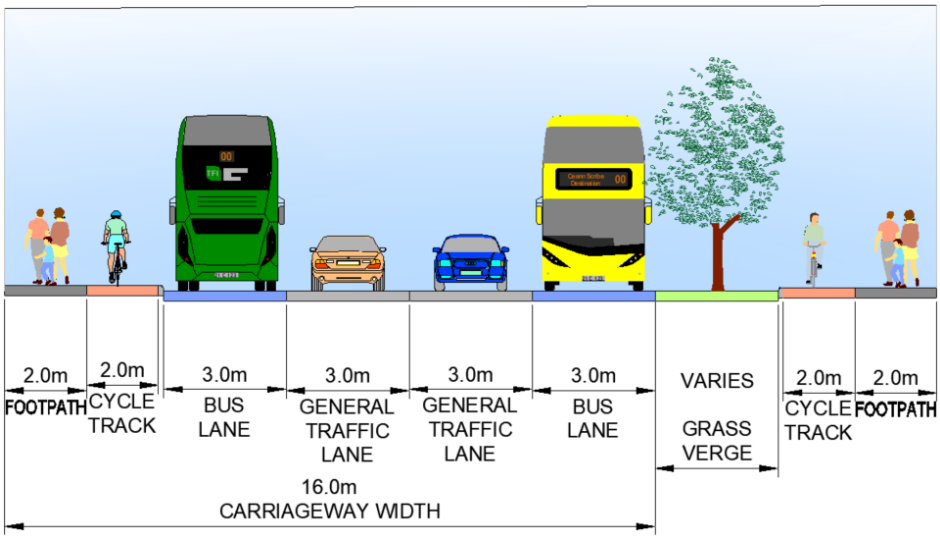


Figure 6-29 Section 2 Option 3 Indicative Cross Section

By providing continuous bus, cycle and pedestrian provision in both directions for the length of the scheme this option meets all 6 of the main project objectives.

For this reason, this option is carried forward to MCA.

Option 4

Two-way cycle track provided offline through greenspace on the northern side of carriageway. Footpaths provided adjacent to the carriageway in both directions. Bus lanes provided in both directions for full length of route.

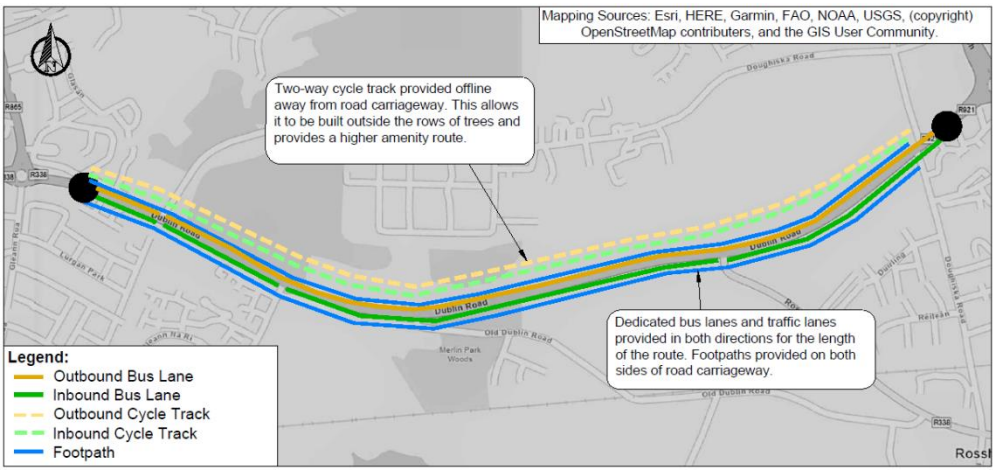


Figure 6-30 Section 2 Option 4 Indicative Scheme Design

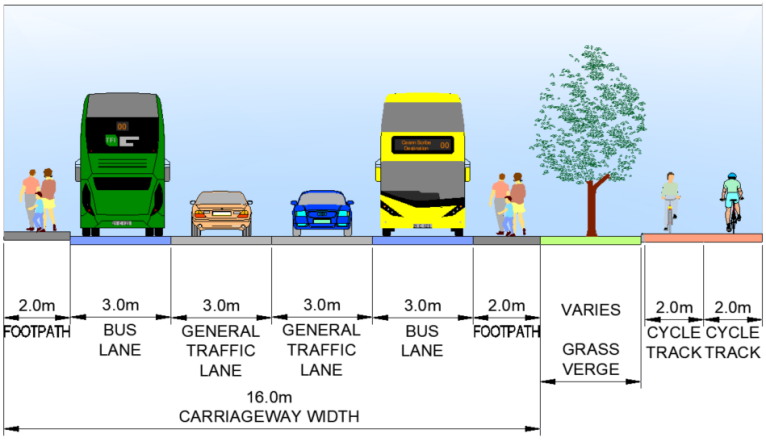


Figure 6-31 Section 2 Option 4 Indicative Cross Section

By providing continuous bus, cycle and pedestrian provision in both directions for the length of the scheme this option meets all 6 main project objectives.

For this reason, this option is carried forward to MCA.

Option 5

Footpaths and cycle tracks provided adjacent to the road carriageway for the length of the route. Inbound bus lane provided for full length of the route, outbound bus lane provided on approach to junctions only.

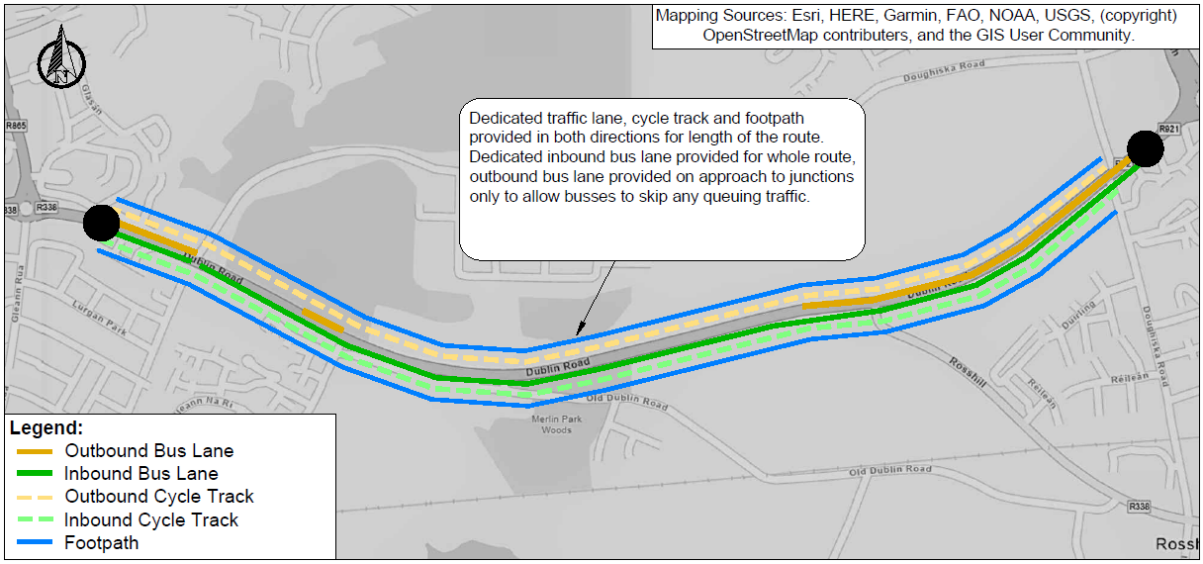


Figure 6-32 Section 2 Option 5 Indicative Scheme Design

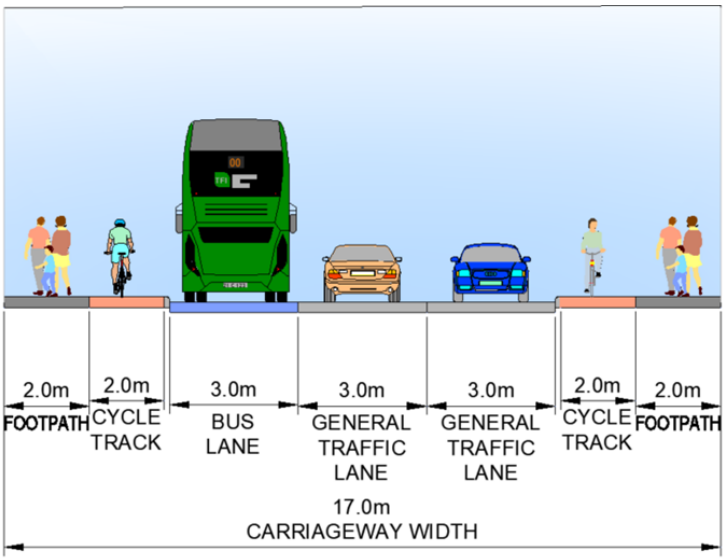


Figure 6-33 Section 2 Option 5 Indicative Cross Section

By providing continuous cycle lanes, footpaths and improved bus lanes this option would meet 5 of the 6 main project criteria. However, the Economy objective specifies that provision should be continuous, as the bus provision for this scheme is not continuous this option fails to meet that objective.

For this reason, this option is not carried forward to MCA.

Option 6A

Cycle tracks either side of the road and a footpath on the southern side of the road provided adjacent to the carriageway for the length of the route. Footpath on northern side of route provided only where there is currently footpath provision, this includes where there are accesses and bus stops, appropriate crossings would be provided to maintain all access.

Inbound bus lane provided for full length of route, outbound bus lane provided on approach to junctions only.

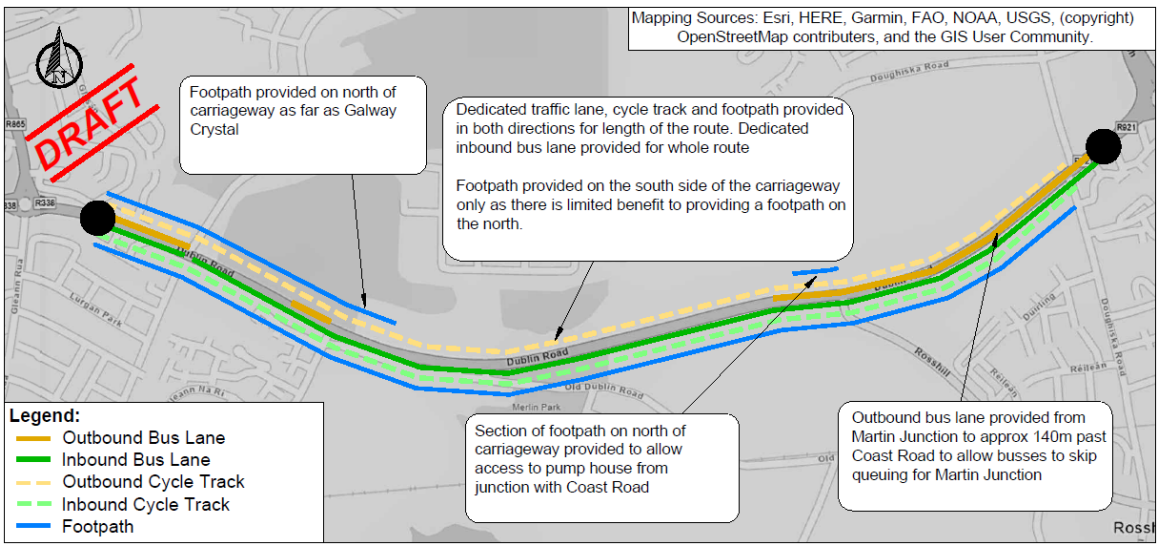


Figure 6-34 Section 2 Option 6A Indicative Scheme Design

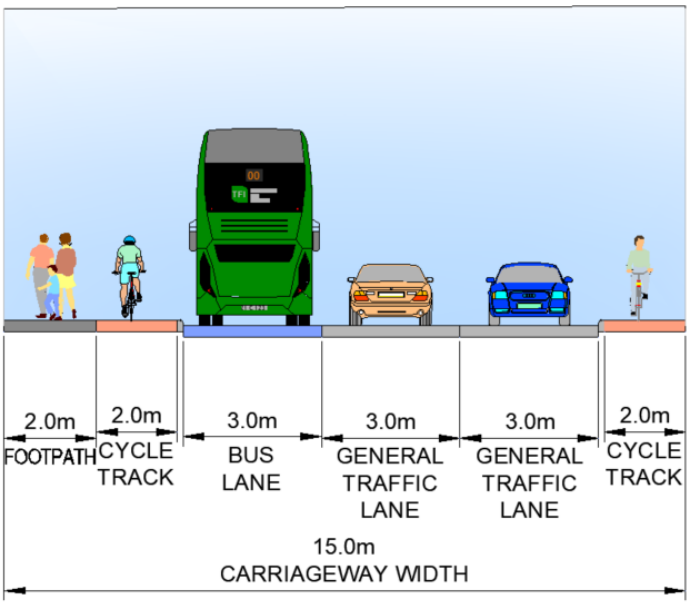


Figure 6-35 Section 2 Option 6A Indicative Cross Section

By providing continuous cycle lanes, footpaths and improved bus lanes this option would meet 5 of the 6 main project criteria. However, the Economy objective specifies that provision should be continuous, as the bus provision for this scheme is not continuous this option fails to meet that objective.

For this reason, this option is not carried forward to MCA.

Option 6B

Cycle tracks either side of the road and a footpath on the southern side of the road provided adjacent to the carriageway for the length of the route. Footpath on northern side of route provided only where there is currently footpath provision, this includes where there are accesses and bus stops, appropriate crossings would be provided to maintain all access.

Inbound bus lane provided for full length of route. For the outbound bus lane, instead of having the bus lane provided from Doughiska to past the Coast Road, this option has more outbound bus lane provided on approach to the junction with Coast Road, and a gap in the outbound bus lane between Coast Road and where it's picked up again on approach to Doughiska. Traffic is held at the junction with Coast Road during times of busy traffic to allow busses to skip the queue into the bus lane provided on approach to Doughiska. This effectively moves the traffic queue to a different location and should provide a similar level of bus priority and transport integration to Option 6A.

This reduces the impact on the trees adjacent to the road to the east of the scheme.

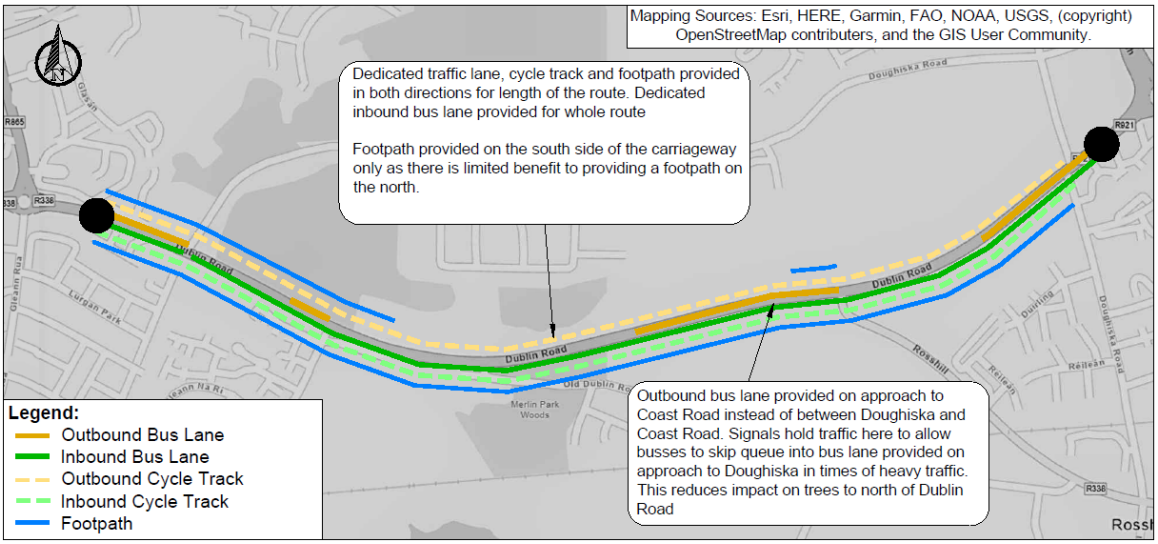


Figure 6-36 Section 2 Option 6B Indicative Scheme Design

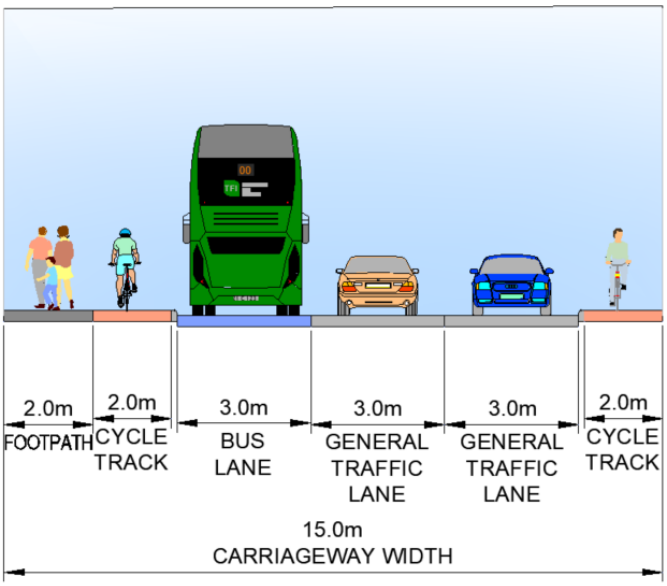


Figure 6-37 Section 2 Option 6B Indicative Cross Section

By providing continuous cycle lanes, footpaths and improved bus lanes this option would meet 5 of the 6 main project criteria. However, the Economy objective specifies that provision should be continuous, as the bus provision for this scheme is not continuous this option fails to meet that objective.

For this reason, this option is not carried forward to MCA.

Option 6C

Cycle tracks either side of the road and a footpath on the southern side of the road provided adjacent to the carriageway for the length of the route. Inbound bus lane provided for full length of the route, outbound bus lane provided on approach to junctions only. Footpath on northern side of the route provided only where there is currently footpath provision, this includes where there are accesses and bus stops, appropriate crossings would be provided to maintain all access.

The difference between this and Option 6A is that east of Coast Road the outbound cycle tack is placed outside the row of trees on the north side of the carriageway. This reduces the number of trees impacted by the scheme.

