

NORTH WEST GREENWAY NETWORK ROUTE 1 - DERRY/ LONDONDERRY TO BUNCRANA & NEWTOWNCUNNINGHAM



STAGE 2 PREFERRED ROUTE CORRIDOR SELECTION REPORT



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Foreword to Final Report Issue (July 2019) and Assessment of Section 3 Route Corridor Options

This report acknowledges the issues identified during the Public Consultation Process of June / July 2018, and the subsequent Second Consultation Event of 7th February 2019 pertinent to the route corridor options in Section 3 of the Study Area, as identified in the Stage 1 Constraints Study and Route Options Report.

During the course of these consultation events, significant issues and concerns were raised over the Blue Corridor, and in particular its potential to impact on private landowners, their places of residence and their work and business operations. Concerns were also raised over the Purple Corridor in relation to its proximity to the R238 and the associated traffic volumes and speed.

The assessment of this Section of the report was therefore withheld from the initial issue of this report (published March 2019) and is now included in this revision of the report following ongoing consultations with affected landowners, further public consultation, and the conclusion of the route corridor assessment process.

In order to complete a full and detailed assessment of the route corridor options presented at the Second Consultation Event of 7th February 2019, this report describes these route corridors options through these sections as follows:

- Section 3A – Inch Lake to Entrance to The Rectory Housing Development
- Section 3B - Entrance to The Rectory Housing Development to Fahan Marina
- Section 4 – Fahan Marina to Buncrana

Within Section 3A, seven additional route corridor options were presented at the Second Consultation Event. These corridors are considered variations on the Blue & Purple Corridors initially presented and are described in detail in Section 6.3 and Appendix G of the report. The additional routes address some of the design and safety concerns raised in the initial Public Consultation, and also provide alternative options to transit through private lands and farm holdings.

A detailed assessment of these additional corridors has been carried out and then assessment process for these corridors is also described in Appendix G.

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0 EXECUTIVE SUMMARY

The Preferred Route Corridor Selection Report describes Stage 2 of the Route Selection Process for the proposed Derry / Londonderry to Buncrana Route of North West Greenway Network (NWGN) Scheme. The report should be read in conjunction with the Stage 1 – Constraints Study and Route Options Report. The report has been prepared by the Integrated Consultant Team, in partnership with the Derry City & Strabane District Council, and with Donegal County Council.

Further to the detail provided in the Stage 1 Report, the key sections of this report – Sections 8 and 9,

- Describe the assessment of each of the Route Corridors Options in terms of the Assessment Criteria,
- Identify the Preferred Route Corridor and,
- Outline the next steps in the development of the scheme.

In common with the Stage 1 Report, this report sets out the project background and the European, national and local policy guidelines which frame the scheme and the development of Greenway Schemes. It also sets out the overall aims and objectives of the NWGN scheme and route specific aims and objectives of Route 2, Derry / Londonderry to Buncrana and Newtowncunningham.

The report identifies the Study Area, describes the Constraints, Opportunities and Areas of Interest within the Study Area and proposes a number of “Route Corridor” Options to be assessed to determine the preferred route.

The report describes the Public Consultation Process carried out following the publication of the Stage 1 report and summarises the feedback on the scheme proposals received from the public. It also describes the Second Public Consultation Event (carried out in February 2019) and details the additional route corridors in the Fahan area presented at that event.

The report also defines the Assessment Criteria used to identify the Preferred Route.

The report describes these Route Corridors in detail, as well as the type of greenway facility that could be constructed within each corridor, it presents the scoring assessment for each route corridor against the assessment criteria and determines a recommended Preferred Route.

Finally, the next steps in the consultation process, statutory planning phases and development of the route are outlined.

1 INTRODUCTION

1.1 Project Background

In December 2016 Derry City and Strabane District Council in partnership with Donegal County Council, the Department for Infrastructure (NI) and Sustrans (the UK-based cycling and walking charity), secured funding for this project from the EU's INTERREG VA 2014-2020 programme, monitored by the Special European Union Programmes Body (SEUPB).

McAdam Design has been appointed by Derry City & Strabane District Council to lead the Integrated Consultant Team (ICT) which will provide co-ordinated NI and ROI Project Management and Design services to the Project Partners and deliver the North West Greenway Network (NWGN) Scheme from Preliminary Design, through to Technical Design, Procurement of the Principal Contractor and managing the delivery of the Construction Stages to completion of construction.

The core target project outputs of the NWGN project are as follows:

1. To develop 46.5km of cross-border greenway by December 2021
2. To achieve a targeted 5.5% rise in cross-border modal shift from the baseline (to be established) by December 2022

Core project specific aims are as follows

1. A reduction in CO2 emissions of 319 metric tons per annum by 2023.
2. Widespread behavioral and attitudinal change in all targeted beneficiaries through our strategic alliance with Sustrans.
3. Investment in the wider economic and social infrastructure in the Cross Border region.
4. The project will meet the strategic aims of Derry City and Strabane District Council Northwest Greenways Plan (2015) to develop a comprehensive interconnected regional Cross Border Greenway Network.

The proposed North West Greenway Network Scheme consists of three distinct Greenway Routes, totalling 46.5km shared pedestrian / cycle paths, with each route crossing the Northern Ireland (NI) / Republic of Ireland (ROI) border. The Routes are summarised as follows:

- Route 1 – Derry / Londonderry to Buncrana – approx. 32.5km
- Route 2 – Derry / Londonderry to Muff – approx. 10.5km
- Route 3 – Strabane to Lifford – approx. 3.5km

1.2 Project Progress to Date and Previous Reports

Since McAdam Design was appointed, the scheme has progressed through preliminary and concept design stages, and a number of Public Consultation Events have taken place for each of the three routes. In support of these Consultation Events, Stage 1 Constraints, Study Area and Route Options Reports have been prepared for Route 1 and Route 2 Schemes and a

Stage 2 Preferred Route Corridor Selection Report has been prepared for the Route 2 Scheme. A Combined Stage 1 / 2 Report has also been prepared for Route 3.

These reports are available on Derry City and Strabane District Council and Donegal County Council websites.

This report consists of the next stage in the reporting and scheme assessment process for Route 1 and will also support forthcoming Public Consultation Events.

Planning Applications (in both NI & ROI) have been submitted for both Route 2 and Route 3.

Part 8 Planning Approval was received for Route 3 (Lifford) in early 2019.

Part 8 Planning Report for Route 2 (Muff) has been submitted for Council Approval in July 2019.

Planning Applications for both Route 2 and Route 3 are currently being considered by Derry City and Strabane Council Planning Service.

Planning Application for Route 1 (NI) will be submitted in summer 2019.

A planning application for Route 1 (ROI) will be submitted in mid 2020, as soon as the scheme design and information to support the planning application has been developed in an appropriate level of detail.

2 POLICY DOCUMENTS AND GUIDELINES

The following sections describe a non-exhaustive list of European, National (both NI and ROI), Regional and Local Policy Documents and Guidelines which contain clear policy objectives to promote and develop sustainable transport and cycling initiatives as well as recreational and tourism related objectives, which directly support the development of Greenway projects such as the route covered by this report.

2.1 European Policy and Guidelines

‘**Europe 2020 – A Strategy for Smart, Sustainable and Inclusive Growth**’ puts forward three mutually reinforcing priorities for smart, sustainable and inclusive growth. Sustainable transport strategy is set out under the “sustainable growth” priority, through flagship Initiative: “Resource efficient Europe”, which supports a shift towards a resource efficient and low carbon economy.

The TEN-T - Connecting Europe Policy (2014) focuses on connecting Europe through major infrastructure such as rail and roads. It highlights the potential for long distance walking and cycling routes.

European Cyclists’ Federation’s EU Cycling Strategy: Recommendations for Delivering Green Growth and an Effective Mobility in 2030” is the result of a systematic review of all EU policies related to cycling. The central objectives of the plan are as follows:

- Cycling should be an equal partner in the mobility system
- Grow cycle use in the EU by 50% at an average in 2019/2020-2030
- Cut rates of cyclists killed and seriously injured by half (in km cycled) in 2019/2020-2030
- Raise EU investment in cycling to €3bn in 2021-27; and €6bn from 2028-34.

2.2 Northern Ireland Policy and Guidelines

2.2.1 National and Regional Policy Documents

North West Greenway Plan 2015

The Northwest Greenways Action Plan (<https://www.derrystrabane.com/North-West-Greenway-Plan>) forms the basis of a strategic and co-ordinated plan for the development of a network of greenways (GW) throughout the North West.

The vision of the Plan is: *“To develop a cross border network of greenways that link people with places locally, regionally and nationally- bringing social, economic & environmental wellbeing to all.”*

Draft Programme for Government Framework 2016-2021

Sustainable travel initiatives support the following draft outcomes:

- Outcome 1- We prosper through a strong, competitive, regionally balanced economy
- Outcome 2- We live and work sustainably, protecting the environment
- Outcome 4- We enjoy long, healthy, active lives.
- Outcome 11- We connect people and opportunities through our infrastructure

A Strategic Plan for Greenways (Dept of Infrastructure NI, Nov 2016) - sets out a high level vision for NI to develop new greenway routes and contribute to overall modal shift targets. The plan identifies a proposed NI Greenway Network which incorporates the routes identified in the North West Greenway plan including the Derry~Londonderry to Buncrana Greenway.

A Bicycle Strategy for NI 2014 - The key aims of the Strategy are to provide people the freedom and confidence to travel by bike and to develop off-road greenways.

The North West Strategic Partnership- to collaboratively work with central government to, *“Collectively resource the region’s key priorities for growth and development with a commitment to building a more resilient economy in the North West City Region”* (www.derrystrabane.com)

NI Regional Development Strategy 2035: Building a Better Future 2010- Regional Guidance Policy 9: “Reduce our carbon footprint and facilitate mitigation and adaptation to climate change whilst improving air quality- ‘This will include reducing the need to use the car,’ and: Regional Guidance Policy 11 through enhancing the amenity value of natural and cultural heritage assets by providing linkages to green infrastructure.

DRD Ensuring a Sustainable Transport Future: A New Approach to Regional Transportation 2012 - The strategy has three overarching aims;

- Supporting the growth of the economy
- Enhancing the quality of life for all citizens and;
- Reducing the environmental impact of transport

Building an Active Travel Future for NI 2012 - aims to increase the overall % of trips taken by bicycle and the need for a cross-sectoral approach and the development of partnerships in order to achieve this.

2.2.2 Local Policy Documents:

Derry City & Strabane District Council's Inclusive Strategic Growth Plan 2017-2032 (Our Community Plan)

Community Planning is a statutory duty placed on Councils as part of local government reform. Sustainable travel initiatives support the following outcomes of community planning;

Social Wellbeing Outcomes

- We enjoy long, healthy, active lives
- We give our children and young people the best start in life
- We have safer more cohesive communities with access to quality services and facilities
- We have improved physical and mental health and emotional wellbeing
- We are more physically active
- We are supported to age well, live longer and be more independent

Environmental Wellbeing Outcomes

- We connect people and opportunities through our infrastructure.
- We live and work sustainably, protecting the environment
- We benefit from well designed and managed green spaces and public realm
- We support environmental stewardship
- We value and enhance our environment

Local Growth Plans for Ballyarnett and Foyle

Delivery of Route 2 specifically referenced as an action.

DCSDC Tourism Strategy

Product & Experience, PE4 – “Develop the activity & adventure product across the region & rural built heritage, states Action Point 4.4:

- Action 4.4. “Support the implementation of the NW Greenways Plan which sets out a strategic vision for cross-border greenway development in the region including the 46.5km of new cross-border greenway across three routes: Derry-Buncrana, Derry-Muff and Lifford-Strabane”

Derry Local Development Plan (2030)

Enhancing connectivity in our City & District supports the aims of the emerging Local Development Plan through provision of sustainable infrastructure which will enhance our District for future generations.

Derry Area Plan 2011 Section 14.1 in relation to transportation the key aim is to ‘Develop an efficient, safe, accessible and sustainable transport system which offers better choice and mobility for all its users.

2.3 Republic Of Ireland Policy and Guidelines

2.3.1 National and Regional Policy Documents

Project Ireland 2040 National Planning Framework and National Development Plan 2018-2027

Project Ireland 2040 is the Irish Governments overarching policy initiative for the long term planning of the State. It is informed by the Programme for a Partnership Government 2016, which recognises that economic and social progress go hand in hand and is made up of the “National Planning Framework to 2040” and the “National Development Plan 2018-2027”.

National Planning Framework to 2040

This is the Government’s high-level strategic plan for shaping the future growth and development of the country out to the year 2040. It seeks to achieve ten strategic outcomes including the following which are relevant to the Northwest Greenway Project:

- *National Strategic Outcome 3: Strengthened Rural Economies and Communities* including an objective to “Invest in greenways, blueways and peatways as part of a nationally coordinated strategy”
- *National Strategic Outcome 4: Sustainable Mobility* including an objective to “Develop a comprehensive network of safe cycling routes in metropolitan areas to address travel needs and to provide similar facilities in towns and villages where appropriate.”
- *National Strategic Outcome 7: Enhanced Amenities and Heritage* including an objective to “Invest in and enable access to recreational facilities, including trails networks, designed and delivered with a strong emphasis on conservation”
- *National Strategic Outcome 8: Transition to a Low-Carbon and Climate-Resilient Society* including developing metropolitan cycling and walking networks and greenways.

A key policy priority for the Northern and Western Region includes “building on the progress made in developing an integrated network of greenways, blueways and peatways that will support the diversification of rural and regional economies and promote more sustainable forms of travel and activity based recreation”

The importance of greenway development to support Rural Job Creation is highlighted noting that “the development of greenways, blueways and peatways offer a unique alternative means for tourists and visitors to access and enjoy rural Ireland. The development of a strategic national network of these trails is a priority and will support the development of rural communities and job creation in the rural economy”

National Policy Objective #46 includes the enhancement of “transport connectivity between Ireland and Northern Ireland, to include cross-border road and rail, cycling and walking routes, as well as blueways, greenways and peatways.”

National Development Plan 2018 – 2027

The National Development Plan 2018–2027 is the most recent in the series of Government Capital plans adopted since 1988 and identifies the strategic priorities for public capital investment for all sectors to meet the strategic outcomes of the National Planning Framework.

It includes as a “Priority Investment Action” the facilitation of Cross Border Sustainable Transport with the Northwest Greenway Network listed as a specific action.

Investment in activity based tourism, including greenways, is identified as be a priority over the period of the National Development Plan and the publication of a Government Greenways Strategy is identified as a priority and targeted for Q1/Q2 of 2018.

Investment in sustainable travel measures, including comprehensive Cycling and Walking Networks for metropolitan areas, and expanded Greenways is also identified as a priority in delivering a transition to a Low-Carbon society.

Dept. for Transport, Tourism and Sport’s: “Strategy for the Future Development of Greenways”

The “Strategy for the Future Development of National and Regional Greenways” Report was published in July 2018, following an extensive national consultations process undertaken in 2017. The Strategy outlines the Irish Government’s objective to assist in the strategic development of Greenways to an appropriate standard in order to deliver a quality experience for Greenway users. It recognises the benefits that can arise from the further development of Greenways in Ireland, as a tourism product with significant potential to attract overseas visitors, for local communities in terms of economic benefits, and for all users as an amenity for physical activity and a contributor to health and wellbeing”

The objective of the Strategy is “to assist in the strategic development of nationally and regionally significant Greenways in appropriate locations constructed to an appropriate standard in order to deliver a quality experience for all Greenways users”. It also aims to “increase the number and geographical spread of Greenways of scale and quality around the country over the next 10 years with a consequent significant increase in the number of people using Greenways as a visitor experience and as a recreational amenity”.

To achieve these objectives, the Strategies requires project promoters to work with Local Communities, Local Landowners, Local Authorities and other relevant State Bodies and organisations to deliver:

- A Strategic Greenway network of national and regional routes, with a number of high capacity flagship routes that can be extended and/or link with local Greenways and other cycling and walking infrastructure;

- Greenways of scale and appropriate standard that have significant potential to deliver an increase in activity tourism to Ireland and are regularly used by overseas visitors, domestic visitors and locals thereby contributing to a healthier society through increased physical activity;
- Greenways that provide a substantially segregated off road experience linking places of interest, recreation and leisure in areas with beautiful scenery of different types with plenty to see and do;
- Greenways that provide opportunities for the development of local businesses and economies;
- Greenways that are developed with all relevant stakeholders in line with an agreed code of practice.

The Strategy identifies a ‘best practise’ approach to the development (i.e. throughout the Public Consultation and Land Access Processes) and the design of greenways, which the Project Team has considered and will adopt, where relevant and as far as is practicable.

The Strategy emphasises the requirement for early stage consultation with affected landowners. (It is noted that Public Consultations carried out for this project are in line with the guidelines set out in the Strategy).

The Strategy identifies Design Principles and Standards that should be considered throughout the design process and introduces additional design Guidance in the forms of the Greenways and Cycle Routes Ancillary Infrastructure Guidelines which will be applied on this project where applicable and feasible.

The Strategy defines Greenways as:

- National Greenways are those which are at least 100 kilometres long.
- Regional Greenways is one which is at least 20 kilometres in length, but preferably closer to 40km long, or which can be extended to connect to a longer strategic route.

Post Construction, the Strategy proposes an accreditation system, similar to the Sport Ireland Trails register, which requires a minimum standard to be met for a Greenway to be accredited.

It highlights the benefits (based on experience to date in the Rep of Ireland) that can arise from the further development of Greenways as:

- a tourism product with significant potential to attract overseas visitors
- for local communities in terms of economic benefits
- as an amenity for physical activity and a contributor to health and wellbeing.

The Strategy refers to a number of NI and cross border greenways included in the proposed NI Greenway Network identified in the NI Strategic Plan for Greenways, which includes the Northwest Greenway Network Route 1 – Derry to Buncrana, and notes the potential for these routes to be extended in future years.

Smarter Travel - A Sustainable Transport Future

A New Transport Policy for Ireland 2009-2020- The NWGN project supports:

- Action 15 of the plan by striving to create a strong cycling culture in the NW;
- Action 17 through exploring opportunities to make a former railway line available for walking and cycling trails.

National Cycle Policy Framework 2009

Ireland's first National Cycle Policy Framework was launched in April 2009. It outlines 19 specific objectives, and details the 109 individual but integrated actions, aimed at ensuring that a cycling culture is developed in Ireland to the extent that, by 2020, 10% of all journeys will be by bike. The NWGN supports the overall aims and objectives of the plan and in particular (but not limited to):

- Objective 3: Provide designated rural cycle networks especially for visitors and recreational cycling.

Regional Planning Guidelines (2010-2022)

The Guidelines acknowledge that current cycling infrastructure in border regions is currently limited but outlines an aim to encourage greater shift to cycling/ walking by the promotions of the strategies outlined in the Smarter Travel Policy and the National Cycling Policy Framework as referenced above.