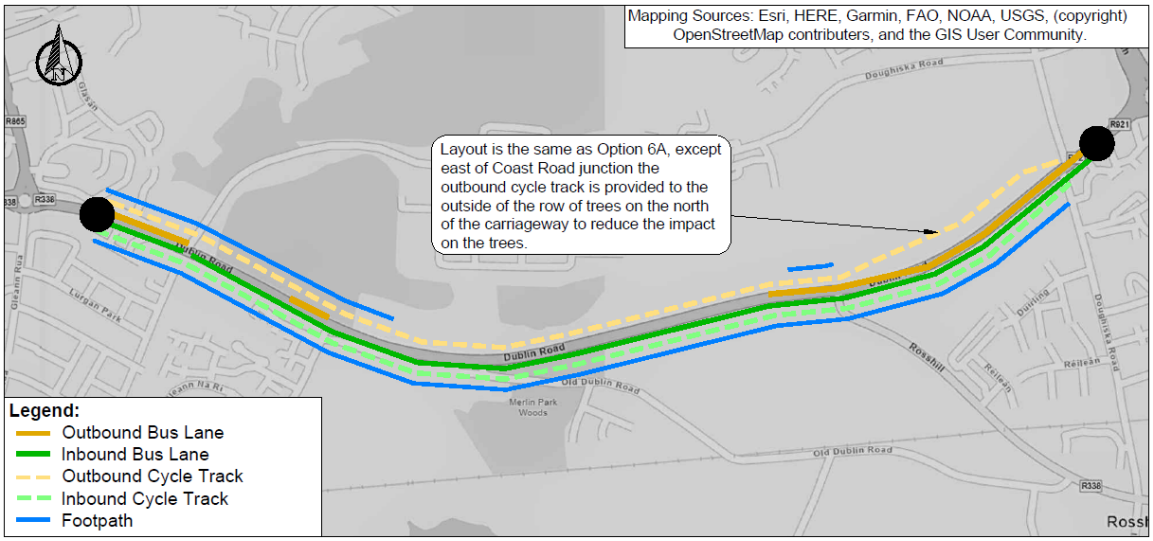


Figure 6-38 Section 2 Option 6C Indicative Scheme Design

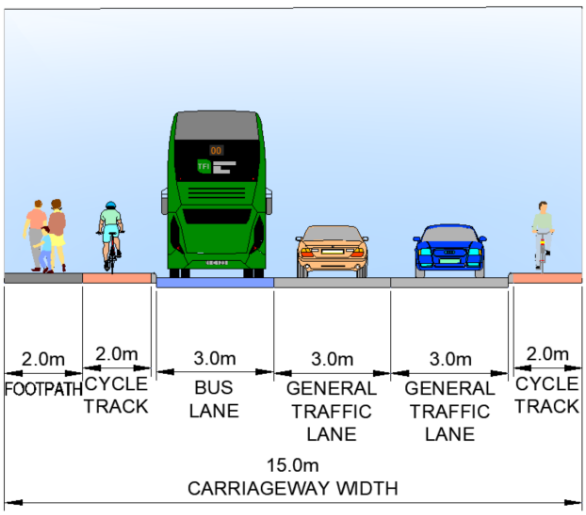


Figure 6-39 Section 2 Option 6C Indicative Cross Section

By providing continuous cycle lanes, footpaths and improved bus lanes this option would meet 5 of the 6 main project criteria. However, the Economy objective specifies that provision should be continuous, as the bus provision for this scheme is not continuous this option fails to meet that objective.

For this reason, this option is not carried forward to MCA.

Option 6D

Cycle tracks either side of the road and a footpath on the southern side of the road provided adjacent to the carriageway for the length of the route. Inbound bus lane provided for full length of the route, outbound bus lane provided on approach to junctions only. Footpath on northern side of route provided only where there is currently footpath provision, this includes where there are accesses and bus stops, appropriate crossings would be provided to maintain all access.

The difference is that east of Coast Road the inbound cycle tack and footpath is placed outside the row of trees on the south side of the carriageway through the new development there. This reduces the number of trees impacted by the scheme.

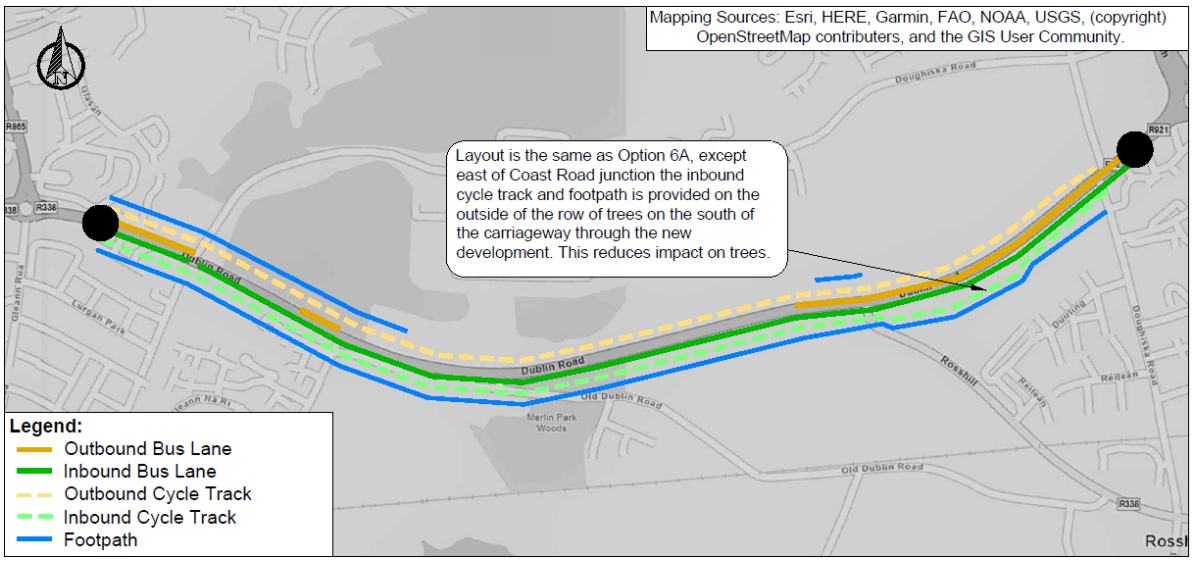


Figure 6-40 Section 2 Option 6D Indicative Scheme Design

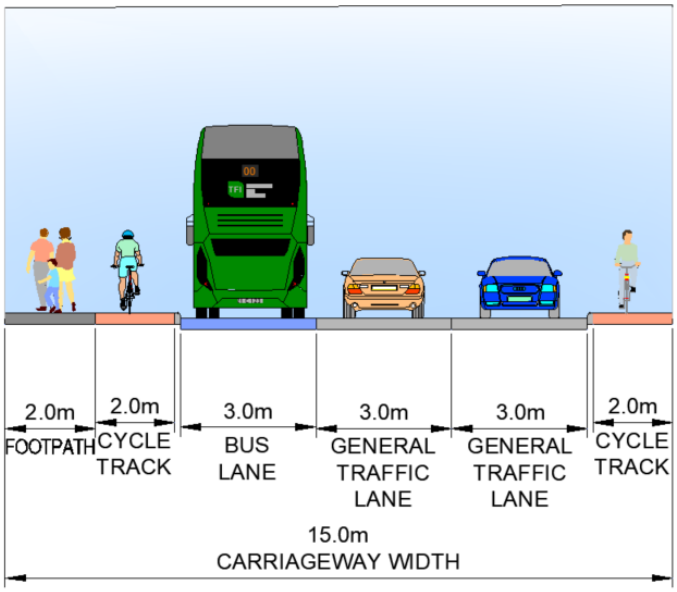


Figure 6-41 Section 2 Option 6D Indicative Cross Section

By providing continuous cycle lanes, footpaths and improved bus lanes this option would meet 5 of the 6 main project criteria. However, the Economy objective specifies that provision should be continuous, as the bus provision for this scheme is not continuous this option fails to meet that objective.

For this reason, this option is not carried forward to MCA.

Option 7

Inbound cycle track and footpath provided adjacent to the carriageway on southern side of the road. Outbound cycle track and footpath provided away from road carriageway through greenspace to the north of the route. Inbound bus lane provided for full length of the route, outbound bus lane provided on approach to junctions only.

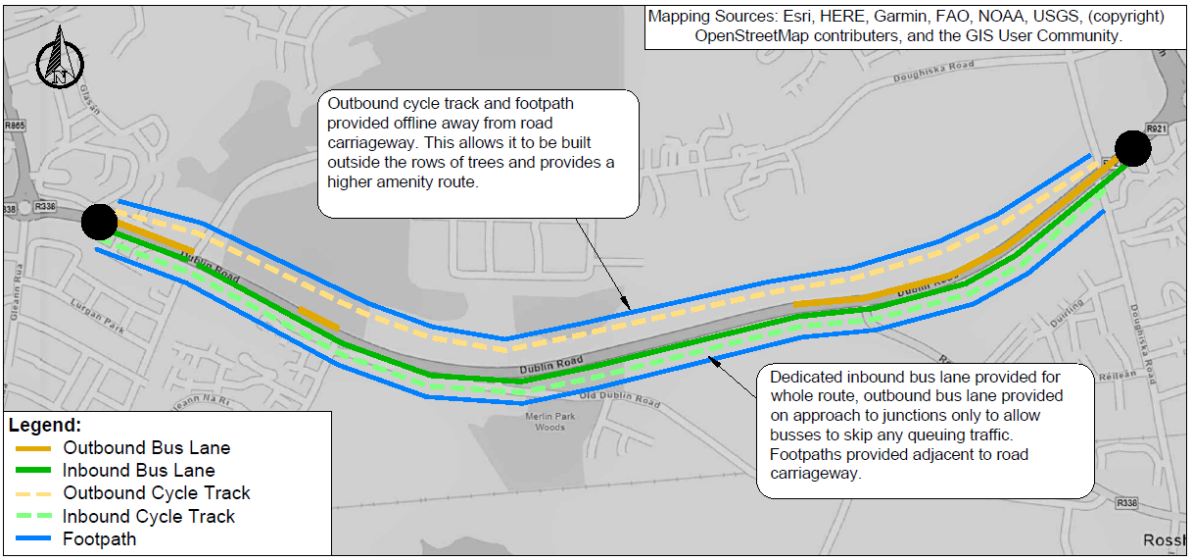


Figure 6-42 Section 2 Option 7 Indicative Scheme Design

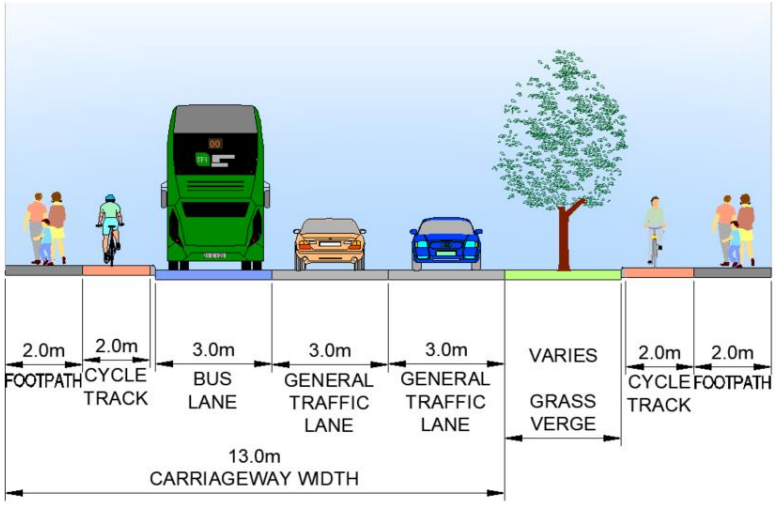


Figure 6-43 Section 2 Option 7 Indicative Cross Section

By providing continuous cycle lanes, footpaths and improved bus lanes this option would meet 5 of the 6 main project criteria. However, the Economy objective specifies that provision should be continuous, as the bus provision for this scheme is not continuous this option fails to meet that objective.

For this reason, this option is not carried forward to MCA.

Option 8

Two-way cycle track provided offline through greenspace on the northern side of carriageway. Footpaths provided adjacent to the carriageway in both directions. Inbound bus lane provided for full length of the route, outbound bus lane provided on approach to junctions only.

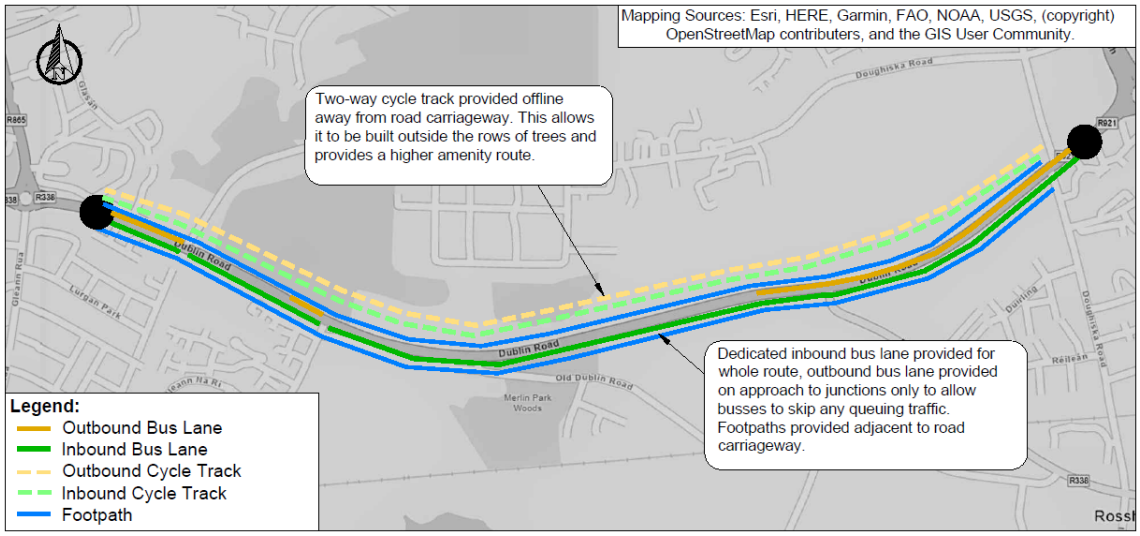


Figure 6-44 Section 2 Option 8 Indicative Scheme Design

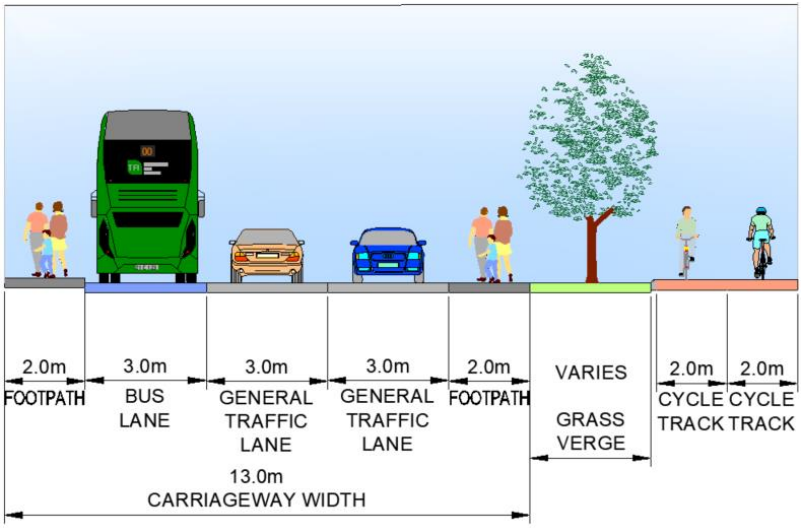


Figure 6-45 Section 2 Option 8 Indicative Cross Section

By providing continuous cycle lanes, footpaths and improved bus lanes this option would meet 5 of the 6 main project criteria. However, the Economy objective specifies that provision should be continuous, as the bus provision for this scheme is not continuous this option fails to meet that objective.

For this reason, this option is not carried forward to MCA.

Option 9

Footpaths and cycle tracks provided adjacent to the road carriageway between Skerrit Roundabout and Coast Road. From Coast Road to Doughiska Junction a 2-way cycle track is provided to the north of the carriageway north of the row of trees that line the carriageway in this location, along here the footpath on the north of the route is also provided north of the row of trees. This allows most of the trees to remain in place. Bus lanes provided in both directions for full length of route.

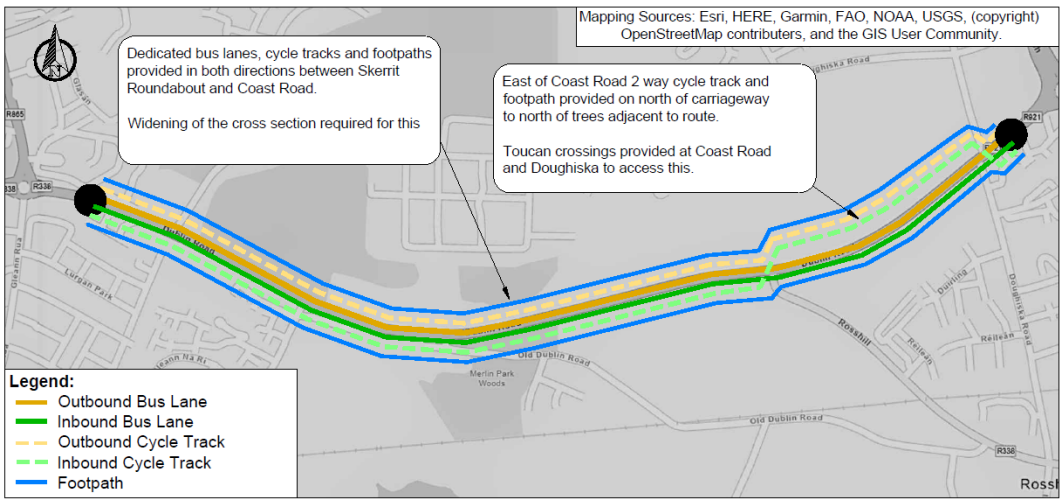


Figure 6-46 Section 2 Option 9 Indicative Scheme Design

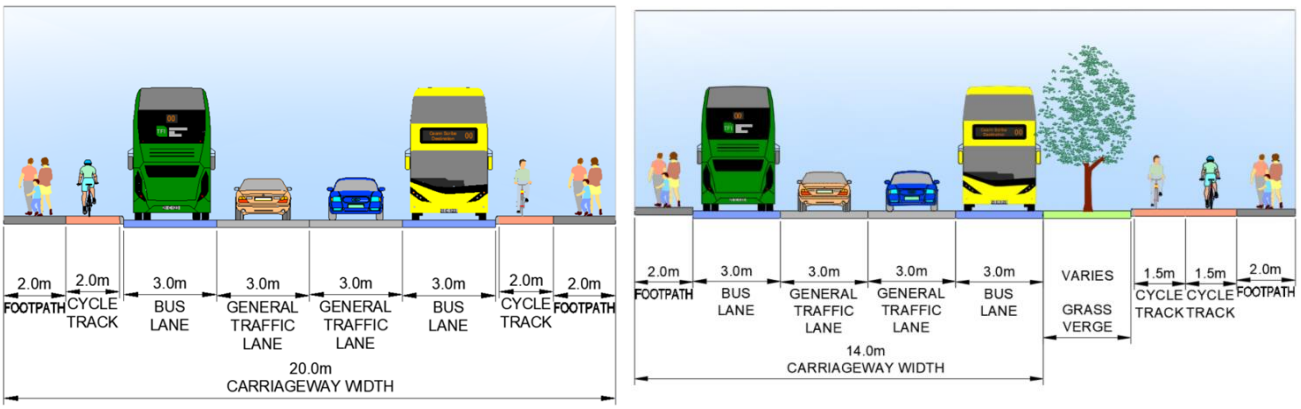


Figure 6-47 Section 2 Option 9 Indicative Cross Sections

By providing continuous bus, cycle, and pedestrian provision in both directions for the length of the scheme this option meets all 6 of the main objectives of the project. This option will have a lower impact on the trees to the north of the carriageway than the options that keep the cycling adjacent to the road carriageway. However, it will require that cyclists travelling outbound cross the road in as much as an extra 2 locations, depending on which direction they are travelling onward from after.

This option has both advantages and disadvantages related to its delivery and further assessment is required to determine if it could form part of the emerging preferred route.

For these reasons this option is carried forward to MCA.

6.3.11 Section 2 Sifting Summary

Options 1, 2, 3, 4 & 9 - Dedicated bus lanes in both directions

Options 5, 6, 7 & 8 - Dedicated inbound bus lane provided for full length of route and outbound bus lane on approach to junctions only

Table 6.6 Section 2 Sifting Summary

Option	Comment
Option 1: Footpaths and cycle tracks provided adjacent to the road carriageway for the length of the route.	Passed, Progressed to MCA
Option 2: Cycle tracks on both sides and a footpath on the southern side of the road provided adjacent to the carriageway for the length of the route. Footpath on northern side of route provided only where there is currently footpath provision, this includes where there are accesses and bus stops, appropriate crossings would be provided to maintain all access.	Failed, Not progressed to MCA
Option 3: Inbound cycle track and footpath provided adjacent to the carriageway on south of road. Outbound cycle track and footpath provided away from road carriageway through greenspace to the north of the route.	Passed, Progressed to MCA
Option 4: Two-way cycle track provided offline through greenspace on the northern side of carriageway. Footpaths provided adjacent to the carriageway in both directions.	Passed, Progressed to MCA
Option 5: Footpaths and cycle tracks provided adjacent to the road carriageway for the length of the route.	Failed, Not progressed to MCA
Option 6A: Cycle tracks either side of the road and a footpath on the southern side of the road adjacent to carriageway for length of route. Footpath on northern side of route provided only where there is currently footpath provision, this includes where there are accesses and bus stops, appropriate crossings would be provided to maintain all access.	Failed, Not progressed to MCA
Option 6B: Same as 6A except traffic signals used to move traffic queuing at Doughiska to queue at Coast Road junction instead, same length of outbound bus lane provided overall, reduces impact on trees adjacent to carriageway.	Failed, Not progressed to MCA
Option 6C: Same as 6A except outbound cycle track provided outside row of trees to north of carriageway between Coast Road and Doughiska.	Failed, Not progressed to MCA
Option 6D: Same as 6A except inbound cycle track and footpath provided outside of row of trees to south of carriageway between Coast Road and Doughiska.	Failed, Not progressed to MCA
Option 7: Inbound cycle track and footpath provided adjacent to the carriageway on southern side of the road. Outbound cycle track	Failed, Not progressed to MCA

Option	Comment
and footpath provided away from road carriageway through greenspace to the north of the route.	
Option 8: Two-way cycle track provided offline through greenspace on the northern side of carriageway. Footpaths provided adjacent to the carriageway in both directions.	Failed, Not progressed to MCA
Option 9: Footpaths and cycle tracks provided adjacent to the road carriageway between Skerrit Roundabout and Coast Road. From Coast Road to Doughiska Junction a 2-way cycle track is provided to the north of the row of trees that line the carriageway. Bus lanes provided in both directions for full length of route.	Passed, Progressed to MCA

SECTION 7: STAGE 2 - DETAILED MCA ASSESSMENT

7.1 Introduction

This chapter describes the stage 2 detailed MCA assessment performed on the route options that have been developed and passed the Stage 1 assessment. All route options have been assessed using the methodology described in Section 5: Methodology, and an Emerging Preferred Route is recommended.

Section 1 of the study area and the Section 1 sub sections are assessed first, then Skerrit Junction and finally Section 2.

7.2 Stage 2 Assessment: Section 1

The figure below shows a summary of the options considered in Section 1.

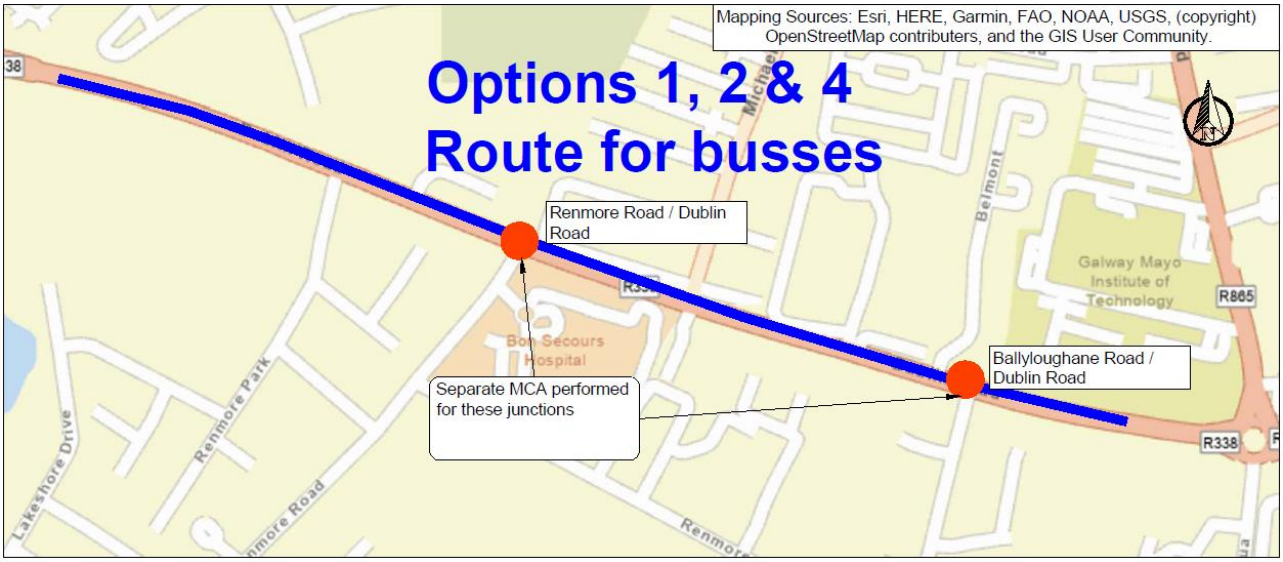


Figure 7-1 Section 1 Options Assessment Plan

Three route options for the general cross section have been developed tor this section. These route options all follow Dublin Road, starting 120m east of Sáilín and finishing at the approach to Skerrit Roundabout. All options use the same route and the difference is in the cross section provided, all options have a footpath and cycle lane on both sides of the road.

Option 1: Bus lane and traffic lane in both directions for full length of route.
Option 2: Inbound traffic diverted around Renmore Road and Renmore Avenue, signals control traffic re-joining Dublin Road and give bus priority by doing so.
Option 4: This option has bus lanes in both directions but drops the inbound bus lane either side of Renmore Road junction to reduce the road widening needed. The bus would enter the general traffic lane for this section using a yellow box. This is the option that was previously bought forward to public consultation in 2020.

7.2.1 Option 1

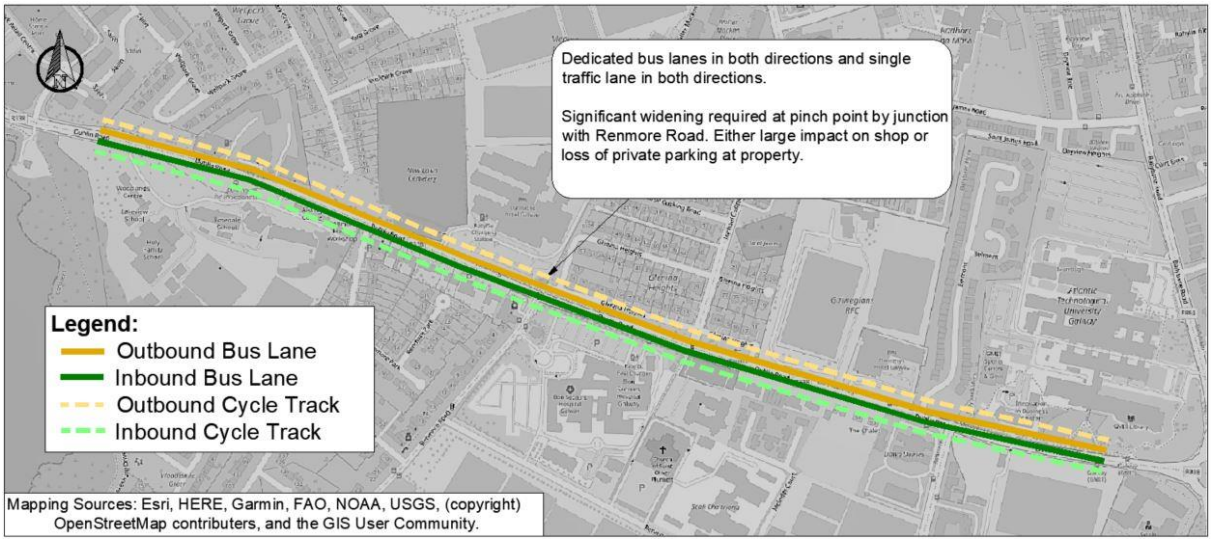


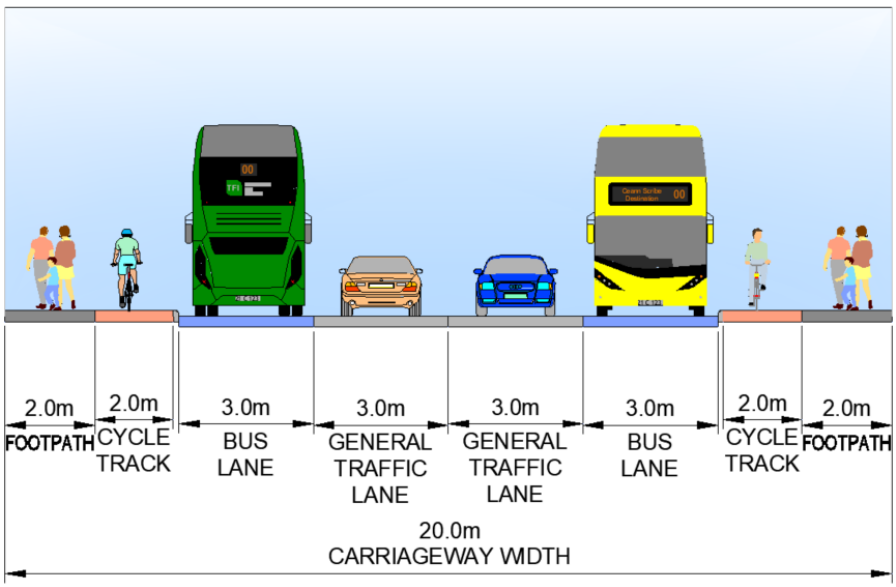
Figure 7-2 Section 1 Option 1 Indicative Scheme Design

This route follows Dublin Road, starting 120m east of Sáilín and finishing at the approach to Skerrit Roundabout.

This route option would widen the cross section along the length of the route to include dedicated bus lanes in both directions and dedicated traffic lanes in both directions. Cycle lanes and footpaths in both directions would also be provided.

This would require a general cross section width of 20m. Approximately 4-5m of widening would be needed to achieve this along the length of the scheme, generally into public or private greenspace, with set back of the stone walls that bound much of the carriageway. Likely loss of 2 car parking spaces at Flannery's Hotel, and potential loss of parking at DPL Builders Providers DIY and Casey's Londis.

The desired general cross section of the route is shown below. This cross section could be reduced slightly at pinch points if required by reducing the width of the footpaths (to 1.8m) and cycle lanes (to 1.75m).



7.2.2 Option 2

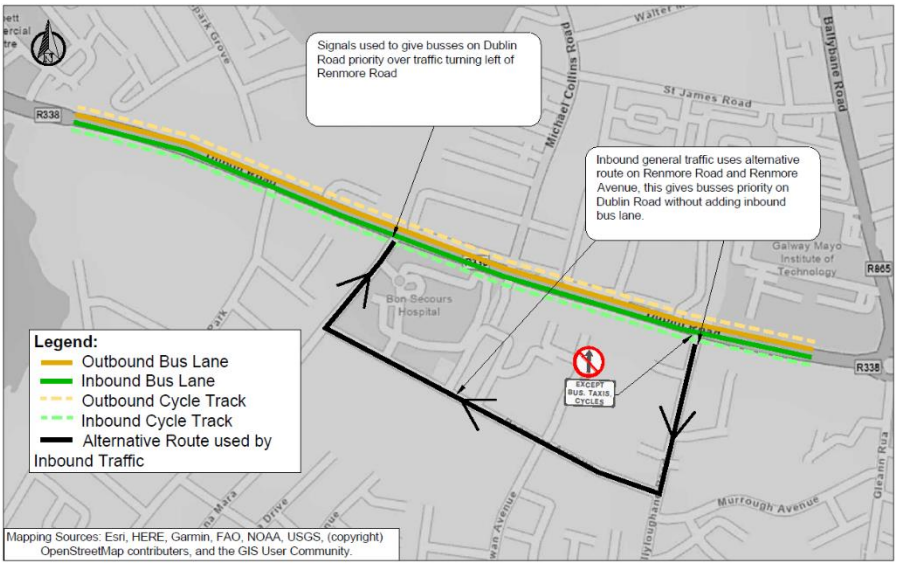
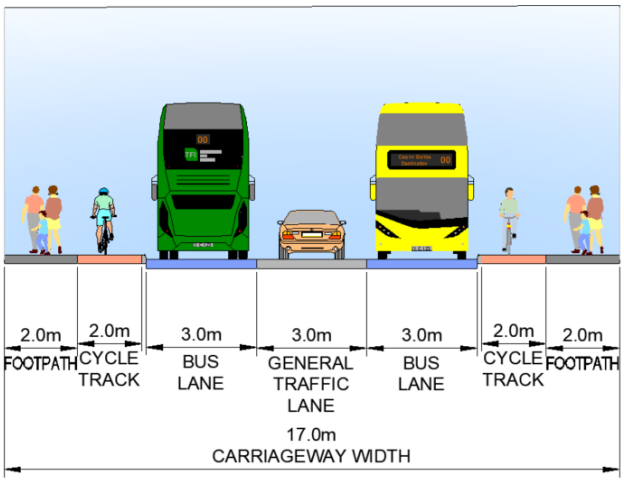


Figure 7-3 Section 1 Option 2 Indicative Scheme Design

This route option would provide the same cross section as Option 1 except between Renmore Road and Ballyloughane Road. Through this section general traffic in the westbound direction would be diverted around Ballyloughane Road, Renmore Avenue and Renmore Road, re-joining Dublin Road at the junction with Renmore Road. Buses would not be required to take this diversion. Along Dublin Road through this section an inbound bus lane would be provided, and no inbound traffic lane.

The cross section through this section would therefore be a dedicated outbound bus lane, an outbound traffic lane, and an inbound bus lane. Footpaths and cycle tracks would be provided on both sides of the road.

This option would have a smaller cross section on Dublin Road between Renmore and Ballyloughane Road. An indicative cross section is shown in the snip below.



7.2.3 Option 4

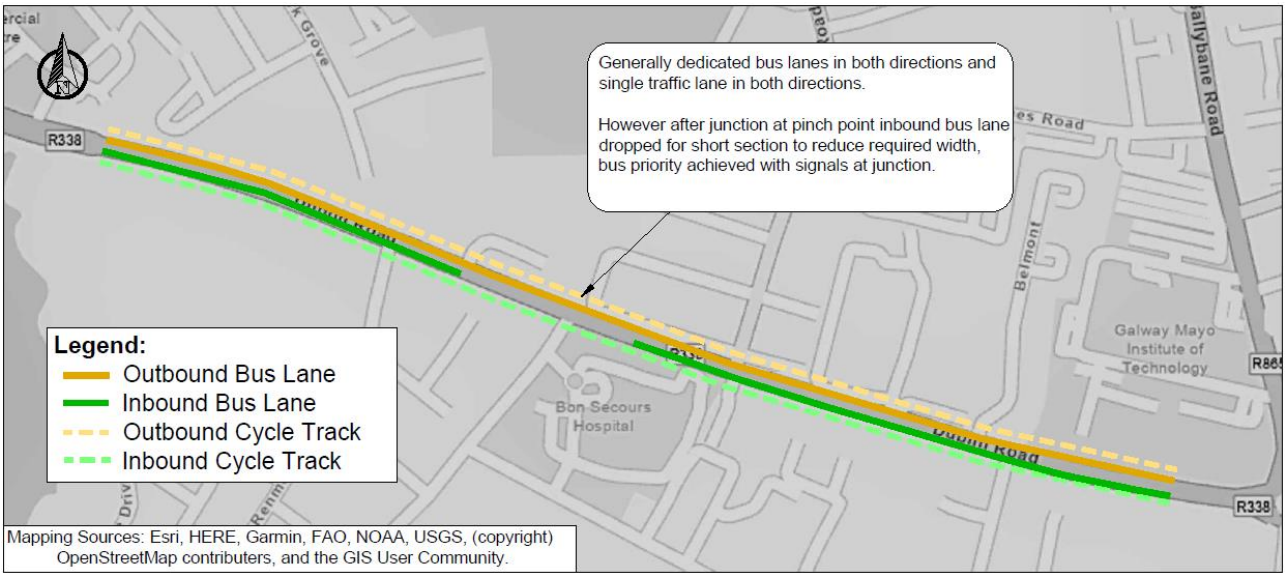
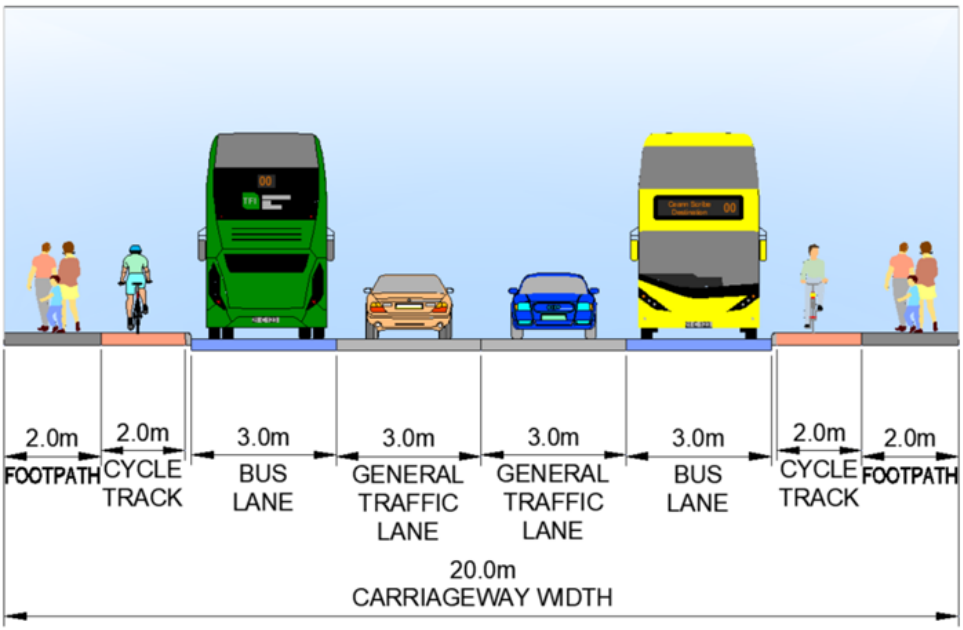


Figure 7-4 Section 1 Option 4 Indicative Scheme Design

The general cross section for this route option is similar to that of Option 1, with a dedicated bus lane, traffic lane, footpath and cycle track in both directions.