The NWGN will support specific cycling and walking Policy INFP13 of the Guidelines which seeks to 'Promote and support cycling and walking within the Region, particularly within urban centres.' while the Guidelines recommend that Local Authorities should also consider the use of 'off road' routes for both walking and cycling such as disused railway lines, canals and bridle paths to improve access to rural tourist attractions.

People, Place and Policy – Growing Tourism to 2025 (March 2015)

This Government Tourism Policy Statement sets out the Government's primary objective in maximising the services export revenue of the sector. The policy highlights the importance of high quality facilities for activity based tourism in the marketing of Ireland as a holiday destination. It notes the Government's support for development and improvement of facilities for visitor activities including Greenways.

Fáilte Ireland Strategy for Development of Irish Cycle Tourism 2007

Fáilte Ireland (FI) produced its Strategy for the Development of Irish Cycle Tourism in 2007. It observed that cycle tourism had declined in Ireland since 2000. The FI Strategy also referenced a research project conducted by the research company MORI in 2005 which found, among other things, that:

- Cycling on Irish roads is not perceived to be safe – cyclists face dangerous bends, fast cars, intimidating HGVs, more traffic and higher speeds;
- There are very few, if any, traffic-free routes to cater for touring cyclists wanting to leave the cities to discover the countryside or for families who wish to participate in cycling.

The purpose of the FI strategy was to determine how best to renew the popularity of cycling in Ireland, how to encourage visitors to come to cycle in Ireland, and how to ensure that cycle tourism can generate visitor spend in rural areas. It proposed an approximately 3,000km long cycle network running from Donegal along the West, South and South-east coasts and continuing along the East coast as far as the Northern Ireland border.

The Strategy identified the following needs for cycle tourists:

- Safe places to cycle and consideration from other road users;
- Attractive routes with good scenery;
- Well-connected and signposted routes and destinations avoiding long detours;
- Opportunities to visit local attractions and specific places of interest;
- Food, accommodation and refreshments available at intervals, which reflect comfortable distances for stopping off / overnight stops.

Fáilte Ireland Cycling and Activities Research, 2013

In May 2013 Fáilte Ireland commissioned cycling research in order to, among other things, inform the route selection process of routes'. Just over 15,000 people surveyed in Germany, France, Great Britain and Ireland. Respondents to this market research identified traffic free cycling and safety of cycle routes as the most important attributes of a tourism cycle route after a beautiful landscape and scenery.

This research indicates that directness of route is not a critical factor in the provision of a satisfactory **leisure** cycle route. On the contrary, picturesque landscapes and traffic free routes with good connections to towns and villages are rated highly.

Realising our Rural Potential – Action Plan for Rural Development (2017)

A Government Strategy aimed at delivering change for people living and working in Rural Ireland with key objectives including increasing the number of visitors to rural Ireland by 12% and supporting the creation of 135,000 new jobs in rural Ireland by 2020.

Specific key objectives and actions of the Strategy supported by the NWGN include:

- Develop and promote Activity Tourism in rural areas through the development of blueways, greenways and other recreational opportunities.
- Develop cross-Border tourism initiatives to support the tourism potential of the Border region, building on projects such as the Ulster Canal Greenway from Smithborough

(Co. Monaghan) to Middletown (Co. Armagh), the Carlingford Lough Greenway, and historic literary trails.

2.3.2 Local Policy Documents

Donegal County Council Development Plan 2018 – 2024:

Chapter 5 – Infrastructure, Section 5.1, Transportation:

- Transportation Policy T-P-11: It is a policy of the Council to facilitate the appropriate development of affordable, multi-modal transport solutions that offer communities and future generations real transport choices such as park and ride; pedestrian and cycling; bus and taxi services; and ancillary infrastructure.
- T-P-24: It is a policy of the Council to protect established/historic railway corridors throughout the County primarily for strategic infrastructure provision (such as rail/road projects) and secondly for recreational development. Along these corridors other uses shall not be considered. Where these corridors have already been compromised by development, adjacent lands which could provide opportunities to bypass such an impediment and reconnect these routes for amenity purposes (walking/cycling) shall be protected for this purpose. However, in all instances, the over-riding objective shall be the provision of strategic infrastructure.
- T-P-34: It is a policy of the Council to encourage and facilitate joined up long distance walking and cycling routes for recreation and as alternatives to the car, particularly in rural areas, between settlements. Adequate car parking facilities shall be provided, where required, in association with any such developments.
- T-P-35: It is a policy of the Council to support and facilitate the maintenance, enhancement and expansion of the National Cycle Network.

Chapter 9 – Tourism:

Section 9.1 – Other Tourism Products and Attractions (pg 138):

“The Council will ... continue to protect the routes of such potential greenways through the policies of this plan and will actively work with all stakeholders to facilitate the development of Greenways and walking and cycling routes throughout the County.” and “... the Council recognise that Donegal effectively sits within a wider cross border tourism region and will work with local authorities and tourism agencies in Northern Ireland to exploit these natural cross border synergies in order to unlock the regions full tourism potential.”

It also notes that “Protecting the routes and visual settings of potential Greenways and other recreational walkways and cycling routes.” is a Key Planning Challenge.

Section 9.1.2, Objectives:

- TOU-O-9: To support the development of new, and protect the functionality of existing, Greenways, walking and cycling routes as keys components of an overall green tourism infrastructure and as standalone tourism products in their own right.

Action Plan for Jobs: North East/North West 2015 – 2017 notes the following action:

- Identify and develop greenway / blueway networks in the Region (Ref Page 95, Pt 108)

The Donegal Local Economic & Community Plan 2016 – 2022:

Volume 1, identifies 'To develop Donegal as a Connect Place' as a priority goal.

Volume 2, sets out the Action Areas of the Plan and notes the following actions:

- Section 1.9.1: To develop an integrated North West Greenway
- Section 1.9.3: To identify a programme of walkways, cycleways and greenways within towns and their hinterland, to enhance town centre connectivity, support regeneration of town centres and improve health and recreation opportunities.
- Section 2.4.5: To develop an integrated Northwest Greenway (Walking, Trails, Cycling) as a key tourism project on a cross-border basis.
- Section 4.4.16: To maximise health and wellbeing outcomes for communities in the proposed development of the North West Greenway and other initiatives involving outdoor spaces.

2.4 Environmental Policies and Guidelines

The following sections describe a non-exhaustive list of European and National (both NI and ROI), Environmental Policy Documents and Guidelines which were considered when assessing the routes passing through or close to EU designated sites.

2.4.1 EU Directives

The **Birds Directive (2009/147/EC)** and the **Habitats Directive (more formally known as Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora)** are European Union legislation for the protection of biodiversity and natural habitats. These directives are implemented throughout Europe by way of the Natura 2000 programme, which covers 30,000 protected sites throughout Europe.

The **Water Framework Directive (2000/60/EC)**: This water policy aims for rivers, lakes, ground and coastal waters to be of "good quality" by 2015.

EU Regulation on **Invasive Alien Species (1143/2014)** deals with the issues of, among other things, bringing into the Union, keeping, breeding, transporting and placing on the market, species included on the list of invasive alien species of Union concern (the “Union list”).

2.4.2 National – Northern Ireland

The **Conservation (Natural Habitats, etc.) Regulations(Northern Ireland) 1995** (as amended) provides for the designation, protection and management of 'European Sites', the protection of 'European Protected Species' and the adaptation of planning and other controls for the protection of European Sites. European Sites, or Natura 2000 sites, are Special Areas of Conservation (SACs) listed under the EC Habitats Directive and Special Protected Areas (SPAs) classified under the EC Birds Directive.

The **Wildlife (Northern Ireland) Order 1985** (as amended) makes it an offence to intentionally kill, injure, or take any wild bird or their eggs or nests. The Order also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity. The Order makes it an offence to intentionally kill, injure, or take, possess, or trade in any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Order also prohibits certain methods of killing, injuring, or taking wild animals.

The Order makes it an offence to pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8, and prohibits the unauthorised intentional uprooting of such plants. The Order contains measures for preventing the establishment of species not native to Northern Ireland which may be detrimental to native wildlife, and prohibits the release of animals and the planting of plants listed on Schedule 9. It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.

The **Wildlife and Natural Environment Act (Northern Ireland) 2011** giving protection to a wider range of plants, animals and birds, than the Wildlife Order and provides additional enforcement powers and increased penalties for wildlife related offences. The Act also introduced a statutory duty on all public bodies to further the conservation of biodiversity.

2.4.3 National – Republic of Ireland

The most important national legislation underpinning biodiversity and nature conservation in Ireland is the **Wildlife Act, 1976 and the Wildlife (Amendment) Act, 2000**. Currently all bird species, 22 other animal species or groups of species and 86 species of flora are afforded protected status at a national level. It is an offence to kill or injure a protected species, or to disturb their habitat, nest or other breeding/resting place.

The **European Union (Natural Habitats) Regulations, SI 94/1997**, which have been amended twice with SI 233/1998 & SI 378/2005, transpose the EU directives for the protection of Natura 2000 sites (SACs and SPAs) into Irish national Law.

The 1997 Regulations and their amendments were subsequently revised, enlarged and improved by the Wildlife (Amendment) Act, 2000 and the Birds and Natural Habitats Regulations, 2011.

European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I.272 of 2009) and (Amendment) Regulations 2012 and 2015, clarify the role of public authorities in the protection of surface waters also concern the protection of designated habitats.

3 NORTH WEST GREENWAY NETWORK PROJECT DESCRIPTION

3.1 Physical Character of a Greenway Facility

A Greenway is a traffic-free route designed exclusively for the use of pedestrians and cyclists. The character of the route is generally low-key in terms of its impact on the overall landscape of an area and its environmental effects. The route may be “online” within an existing road corridor located within the verge or footway, or “offline” located entirely ‘off road’ and traffic free.

The North West Greenway will generally be constructed as a 3m wide shared use path, with a bituminous surface to provide a high quality finish for cyclists.

In urban areas the Greenway will generally be **online**, (i.e. adjacent to the existing road carriageway) with a 1m buffer strip provided where lands are available, giving a desirable greenway ‘corridor’ of 4m, while options for offline / fully segregated sections will be explored where possible. The path width, or the buffer strip, or both, may be reduced through sections where constraints such as buildings, boundaries and carriageway kerblines cannot reasonably be adjusted. Where possible, appropriate screening in the form of shrubs, plants and/or trees will be planted as part of the greenway corridor to create wildlife habitats and to improve the visual quality and functionality of the infrastructure.

In rural sections the Greenway route may be either online or offline, or a combination of both. Where proposed offline routes are being identified the planning of the route will seek to follow, in so far as possible, field boundaries and land-holding boundaries, or existing laneways, rivers or other corridors to avoid disturbance to farming activity. The geometry of the facility is flexible, and the route will be designed to minimise farm severance or agricultural impacts, apart from the loss of the small area of land forming the scheme footprint.

Figure 1 in Appendix B, shows the typical cross sections proposed for urban and rural sections of the Greenway.

Depending on the nature and alignment of the route, accommodation works may be required at private lands. These will be agreed with affected landowner as scheme is progressed. Greenway lighting will be provided in urban areas and will be considered if necessary across rural sections subject to environmental and other restrictions, with any proposed specification being cognisant of, and sympathetic to, the rural landscape setting.

Gradients along the Greenway will preferably not exceed 3% but may be relaxed to 5% if the topography requires. Short sections of 10% gradients may be considered in exceptional circumstances. Similarly, the horizontal alignment will be designed for gentle radii and gradual changes in direction, with a minimum radius of 4m.

3.2 North West Greenways Network – Scheme Overview

The proposed North West Greenway Network Scheme consists of three distinct Greenway Routes, totalling 46.5km shared pedestrian / cycle paths, with each route crossing the Northern Ireland (NI) / Republic of Ireland (ROI) border. The Routes are summarised as follows:

Route 1 – Derry / Londonderry to Buncrana – approx. 32.5km

Route 2 – Derry / Londonderry to Muff – approx. 10.5km

Route 3 – Strabane to Lifford – approx. 3.5km

Each route will be designed in accordance with relevant design standards, including (but not limited to):

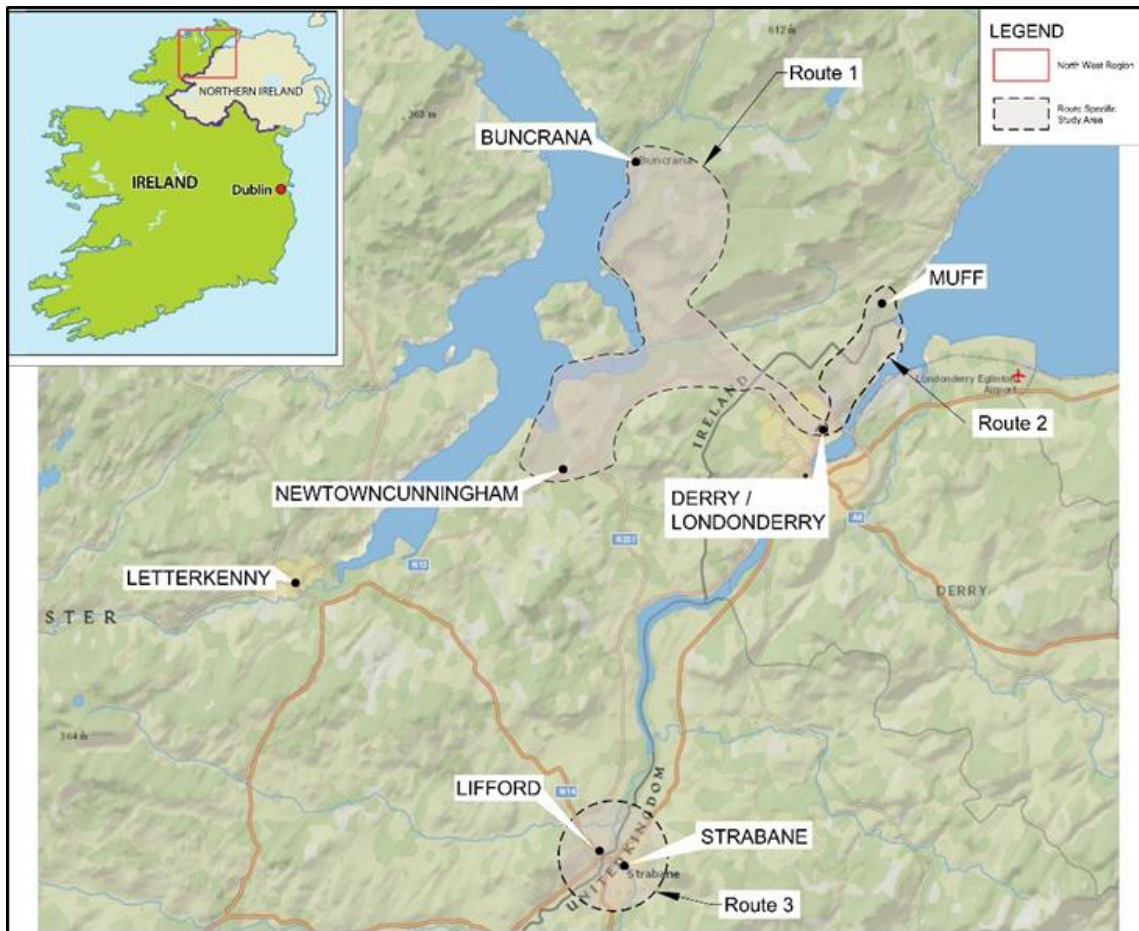
- National Cycle Manual,
- Handbook for Cycle-Friendly Design,
- Design Manual for Roads and Bridges (DMRB),
- Cycle Traffic and the Strategic Road Network (IAN 195/16),
- Rural Cycleway Design (DN-GEO-03047)
- ROI Dept of Transport, Tourism and Sport Greenways and Cycle Routes Ancillary Infrastructure Guidelines (2018).

The design will also include associated feature lighting, hard and soft landscaping, furnishings, accommodation works and appropriate safety features. The Greenway

A (non-exhaustive) list of design guidelines and cycling standards that will inform the Greenway Design are included in Appendix A of this report.

This report focuses on Route 1 – Derry / Londonderry to Buncrana and describes the Study Area, Constraints, Opportunities and Areas of Interest and Route Corridor Options for that Route only. Route 1 forms part of a wider Inis Eoghain Greenway route identified in the Northwest Greenways Action Plan which is envisaged to eventually extend beyond Buncrana to the North West. The development of this Route should facilitate connection to this future extension.

Figure 3.2 – Northwest Greenway Network – Route Overview



3.3 Route Specific Aims and Objectives

The Project Partners have identified the following strategic Aims aligned to European, National and Local Policies (as outlined in Section 2.0), which set out the Core benefits which the development of the Greenway Route seeks to achieve.

SMART objectives have been developed to ensure overarching Project Aims are achieved.

All Aims and Objectives are targeted for substantial delivery by December 2021 based on current project programme.

Route 1 Derry / Londonderry To Buncrana Scheme - Aims

Social:

- Physically connecting People and Places within the region to link and enhance the social fabric of the communities.
- Achieve an increase in Modal Shift to more sustainable methods of travel (on foot or by bike) between the communities and destinations linked by the project.
- Promote health and wellbeing in the communities connected by the project.
- Enhance road safety for existing vulnerable and non-motorised road users.

Economic:

- Increase Modal Shift to more cost effective and sustainable forms of transport.
- Improve and enhance the Tourism Offering of the North West Region, attracting increased numbers of visitors.
- Increase the economic contribution of tourism to the Local Economy and provide a catalyst and opportunities for economic growth.
- Enhance the cycling tourism offering within the region.

Environmental:

- Contribute to reducing carbon emissions in the area through achieving a rise in modal shift.
- Value and enhance the natural environment by creating a 'green' linear corridor to the benefit of wildlife through sensitive landscaping.

Route 1 Derry / Londonderry To Buncrana Scheme - Objectives

- Connect the town of Buncrana (Co. Donegal) and the commuter villages of Fahan (Co. Donegal), Burnfoot (Co. Donegal) and Bridgend (Co. Donegal) with the city of Derry / Londonderry.
- Connect the town of Buncrana (Co. Donegal), the city of Derry / Londonderry (NI) with the town of Newtowncunningham (Co. Donegal).
- Create a safe and pleasant amenity along which the local population can commute, socialise, and use as a recreational and leisure facility, and which promotes active lifestyles, physical exercise and participation in outdoor activities.