However, for 130m either side of the junction at Renmore Road (the pinch point on the route) the inbound bus lane is dropped. Busses would join the general traffic lane by way of a yellow box allowing buses to skip ahead of any queue onto the bus lane that is provided 130m to the west of the junction.

The impacts of this route option would be the same as those of Option 1, except for through the pinch point where the impacts would be the same as Option 2.



7.2.4 Route Options Assessment

Details of the 'Stage 2' route options assessment undertaken for Section 1 are presented in Appendix C.

A summary of the ranking of route options against the scheme sub-criteria is presented in 7-1 below.

Table 7-1 Route Option Assessment Summary

Assessment Criteria	Sub-Criteria	Option 1	Option 2	Option 4
Economy	Capital Cost			
	Bus Journey Time and Reliability			
Integration	Land Use Integration			
	Transport Integration			
	Cyclist Integration			
	Pedestrian Integration			
Accessibility and Social Inclusion	Vulnerable Groups			
Safety	Road Safety			
Environment	Archaeological, Architectural and Cultural Heritage			
	Biodiversity			
	Soils and Geology			
	Landscape and visual			
	Noise, vibration and air quality			
	Land Use and Built Environment			
	Climate and Carbon			

In terms of 'Economy' Options 1 & 4 generally have a 3m wider cross section when compared to Option 2, therefore they have slightly higher capital costs. Option 4 drops the inbound lane for approx. 120m and so has a narrower cross section than Option 1 for a period, and therefore performs slightly better than Option 1 for cost. In terms of Bus Journey Time and Reliability, Option 1 has dedicated bus lanes provided for the length of the route and so would have faster journey times during peak hours when compared to Option 4 which drops the bus lane meaning buses would have to mix with general traffic for 120m. Option 2 requires the inbound traffic and inbound busses to cross over each other in 2 locations, this can be managed using signals to give bus priority, however it is likely these extra crossings would still cause bus delays, meaning Option 2 performs worse for Bus Journey Time and Reliability.

Regarding 'Integration', all options perform equally for Land Use Integration as the land use of the area is not largely affected by any of the options. In terms of Transport Integration, Option 1 is likely to provide the highest level of service for general traffic as it provides a full cross section for the whole length of the route so prevents merging movements and allows busses and traffic to run on the same traffic light phase. Option 2 performs the worst as the traffic detours and the two extra crossings of inbound busses and traffic are likely to negatively impact the capacity of the road for inbound traffic. In terms of pedestrian integration and cyclist integration all options score equally as they have the same level of provision for pedestrians and cyclists.

In terms of Accessibility and Social Inclusion, all options follow the same route and have the same pedestrian provision so score equally for this criterion.

Regarding 'Road Safety' Option 2 performs worse than the other categories as it diverts the traffic on Dublin Road around the residential areas in Renmore and past local schools.

In terms of 'Environment', Option 2 requires 3m less widening of the road cross section than the other options, and therefore retains more of the greenspace present along the corridor. For this reason, it performs slightly better than Options 1 & 4 for the Landscape and Visual criterion. Option 2 performs poorly for noise vibration and air quality as it brings heavy traffic from Dublin Road onto residential roads and closer to Scoil Chaitríona which is a sensitive receptor, Option 4 performs slightly better than Option 1 for this criterion as it has a reduced cross section at the pinch point with Renmore Road, therefore keeping traffic further from sensitive receptors. In terms of Climate and Carbon the routes that provide the best level of service for public transport, pedestrians, and cyclists would encourage the biggest shift away from cars to lower carbon transport modes score, as Option 1 provides the best level of service for busses it performs best for this criterion, followed by Option 4, and then Option 2.

7.2.5 Conclusion

A summary of the assessment and a relative ranking for each of the five assessment criteria is shown in the table below.

Table 7-2 Section 1 Summary Table

Assessment Criteria	Option 1	Option 2	Option 4
Economy			
Integration			
Accessibility and Social Inclusion			
Safety			
Environment			

Based on the assessments above Option 1 is recommended as the preferred option as it provides the highest overall ranking against the scheme objectives. In particular it would provide the fastest and most reliable service for busses, while having a smaller impact on the general traffic network than the other options. This means it performs best overall despite performing slightly worse for the environment criteria than Option 4.

7.3 Stage 2 Assessment: Section 1 - Renmore Road / Dublin Road Junction Sub Assessment

This signalised junction, pictured below, is located to the west of Bon Secours Hospital where Renmore Road meets Dublin Road.

The current layout has two general traffic lanes on all approaches to the junction and a single traffic lane exiting the junction on each arm. There are footpaths on all sides of the junction and pedestrian crossings for each arm. There are currently no bus lanes or cycle facilities around the junction. There is a private residence to the north of the carriageway, with a driveway that backs directly onto the junction, the property is set back 4.8m from the boundary. To the south the junction is bounded by greenspace within the Bon Secours hospital grounds and a private car park serving Duggan's Spar and adjacent local shops.

Figure 7-5 Renmore Road Existing Layout

The options assessed for this junction are as follows:

Options 1A, 1B & 1C: Full build, dedicated bus lanes provided in both directions for whole length, right turn lane provided on Dublin Road for traffic queuing to turn into Renmore. The difference between the options lies in which side of the road is affected by land take.
Option 3A & 3B: Full build except no dedicated right turn lane provided on Dublin Road. The difference between the options lies in which side of the road is affected by land take.

For all options dedicated and protected cycle lanes would be provided in both directions. Pedestrian footpaths would also be provided on both sides of the road and signalised pedestrian crossings provided for each arm of the junction.

7.3.1 Option 1A

Dedicated bus lanes would be provided for the full length in both directions, and general traffic lanes and a dedicated right turn lane for traffic turning onto Renmore Road would also be provided.

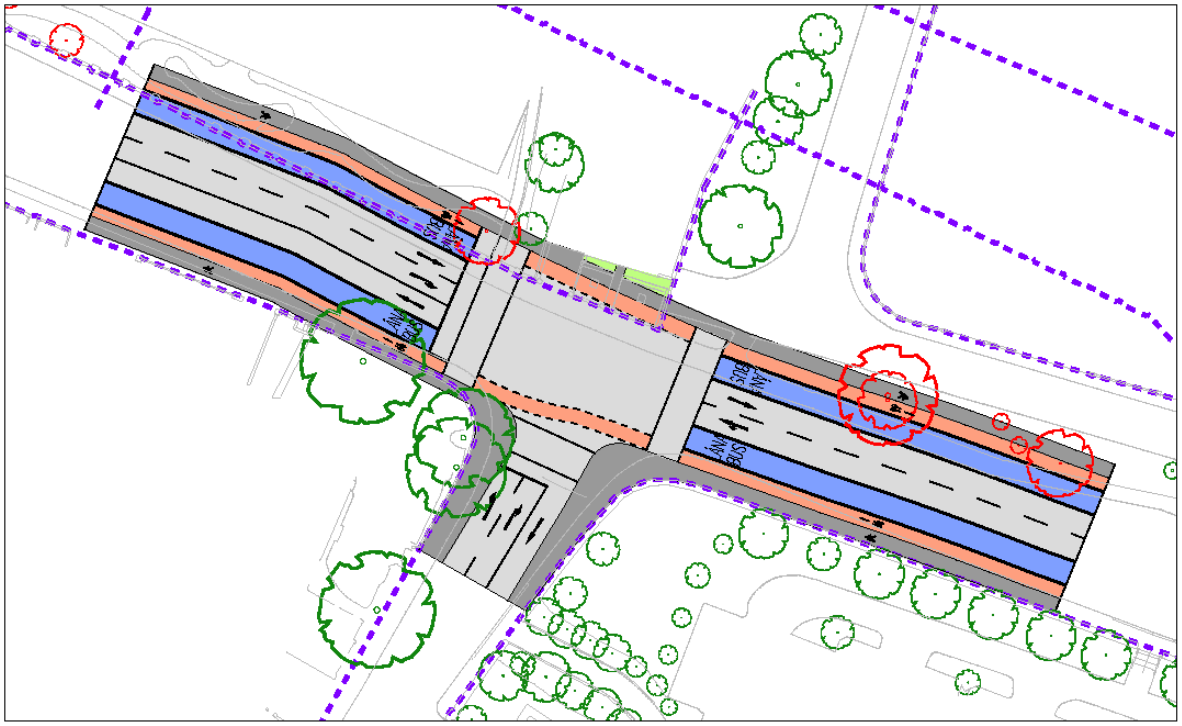


Figure 7-6 Renmore Road Option 1 Indicative Scheme Design

This option would require land take from 18 Dublin Road to the north of the carriageway. This would involve the removal of the full garden including the property's car parking space, however it may be possible to provide alternative car parking to the east of the property. The building itself would be unaffected. With this proposal the front of the house would now face onto the footpath.

To the south there would be land take from the car park that is used for the shops. This option would likely impact 2 to 3 car parking spaces. A retaining wall would also be required due to the level difference between the footpath and the car park.

7.3.2 Option 1B

This option provides the same layout as Option 1A, however it requires the demolition of the property of 18 Dublin Road. This would mean that no land take is required from the car park to the south of the junction and or from the hospital car park.

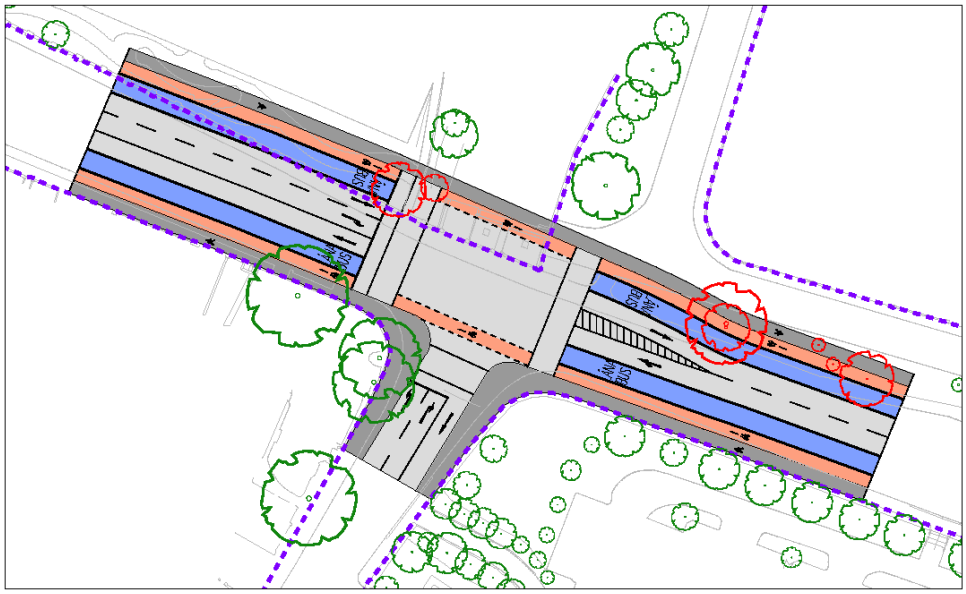


Figure 7-7 Renmore Road Option 1B Indicative Scheme Design

7.3.3 Option 1C

This option also provides the same layout as Option 1A, however the road cross section is widened to the south to avoid impacting the garden/driveway of 18 Dublin Road. This would mean 6.5m land take is required from the car park to the south of the junction and the properties to the west on the south side of the road would be impacted as would land from Bon Secours Hospital. The properties on the south would likely retain enough room in the driveways to continue using these for parking.

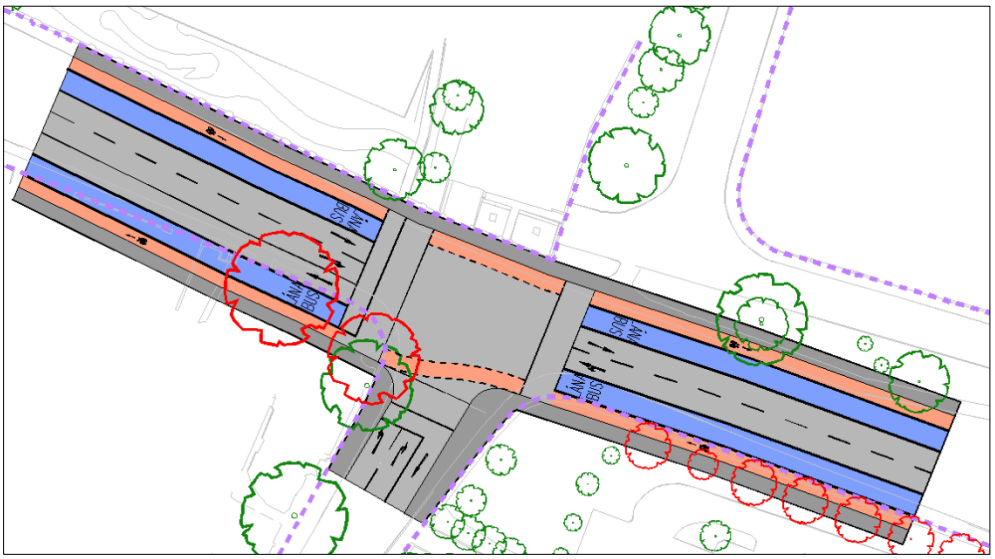


Figure 7-8 Renmore Road Option 1C Indicative Scheme Design

7.3.4 Option 3A

To reduce the amount of land take required this option has no dedicated right turn lane provided on Dublin Road for traffic queuing to turn into Renmore.

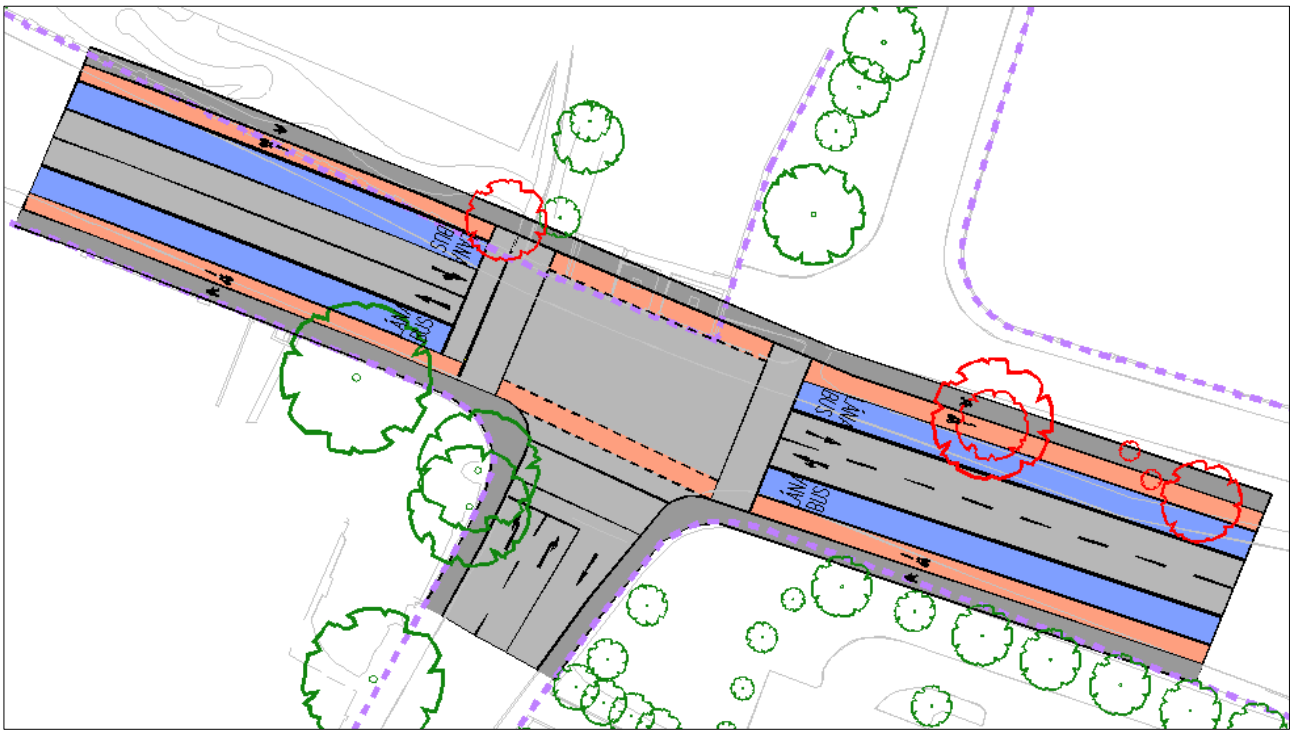


Figure 7-9 Renmore Road Option 3A Indicative Scheme Design

This would reduce the volume of general traffic that can pass through the junction.

This option would require land take from 18 Dublin Road to the north of the carriageway. This would involve the removal of the property's car parking space, however it may be possible to provide alternative car parking to the east of the property, and the building itself would be unaffected. With this proposal the front of the house would now be on the footpath.

The south of the carriageway would follow the existing boundary and not impact on the car park.

7.3.5 Option 3B

This option has the same cross section as Option 3A. It would widen to the south of the carriageway instead of the north, this would avoid impacting the property to the north of the carriageway but would instead impact on the parking for the shops the properties to the south, the driveway of the property next to the shops and Bon Secours Hospital. Although the properties on the south would likely retain enough room in the driveways to continue using these for parking.