- Provide connection to existing and planned educational, recreational and leisure facilities such as schools, parks and open spaces, playgrounds, walks and trails, cycling routes, sports clubs and facilities.
- Provide a shared use Greenway route that is safe, comfortable and attractive to all user groups (both cycling and walking) and provides a reliable and safe level of service.
- Provide a route that can facilitate comfortable combined use by cyclists and pedestrians in an environment that feels safe to both user groups, particularly in areas with high levels of mixed activity.
- Provide connection to existing and planned tourism initiatives and infrastructure such as the Cityside Greenway network and the National Cycle Network, as well as the Causeway Coastal Route (which transits through Derry / Londonderry) and Wild Atlantic Way (which passes through Bridgend).
- Provide high quality infrastructure which will attract increased visitors to the area and drive the demand for associated cycling/walking related facilities e.g. cafes, bike hire etc.
- Offer an attractive and cost effective sustainable alternative to private motor vehicle transport by providing connections between residential areas and areas of employment, commercial centres and recreational facilities.
- Facilitate Cycle Tourism by providing direct physical connections between larger settlements which provide services for visitors to the region - such as overnight accommodation, retail outlets, entertainment and other attractions, bicycle repair, and public transport connections.
- Provide linkages to smaller settlements which provide basic facilities such as food, toilets and convenience shops.
- Facilitate access to existing visitor attractions and activities along the route either directly adjacent or accessible via a lateral link or otherwise which is suitable for walking/cycling.
- Develop the most cost effective route that, where possible, mitigates the impact on private lands and maximises use of available public lands, provided always that the route meets the needs of all user groups and meets the Route aims and objectives outlined above.

4 ROUTE SPECIFIC STUDY AREA, CONSTRAINTS, OPPORTUNITIES AND AREAS OF INTEREST

4.1 Study Area

In defining the Study Area, the Project Team considered the coastal nature of the route to Bunrana, to Newtowncunningham and the border location of Bridgend relative to Derry / Londonderry, the connecting road networks and physical boundaries.

The southern extent of the Study was defined as Derry / Londonderry, at Pennyburn Roundabout and the end of Cityside Greenway network along the River Foyle. This is also the interface with Route 2 of the proposed North West Greenway Network.

Between the Pennyburn Roundabout and Bridgend, the northern and southern boundaries were defined by the residential areas and rising topography of Pennyburn, Shantallow and Galliagh in urban areas and the rising topography towards Elagh More and Coshquin respectively in rural areas.

Between Bridgend and Inch Lake, the northern boundary was defined by the rising topography of Trooperstown and Cashel Hill. The southern boundary was defined by the rising topography of Greenan Mountain and the agricultural lands of the Inch Levels. The Western boundary was defined by the waters of the Inch Wildfowl Reserve.

Between Inch Lake and Bunrana, the eastern boundary was defined by the rising topography of the sequence of Carrick Hill, Gollan Hill, Mouldy Hill and the Gransha area. The western boundary was defined by the shore of Lough Swilly.

Between Inch Lake and Bunrana, given the limited width potential corridor in area of Lisfannon and Figary (from the shores of Lough Swilly to the steeply rising topography of Gollan Hill and Mouldy Hill) the study area has been extended to include the higher ground to the east, in the interests of a full and wide ranging assessment of all possible options.

Between both Bridgend / Inch Lake and Newtowncunningham, the south-eastern and eastern boundaries were defined by the rising topography of the sequence of Greenan Mountain and Bogay Hill. The south-western and western boundaries were defined by the coastline of the Inch levels, Blanket Nook and Lough Swilly.

There are two main roads within the Northern Ireland section of the Study Area; A2 Derry / Londonderry to Bridgend, and A515 Ferndale Rd Road. The A2 connects Derry / Londonderry with the border at Bridgend, while the A515 intersects the A2 at the Skeoge roundabout and links to the residential areas of Shantallow, Lenamore and Steelstown.

The Study Area within Northern Ireland is a mix of residential settlements, light industrial development and limited areas of greenfield / agricultural lands.

There are two main roads within the Republic of Ireland section of the Study area; N13 national primary route and R238 Bunrana Road; The N13 links the border at Bridgend (i.e. the end of the A2) to Bridgend village and onwards through Newtowncunningham. The R238 links Bridgend village with the town of Bunrana, via the villages and townlands of Burnfoot, Tooban, Fahan and Lisfannon. There are a number of quiet local roads and tracks located in

or around the N13 and R238, as well as both agricultural and undeveloped back lands, and the Study area also includes these.

The Study Area within the Republic of Ireland includes portions of the Inch Wildfowl Reserve, Lough Swilly Special Protection Area (SPA), Lough Swilly Special Area of Conservation (SAC), Lough Swilly Marina, North West Golf Club and Bunrana Golf Club in the west and north and the Grainan of Ailigh in the south east. The area is a mix of residential settlements, some isolated light industrial development and greenfield / agricultural lands.

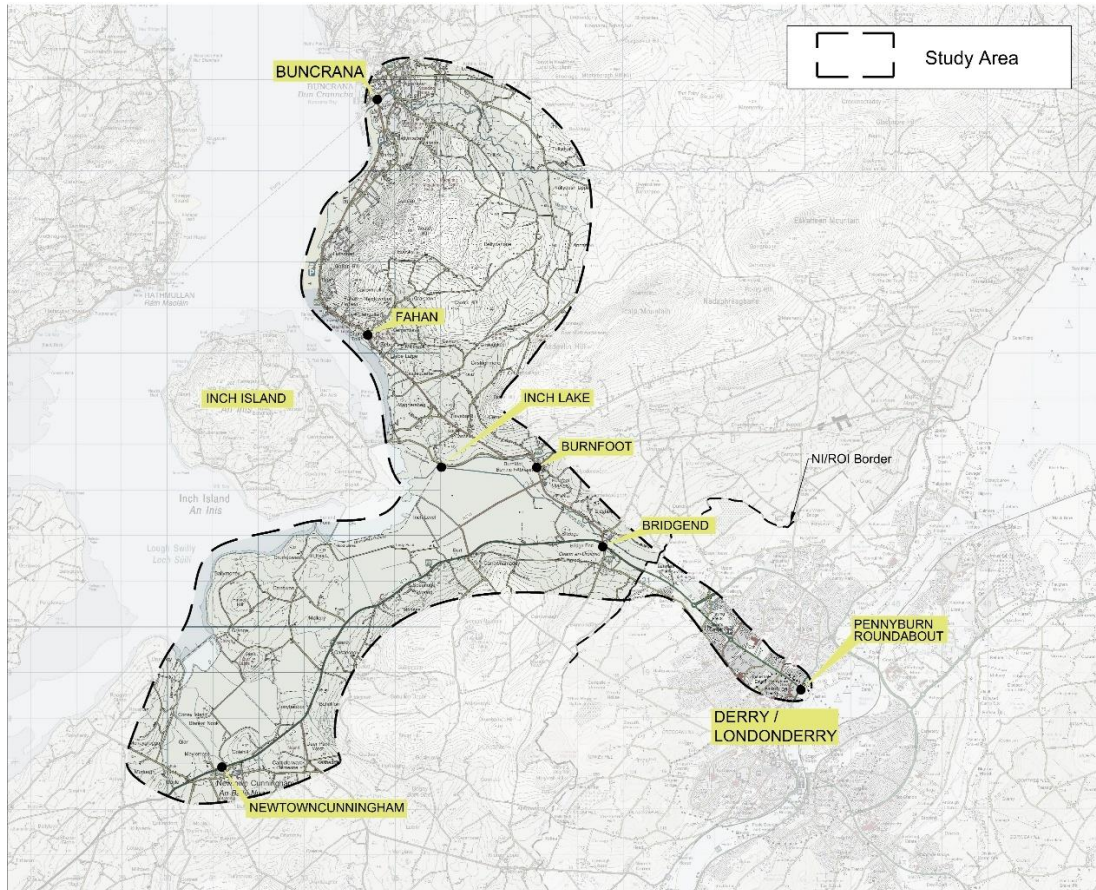
Within Sections 5 & 6 of this report, route corridors are considered under 5 individual sub-areas or sections. These are:

- Section 1: Routes from Derry / Londonderry to Bridgend
- Section 2: Routes from Bridgend to Inch Lake.
- Section 3: Routes from Inch Lake to Fahan Marina (includes Section 3A & Section 3B)
- Section 4: Routes from Fahan Marina to Bunrana & from Inch Lake / Fahan to Bunrana via Tullydish
- Section 5: Routes from Bridgend to Newtowncunningham

Figure 4.1 below describes the Proposed Study Area.

Note – All figures included in this report are included in Appendix B.

Figure 4.1 - Proposed Study Area



5 CONSTRAINTS, OPPORTUNITIES AND AREAS OF INTEREST

The preferred route of the completed greenway will be influenced by:

- physical and environmental constraints within the Study Area including impact on human beings and existing land use
- location of trip generators which offer significant potential to ensure significant usage and increase modal shift
- features within the Study Area that will offer opportunities to connect settlements and communities to each other, and to desired destinations (e.g. amenities, commercial or employment areas) via the proposed greenway; and will provide greatest opportunity for active travel and modal shift;
- Areas of interest, attractions, scenery and amenities within the Study Area that may attract tourists and visitors to the Greenway and the wider region, and/or service the needs of users of the greenway (e.g. cafes, toilet facilities)
- Geometric design standards
- Comparative Cost

This section describes the Study Area in terms of a range of headings which will help inform the design of the proposed Greenway.

Note - Description of each heading (where appropriate) is split between Northern Ireland and Republic of Ireland to facilitate subsequent reporting required in each jurisdiction.

5.1 Topography

5.1.1 Topography - Northern Ireland

The topography across the Study Area is relatively flat, with no significant hills or mountains. Levels rise from sea level at the Foyle Estuary, to levels varying between 5m OD (eastern end) and 10m (at the Bridgend Border) along the A2. The highest point within the Study Area is approximately 30m OD in the area of the intersection of the B507 Northland road and the Springtown road.

The section of the A515 between Buncrana Road and Racecourse Road has a steep gradient which is not desirable and may deter some leisure cyclists.

This flat topography should lend itself well to the proposed Greenway, it will minimise any requirement for significant earthworks and any inclines will be of a gradual gradient which will attract commuting and leisure cyclists.

5.1.2 Topography - Republic of Ireland

The topography across the Study Area shows some elevational change, some of which are more pronounced in the eastern extent of the study area between Tooban and Buncrana.

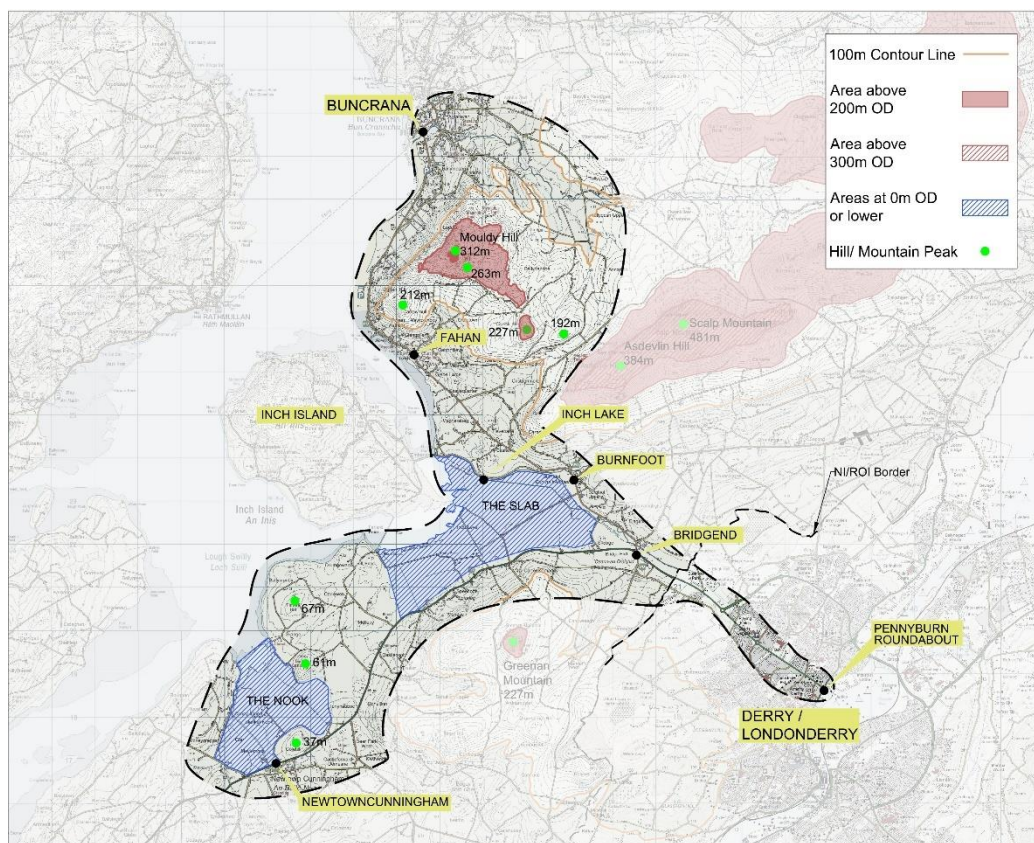
On the Swilly side corridors, levels rise from sea level at Lough Swilly, to levels varying between 5m OD (Buncrana) along the R238, 20m (at Figary) along the R238 and 10m (at Bridgend) along the N13.

On the Tullydish corridor, levels rise from 15m OD (Halfway House) along the R238 to levels varying between 140m OD (Monreagh), 80m OD at (Tullydish Bridge) and 5m OD (Buncrana).

On the Newtowncunningham corridors, levels rise from 10m OD (at Bridgend) and 5m OD (Inch Lake) to levels varying between 30m OD (Burt) along the N13, 30m OD (Hill Head) and 10m OD (Newtowncunningham).

The highest point within the Study Area is approximately 150m OD on the perimeter of Carrick Hill.

Figure 5.1 – Topography



5.2 Rivers, Streams and Watercourses

Rivers and streams offer significant features across certain parts of the Study Area and providing views or connections with such water features will be considered as part of the route selection process.

5.2.1 Rivers, Streams and Watercourses - Northern Ireland

The Skeoge River runs roughly parallel to, but is separated from, the alignment of the A2 between the Skeoge Roundabout to the Border within the study area and consideration will be given to reflecting this alignment in Greenway corridors in this area.

The study area is bounded on the east by the shore of the Foyle Estuary, which is part of the Lough Foyle Special Protection Area. This is discussed further in Section 5.3

5.2.2 Rivers, Streams and Watercourses - Republic of Ireland

The Skeoge River runs roughly parallel to, but is separated from, the alignment of the N13 between the Border and Bridgend. This river continues roughly parallel with the R238 until before Burnfoot, where the river enters a system of man-made water management canals to Inch Lake.

The Burnfoot River runs roughly parallel with the R238 from Burnfoot to its intersection with the Skeoge river management channel at Inch Lake.

The Crana River runs perpendicular to the R238 at the outskirts of the town of Buncrana, where it enters Lough Swilly.

There are a number of water management channels and minor tributaries within the Inch Levels and the Blanket Nook area.

The Tullydish River crosses the study area in the transit between Bawnloge and Tullydish Upper.

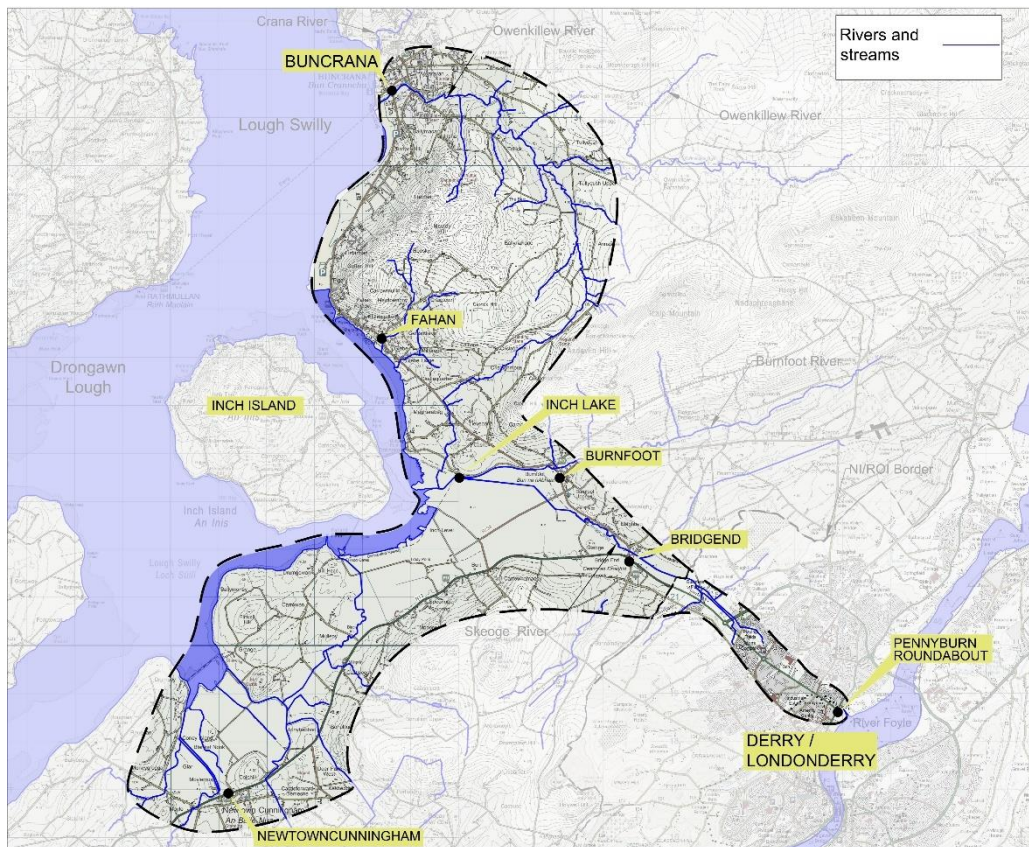
A number of river embankments and water channels within the study area in the areas of the Skeoge River, Burnfoot River and the Blanket Nook are maintained by the Office of Public Works (OPW) and will have requirements in terms of access and maintenance.

A number of smaller rivers and streams run through the Study Area, but these are not seen as significant points of interaction due to their size or environs.

The Lough Swilly, and its associated wetlands form the western and south western boundary of the study area and provide a number of points of scenic interest and engagement such as a marina at Fahan and popular beaches at Lisfannon and Trá Bán. Lough Swilly adjacent to the Study area is part of the Lough Swilly SPA and the Lough Swilly SAC. This is discussed further in Section 5.3.

Within the study area, consideration will be given to reflecting or engaging with these watercourses and with Lough Swilly in the alignment in Greenway corridors.

Figure 5.2 – Rivers, Stream and Watercourses



5.3 Environment and Ecology

5.3.1 Designated & Protected Areas – Northern Ireland

The Study Area is bounded on the east by the shores of Lough Foyle.

The **Lough Foyle Special Protection Area** (SPA - UK9020031) was designated in 1999 and qualifies for its designation under Article 4.1 of EC Directive 79/409 for its numbers of wintering birds, i.e. Whooper Swan, Brent Goose and Bar-tailed Godwit. It also qualifies under Article 4.2 for its numbers of a wide range of waterfowl. The designation extends to the border with Ireland. Designated lands continue in Ireland along this coastline as the Lough Foyle SPA (Site code: 004087).