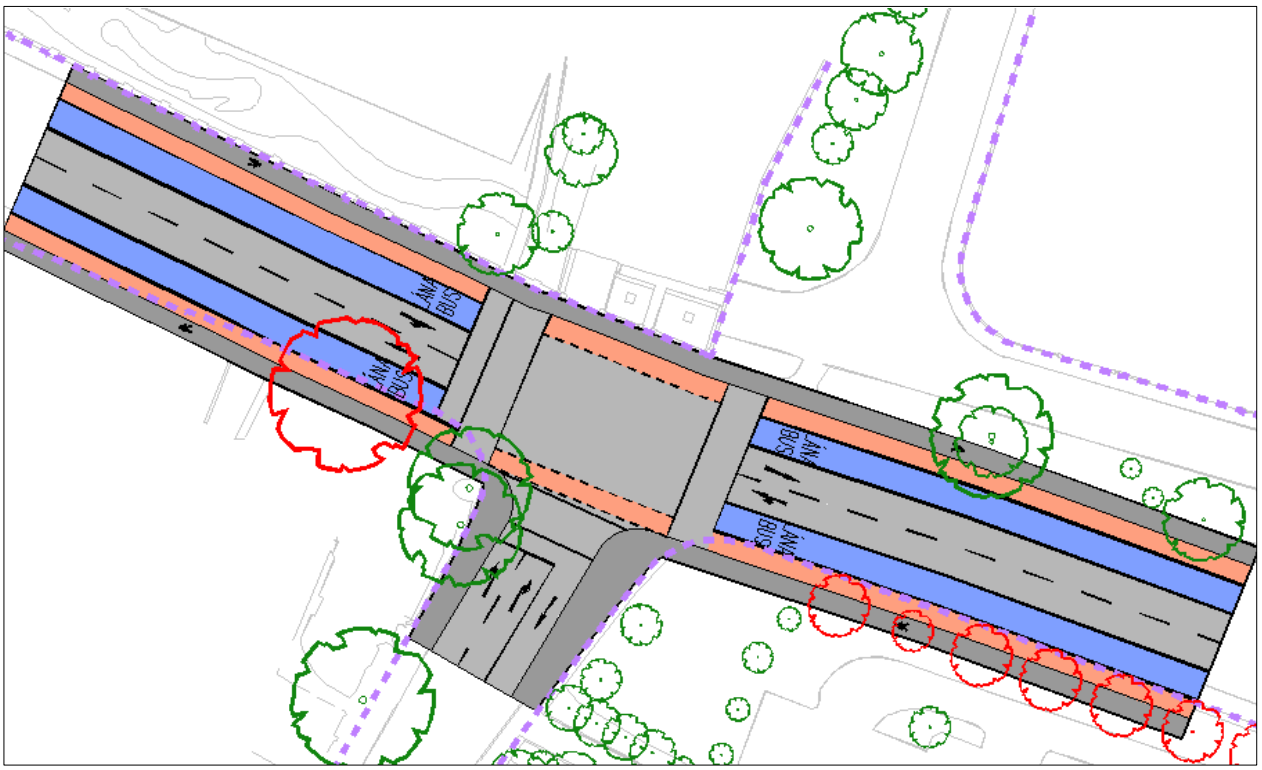


Figure 7-10 Renmore Road Option 3B Indicative Scheme Design

7.3.6 Route Options Assessment

Details of the 'Stage 2' route options assessment undertaken for Section 1 - Renmore Road Subsection are presented in Appendix D.

A summary of the ranking of route options against the scheme sub-criteria is presented in 7-3 below.

Table 7-3 Section 1 – Renmore Road Sub Section Route Option Assessment Summary

Assessment Criteria	Sub-Criteria	Option 1A	Option 1B	Option 1C	Option 3A	Option 3B
Economy	Capital Cost					
	Bus Journey Time and Reliability					
Integration	Land Use Integration					
	Transport Integration					
	Cyclist Integration					
	Pedestrian Integration					
Accessibility and Social Inclusion	Vulnerable Groups					
Safety	Road Safety					
Environment	Archaeological, Architectural and Cultural Heritage					
	Biodiversity					
	Soils and Geology					
	Landscape and visual					
	Noise, vibration and air quality					
	Land Use and Built Environment					
	Climate and Carbon					

In terms of 'Economy' Options 1A, 1B & 1C have wider cross sections, require more land take, and therefore would cost more to construct than Options 3A & 3B. Option 1B would require purchasing and demolishing the property of 18 Dublin Road and therefore has the largest capital cost. In terms of journey time and reliability for busses, all provide continuous dedicated bus lanes, however as Options 3A and 3B don't provide a dedicated right turn lane for general traffic the junction capacity would be reduced and this would slightly reduce the level of priority busses receive, therefore Options 1A, 1B and 1C perform best for these criteria.

Regarding 'Integration', Options 1A, 1B & 1C perform better than Options 3A & 3B for transport integration as they provide a right turn movement for general traffic entering Renmore from Dublin Road.

In terms of Accessibility and Social Inclusion, all options follow the same route and have the same layout for pedestrians so score equally for this criterion.

Regarding 'Road Safety' all options perform equally.

In terms of 'Environment', generally there are not large impacts envisioned for Archaeological, Architectural and Cultural Heritage, Soil and Geology across these options, meaning that they score equally for these criteria. In terms of Biodiversity Options 3A & 3B perform slightly better as less the narrower cross sections impact less on potential habitats.

In terms of Landscape and Visual Options 1A & 1C require a wider road cross section and therefore impact the trees outside Duggan's Spar, and the greenspace in Merlin Park hospital. Option 1B would involve demolition of 18 Dublin Road so also performs worse for this criterion than Options 3A & 3B.

In terms of noise and vibration, the options that bring vehicles closer to properties, particularly 18 Dublin Road which is only set back 5m from the road, and the properties to the west of Duggan's Spar, perform worse. This means Options 1A, 1C & 3A perform worse than Options 1B and 3B for this criterion.

In terms of Land Use and the Built Environment, Option 1B involves the demolition of 18 Dublin Road, and Option 1C takes a significant amount of the Duggan's Spar car park and the front gardens / driveways of the properties to the west of Duggan's Spar, therefore these options perform worst for this criterion. Option 1A also impacts on the properties garden to the north and the car parking to the south, but this impact is less severe than that of the Options 1B & 1C, so overall 1B performs in the middle for this criterion. Options 3A & 3B have a lower impact overall as a result of their narrower cross section so score best for this criterion.

In terms of Climate and Carbon, the options that provide the best level of provision for busses would encourage the largest modal shift towards low carbon forms of travel so perform best for this criterion. The exception to this is Option 1B which requires the demolition of a house, due to the embodied carbon associated with the demolition of a house this option performs poorly for climate and carbon. Overall Options 1A & 1C perform better than Options 1B, 3A & 3B for Climate and Carbon.

7.3.7 Conclusion

A summary of the assessment and a relative ranking for each of the five assessment criteria is shown in the table below.

Table 7-4 Renmore Summary Table

Assessment Criteria	Option 1A	Option 1B	Option 1C	Option 3A	Option 3B
Economy					
Integration					
Accessibility and Social Inclusion					
Safety					
Environment					

Overall Options 1A, 1B & 1C are preferable to Options 3A & 3B as they provide a faster and more reliable service for busses and have a significantly lower impact on the traffic network than Options 3A & 3B.

Options 1A, 1B & 1C perform equally for bus journey time and reliability and perform equally for Integration. Option 1B however, is likely to be more expensive and more impactful on the environment due to requiring the purchase and demolition of 18 Dublin Road, so performs the worst of these 3 Options. Option 1A is likely to impact fewer landowners overall and will have less impact on the parking outside Duggan's Spa, so performs better for the environment criteria than Option 1C.

Based on the assessments above Option 1A is recommended as the preferred option.

7.4 Stage 2 Assessment: Section 1 - Ballyloughane Road / Belmont / Dublin Road Junction Sub Assessment

These two un-signalised junctions, pictured below, are located where Ballyloughane Road and Belmont meet the Dublin Road. They are currently staggered approx. 35m apart. To the west of the junction on the north of the carriageway is Flannery's Hotel and Galwegians Rugby Club, currently the entrances to these are directly onto Dublin Road. This assessment will include options to incorporate access to these properties with that of Belmont.

On the Dublin Road there is currently a general traffic lane in each direction and an inbound bus lane, this is shared by general traffic making a left turn on the last 20m of the approach to the junction with Ballyloughane. No right turn lanes are provided. There are footpaths on both sides of the road and a pedestrian crossing for Dublin Road, but not for the Ballyloughane Road or Belmont arms. There are currently no cycle facilities around the junction.

The junction is bounded by an industrial area to the south and private greenspace to the north.

Figure 7-11 Ballyloughane and Belmont Junction Existing Layout

For all options dedicated bus lanes and protected cycle lanes would be provided in both directions. Pedestrian footpaths would also be provided on both sides of the road.

The options assessed for this junction are as follows:

Option 1: Keep the layout as it currently is but with bus lanes and cycle lanes in both directions
Option 2A & 2B: Signalise, with the Belmont and Ballyloughane Road junctions remaining staggered, with a right turn lane provided.
Option 3A & 3B: Signalise, bring the Belmont to meet Dublin Road directly across from Ballyloughane Road so that there is just one junction with 4 arms. Right turn lane provided for general traffic.

Options 2A & 3A have the access to Flannery's Hotel and Galwegians Rugby Club moved to come off Belmont instead of off Dublin Road. Options 1, 2B & 3B keep the access on Old Dublin Road.

7.4.1 Option 1

Dedicated bus lanes would be provided for the full length in both directions, each junction remains separate and uncontrolled, the pedestrian crossing remains between the two junctions. No dedicated right turn lane is provided. The existing entrances to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remain in place.

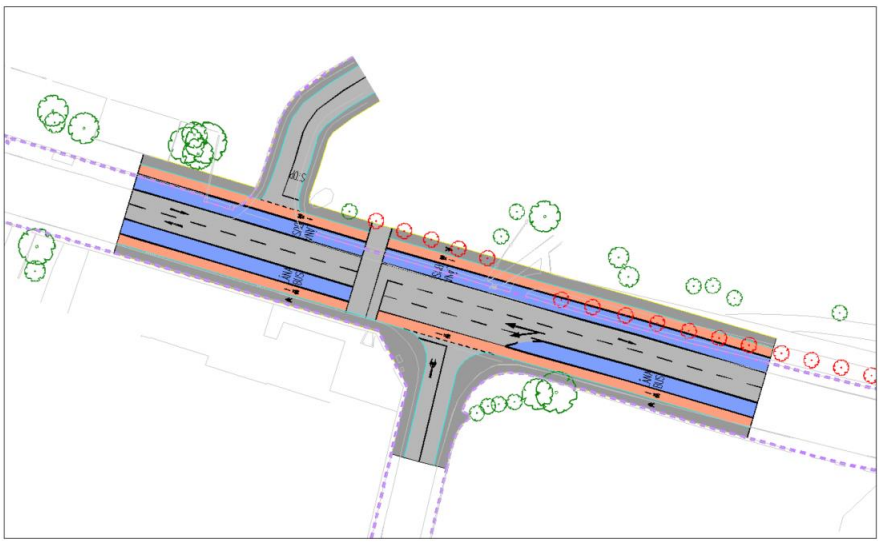


Figure 7-12 Ballyloughane and Belmont Option 1 Indicative Scheme Design

This option would require approx. 5.5m of widening in order to achieve the desired cross section.

7.4.2 Option 2A

Dedicated bus lanes would be provided for the full length in both directions, each junction remains separate but is signalised, right turn lanes are provided and there are pedestrian crossings provided opposite each junction. Access to Flannery's Hotel and Galwegians Rugby Club is moved to access via Belmont.

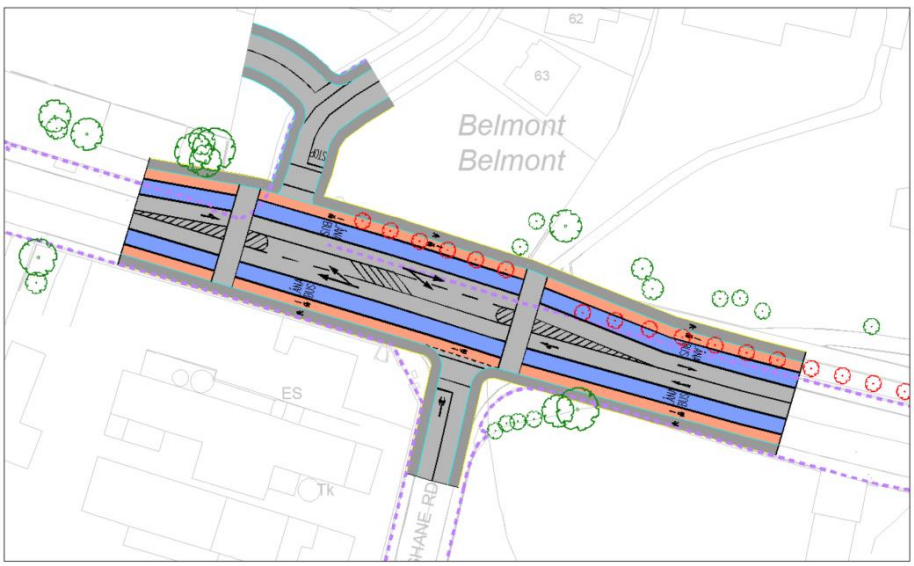


Figure 7-13 Ballyloughane and Belmont Option 2A Indicative Scheme Design

This option would require approx. 8.5m of widening in order to achieve the desired cross section.

7.4.3 Option 2B

Dedicated bus lanes would be provided for the full length in both directions, each junction remains separate but is signalised, right turn lanes are provided and there are pedestrian crossings provided opposite each junction. The existing entrances to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remain in place.

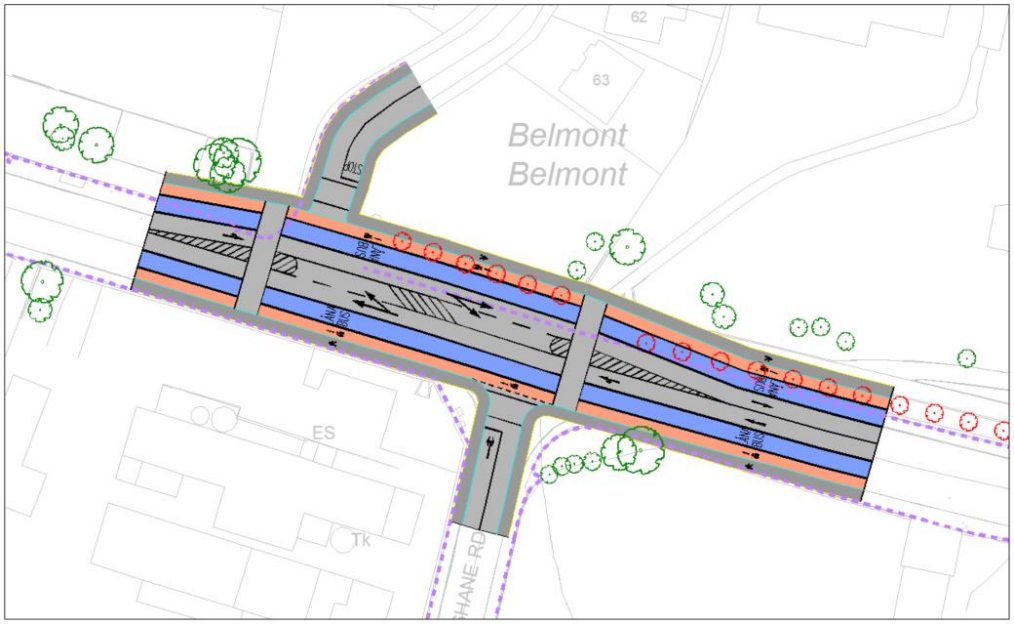


Figure 7-14 Ballyloughane and Belmont Option 2B Indicative Scheme Design

This option would require approx. 8.5m of widening in order to achieve the desired cross section.

7.4.4 Option 3A

Dedicated bus lanes would be provided for the full length in both directions, the junctions are bought together and signalised, right turn lanes are provided and there are pedestrian crossings provided on each arm of the junction. Access to Flannery's Hotel and Galwegians Rugby Club is moved to access via Belmont.

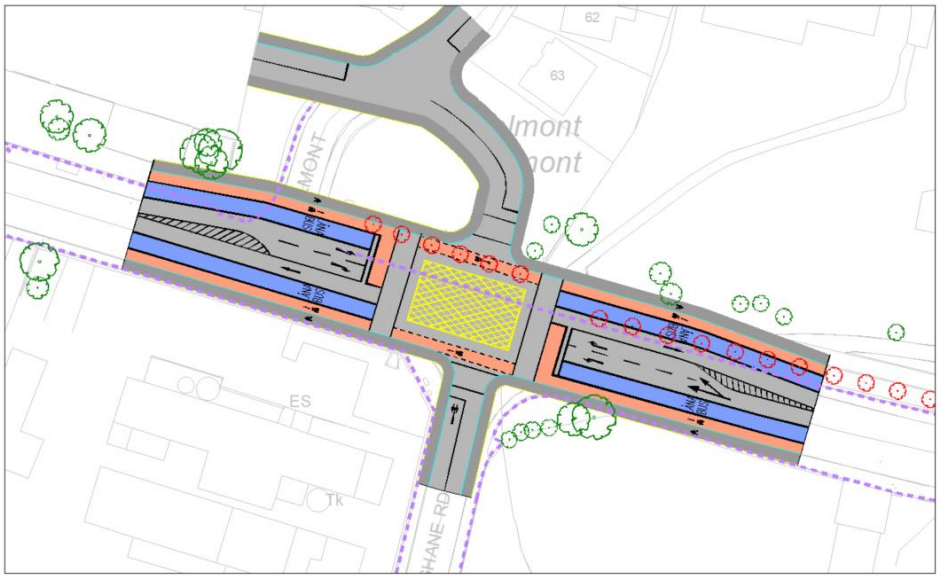


Figure 7-15 Ballyloughane and Belmont Option 3A Indicative Scheme Design

This option would require approx. 8.5m of widening in order to achieve the desired cross section.

7.4.5 Option 3B

Dedicated bus lanes would be provided for the full length in both directions, the junctions are bought together and signalised, right turn lanes are provided and there are pedestrian crossings provided on each arm of the junction. The existing entrances to Flannery's Hotel and Galwegians Rugby Club on Dublin Road remain in place.