While the SPA is defined in geographic terms and is bounded by the shoreline, any development which, considered singularly and/or in combination with other developments, may hold potential to impact on the species for which the SPA has been designated will require assessment in accordance with the habitats directive.

The lands which have been designated as the Lough Foyle SPA are also subject to ecological designation as the Lough Foyle ASSI (ASSI051) and Lough Foyle RAMSAR site.

The Greenway will pass close to the zoned housing and commercial lands of Derry City from Coshquin to the Border along the A2.

5.3.2 Designated & Protected Areas – Republic of Ireland

The **Lough Foyle SPA** (Site code: 004087) in Ireland comprises a section of the western shore of the lough and is part of the wider site complex that straddles the border between the Republic and Northern Ireland. The designation extends from the border at Muff in County Donegal along the western shores of the River Foyle to north of Vances Point in Co. Donegal.

The site is part of an internationally important wetland site that regularly supports in excess of 20,000 wintering waterbirds. It supports internationally important populations of three waterbed species (Whooper Swan and Light-bellied Brent Goose and Bar-tailed Godwit) and nationally important populations of a further 20 species.

The **Lough Swilly SPA** bounds the Study Area along the Inch levels and along the western costal boundary northwards to the upper extent of the SPA at Lisfannon beach. The Lough Swilly SPA was enacted by S.I. no. 592 of 2012 under the European Communities (Conservation of Wild Birds (Lough Swilly Special Protection Area 004075)) Regulations 2012. While the SPA is bounded by the shoreline or designated portions of low lands or wetlands, any site-specific operations or activities as outlined in the order within a set distance of the boundary of the SPA require the consent of the Minister of the day.

The **Lough Swilly SAC** bounds the Study area along the Inch levels and along the western costal boundary northwards to Bunrana. The Lough Swilly SAC, site code 002287 was selected as a SAC for the following habitats and/or species listed on Annex I/II of the E.U. Habitats Directive: Estuaries, Costal Lagoons (priority), Atlantic Salt Marshes, Molinia Meadows, Old Oak Woodlands, Otter (*Lutra lutra*). While the SAC is bounded by the shoreline or designated portions of low lands or wetlands, certain activities require prior notification to the Minister of the day.

These designations overlap in parts (i.e. some lands are both designated Lough Swilly SAC and SPA) and portions of route corridors between Burnfoot to Bunrana run close to, or through, portions of both of these Natura 2000 designated areas, which are also noted to be an identified proposed Natural Heritage Area (pNHA) Lough Swilly including Big Isle, Blanket nook (Site code 000166).

The **North Inishowen Coast SAC** (site code 002012) is noted along the same coastline approximately 8.5km north of Bunrana town, Co. Donegal. This large site that stretches from Crummies Bay in the west up to Malin Head and back down to Inishowen Head to the East. It includes a variety of coastal habitats including vegetated shingle, sand dunes, machair and sea cliffs. The following four coastal habitats are included in the qualifying interests for the site: Perennial vegetation of stony banks (1220); Fixed coastal dunes with herbaceous vegetation (grey dunes) (2130); Machairs (21A0); Vegetated sea cliffs of the Atlantic and Baltic coasts (1230). The proposed development will not cross or pass close to this designated site.

An area of the hill lands at Fahan / Lisfannon are designated Areas of Especially High Scenic Amenity under map 7.1.1 of the County Donegal Development Plan 2018-2024.

5.3.3 Ecology, Flora and Fauna – Northern Ireland

Aside from the Lough Foyle SPA, and based on the results of the Preliminary Ecological Assessment (PEA, included in Appendix E), there are few notable areas of ecological interest within the Study Area, with carriageways generally free from trees and foliage beyond grasses and light brush. The potential exists for the presence of invasive species, e.g. Japanese Knotweed and Salmonberry. Detailed surveys to establish the extent of invasive species will be progressed as the preferred route corridor emerges. Potential for sections of the route to presently provide habitat for birds, badgers, otters, newt, bats and squirrel are noted. Sections of the greenway run close to watercourses and drainage channels which may include valued aquatic habitats.

Carriageways and roads are bounded by some mature trees and hedgerows consisting of broadleaf species (some native, some not) such as hawthorn, ash, sycamore and beech.

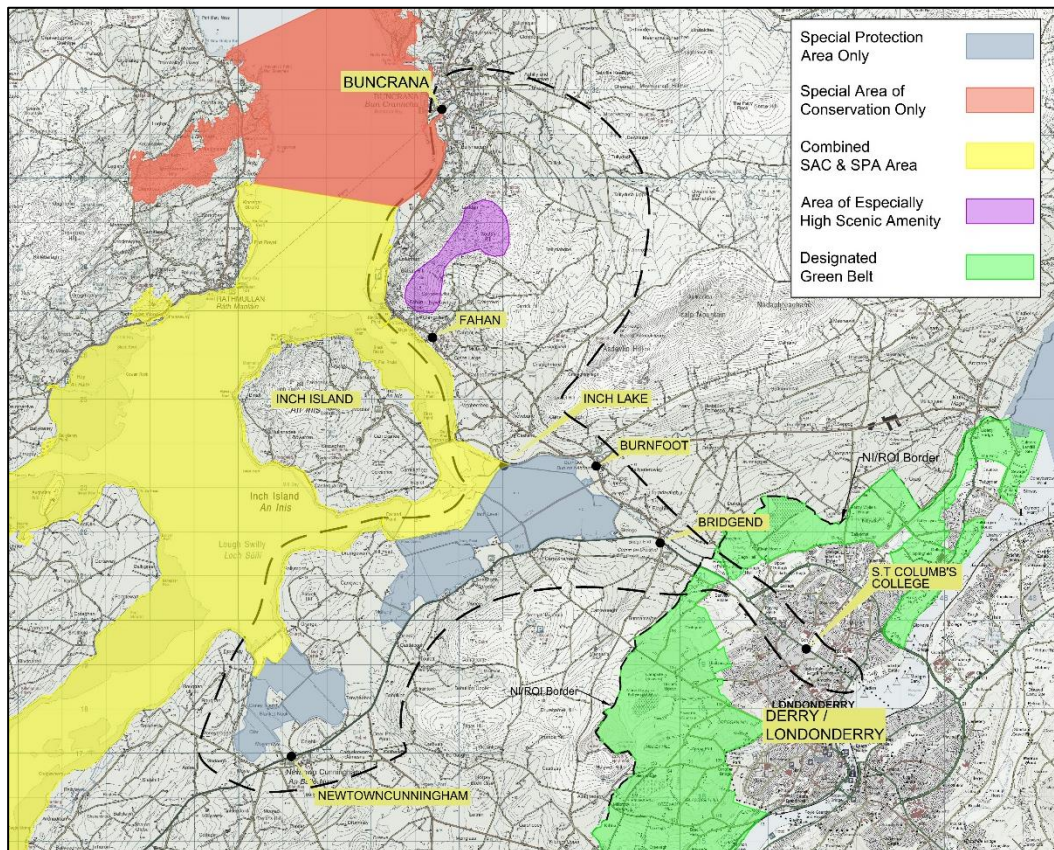
These aspects will be assessed at a later stage and in the course of the Environmental Impact Assessment.

5.3.4 Ecology, Flora and Fauna – Republic of Ireland

Aside from the Lough Swilly SPA and SAC, there are few notable areas of ecological interest within the Study Area, with carriageways and pathways generally bounded by hedgerows or light woodlands, including mature trees, consisting of native (or naturalised) species such as hawthorn, ash, sycamore and beech. The potential exists for the presence of invasive species, e.g. Japanese Knotweed and Salmonberry. Detailed surveys to establish the extent of invasive species will be progressed as the preferred route corridor emerges. Donegal County Council are currently undertaking an eradication project on such species along public carriageways.

Potential for sections of the route to presently provide habitat for birds, badgers, otters, newt, bats and squirrel are noted. Sections of the greenway run close to watercourses and drainage channels which may include valued aquatic habitats. These aspects will be assessed further at a later stage and in the course of the Environmental Impact Assessment.

Figure 5.3 – Environmental Designations



Note - Preliminary surveys and assessments of ecology, birds and mammals are currently being progressed across the Study Area. Detailed surveys will be progressed as required and in accordance with Environmental legislation and regulations. Where impact on habitats and species is unavoidable appropriate mitigation procedures will be explored and implemented to ensure minimal disturbance.

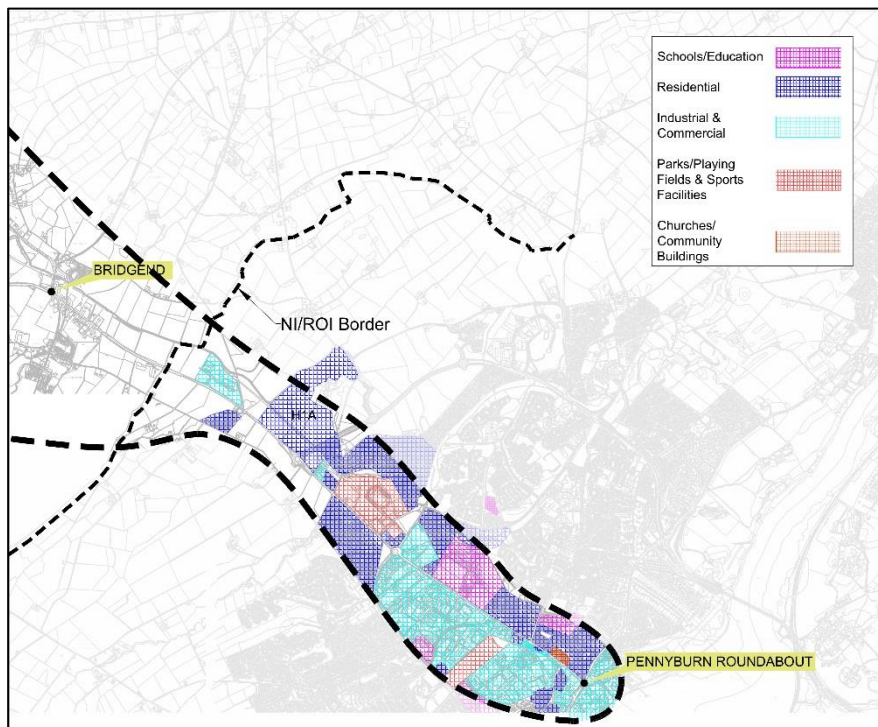
5.4 Existing Land Use and Zoning

5.4.1 Existing Land Use - Northern Ireland

Outside of the urban areas, lands across the Northern Ireland section of Study Area are predominantly agricultural / greenfield or light industrial. An area known as H1A Lands bordering the A2 has been zoned for residential development. Farming and agricultural practices are mostly tillage and crops with some grazing of livestock also evident.

The A2 has a number of industrial estates along its length, both within the urban area (Pennyburn, Springtown) and in the mainly rural areas (Elagh). Retail parks with are located at both the Pennyburn roundabout and Branch roundabout

Figure 5.4.1 – Existing Land Use - Northern Ireland



5.4.2 Existing Land Use - Republic of Ireland

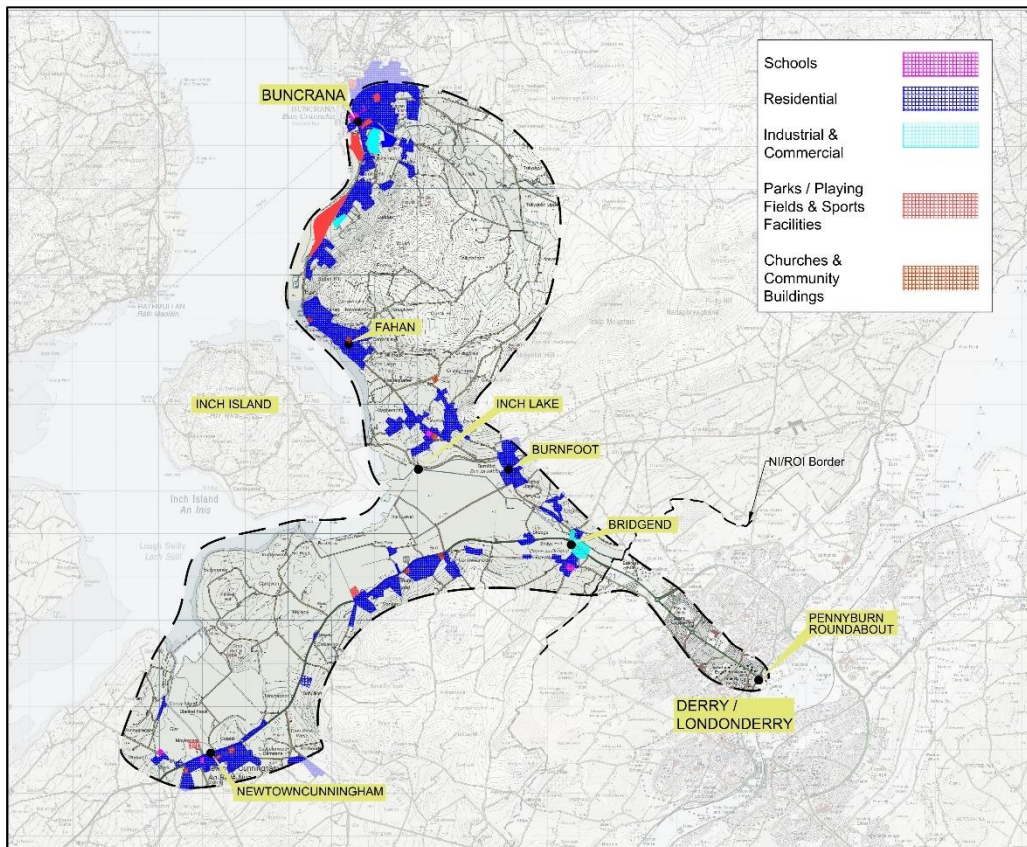
Outside of the urban area of Buncrana and the smaller communities of Bridgend, Burnfoot, Tooban, Fahan, Burt and Newtowncunningham land use is mainly agricultural, with only limited retail or industrial properties along the route corridors. The exception to this is the industrial estate at Lisfannon.

Generally, in rural areas along the route corridors, housing has been constructed in a linear fashion along, or close to, public highways.

The remainder of the land is agricultural, mainly tillage, with some grazing of livestock including dairy farming operations. The agricultural lands on the Inch Levels, locally known as “the Slab”, are the location of intensive agricultural production and management including substantial Organic Farming operations.

Where the Greenway route is being considered across agricultural lands, constraints imposed by farming practices will be considered in detail and impacts on farming and agricultural lands will be minimised.

Figure 5.4.2 – Existing Land Use – Republic of Ireland



5.5 Proposed and Future Developments

There are a number of key developments either proposed or under construction in close proximity to the proposed Greenway corridors. The developments may provide opportunities for links to the proposed Greenway. On the other hand, the Greenway route may have to consider these proposed developments so that the designs complement each other. Key developments are listed as follows.

5.5.1 Proposed Developments - Northern Ireland

A planning application has been submitted for a mixed retail, filling station and medical services complex at the disused “Arntz” manufacturing facility opposite St. Patricks Church in Pennyburn (Planning ref A/2014/0629/F.) The current status of this application is ‘Consultations Issued’ on the NI Planning Service Portal.

Permission has been granted for a 2 storey light industrial building at Elagh Business Park (planning ref LA11/2018/0050/F).

A planning application has been submitted for 4 No. single storey retail units and associated car parking, and including a new access junction on Upper Galliagh Road. (Planning ref LA11/2018/1205/F). The current status of this application is ‘Consultations Issued’ on the NI Planning Service Portal.

Lands to both sides of the A2 have been zoned for residential development. Lands to the North of the A2 are in Zone H1A and outline planning permission has been granted for a development in this zone. Lands to the South of the A2 are in Zone H2.

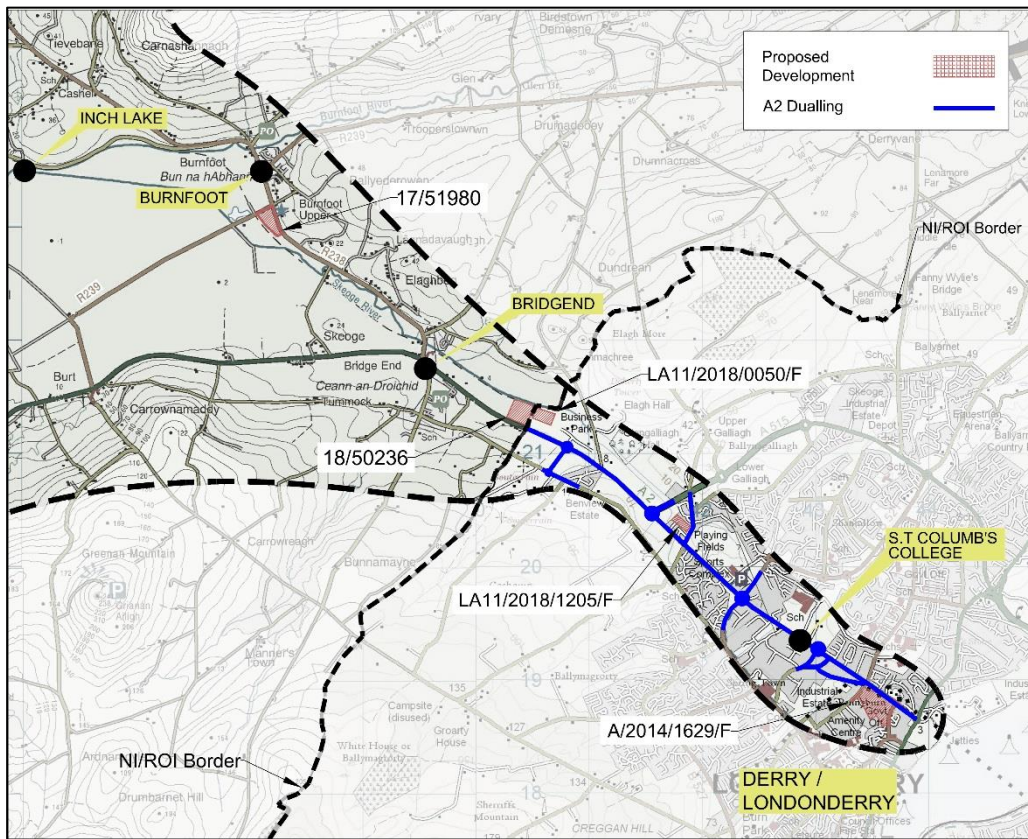
A proposal has been brought forward by the Department of Infrastructure (DfI) for the upgrade of the existing A2 between Pennyburn Roundabout and the Border.

5.5.2 Proposed Developments - Republic of Ireland.

An application has been received to extend a previous permission for a two-storey data centre and associated infrastructure (Planning ref 18/50236). No decision has yet been given.

Permission has been given for an extension to the existing E&I Engineering facility at Burnfoot (Planning ref: 17/51980).

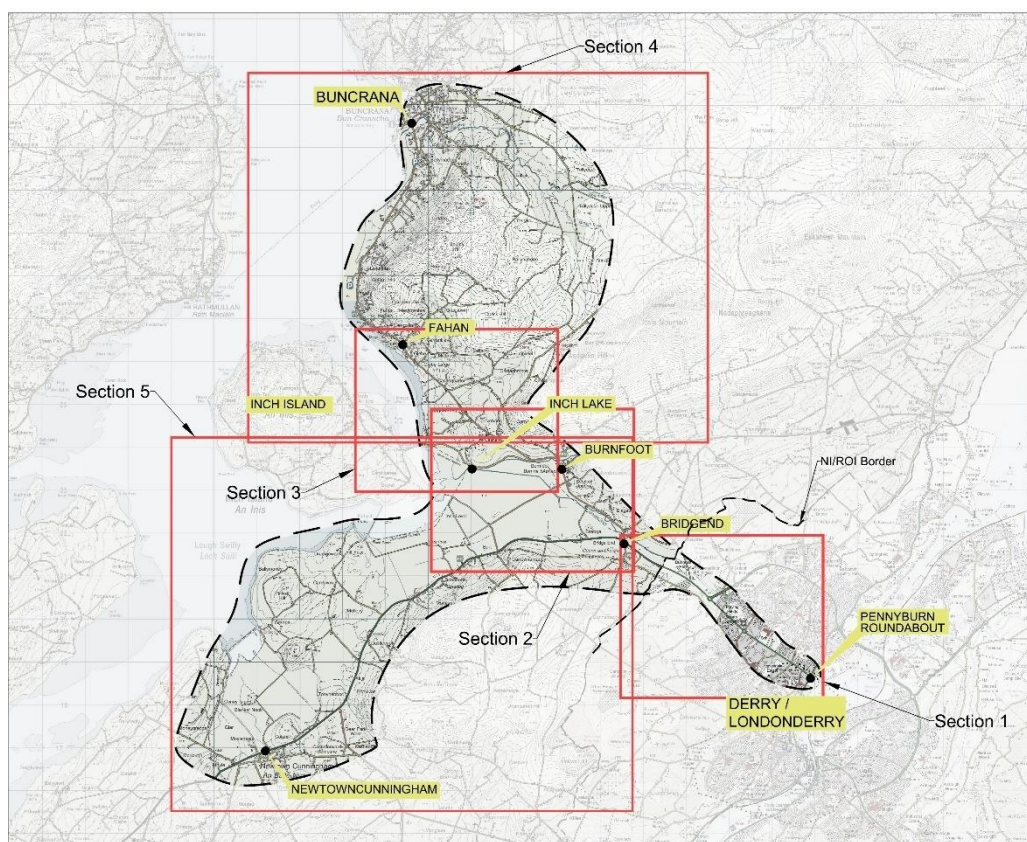
Figure 5.5 - Proposed Developments



5.6 Local Amenities and Attractions

Amenities and attractions within the Study Area will provide opportunities for connections with the proposed Greenway. Route corridors connecting with local amenities and attractions may benefit from the existing trips generated by these facilities by providing potential for modal shift of some of these trips from motorised vehicles to walking/cycling. The additional trips and journeys generated on completion of the Greenway should also help to increase existing visitor numbers.

Figure 5.6 – Local Amenities - Overview



5.6.1 Local Amenities and Attractions – Section 1 (Pennyburn to Bridgend)

5.6.1.1 Section 1 – Northern Ireland

There is one park maintained by DCSDC close to, but not within, the Study Area:

- **Bay Road Park:** this park covers 20ha and includes a variety of paths, wetlands, woodlands and meadows supporting a range of animal and plant life. The park offers views across the Foyle and of the Foyle Bridge. While not within the Study Area for this route, its proximity to the terminus of the route at the Pennyburn roundabout should be noted.

Other amenities within the Study Area include a series of retail outlets located along, or close to, the A2. These provide a range of service such as homewares, groceries / provisions etc. The study area contains industrial and retail parks offering larger retail stores and services and a large leisure centre at Templemore.

The Study Area also includes the western sections of Derry / Londonderry, with its range of businesses, cafes and restaurants. The proposed Greenway will provide a new and attractive alternative travel option for residents and tourists travelling to the city for leisure, business, school and work.

Figure 5.6.1 shows the locations of key Amenities and Attractions across Section 1 of the Study Area in Northern Ireland and a list of these is included in Table 5.6.1.1

Table 5.6.1.1 - Amenities and Attractions – Section 1 – Northern Ireland

Reference	Description	Amenity / Attraction
1	DCSDC Operated Parks	Bay Road Park
2	Sports Facilities / Playing Fields	Templemore Sports Center
3		Play trail outdoor recreation facility
4	Community Buildings & Churches	St. Patrick's, Pennyburn
5		Pennyburn Youth Club
6		Holy Family Church, Ballymagroarty
7	Commercial Hub	Pennyburn Roundabout retail park
8		Pennyburn Industrial estate
9		Springtown Industrial estate
10		Branch Roundabout retail park
11		Whitehouse retail park
12		Elagh business park

5.6.1.2 Section 1 – Republic of Ireland

The amenities and attractions in the Rep. of Ireland part of this section are centred on the commercial hub at Bridgend on the approach to the N13 / R238 roundabout which includes a variety of shops, cafes, amusement arcades and businesses, providing an attractive range of facilities for Greenway users. Local businesses should benefit from increased visitor numbers generated by the Greenway, and new business opportunities, e.g. bicycle rental and bicycle repairs, can be considered.

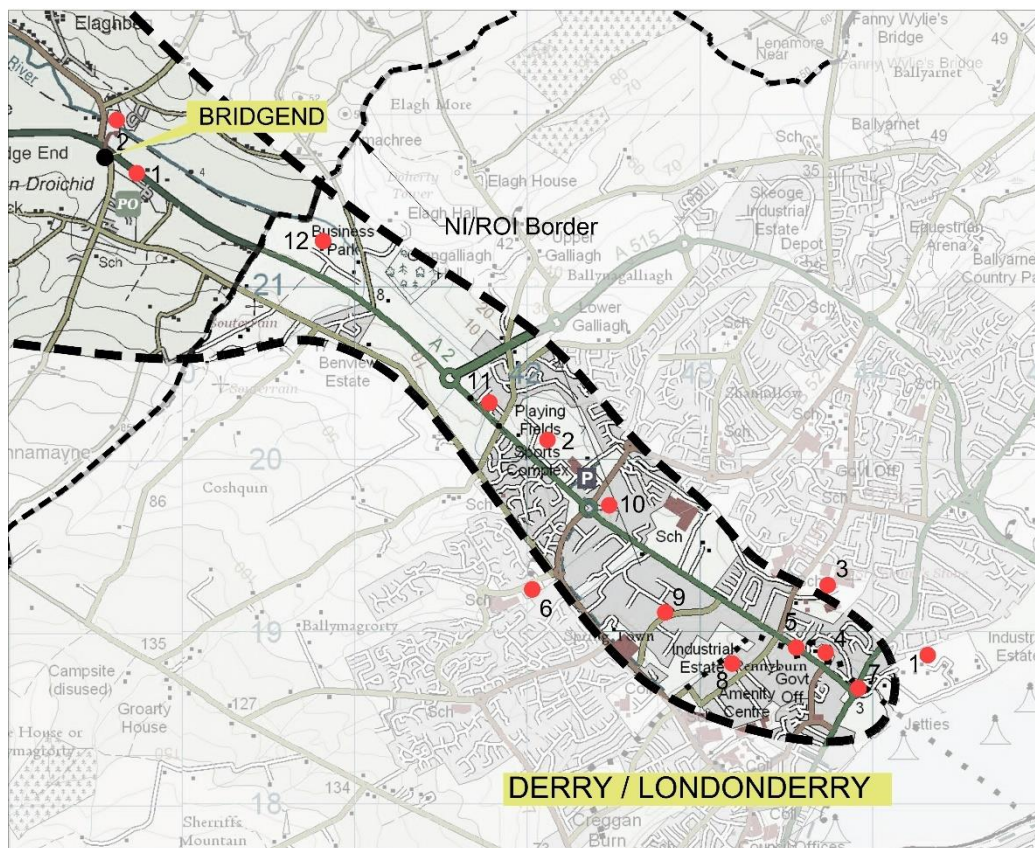
There are no public parks or facilities in this section

Figure 5.6.1 shows the locations of key Amenities and Attractions across Section 1 of the Study Area in the Republic of Ireland and a list of these is included in Table 5.6.1.2.

Table 5.6.1.2 - Amenities and Attractions – Section 1 – Republic of Ireland

Reference	Description	Amenity / Attraction
1	Commercial Hub	Bridgend Town Centre
2		Elaghbeg Business Park

Figure 5.6.1 – Amenities and Attractions – Section 1 (Pennyburn to Bridgend)



5.6.2 Local Amenities and Attractions – Section 2 (Bridgend to Inch Lake)

The main amenities on Section 2 are centred on the commercial hub at Burnfoot which includes a community centre, a variety of shops, cafes, and businesses, providing a range of facilities for Greenway users. Local businesses should benefit from increased visitor numbers generated by the Greenway, and new business opportunities, e.g. bicycle rental and bicycle repairs, can be considered.

There are no public parks or facilities in this section.

Figure 5.6.2 shows the locations of key Amenities and Attractions across Section 2 of the Study Area and a list of these is included in Table 5.6.2

Figure 5.6.2 – Amenities and Attractions – Section 2 (Bridgend to Inch Lake)

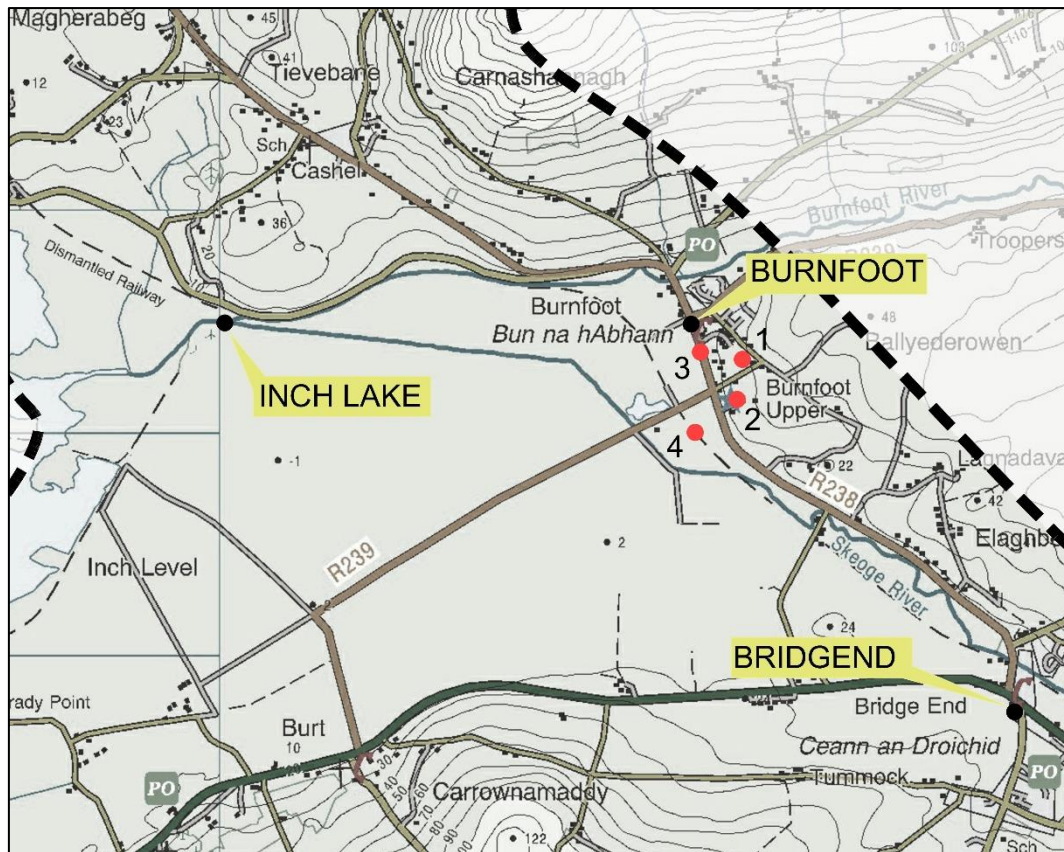


Table 5.6.2 - Amenities and Attractions – Section 2 (Bridgend to Inch Lake)

Reference	Description	Amenity / Attraction
1	Community Buildings & Churches	Aileach Youth Club and Community Centre
2		Garda Station
3	Commercial Hub	Burnfoot Town Centre
4		E&I Engineering (primary modal shift generator)

5.6.3 Local Amenities and Attractions – Section 3 (Inch Lake to Fahan)

The community attractions in Section 3 are at the small commercial hub at the area known as “the Halfway”, along with isolated retail and hospitality establishments within the corridor. Local businesses should benefit from increased visitor numbers generated by the Greenway, and new business opportunities, e.g. bicycle rental and bicycle repairs, can be considered.

This section contains a portion of the Inch Wildfowl Reserve Looped Walk along the course of the old railway line.

Figure 5.6.3 shows the locations of key Amenities and Attractions across Section 3A and 3B of the Study Area and a list of these is included in Table 5.6.3.

Figure 5.6.3 – Amenities and Attractions – Section 3A & 3B (Inch Lake to Fahan Marina)

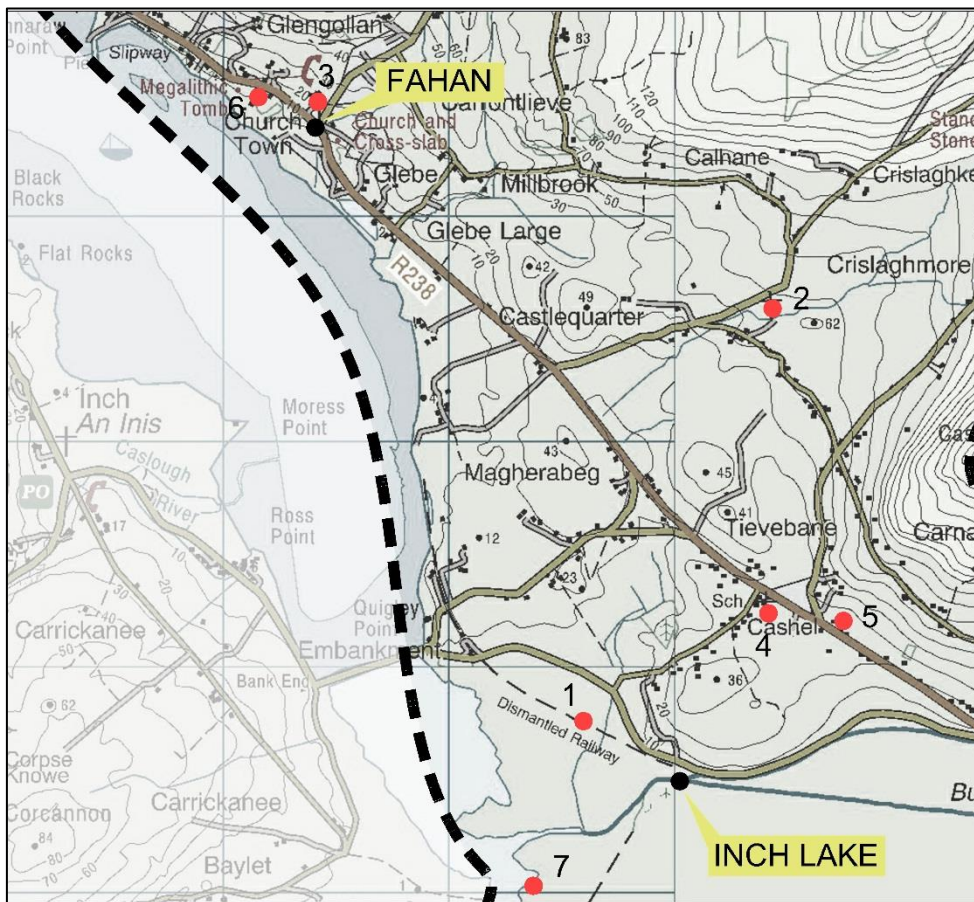


Table 5.6.3 - Amenities and Attractions – Section 3A and Section 3B (Inch Lake to Fahan)
(assumed Section 3A unless noted)

Reference	Description	Amenity / Attraction
1	Community Buildings & Churches	Aileach Football Club
2		St. Mura's Church (RC)
3		St. Mura's Church (COI)
4		Fahan Presbyterian Church
5	Commercial Hub	"Halfway" retail area, bar and restaurant
6	B&B, Restaurant	Red Door Country House, Fahan (Section 3B)
7		Inch Wildfowl Reserve Walk

5.6.4 Local Amenities and Attractions – Section 4 (Fahan Marina to Buncrana)

The main congregation of amenities in this section is the urban centre of Buncrana which provides a series of retail outlets such as homewares, groceries / provisions etc. The study area contains industrial and retail areas offering larger retail stores and services. The section also contains several isolated retail and hospitality establishments. The proposed Greenway will provide a new and attractive alternative travel option for residents and tourists travelling to the town for leisure, business, school and work.

Local businesses should benefit from increased visitor numbers generated by the Greenway, and new business opportunities, e.g. bicycle rental and bicycle repairs, can be considered.

Figure 5.6.4 shows the locations of key Amenities and Attractions across Section 4 of the Study Area and a list of these is included in Table 5.6.6.