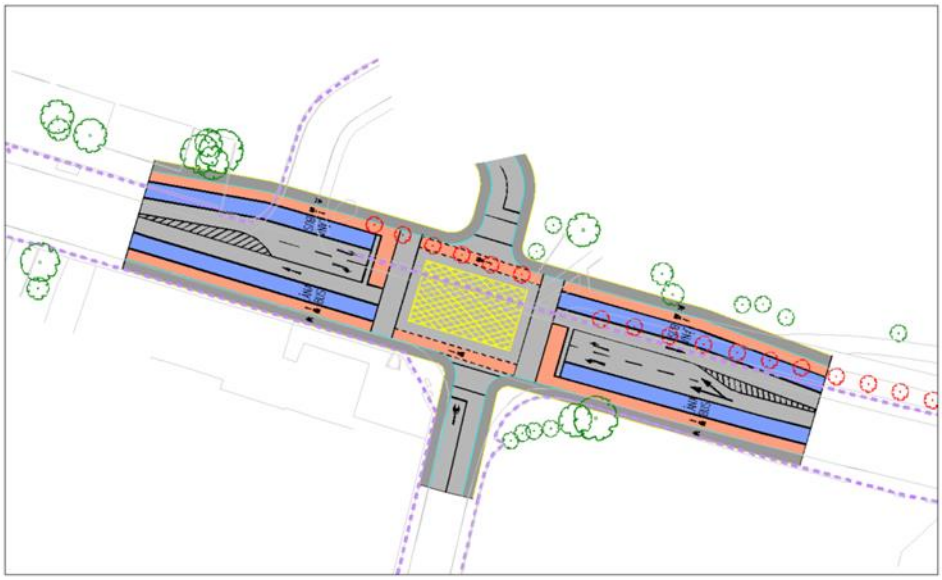


Figure 7-16 Ballyloughane and Belmont Option 3B Indicative Scheme Design

This option would require approx. 8.5m of widening in order to achieve the desired cross section.

7.4.6 Route Options Assessment

Details of the 'Stage 2' route options assessment undertaken for Section 1 – Ballyloughane Road Subsection are presented in Appendix E.

A summary of the ranking of route options against the scheme sub-criteria is presented in the table below.

Table 7.5 Section 1 – Ballyloughane Road Sub Section Route Option Assessment Summary

Assessment Criteria	Sub-Criteria	Option 1	Option 2A	Option 2B	Option 3A	Option 3B
Economy	Capital Cost					
	Bus Journey Time and Reliability					
Integration	Land Use Integration					
	Transport Integration					
	Cyclist Integration					
	Pedestrian Integration					
Accessibility and Social Inclusion	Vulnerable Groups					
Safety	Road Safety					
Environment	Archaeological, Architectural and Cultural Heritage					
	Biodiversity					
	Soils and Geology					
	Landscape and visual					
	Noise, vibration and air quality					
	Land Use and Built Environment					
	Climate and Carbon					

In terms of 'Economy' Options 1 requires the least construction works as it doesn't involve realigning Belmont junction and has the narrowest cross section, and so has the lowest capital cost. Options 2A & 2B have a wider cross section than 1, but don't require realigning the junction so perform in the middle. Options 3A & 3B which require both re-aligning the junction and more widening perform worst for capital cost. Regarding Bus Journey Time and Reliability, the options that signalise and keep the junctions separate are likely to have a longer wait time overall for busses as there would be two sets of signals that the busses may have to stop at.

Regarding 'Integration', Options 2A & 2B perform the worst for transport integration as they signalise the junctions and keep them staggered, bringing the junctions together and signalising would likely provide a more efficient layout for general traffic. All options have the same route and similar provision for cyclists so perform equally for Cyclist Integration. In terms of Pedestrian Integration, Option 1 performs the worst as it does not provide signalised crossings across the side road for pedestrians.

In terms of Accessibility and Social Inclusion, Option 1 performs worse for Vulnerable Groups as it does not provide signalised crossings over the side road junctions, meaning vulnerable groups would be better served by the other options that do.

Regarding 'Road Safety', Options 3A & 3B that bring the junctions together provide a simpler and more standard road layout than Options 2A & 2B. For this reason, they perform better for road safety than Options 2A & 3B. Option 1 does not provide a signalised junction and therefore performs worse for road safety as signalised junctions limit conflict between road users, therefore Option 1 performs worse than the other options for this criterion. Options 3A and 2A move the accesses to Galwegians Rugby Club and Flannery's Hotel to Belmont, and therefore they have a slight safety advantage over the other options in this respect as they reduce the number of potential conflicts between cyclists and pedestrians on Dublin Road and cars accessing these areas.

In terms of 'Environment', all options require the set back of the stone wall to the north of the carriageway so perform equally for the Archaeological, Architectural and Cultural Heritage criterion. In terms of Biodiversity, Soil and Geology, all route options would require some widening and minimal or similar impact, meaning that they score equally for these criteria. Options 2A and 3A which move the entrance of Flannery's Hotel to Belmont would require converting more of the greenspace by Belmont into road, and therefore preform worse for Landscape and Visual than Options 1, 2B & 3B. Options 2A & 3A would also bring more traffic up Belmont Road and closer to residents that live further up the road, and for this reason these options also perform slightly worse for noise vibration and air quality.

In terms of Land use and The Built Environment, Options 1, 2B & 3B keep the existing entrances to Flannery's Hotel and Galwegians Rugby Club, based on the previous public consultation performed this is preferred by stakeholders at both of these properties. Furthermore, the residents of Belmont preferred this solution as it maintained more of the greenspace by the Belmont estate. For these reasons Options 1, 2B & 3B perform best for this criterion.

In terms of climate and carbon, the options that provide the highest level of service for busses, cyclists and pedestrians would encourage a shift towards lower transport forms of travel. For this reason, Options 3A & 3B perform best, in particular Option 3B performs best as it requires slightly less widening so has less associated embodied carbon.

7.4.7 Conclusion

A summary of the assessment and a relative ranking for each of the five assessment criteria is shown in the table below.

Table 7-6 Section 1 – Renmore Road Sub Section Route Option Assessment Summary Table

Assessment Criteria	Option 1	Option 2A	Option 2B	Option 3A	Option 3B
Economy					
Integration					
Accessibility and Social Inclusion					
Safety					
Environment					

Based on the assessments above Option 3B is recommended as the preferred option as it provides the highest overall ranking against the scheme objectives while having a smaller impact on the Flannery's Hotel, the residents of Belmont, and Galwegians Rugby Club than Option 3A.

Overall Options 1, 3A & 3B perform better than Options 2A & 2B for bus journey time and reliability and Options 3A & 3B perform better for pedestrian integration than Option 1.

Options 3A and 3B, performs similarly overall, with the difference between them being that Option 3A performs marginally better for road safety due to having less accesses directly onto Dublin Road, while Option 3B performs better for environment as it allows the existing accesses to remain open, which benefits the Land Use and Built Environment criteria. For the above reasons Option 3B is recommended as the preferred option.

7.5 Stage 2 Assessment: Section 1 - Skerrit Roundabout Sub Assessment

The Skerrit Roundabout junction starts 75m west of the roundabout and finishes 75m east of the roundabout.

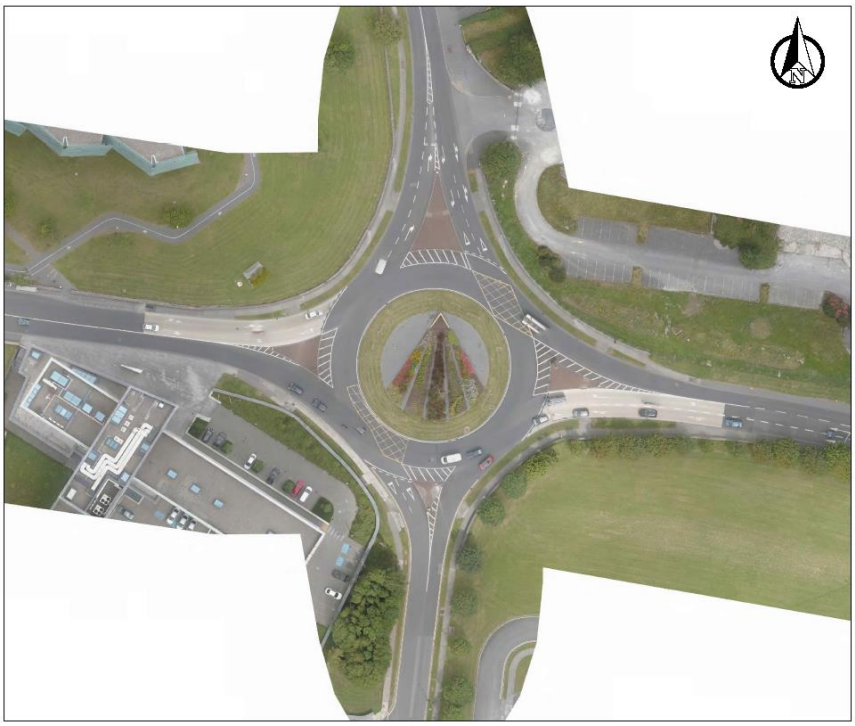


Figure 7-17 Skerrit Roundabout Existing Layout

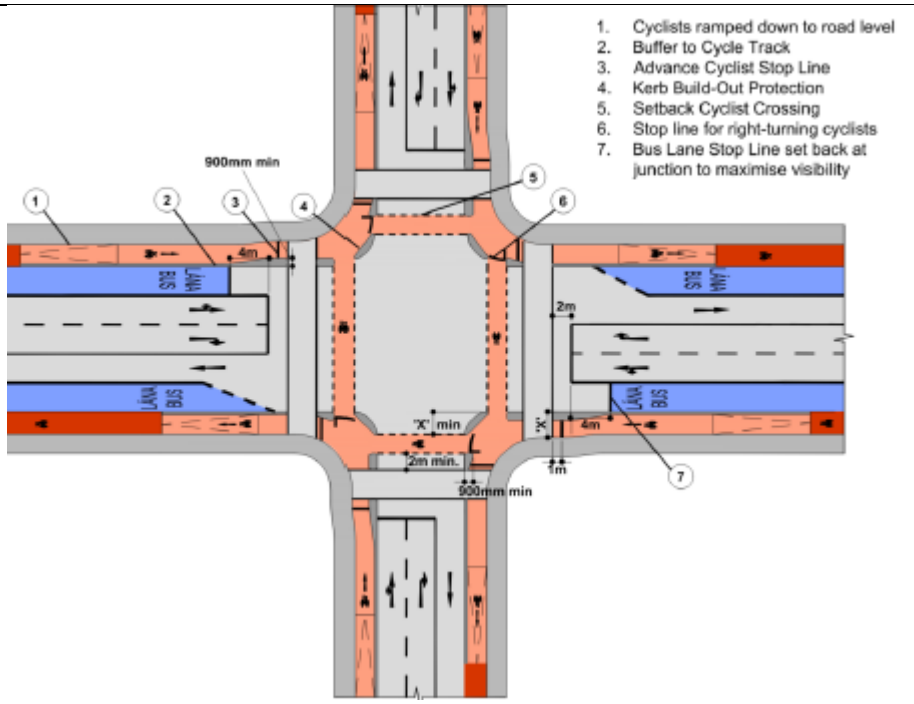
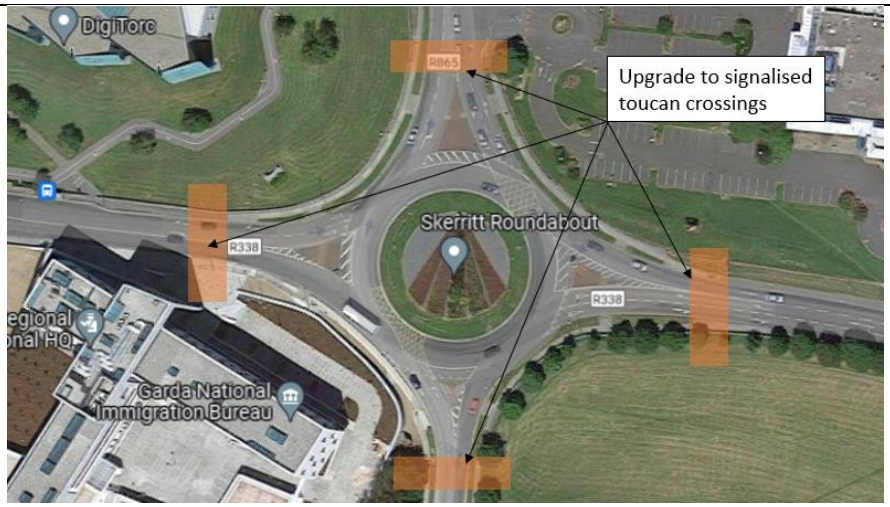
The junction is currently an uncontrolled roundabout with 4 arms, there are 2 approach lanes on each arm. There are wide turning radii and clear sight lines which allow traffic to go round the roundabout at relatively high speeds. There is no cycle provision or pedestrian crossings provided.

The options assessed for this junction include:

- **Option 1:** Rebuild as signalised junction as per BusConnects Design Guidance Note
- **Option 2:** Keep as roundabout and have signalised toucan crossings provided on every arm.
- **Option 3:** Rebuild as signalised “Cyclops” style junction

Examples of each junction type are given in the table below.

Table 7-7 Skerrit Roundabout Options

7.5.1 Option 1: Rebuild as signalised junction as per BusConnects Guidance	
7.5.2 Option 2: Keep as roundabout and have signalised toucan crossings provided on every arm.	

7.5.3 Option 3

Rebuild as signalised "Cyclops" style junction

7.5.4 Route Option Assessment

Details of the 'Stage 2' route options assessment undertaken for Skerrit Roundabout are presented in Appendix F.

A summary of the ranking of route options against the scheme sub-criteria is presented in the table below.

Table 7-8 Skerrit Roundabout Route Options Assessment Summary

Assessment Criteria	Sub-Criteria	Option 1	Option 2	Option 3
Economy	Capital Cost			
	Bus Journey Time and Reliability			
Integration	Land Use Integration			
	Transport Integration			
	Cyclist Integration			
	Pedestrian Integration			
Accessibility and Social Inclusion	Vulnerable Groups			
Safety	Road Safety			
Environment	Archaeological, Architectural and Cultural Heritage			
	Biodiversity			
	Soils and Geology			
	Landscape and visual			
	Noise, vibration and air quality			
	Land Use and Built Environment			
	Climate and Carbon			

In terms of 'Economy' Option 1 & 3 cost more to implement than Option 2. However, Option 1 & 3 perform better for bus journey time and reliability as it allows busses to get to the stop line of the junction in both directions and the signals can be controlled to give busses priority through the junction, this would not be possible for Option 2.

Regarding 'Integration', signalising the junction allows all arms of the junction to be given appropriate levels of priority, this is particularly useful in times of heavy traffic flows to ensure that the less busy roads manage to pass through the junction. So, Options 1 and 3 perform better in this regard.

The design of Option 3 however is particularly suited to efficient management of traffic, with a combined separate pedestrian cycle stage in the overall signal plan. This benefits all road users and for this reason scores better for Transport Integration than Option 1. Options 1 and 3 also perform better for pedestrian and cyclist integration as it offers a more direct route. Furthermore Option 3 performs better for pedestrian and cyclist integration than Option 1 because it has fewer signal phases and one dedicated phase to pedestrian and circulating cyclists meaning an improved quality of service, and for this reason scores better for pedestrian and cyclist Integration than Option 1.

In terms of Accessibility and Social Inclusion, as Options 1 & 3 provide a more direct route for pedestrians, they are likely to serve vulnerable groups better.

Regarding 'Road Safety' Options 1 & 3 perform better for this criterion. This is because the crossing locations for cyclists and pedestrians are provided on the direct desire lines of the users. For Option 2 the crossings are set back from the junction which may encourage cyclists and pedestrians to cross at locations that aren't the controlled crossings. Signalising the junction would also improve the safety for general traffic. Furthermore Option 3 has cyclists on a separate signal phase to general traffic, meaning that it performs better for road safety than Option 1.

In terms of 'Environment' Options 1 & 3 score slightly worse for biodiversity as it requires removal of some greenspace in the centre of the roundabout, however this effect will likely be minimal. Options 1 & 3 scores slightly better for Landscape and Visual these options have less land take for roads/hard surface and allow for greater useable green/open space. Options 1 & 3 also score slightly worse for noise vibration and Air Quality as lower traffic speeds associated with the signalised junction may cause an increase in local traffic related emissions. Options 1 & 3 provide a better service for buses and active travel users, encouraging a modal shift towards lower carbon forms of travel and for this reason they perform better for Climate and Carbon. The combined assessment of sub-criteria under the 'Environment' criteria balance out between the options and result in a neutral score.

7.5.5 Conclusion

A summary of the assessment and a relative ranking for each of the five assessment criteria is shown in the table below.

Table 7-9 Summary Table

Assessment Criteria	Option 1	Option 2	Option 3
Economy			
Integration			
Accessibility and Social Inclusion			
Safety			
Environment			

Options 1 & 3 perform better for economy overall despite being more expensive than Option 2 as they have a better journey time and journey time reliability for busses. They also provide a better quality of service for

pedestrians and cyclists than Option 2 so perform better for integration. Furthermore they perform better for road safety than Option 2. For these reasons these options are preferable to Option 2.

Between Options 1 & 3, Option 3 performs slightly better as it has cyclists on a separate signal phase to traffic, meaning it provides a higher quality of service for cyclists, and it scores better for road safety and environment.

Based on the assessments above Option 3 is recommended as the preferred option.

7.6 Stage 2 Assessment - Section 2

Existing Layout: The general existing cross section of this route consists of a single bus lane and traffic lanes in both directions. There is a footpath on the southern side of the road and a hard shoulder on the northern side of the carriageway, and grass verges both sides. The general cross section is approx. 16m from boundary to boundary including the footpath, buffer area and grass verges. The route is generally bounded by greenspace to both sides, and a stone wall on the south adjacent to the woodland there. There are a number of trees adjacent to the route on both sides, particularly between Coast Road and Doughiska Road.

All route options start 75m east of Skerrit Roundabout and finish at Doughiska Road Junction where the project ties in with the Martin Junction upgrade.

There are 4 options considered, all have dedicated bus lanes and 2-way general traffic lanes for the length of the route.

Option 1: Footpaths and cycle tracks provided adjacent to the road carriageway for the length of the route.
Option 3: Inbound cycle track and footpath provided adjacent to the carriageway on south of road. Outbound cycle track and footpath provided away from road carriageway through greenspace to the north of the route.
Option 4: Two-way cycle track provided offline through greenspace on the northern side of carriageway. Footpaths provided adjacent to the carriageway in both directions.
Option 9: Footpaths and cycle tracks provided adjacent to the road carriageway between Skerrit Roundabout and Coast Road. From Coast Road to Doughiska Junction a 2-way cycle track is provided to the north of the row of trees that line the carriageway. Bus lanes provided in both directions for full length of route.