Figure 5.6.4 – Amenities and Attractions – Section 4 (Fahan Marina to Buncrana)

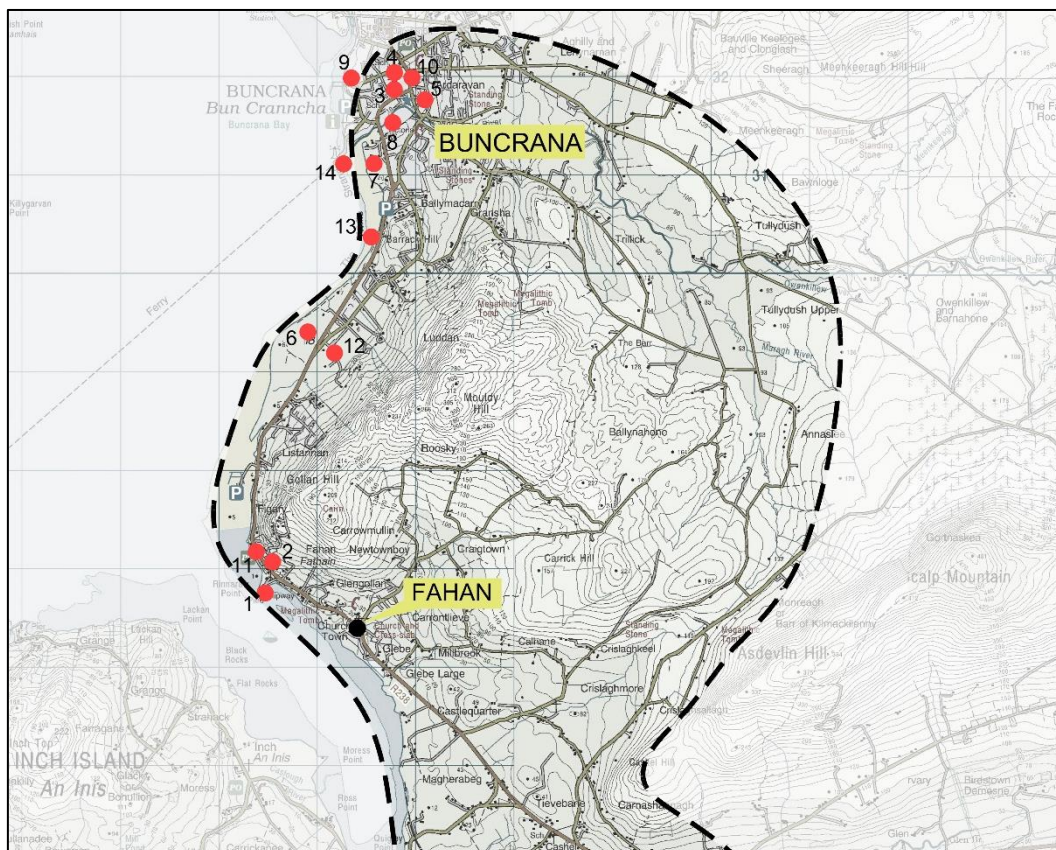


Table 5.6.4 - Amenities and Attractions – Section 4 (Fahan Marina to Buncrana)

Reference	Description	Amenity / Attraction
1	Community Buildings and Sports Facilities and Amenities	Swilly Yacht Club and Marina
5		Garda Station
6		North West Golf Club
7		Buncrana Golf Club
8		Buncrana GAA Club
9		Buncrana Youth Club
2	Churches & Religious Buildings	Chapel of the Immaculate Conception
3		St. Mary's Oratory
4		Fahan Lower Christ Church
10	Commercial Hub	Buncrana town Centre
11		Fahan dining establishments
12		Lisfannon Business park
13	Beaches	Lisfannon Beach
14		Trá Bán Beach

5.6.5 Local Amenities and Attractions – Section 3 & 4 Tullydish: Routes from Inch Lake / Fahan to Buncrana via Tullydish

This section provides access to no additional community building, Churches or commercial hubs beyond those already identified, but does travel through, and provide views of, areas of forestry and peat uplands. Views of additional geographic features such as Scalp Mountain would also be provided.

5.6.6 Local Amenities and Attractions – Section 5 (Bridgend to Newtowncunningham)

The main amenities and attractions in Section 5 are centred on Newtowncunningham, along with isolated retail and hospitality establishments within the corridor. The proposed Greenway will provide a new and attractive alternative travel option for residents and tourists travelling to the town for leisure, business, school and work.

This section contains a portion of the Inch Wildfowl Reserve Walk along the course of the old railway alignment as well as the historically significant Grianán of Aileach

Figure 5.6.6 shows the locations of key Amenities and Attractions across Section 6 of the Study Area and a list of these is included in Table 5.6.6.

Figure 5.6.6 – Amenities and Attractions – Section 5 (Bridgend to Newtowncunningham)

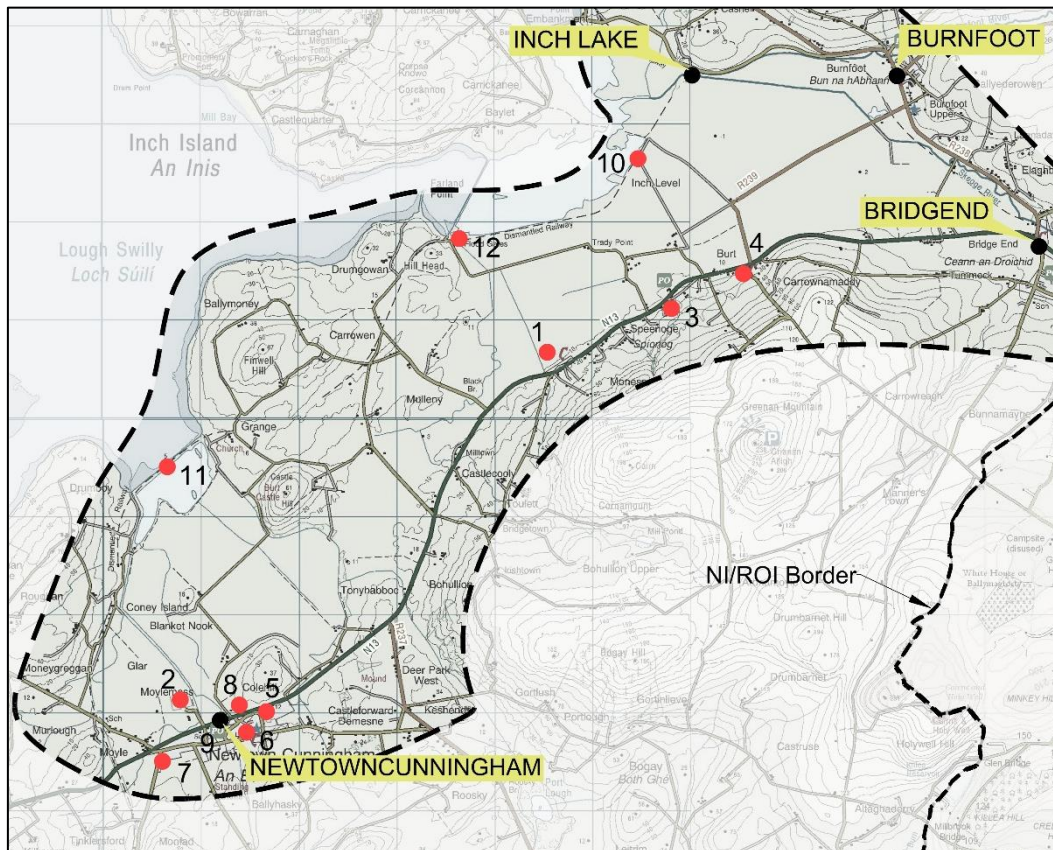


Table 5.6.6 - Amenities and Attractions – Section 5 (Bridgend to Newtowncunningham)

Reference	Description	Amenity / Attraction
1	Community Buildings & Churches	Burt GAA
2		Naomh Colmcille GAA
3		Burt Presbyterian Church (PSB)
4		St. Aengus Church (RC)
5		All Saints Church (COI)
6		All Saints Church (RC)
7		Newtowncunningham Presbyterian Church (PSB)
8		Garda Station
9	Commercial Hub	Newtowncunningham
10	Trails and Walkways	Inch Wildfowl Reserve Walk
11		Grange Embankment Causeway
12		Farland Embankment Causeway

5.7 Built Environment and Local Heritage

There are a number of historic buildings and scheduled sites and monuments within the Study Area. While these are not likely to be viewed as ‘attractions’ by the general public, they may be considered as constraints as the route corridors and the design of the greenway will need to avoid any significant impacts on these sites.

Figure 5.7.1 below describes the location of the main buildings and features identified in the Northern Ireland Section of the scheme. Table 5.7.1 lists these buildings and features.

Table 5.7.1 – Built Heritage, Northern Ireland

No.	Name	Designation/Protection	Location
1	St. Patrick’s Church	Listed	Along A2, close to Pennyburn Roundabout
2	St. Patrick’s Church Presbytery	Listed	Along A2, close to Pennyburn Roundabout
3	Belmont House and Garden	Listed	Off Racecourse Road
4	Gate Lodge, Glengallagh Hall	Listed	Off upper Gallagh Road
5	House and outbuildings at Derryowen	Listed	Coshquin area, off A2

In the ROI Section of the scheme, the National Monuments Service (NMS) database was consulted to provide a list of all features within the Study Area. A map of these features is provided at the following link:

<https://www.archaeology.ie/archaeological-survey-ireland/historic-environment-viewer-application>

The viewer provides a map of National Monument features which are listed in the Record of Monuments and Places (RMP) (as established under Section 12 of the National Monuments Acts 1930 to 2004) and Architectural features included the National Inventory of Architectural Heritage (NIAH).

The list of features is extensive and it is considered that not all of the feature are considered relevant in the context of this assessment.

Figures 5.7.1 to 5.7.5 below show all the features listed on the NMS viewer, along with the key features identified that the Project Team considered relevant to the assessment of the Preferred Route Corridor.

Some features outside the Study Area boundary are included for reference.

The key features identified are listed in Table 5.7.2 below.

Table 5.7.2 – Built Heritage, ROI

No.	Name	Designation/Protection	Location
6	Remains of ring fort	Scheduled	Off N13 at Bunnamayne
7	Standing stone	Scheduled	Off N13 at Bunnamayne
8	Remains of ring fort	Scheduled	Off N13 at Dundrean
9	St Mura's Holy Well	Scheduled	Carrowmullin, Fahan
10	Fahan old church, historic cross, notable grave slabs	Scheduled	On R238 at Fahan
11	Megalithic tomb	Scheduled	Private grounds along R238 between Fahan church and access road to Fahan pier
12	Standing stone	Scheduled	In the townland of Crislaghkeel
13	Megalithic tomb	Scheduled	In the townland of Crislaghmore
14	St. Aengus Church	Listed	N13 at Burt
15	Standing stones	Scheduled	Speenoge / Grianán of Aileach area
16	Grianán of Aileach	National Monument	Grianán of Aileach
17	Burt Castle	Scheduled	Castle hill, Burt
18	Grange ruined church and historic graveyard	Scheduled	Blanket Nook
19	Old Railway Station House	Listed	Moyle Road, Newtowncunningham
20	Old sluice gates at Inch Lake	Listed	Inch Level
21	Megalithic tomb in the grounds of the Red Door	Scheduled	Carrowmullin, Fahan
22	St Muras Church of Ireland	Listed	On R238 at Fahan
23	Nazareth House Nursing Home	Listed	Figary, Fahan
24	Roneragh Hotel	Listed	On R238 at Fahan
25	Former Railway bridge at yacht club		Fahan
26	Drift Inn Bar & Restaurant – Former railway station	Listed	Railway Road, Bunrana
27	Bunrana Castle	Scheduled	
28	Ned's Point Fort	Listed	Ned's Point, Bunrana
29	Former Railway Bridge, Magherabeg	Listed	Magherabeg
30	Fahan House	Listed	Fahan

Figure 5.7.1 – Cultural, Heritage & Visual Attractions - Section 1

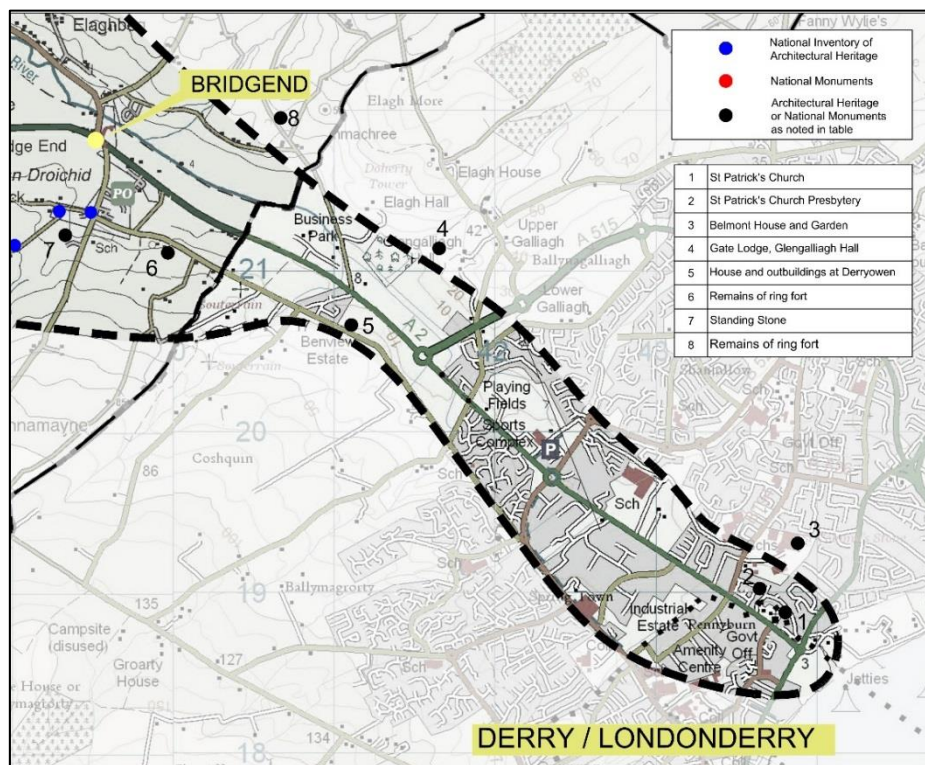


Figure 5.7.2 – Cultural, Heritage & Visual Attractions - Section 2

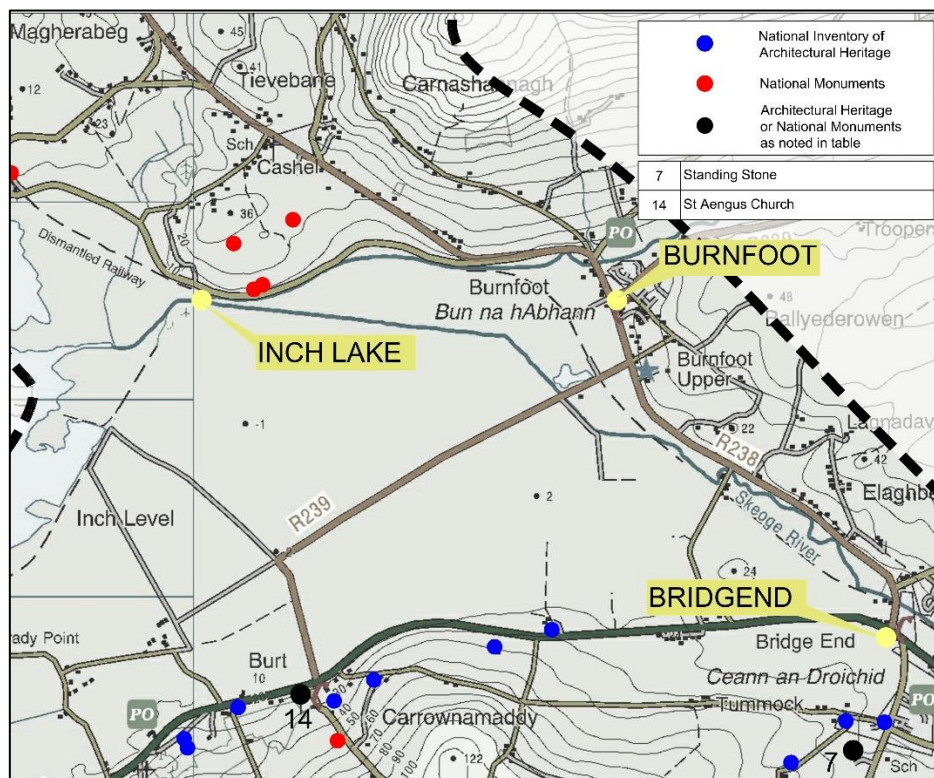
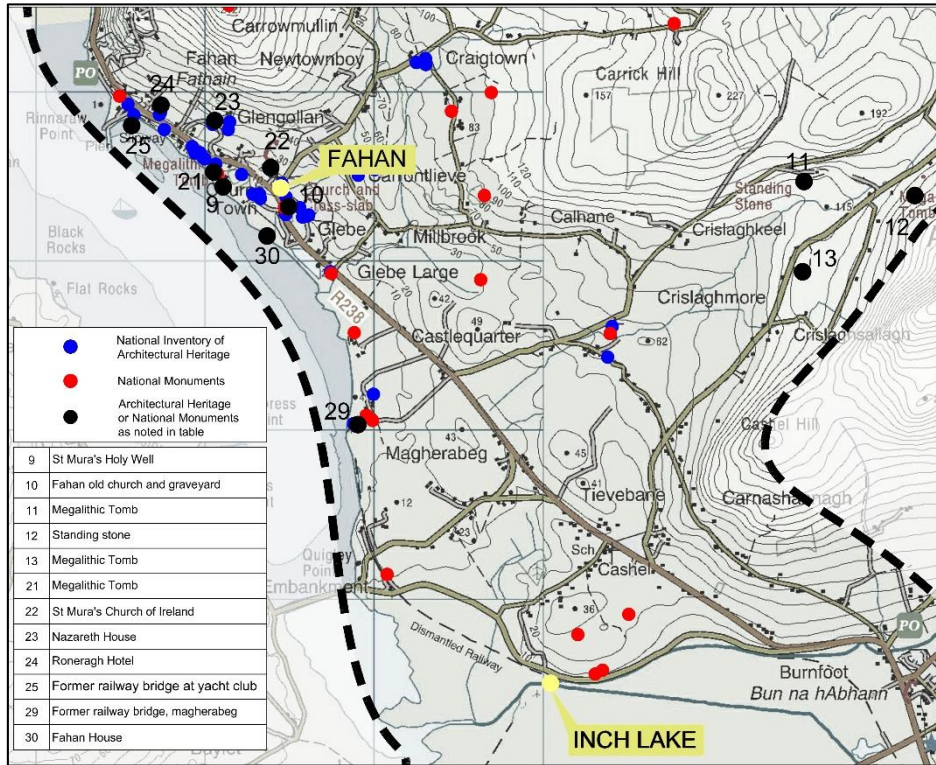


Figure 5.7.3 – Cultural, Heritage & Visual Attractions - Section 3, including Fahan



Note - There a number of features on the National Inventory of Archaeological Heritage within the Fahan area, and the key features are described on this Figure.

Figure 5.7.4 – Cultural, Heritage & Visual Attractions - Section 4

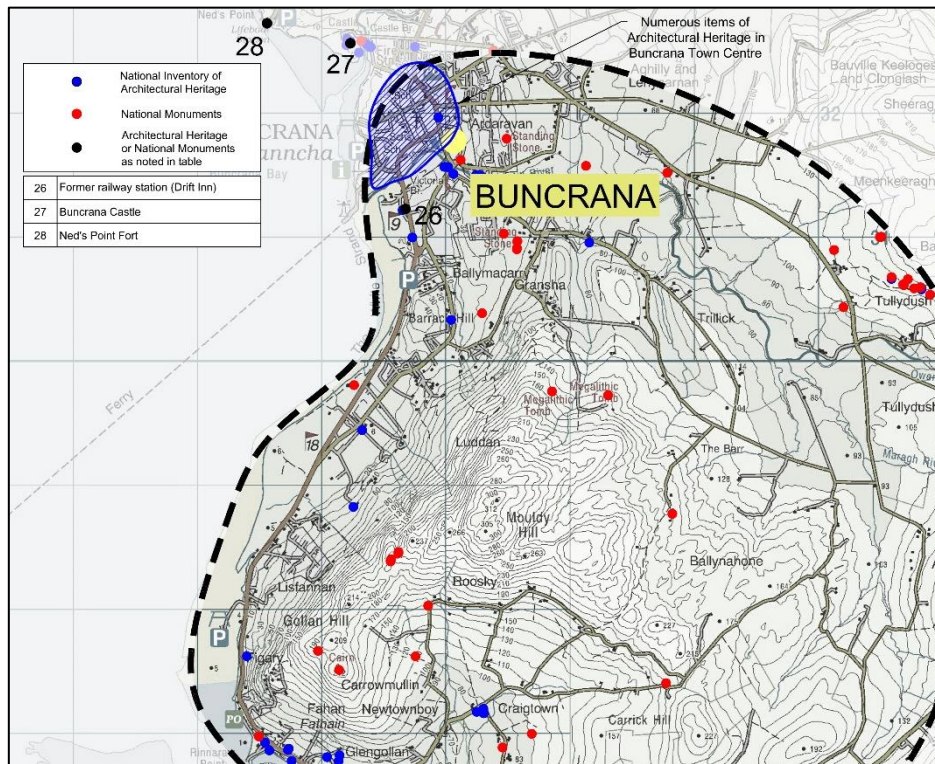
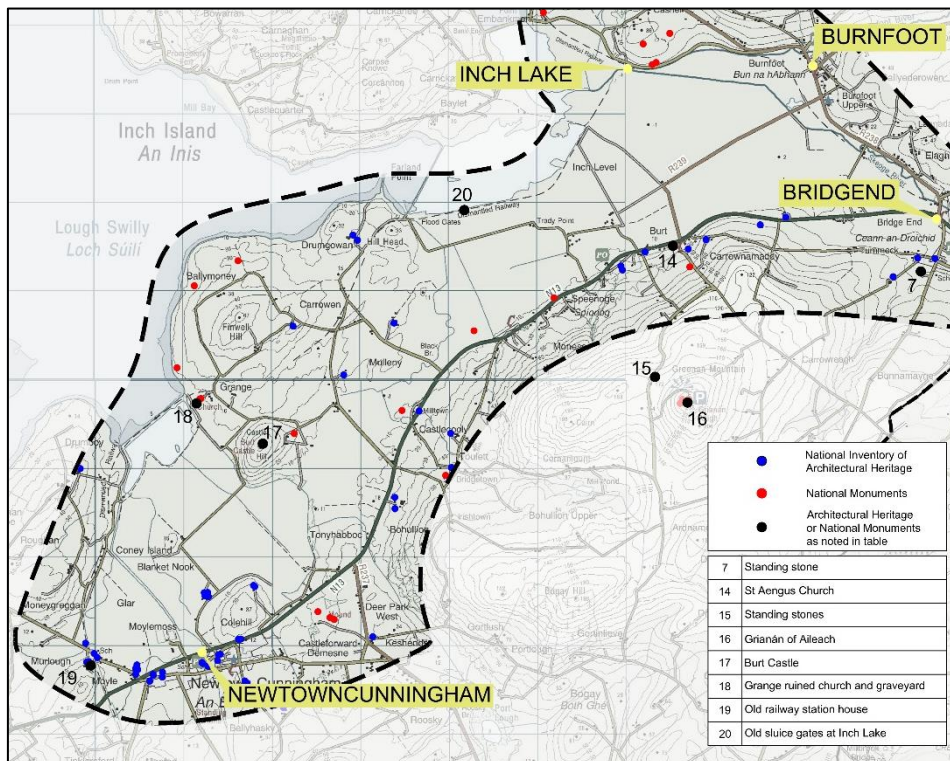


Figure 5.7.5 – Cultural, Heritage & Visual Attractions - Section 5



5.8 Existing Patterns of Travel and Social Interaction

5.8.1 Existing Patterns of Travel and Social Interaction

Travel patterns within the Study Area are expected to be dominated by medium or short, local commuting journeys for work, business and school between Buncrana, via Fahan, Burnfoot, Bridgend to Derry / Londonderry and vice versa. The A2 & R238 also serves as the western access road to the greater Inishowen Peninsula – a popular destination for tourists throughout the year and particularly in summer.

The latest census data (2016 for RoI, 2011 for NI) records the following population counts:

- Derry / Londonderry: 83,125
- Bridgend 454
- Burnfoot: 450
- Fahan: 588
- Buncrana 6,785
- Newtowncunningham 1,080

5.8.2 Schools and Education Centres

Schools and Education Centres are an important consideration for achieving the NWGN scheme aim of modal shift. Providing a Greenway allowing students, parents and staff to safely travel to school will help shift travel patterns towards more sustainable and healthy models. The selection of route corridors will consider proximity to schools, especially secondary schools or third level institutions where students are more likely to travel unaccompanied by parents or guardians.

Figure 5.8.2 shows the locations of schools across the Study Area and a list of these is included in Table 5.8.2.1 (Primary Schools) and Table 5.8.2.2 (Secondary Schools).

Figure 5.8.2 – Schools

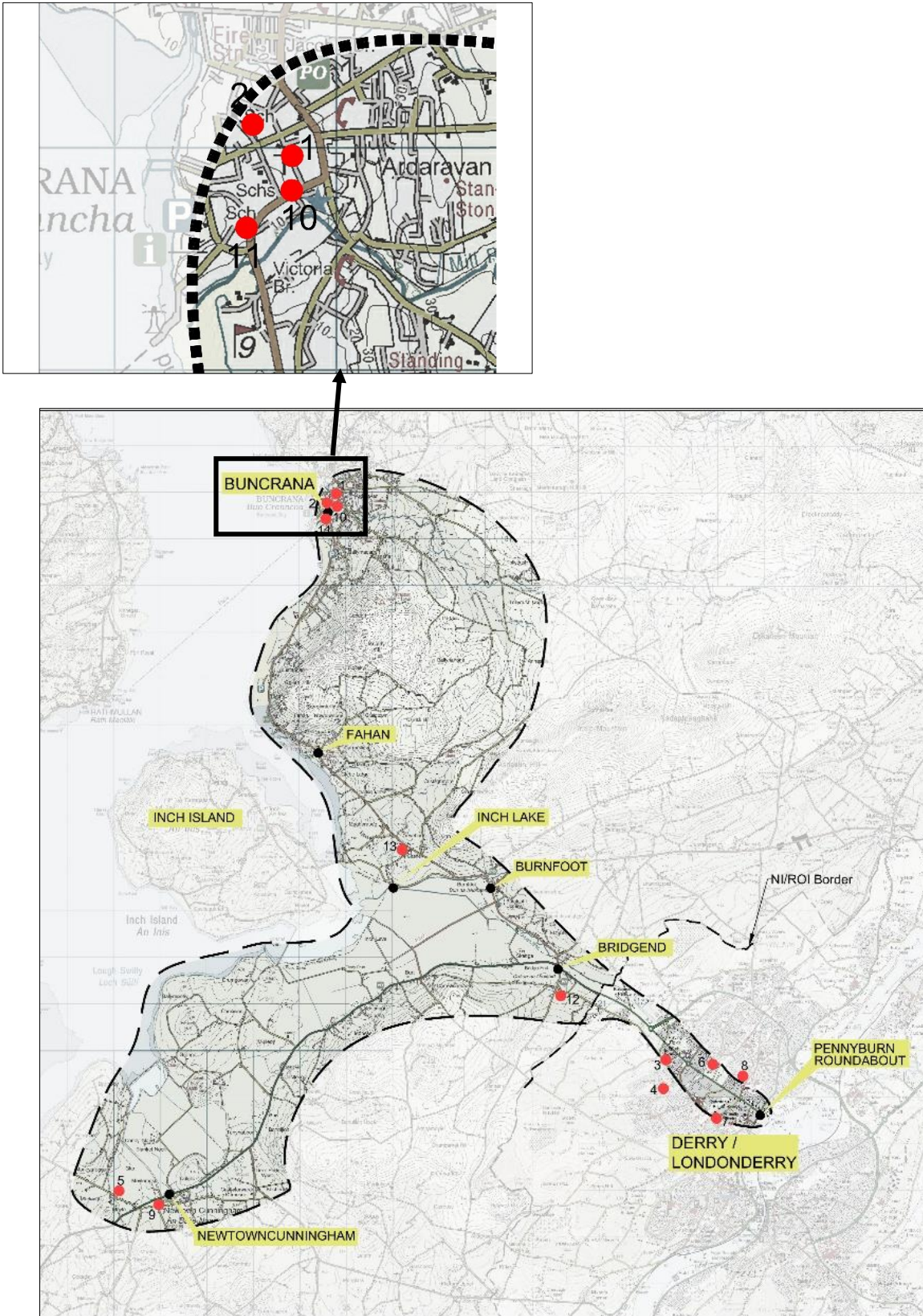


Table 5.8.2.1 – Primary Schools

Name and Location	Reference Nr	Description	Student Numbers
Buncrana National School	1	A Primary School catering for Boys and Girls, located on St. Mary's Road, Buncrana	34
Groarty Primary School	3	A Primary School catering for Boys and Girls, located on Coshquin Road, Derry	37
Holy Family Primary School	4	A primary School catering for Boys and Girls, located on Aileach Road, Derry	253
Moyle National School	5	A Primary School catering for Boys and Girls, located in Newtowncunningham	83
St. Patrick's Primary School	8	A Primary School catering for Boys and Girls, located on Racecourse Road, Derry	867
Scoil Cholmcille	9	A Primary School catering for Boys and Girls, located on Bankin Lane, Newtowncunningham	232
Scoil Iosagain	10	A Primary School catering for Boys and Girls, located on St. Mary's Road, Buncrana	734
Scoil Naomh Aonghusa	12	A Primary School catering for Boys and Girls, located on Carrick Bridge Road in Bridgend	209
Scoil Naomh Mura	13	A Primary School catering for Boys and Girls, located on the R238 at Tooban	212
		Total student numbers	2,661

Table 5.8.2.2 – Secondary Schools

Name and Location	Reference Nr	Description	Student Numbers
Crana College	2	A Post-Primary School catering for Boys and Girls, located on Crana Road, Buncrana	539
St. Columb's College	6	A Post-Primary Grammar school catering for Boys, located on the A2, Derry	1540
St. Mary's College	7	A Post-Primary secondary school catering for Girls, located on the Northland Road, Derry	911
Scoil Mhuire	11	A Post-Primary School catering for Boys and Girls, located on St. Oran's Road, Buncrana	660
		Total student numbers	3,650

6 ROUTE CORRIDOR OPTIONS

Route Corridor options, based on the Project and Route Specific aims and objectives and on the Constraints, Opportunities and Areas of Interest, were initially identified in the Stage 1 Constraints Study and Route Options Report, dated 26th June 2018. To allow flexibility in the Preferred Route Selection Process, five distinct sections of the greenway route were identified, with a number of Route Corridor options in each section.

- Section 1: Derry / Londonderry to Bridgend
- Section 2: Bridgend to Inch Lake
- Section 3A: Inch Lake to the entrance to the Rectory Housing Development
- Section 3B: entrance to the Rectory Housing Development to Fahan Marina
- Section 4: Fahan Marina to Bunrana (including Tullydish)
- Section 5: Bridgend / Inch Lake to Newtowncunningham

Figure 6.1 below shows the Route Corridor options. The corridors identified are approximately 10m wide, allowing flexibility in the detailed route alignment and design of the greenway. A summary of each corridor is provided below.

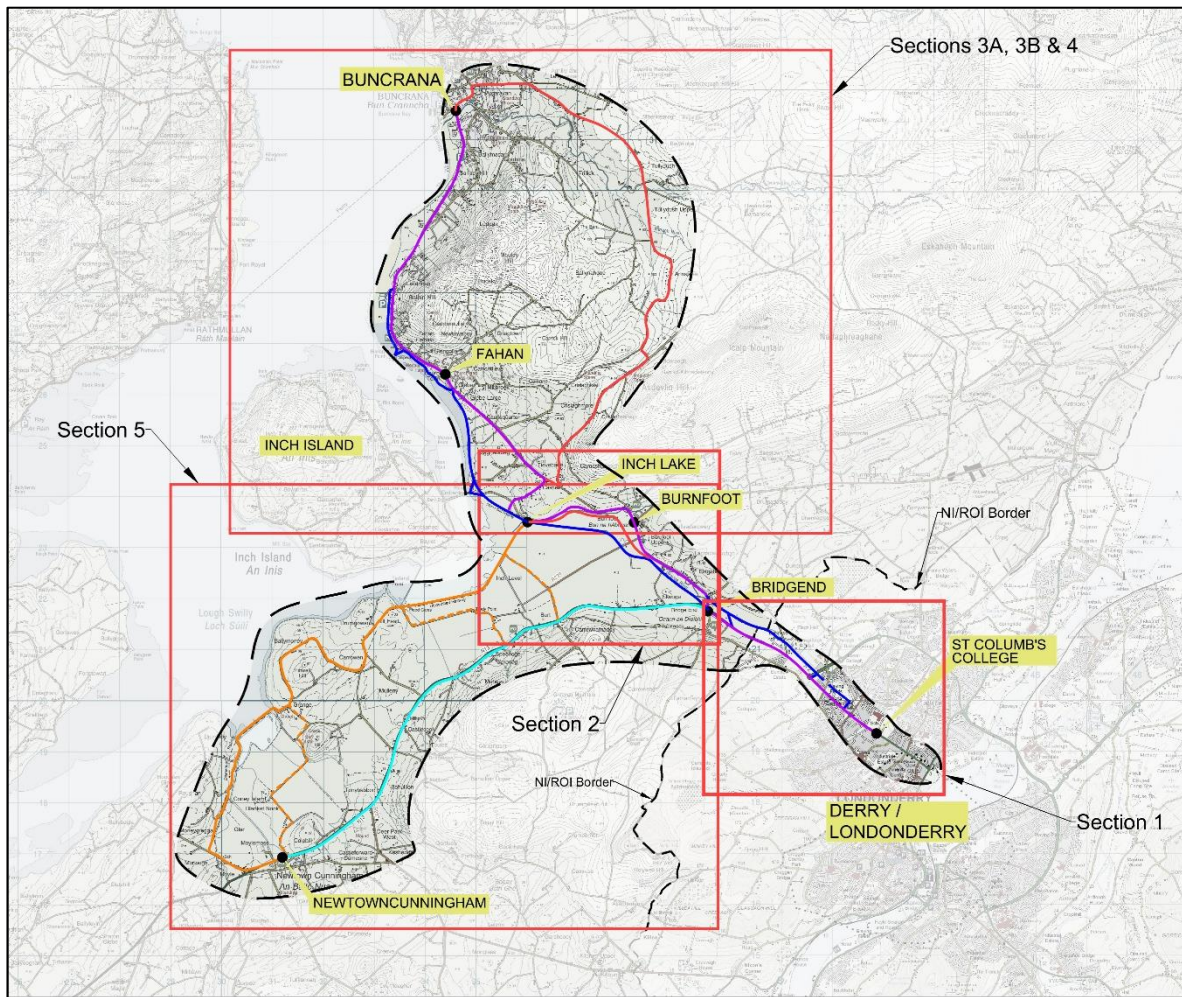
Following the Stage 1 Report, and to facilitate the assessment of each route corridor, the Project Team assessed how a greenway could be developed within the corridor. A description of the proposed Greenway considered for each corridor is provided below.

As noted in the Stage 1 Report, consideration was given to combinations of Corridors being selected as the Preferred Route, i.e.

- Red corridor from Bridgend to Inch Lake and Blue Corridor to Fahan; OR
- Blue corridor from Bridgend to Inch Lake and Purple Corridor to Fahan

To allow a comparable assessment of all available route options, the Corridor via Tullydish previously identified separately was assessed in Section 4 as this provided a common end point.

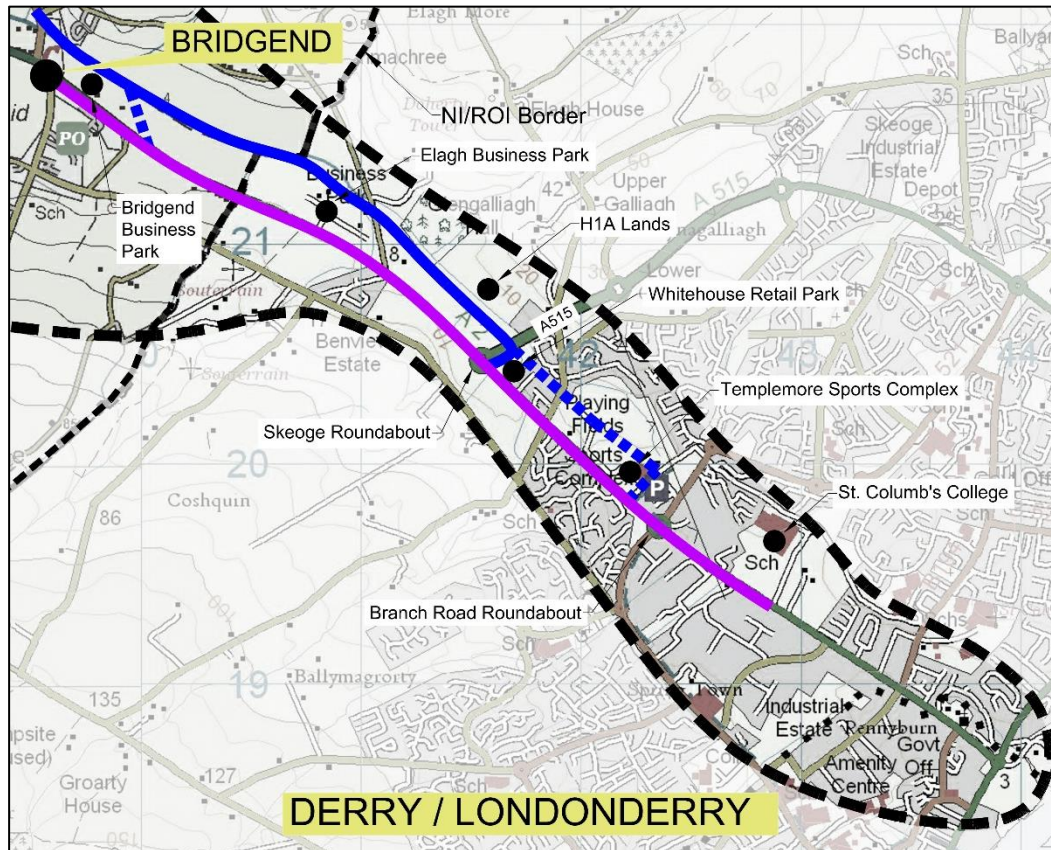
Figure 6.1 – Route Corridor Options, Overview



Note – variations to Section 3A Corridors as described in the Foreword are shown in detail on Figure 6.3.2 below.