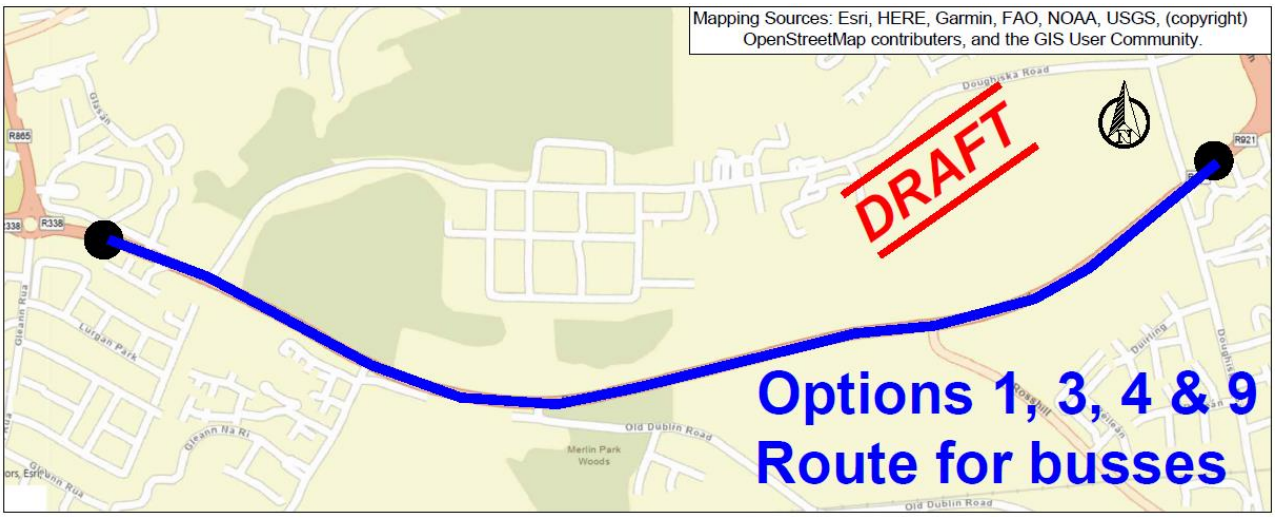


Figure 7-18 Section 2 Options Plan

7.6.1 Option 1:

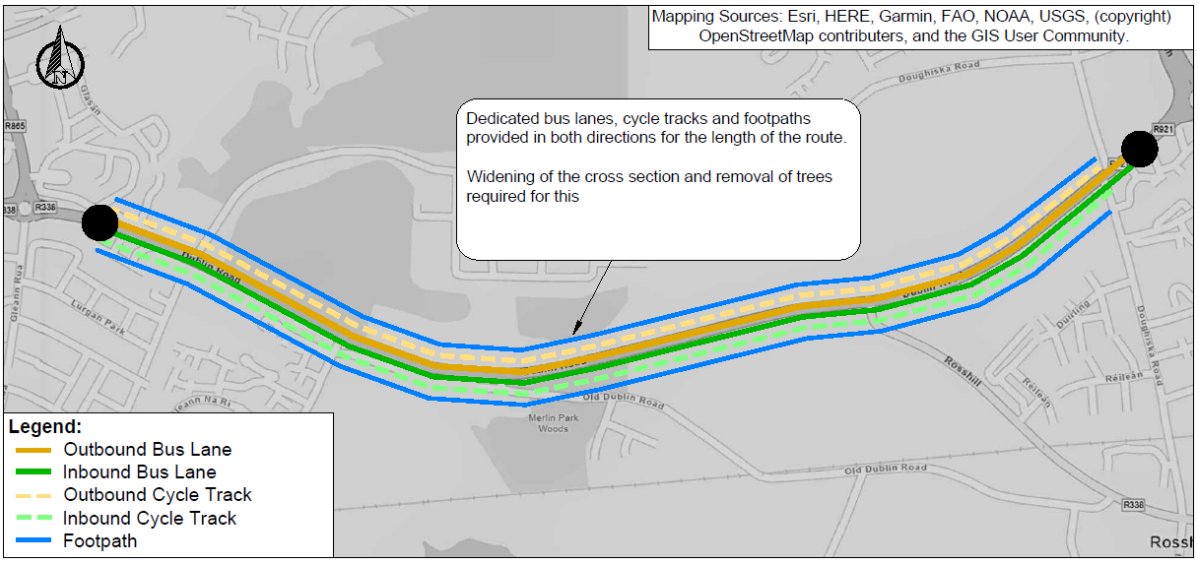


Figure 7-19 Section 2 Option 1 Indicative Layout

This option provides a dedicated traffic lane, bus lane, cycle track and footpath in both directions for the length of the route, grass verges would be provided between the road carriageway and the cycle track. This is the most impactful of all the options as widening would be required along the length of the route to achieve this cross section. The trees that are immediately adjacent to the route would be impacted. Extensive mitigation planting of semi mature trees would be performed to mitigate the impact of removing the trees adjacent to the route.

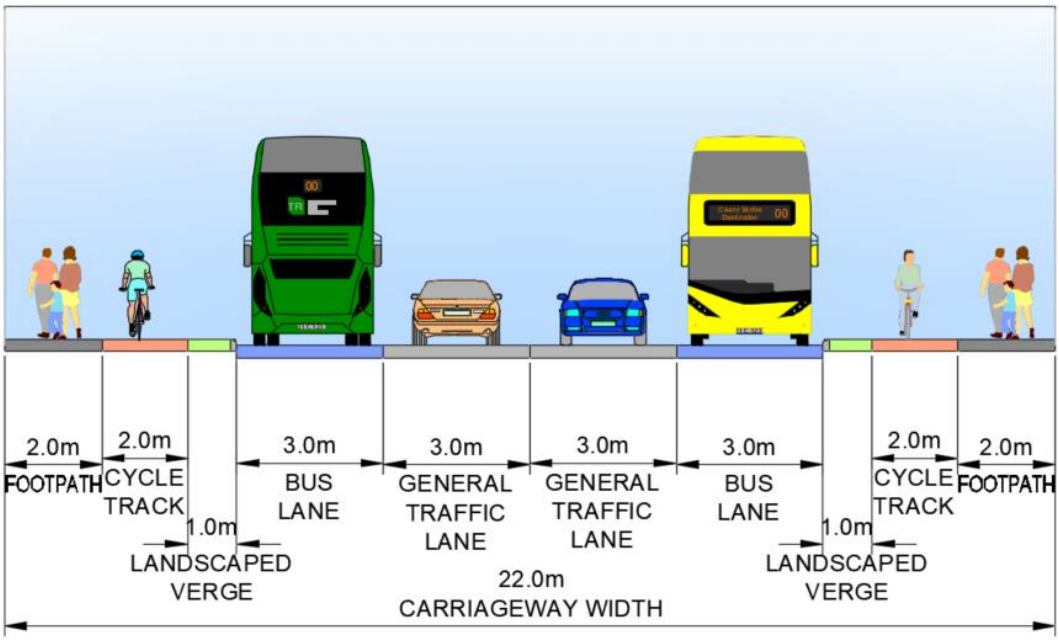


Figure 7-20 Section 2 Option 1 Indicative Cross Section

7.6.2 Option 3:

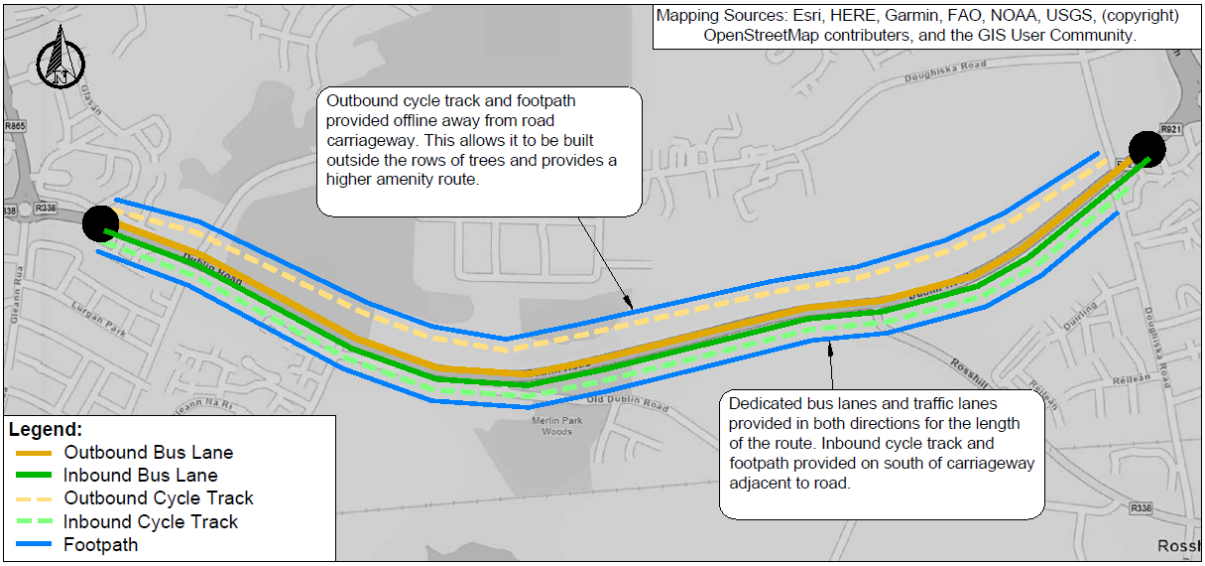


Figure 7-21 Section 2 Option 3 Indicative Layout

This option provides dedicated traffic lanes, bus lanes and cycle tracks in both directions for the length of the route. However, the cycle track and footpath on the northern side of the carriageway are provided offline away from the road.

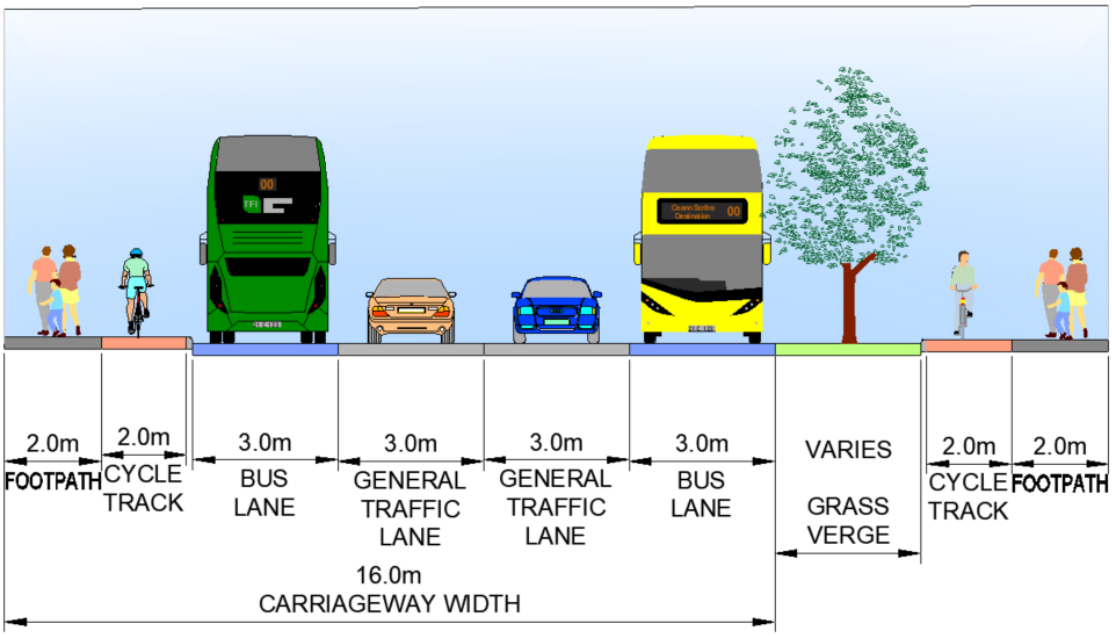


Figure 7-22 Section 2 Option 3 Indicative Cross Section

7.6.3 Option 4:

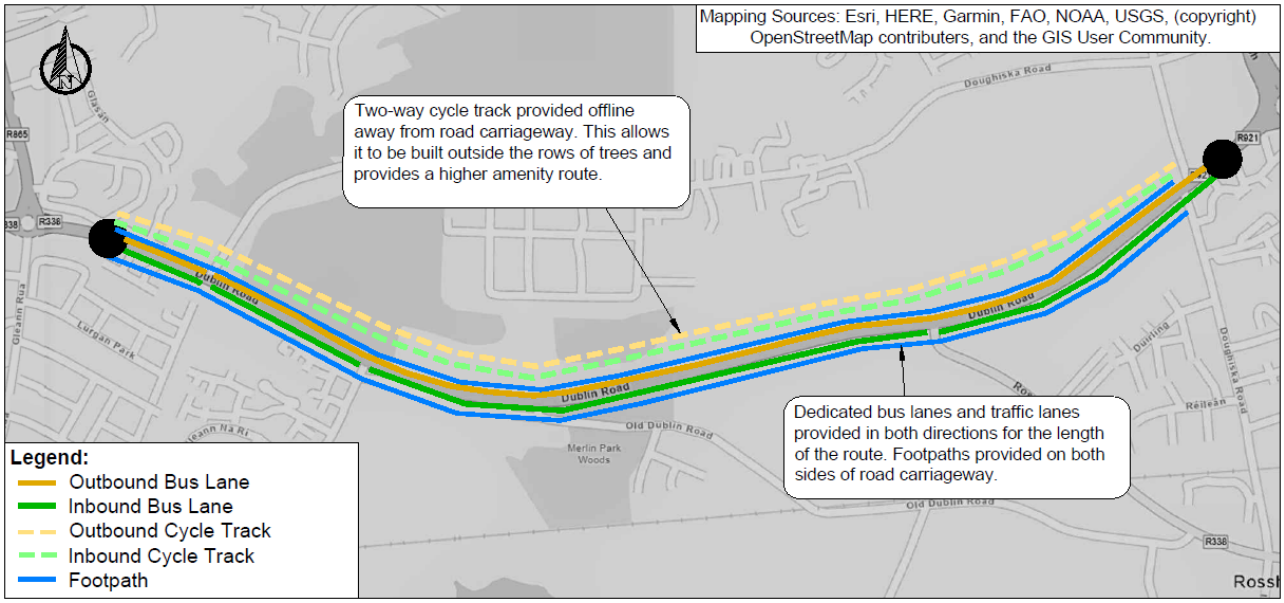


Figure 7-23 Section 2 Option 4 Indicative Layout

This option provides dedicated traffic lanes, bus lanes and cycle tracks in both directions for the length of the route. A two-way cycle track is provided on the northern side of the carriageway offline away from the road. The footpaths are provided adjacent to the carriageway.

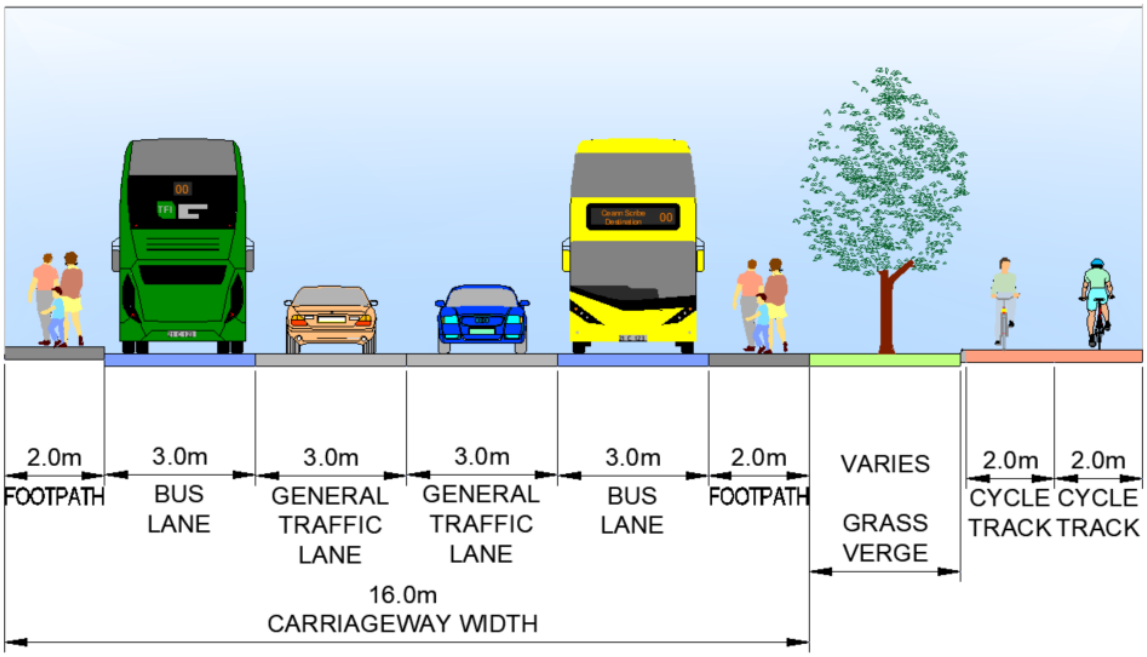


Figure 7-24 Section 2 Option 4 Indicative Cross Section

7.6.4 Option 9:

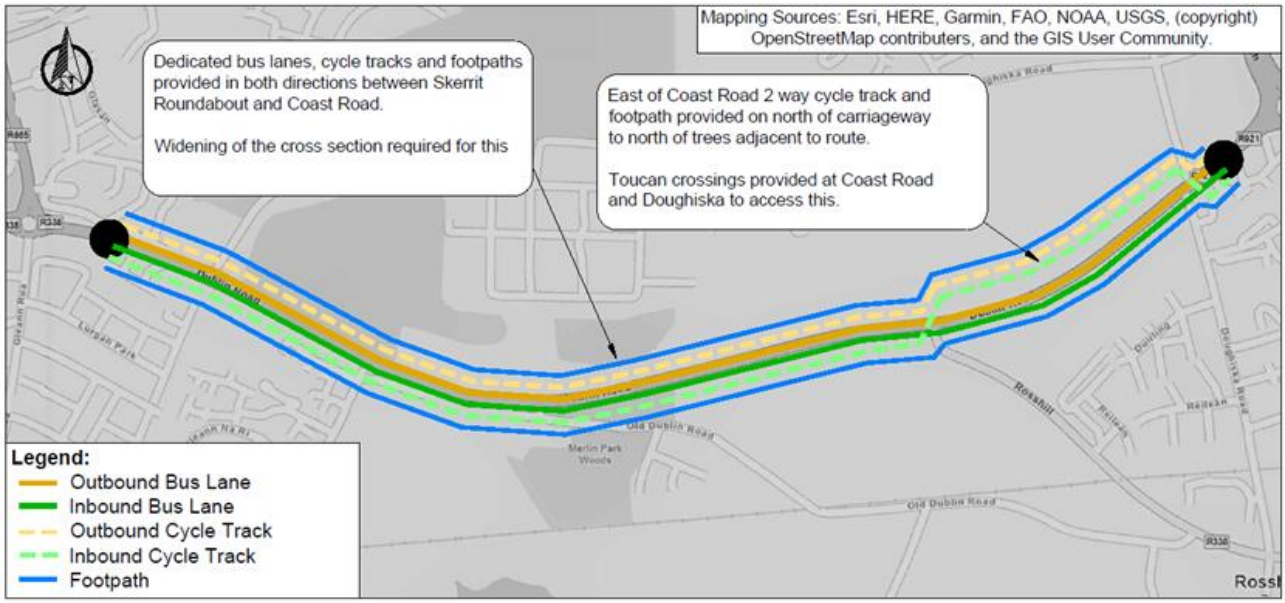


Figure 7-25 Section 2 Option 9 Indicative Layout

Footpaths and cycle tracks provided adjacent to the road carriageway between Skerrit Roundabout and Coast Road. From Coast Road to Doughiska Junction a 2-way cycle track is provided to the north of the carriageway north of the row of trees that line the carriageway in this location, along here the footpath on the north of the route is also provided north of the row of trees. This allows most of the trees to remain in place, although thinning of the lower branches and smaller trees will occur to allow visibility between the road and the footpath. Lighting will be required on the cycle tracks and footpath north of the trees. Bus lanes provided in both directions for full length of route.

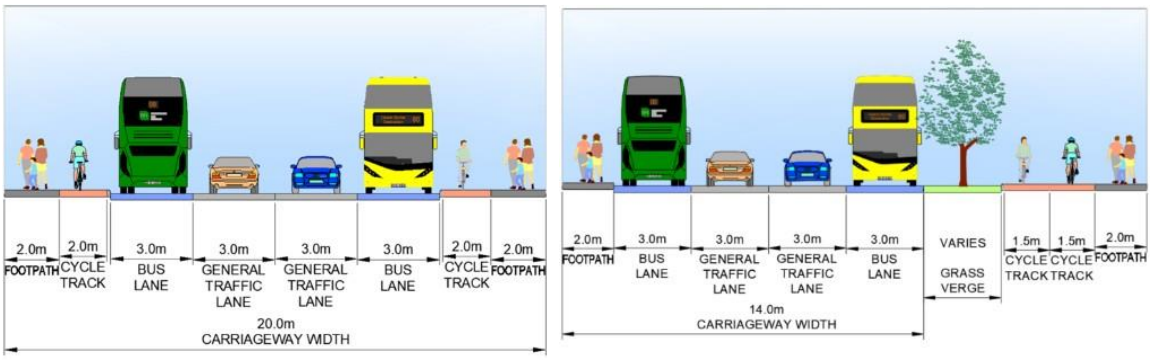


Figure 7-26 Section 2 Option 9 Indicative Cross Section

7.6.5 Route Option Assessment

Details of the 'Stage 2' route options assessment undertaken for Section 2 are presented in Appendix G.

A summary of the ranking of route options against the scheme sub-criteria is presented in 7-10 below.

Table 7-10 Section 2 Route Option Assessment Summary

Assessment Criteria	Sub-Criteria	Option 1	Option 3	Option 4	Option 9
Economy	Capital Cost				
	Bus Journey Time and Reliability				
Integration	Land Use Integration				
	Transport Integration				
	Cyclist Integration				
	Pedestrian Integration				
Accessability and Social Inclusion	Deprived Geographic Areas and Vulnerable Groups				
Safety	Road Safety				
Environment	Archaeological, Architectural and Cultural Heritage				
	Biodiversity				
	Soils and Geology				
	Landscape and visual				
	Noise, vibration and air quality				
	Land Use and Built Environment				
	Climate and Carbon				

In terms of 'Economy' all options require a similar level of works, and all options require land take. Options 3, 4 & 9 have a footpath or cycle track placed offline to the north of the carriageway meaning more land take may be required than with Option 1, however Option 1 requires extensive mitigation tree planting, so on balance all options are likely to have a similar capital cost and score equally for this criterion. In terms of Bus Journey Time and Reliability, all options have the same level of provision for busses and are considered equal.

Regarding 'Integration', no changes in the land use of the area are anticipated by any of the route options meaning they perform equally for the Land Use Integration criterion. All routes propose the same provision for busses and general traffic, meaning they perform equally for Residential and Employment Catchment and Transport Integration. For cyclist integration the options that have cyclists on either side of the road, Options 1 & 3, provide better connectivity and a more direct route so perform better for cyclist integration than Option 4. Option 9 has cyclists on either side of the road for most of the route, then a 2-way cycle track to the north of the route just between Coast Road and Doughiska Junction, this means it scores in the middle for cyclist integration. In terms of Pedestrian Integration, all options provide footpaths on both sides of the carriageway for the length of the scheme, and therefore perform equally for this criterion.

In terms of Accessibility and Social Inclusion, all options follow the same route so score equally for this criterion.

Regarding 'Road Safety' Option 4 performs worse than the other options, as the other options either have footpaths and cycle tracks adjacent to the road carriageway meaning that they would be visible by road users and increasing the perceived safety of users, or they have proposed mitigation measures to thin the trees to allow visibility between the road carriageway and the footpath / cycle track, as well as lighting proposed on any offline route. Option 4 would therefore have worse visibility between the road and users of the cycle track, meaning there is less perceived safety and a higher chance of anti-social behaviour.

In terms of 'Environment', all options perform equally for would require setting back the stone wall to the north of the carriageway, however this would be replaced like for like so minimal Archaeological, Architectural and Cultural Heritage impact is anticipated, a minor impact is likely as a result of all options encroachment into the former demesne landscape associated with Merlin Park, however this is equal across all options so they perform equally for this criterion. In terms of Biodiversity, Options 1, 3 & 4 all impact the trees to the north of the carriageway to a larger extent than Option 9, so perform worse for this reason, with Option 1 being the worst for this even with mitigation planting in place, furthermore Options 3 & 4 fragment the Annex 1 grassland in Merlin Park, whereas Options 1 & 9 do not, meaning Options 1 & 9 perform better in this instance. Overall, for biodiversity Option 9 performs much better than Options 1, 3 & 4, which perform poorly. In terms of landscape and visual Option 9 performs best as it requires the least extensive tree felling and therefore maintains the existing landscape. All other environmental criteria perform equally for all options.

7.6.6 Conclusion

A summary of the assessment and a relative ranking for each of the five assessment criteria is shown in the table below.

Table 7-11 Assessment Summary Table

Assessment Criteria	Option 1	Option 3	Option 4	Option 9
Economy				
Integration				
Accessibility and Social Inclusion				
Safety				
Environment				

All options equally meet the project Economy objectives, and perform equally in terms of Capital Cost. Options 1 & 3 best meets the Integration objectives as they propose to have cycle tracks on either side of the road adjacent to the road carriageway for their length meaning they better serve cyclists. Option 9 which has cyclists on either side of the road for most of the scheme length performs better than Option 4 for this. All options promote a switch towards lower carbon forms of transport by providing continuous bus lanes, footpaths and cycle tracks. However, Options 1, 2 & 3 performs significantly worse for biodiversity than Option 9 as a result of impacting the trees adjacent to the carriageway and segregating the Annex 1 grasslands in Merlin Park. Option 1 also performs better for landscape and visual as it retains the most trees.

Based on the assessments above Option 9 is recommended as the preferred option as it performs despite performing slightly worse for Cyclist Integration than Options 1 & 3. This is because it performs significantly better for the environmental criteria than Options 1, 3 & 4.

SECTION 8: EMERGING PREFERRED ROUTE

The BusConnects Galway: Dublin Road scheme starts east of Moneenageisha Junction where it ties into the BusConnects Galway: Cross City Link proposals and follows Dublin Road as far as the Doughiska Junction.

For the full length of the route dedicated bus lanes, segregated cycle lanes and footpaths are provided on either side of the road. Dublin Road remains 2 way for general traffic. All major junctions along the route are upgraded to signalised junctions with pedestrian and cyclist provision, including the Skerrit Roundabout.

Further details of the proposed route can be seen in the general arrangement drawings provided in Appendix A.

8.1 Section 1

8.1.1 Bus Provision and General Vehicular Impacts

Starting from Moneenageisha Junction there would be a dedicated bus lane in each direction for the length of the section, these would tie into the proposals for the Cross City link scheme at the west and the upgraded Skerritt Junction at the east. Bus stops would be provided at their existing locations. A traffic lane in each direction would continue to be provided for the length of the scheme. The junctions at Renmore Road and Michael Collins Road would remain signalised, and the junction with Belmont would be re-aligned to join Dublin Road opposite Ballyloughane Road and this location would be signalised. At each of these junctions right turn lanes would be provided for general traffic. Right turn lanes for general traffic are not provided for priority controlled junctions and accesses.

8.1.2 Cycling Provision

Segregated cycle lanes are provided on either side of the road for the full length of the section. These would tie into the proposals for the Cross City link scheme at the western end and tie into the proposals for Skerritt Junction at the eastern end of Section 1. Protected junctions would be provided at all signalised junction locations (Renmore Road, Michael Collins Road and Ballyloughane & the re-aligned Belmont). The provision would be 2.0m except for through the pinch point west of the junction at Renmore Road where the widths have been reduced to 1.8m to reduce the impacts of widening there.

8.1.3 Pedestrian Provision

Pedestrian footpaths are provided on both sides of the road for the length of the scheme. Along the scheme the crossing distances have been reduced for pedestrians crossing side roads where possible, and the radii of kerbs have been reduced to slow the speeds of vehicles turning onto side roads. Signalised crossings across Dublin Road have been maintained and an additional signalised crossing has been provided opposite Atlantic Technological University (ATU) Galway Campus. Signalised crossings have also been added across the Belmont and Ballyloughane Road side road junctions. Other than these, uncontrolled crossings have been maintained. The general width of pedestrian provision is 2m, although this has been reduced to 1.8m for a short section to the east of the junction with Renmore to reduce the impacts of widening there.

8.1.4 Land Use

Widening is required along the length Dublin Road in this section of the scheme. This would require up to 6m from adjacent lands, and would impact on the following locations:

- Greenspace and paved area outside of Brothers of Charity Services Galway
- Greenspace by Wellpark Grove
- Parking area in front of DPL
- Greenspace in The Connacht Hotel Car Park
- Garden and driveway of 18 Dublin Road
- Approximately 3 parking spaces outside of Duggan's Spar

- Public Greenspace south of Glenina Heights
- Greenspace by Galwegians Rugby Football Club
- Greenspace in Flannery's Hotel Car Park
- Industrial area to the west of Ballyloughane Road
- Greenspace in Belmont
- Gaelscoil Dara sports field
- Greenspace outside of ATU Galway Campus

8.2 Skerrit Roundabout

Skerrit Roundabout would be upgraded to a signalised "Cyclops" style junction, with bus lanes on approach to the arms on Dublin Road. Cycle provision would be present on all arms of the junction. Footpaths and pedestrian crossings would be present on and across all arms of the junction.

8.3 Section 2

8.3.1 Bus Provision and General Vehicular Impacts

From the Skerrit Junction there would be a dedicated bus lane in each direction for the length of the section, these would tie into the as built Martin Junction to the east. Bus stops would be provided at their existing locations. A traffic lane in each direction would continue to be provided for the length of the scheme. The junctions at Murrough, Coast Road and Doughiska would remain signalised, and the junction at the access to Merlin Park Hospital and at Rosshill Road would be signalised. At each of these junctions right turn lanes would be provided for general traffic. Right turn lanes for general traffic are not provided for uncontrolled junctions and accesses.

8.3.2 Cycling Provision

Segregated cycle lanes are provided on either side of the road between Skerrit Roundabout and Coast Road, from Coast Road to Martin Junction a 2-way cycle track is provided on the north side of the carriageway only, north of the row of trees present there. This cycle track would then tie into the proposals for the Martin Junction at the eastern end. Protected junctions would be provided at all signalised junction locations (Merlin Park Hospital access road, Murrough Road, Coast Road and Rosshill. The provision would be 2m wide when provided on either side of the road, and a total of 3m wide when 2 way between Coast Road and Martin Junction.

8.3.3 Pedestrian Provision

Pedestrian footpaths are provided on both sides of the road for the length of the scheme. Along the scheme the crossing distances have been reduced for pedestrians crossing side roads where possible, and the radii of kerbs have been reduced to slow the speeds of vehicles turning onto side roads. Signalised crossings across Dublin Road have been maintained. New pedestrian crossings have been provided on all arms of the new signalised junctions at Merlin Park Hospital and Rosshill Road. Additional crossings on the Dublin Road arms of the Coast Road junction have also been provided. An additional pedestrian crossing is also provided on the eastern arm of the Doughiska Junction.

8.3.4 Land Use

Widening is required along the length Dublin Road in this section of the scheme. This would require up to 9.5m from adjacent lands, and would impact on the following locations:

- Greenspace to the north of the carriageway to the east of Skerrit Roundabout.
- Greenspace outside Woodhaven Estate, note that here the boundary wall would be set back to have the full carriageway and footpaths & cycle paths outside of the boundary wall.
- Greenspace to the north of the carriageway through Merlin Park Meadows.

SECTION 9: 2ND NON-STATUTORY PUBLIC CONSULTATION

A 2nd Non-Statutory Public Consultation was held for a four-week period between Friday the 13th of January 2023 and 10th of February 2023.

The Project Website and Virtual Room were launched on Friday 13th January 2023. The website, which can be accessed at https://www.bcgdublinroad.ie/, gave an introduction to the project and a description of the non-statutory consultation process in both English and Irish. It also provided a link to the Virtual Room and to websites for GCC, NTA, the National Planning Framework and Barry Transportation.

The virtual room (available at https://www.innovision.ie/bcgdublinroad) contained a series of information displays similar to what would be presented in a conventional public consultation setting including:

- A welcome note / introduction
- The project brochure in both English and Irish
- The Scheme Objectives
- An Aerial Overview (fly through) of the Emerging Preferred Route
- Emerging Preferred Route drawings
- Next steps
- An online feedback facility
- Downloadable feedback forms in both English and Irish
- A Contact Us page
- A Book an Online Meeting facility

9.1 Overarching Feedback

In general, stakeholders acknowledged and supported the need for improvements along the Dublin Road in terms of amenity value, traffic congestion and improvement of bus services. Allowance for bus and cycle/pedestrian infrastructure was broadly welcomed to decrease dependence on cars thus reducing traffic, fuel consumption, cost, and emissions.

Some 79 respondents (86% of an overall 91 respondents) expressed positivity for the scheme. 32 of these 79 respondents supported the scheme in full while 47 supported the scheme but would like some changes. 7 respondents were not in favour of the scheme and the remaining 5 did not provide a response. Aspects of the scheme with the most positive responses were segregation of the cyclists/pedestrians from the live traffic and improved junction arrangements.

9.2 Key Issues Raised

177 separate issues were raised in total by the respondents. 69% of these were on the engineering aspects of the scheme. 17% were in relation to safety and 14% were in relation to the environmental elements of the scheme.

Respondents raised concerns with the engineering arrangement of the scheme. Some 15% were concerned about the lane widths and 14% were concerned about the junction signalling arrangements.

The most safety concerns raised were regarding signalling phasing at junctions (5%). Respondents were also concerned with the crossings for cyclists and pedestrians (3%).

Environmental concerns raised include loss of green space and hedges (3%), and concerns for the impact to Annex 1 habitats at The Meadows (5%).

9.3 Key Stakeholder Suggestions and Responses

Proposed design changes as outlined in the responses below will be considered in the preliminary design stage.

Table 9-1 Public Consultation Suggestions & Responses Summary Table

Suggestion	Response
Increase the width on the cycleways especially at junctions due to turning, waiting and stacking.	Lane widths are to design standards. Consideration to be given to widening the southern footpath between Coast Road and Doughiska junctions.
Design to take account of the existing traffic problems at ATU bus stop	To be considered as part of the design.
Use 'Cyclops' or 'Dutch' arrangement at all junctions.	Cyclops Junction has been considered and adopted for one of the junctions.
Provide physical separation between cycleways and traffic lanes	0.5m strip to be considered as part of the preliminary design stage.
Provide lay-by bus stops at ATU	To be considered as part of the preliminary design stage.
Issue with right turning across footpath, cycleway, bus lane and traffic lane.	Providing a cycle track & bus lane would improve vehicle sightlines when exiting locations such as this. Also, signalised junctions will provide gaps in traffic flow allowing egress. Dublin BusConnects referred to a number of examples which already exist which have set a precedence in response to exiting and turning right.
Pedestrian crossing across entrances is set back	Design updated.
Amend alignment at No. 18 Dublin Road to provide 600mm from garage.	Design updated.
Provide a yellow box on Michael Collins Road to allow properties facing Dublin Road right turn onto Michael Collins Road.	Issue with loop detector.
Provide a signalised junction at the entrance to Woodhaven and incorporate entrance to Merlin Gate.	This would result in two signalised junctions within 130m of each other which would be undesirable for Dublin Road traffic.
Use of old Dublin Road at Coast Road for cycle lane / footpath to avoid junction	To be updated at preliminary design stage.
Provide link to Greenway project.	To be considered as a separate commission.
Amend the cycleway arrangement at Coast Road junction to have southbound cyclists cross the junction on the eastern side.	Design updated.

Suggestion	Response
Woodhaven - remove trees and keep the cycleway / footpath route along bus lane.	Design updated.

Further detail on the 2nd Non Statutory Public Consultation can be found in the BusConnects Galway: Dublin Road 2nd Non Statutory Public Consultation 2023 Report (less appendices) found in **Appendix H.**

SECTION 10: NEXT STEPS

This report has identified an Emerging Preferred Route for the continuous multi-modal transport corridor along Dublin Road. The Emerging Preferred Route has been subject to stakeholder engagement and a second non- statutory public consultation. At the end of the non- statutory public consultation, a report summarising the public consultation process and the submissions received was prepared. Each submission was reviewed and considered (refer to Table 9-1 above). Any subsequent amendments to the Emerging Preferred Route that result from the consultation process that are appropriate, and beneficial for the overall scheme, will be incorporated as part of Phase 3 - Preliminary Design.

Phase 3 - Preliminary Design will further refine and update the concept design along the route . The Preliminary Design will define the final practically-achievable scheme for the Dublin Road project, considering more detailed studies of constraints, impacts and environmental assessment required at a local level.

The transport corridor layout and junction arrangements will be developed, and an environmental evaluation of the design will be undertaken to a sufficient level of detail to establish landtake requirements. This Preliminary Design will then form the basis of the statutory planning consent process for the scheme.

Any decision to proceed with this overall project will be subject to planning consent by An Bord Pleanála. As part of that process members of the public can make a submission or observation to An Bord Pleanála.