6.1 Section 1 – Derry / Londonderry to Bridgend

Figure 6.1.1 – Section 1 Route Corridors



6.1.1 Purple Corridor Description

The Purple Corridor as described in the Stage 1 Report started at Pennyburn Roundabout. The section of the corridor between Pennyburn Roundabout and St Columb's College is proposed to be developed as part of the A2 Buncrana Road Widening Scheme. As of December 2018, the indicative timescale for the completion of this scheme is 2023. The NWGN Project Team is liaising with the A2 Buncrana Road Design Team to ensure both designs are compatible. Further information on the A2 Buncrana Road Widening Scheme including project programme and design can be found here:

<https://www.infrastructure-ni.gov.uk/articles/a2-buncrana-road-londonderry-overview>

The section from Pennyburn Roundabout to St. Columb's College is therefore not considered in this report.

The Purple Corridor commences at St Columb's College and follows the alignment of the existing A2, passing through the Branch and Skeoge roundabouts via defined crossings and continuing along the A2 corridor to the border. From the border to Bridgend, the corridor continues along the N13 and terminates at Bridgend. The total length of the corridor is approximately 4.1km.

A Greenway along this corridor would be constructed on the northern side of the A2 / N13 and would be predominantly on-line. From St Columb's College, through the Branch Road Roundabout, and past Templemore Sports Complex, the existing footpath would be widened to provide the Greenway and a consistent desirable cross section could be achieved for the majority of the route.

From the Upper Galliagh Road, past Whitehouse Retail Park and through the Skeoge Roundabout and onwards towards the border, where there is an existing footpath it would be widened to achieve the desirable cross section. For the section along the H1A lands where there is no existing path, new greenway infrastructure would be constructed beside the existing carriageway and some private lands would be required. A greenway along H1A would include a buffer strip to increase the level of separation of greenway users from vehicular traffic.

From the border to the eastern limits of Bridgend (defined by the speed limit and traffic calming measures), the Greenway would be constructed along the available grass verge of N13 carriageway and within the fenceline / boundary of the carriageway. A consistent cross section could be provided except for a short distance in the vicinity of a localised pinch point just beyond the border. The boundary hedge to the carriageway would be removed where required and this would be minimised as far as practicable. Approaching the existing footpath at Bridgend, the greenway could be constructed behind the existing road restraint barrier.

Where the greenway would connect with the existing footpath at Bridgend, construction would include widening the existing path and the provision of a buffer strip (where possible) to provide a consistent greenway corridor for the majority of this section. However, due to the limited space available to widen existing footways (or to reduce the carriageway width) from the Top Oil garage to the roundabout (approximately 300m) a consistent cross section would not be achievable and in particular a significant extended pinch point would remain along the frontage of the Gap Café and Restaurant where careful design would be required to avoid any potential conflict between vehicular and non-motorised (i.e. pedestrians, wheelchair users and cyclists) traffic.

From the roundabout where the Purple Corridor continues north on the R238 as far as its intersection with the Section 2 corridors, the Greenway would utilise existing footpaths and with limited opportunities to increase the footpath width, a desirable cross section would not be achievable.

Section 1 Purple Corridor Pictures:



View South-West along A2
at St Columb's



View North-West along
A2 at H1A Lands



Extended Pinch Point at
the Gap Café , Bridgend

6.1.2 Blue Corridor Description:

The Blue corridor diverges from the Purple Corridor at Templemore Road, where it continues through the grounds of Templemore Sports Complex as far as the Upper Galliagh Road.

Through Templemore Sports Complex the greenway alignment would complement the final design for the proposed redevelopment of the Complex and would be agreed with the Design Team for that scheme.

(Proposals to redevelop Templemore Sports Complex are currently being progressed by DCSDC. The Greenway Project Team will be liaising with the Templemore Sports Complex design team to ensure both designs are compatible.)

From the Upper Galliagh Road, the corridor continues through private lands towards the Whitehouse Retail Park and the A515 (Skeoge Link Road). The corridor traverses the line of the former Londonderry & Lough Swilly Railway Line (hereafter referred to as 'the old railway line'), utilising existing crossing points at the Skeoge Roundabout to cross the A515 before continuing along the alignment of the Skeoge River and the old railway line (and through H1A lands) as far as Elagh Road. There are some significant changes in levels from the A515 to the lands either side, and the greenway design will be developed to ensure access is provided for all greenway users.

From Elagh Road to Bridgend, the corridor follows the alignment of the Skeoge River (along its southern bank), past the Elagh Business Park and the northern environs of Bridgend, before turning south around the boundary of Bridgend Business Park and emerging onto the R238 approximately 35m north of the roundabout. The length of the Blue Corridor is approximately 4.4km.

As presented at the Public Consultation Event of 26th & 27th June, the greenway corridor through the Bridgend was widened to reflect several alternative alignments along which the greenway could be constructed. The exact alignment of the greenway through this section will be developed at detailed design stage and in consultation with affected landowners.

For the purposes of this report, it is considered that the issues associated with each of the various alignment options over a short portion of Section 1 at Bridgend would not impact on the comparison of the Blue & Purple Corridors in the overall preferred route corridor assessment.

A greenway along the Blue Corridor would be predominantly 'off-line' and a consistent cross section could be achieved for a significant majority of the route. Private lands would be required, and discussions with landowners would be required to ensure the greenway design would minimise, as far as practicable, issues such as severance of lands and impact on privacy.

The section of the greenway adjacent to Bridgend Business Park and connecting with the R238 would require careful consideration and design to ensure the privacy of adjacent properties is maintained.

Section 1 Blue Corridor Pictures:

Lands at Templemore Sports Complex.
Route of Greenway to tie in with Templemore development proposals



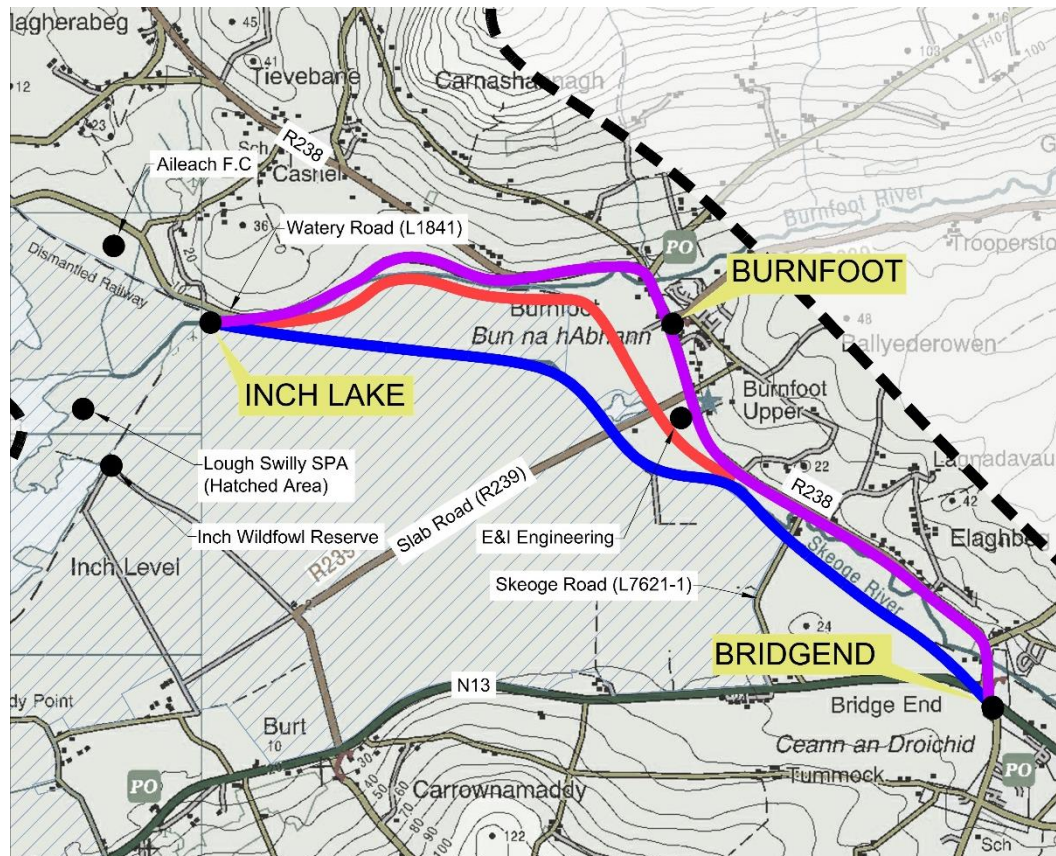
View along old railway line from Elagh Road

Skeoge River at northern environs of Bridgend (looking east). Greenway could be constructed on RHS bank.



6.2 Section 2 - Bridgend to Inch Lake:

Figure 6.2.1 – Section 2 Route Corridors



6.2.1 Blue Corridor Description

This corridor starts at the intersection of the N13 and R238 and continues west generally following the alignment of the old railway line, past the Skeoge Road, to a point approximately mid-way between the Skeoge Road (L-7621-1) and the Slab Road (R239). At that point, the corridor departs from the alignment of the rail track and follows the Skeoge river along its southern embankment as far as the Slab Road, crossing this road and continuing to the existing footbridge crossing the intersection of the Skeoge and Burnfoot rivers and linking to the existing Inch Wildfowl Reserve Walk at Inch Lake. The corridor would be located at the bottom of the Skeoge River embankment, between the embankment and the back drains of the farmlands to the southwest in this section.

The acquisition of private lands will be required along this corridor and the final alignment and design of a greenway through private lands would be developed at detailed design stage and in line with agreed accommodation works to minimise the potential impact on affected landowner.

This corridor would transit close to, or through, areas of the Lough Swilly Special Protection Area (SPA) (<https://www.npws.ie/protected-sites/spa/004075>) and would require sensitive design and management in consultation with the National Parks and Wildlife Service.

A greenway facility along this corridor would be ‘off-line’, and a consistent cross section could be provided. Other than crossings of public highways at the R239 and the Skeoge Road this corridor would be fully segregated from road traffic.

This corridor allows the Greenway to develop along a section of waterway and to reflect part of the old railway line.

The total length of this option is approximately 4km.

Section 2 Blue Corridor Pictures:



Wide section of railway corridor from Bridgend towards Skeoge Road



View from Slab Road along Blue Corridor (towards Bridgend)



View end of Section 2 at Inch Lake, along Blue Corridor, back towards Slab Road. Skeoge River embankment on the LHS

6.2.2 Red Corridor Description

The Red Corridor is shared with the Section 2 Blue Corridor to the point approximately mid-way between the Skeoge road and the Slab Road where the Blue Corridor follows the alignment of the Skeoge River.

From this point, the Red Corridor continues to follow close to the route of the old railway line, passing immediately south of the E&I Engineering facility as far as the R239. To the western side of the R239 the corridor runs along and beside the agricultural lane and the undeveloped strip of lands southwest of the E&I Engineering car park and continues along the railway corridor along the southern environs of Burnfoot, where it meets the southern bank of the Burnfoot River. The corridor continues along the riverbank / old railway line to the confluence of the Skeoge & Burnfoot Rivers, where a new bridge would be required to link across the Burnfoot River to the existing Inch Wildfowl Reserve Walk at Inch Lake.

Again, the acquisition of private lands will be required along this corridor, and the final greenway alignment would be developed to determine the most suitable location for the new bridge, as well minimising agricultural impacts, severance and other impacts on the land holdings affected.

This corridor would transit close to, and through, areas of the Lough Swilly SPA and would require sensitive design, construction and management.

Other than crossings of public highways at the R239 and the Skeoge Road a greenway along this corridor would be off-line, segregated from road traffic and a consistent cross section could be provided.

This corridor allows the Greenway to be developed along a section of waterway and to reflect the old railway line.

The total length of this option, including that portion shared with the Section 2 – blue corridor, is approximately 4.4km.

Section 2 Red Corridor Pictures:



View along old railway line approaching Skeoge Road

(common to Blue & Red Corridors)

View along Burnfoot River, GW could be constructed on the LHS bank of the river.



Old Station House, at railway line (currently farm lane, looking back toward Slab Road.

6.2.3 Purple Corridor Description

This corridor starts at the intersection of the N13 and R238 and continues along the alignment of the R238, through the village of Burnfoot to a point approximately 150m to the west of the village, where the corridor turns left onto the L1841 (Watery Road), running parallel to the Burnfoot River. The corridor follows this road for approximately 1.8km where it turns left to meet the intersection of the Burnfoot and Skeoge rivers.

As presented at the Public Consultation Event on 26th & 27th June 2018, and for the purposes of this report and scoring assessment, a greenway constructed along this corridor would be predominantly within the boundary of the R238 & L1841 roads (i.e. between the boundary hedge / fenceline), and private lands would not be required. Should this corridor emerge as the preferred route, the acquisition of small parcels of private lands may be considered at detailed design stage to increase the available cross section, however this possibility is not assessed in this report.

The facility would be constructed on the southern side of the carriageway and would be kerbed as far as practicable in accordance with the prevailing design standards. From Bridgend to the traffic speed limit to the east of Burnfoot, the greenway would be constructed within the verge of the R238 where possible, but in some locations where there is minimal verge width, greenway users may be required to share the hard shoulder with vehicular traffic. (Refer to photos below which describe the varying verge width available).

Section 2 Purple Corridor Pictures:

View along R238 approaching Burnfoot – greenway could be constructed within the verge, desirable cross section could be achieved





View along R238 approaching Burnfoot – narrow verge and limited space to construct a greenway with a cross section in accordance with the design standards. Cyclists would be required to share the hard shoulder with vehicular traffic.

The cross section width of the greenway would vary and some short ‘pinch point’ sections, would remain. Through Burnfoot, the greenway would continue along the existing footpath. A consistent cross section, meeting the minimum desirable width could be provided approaching the junction with the R239, but beyond that point and extending through the village the greenway cross section would vary and would in some cases be less than the desirable minimum.

From the junction of Monreagh Park to the L1841, the greenway would continue along the existing footpath, (width varies from 2.1m to 1.2m) and along this section cyclists would be required to share the carriageway with vehicular traffic, as there is limited opportunity to widen the path to provide the desirable cross section.

Where the footpath ends, a new greenway facility would be constructed as far as the junction with the L1841. This would consist of a footpath along the carriageway verge for approximately 150m, with cyclists required to share the carriageway with road traffic.

Along the L1841 to the end of Section 2 due to limited available cross section widths, the facility would consist of a lower trafficked road design, as described in the DTTAS Greenway Strategy guidance document, and pedestrians and cyclists would not be segregated from vehicular traffic. Available traffic count data on the L1841 indicates daily volumes of traffic are approximately 290 vehicles per day, with minimal heavy good vehicles, and an 85 percentile speed of approximately 78km/hr.

The impact of this traffic data on the design of the facility will be considered under the Quality of Service assessment.

The corridor does not show the Greenway severing existing land ownership boundaries.

The total length of this option is approximately 4.7km.

Section 2 Purple Corridor Pictures:



R238 approaching Burnfoot. Greenway would be constructed on LHS.

L1841 Watery Road
Junction with R238



6.3 Section 3 – Inch Lake to Fahan

As noted in the Foreword to this report, a number of additional route corridors were presented for assessment at a second consultation event in February 2019. These are shown in figure 6.3.2 below. The additional corridor options are considered to be variations of the original Blue and Purple routes, and can be expected to be identical under several of the scoring criteria.

The Green & Yellow Corridors are variations on Purple Corridor with modifications to address some of the design and safety concerns raised in the initial Public Consultation.

The Red, Orange and Light Blue Corridors are variations on Blue Corridor while providing alternative options to transit through private lands and farm holdings.

For the purposes of the report this section describes the initial Blue and Purple corridors as initially proposed. A brief description of the additional route corridors is also provided. A more detailed description of the additional route corridors is provided in Appendix G of this report.

This report also provides a detailed assessment of the Blue and Purple Corridors (in Section 8.6), while a detailed discussion on the assessment process, appraisal and scoring of the additional corridors, taking into account the differences from the Blue or Purple Corridor, is included in Appendix G.

Figure 6.3.1 – Section 3A Initial Route Corridors (June 2018)

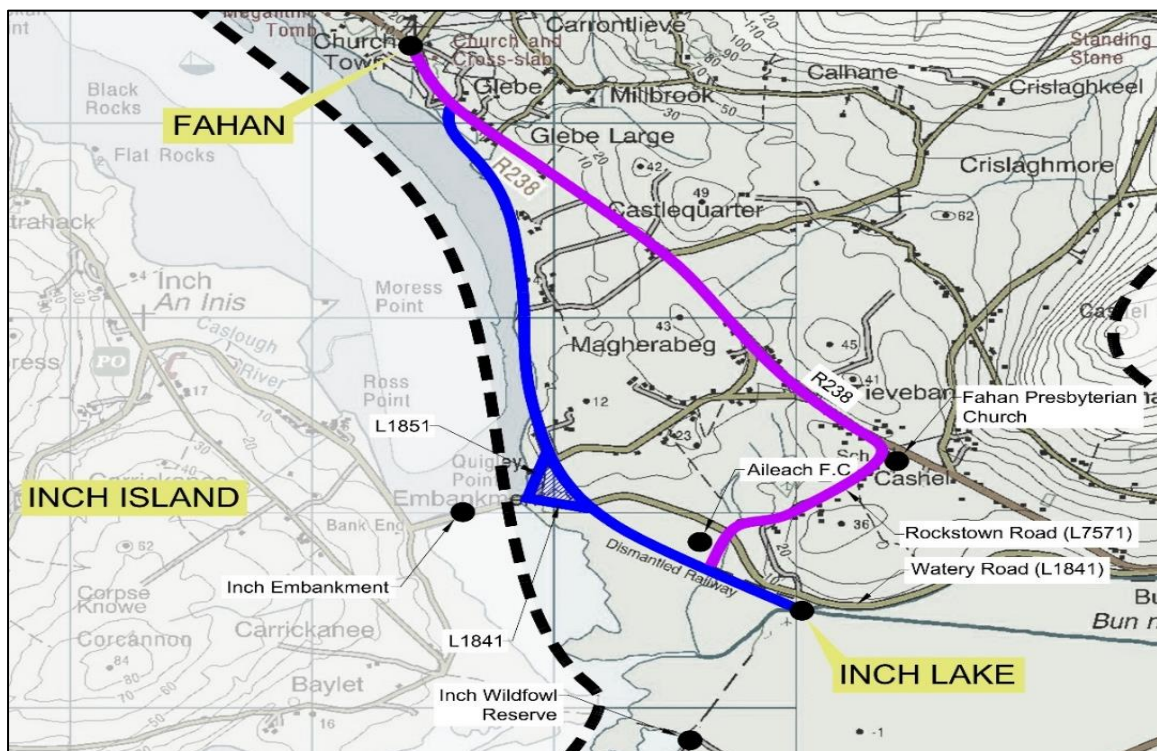
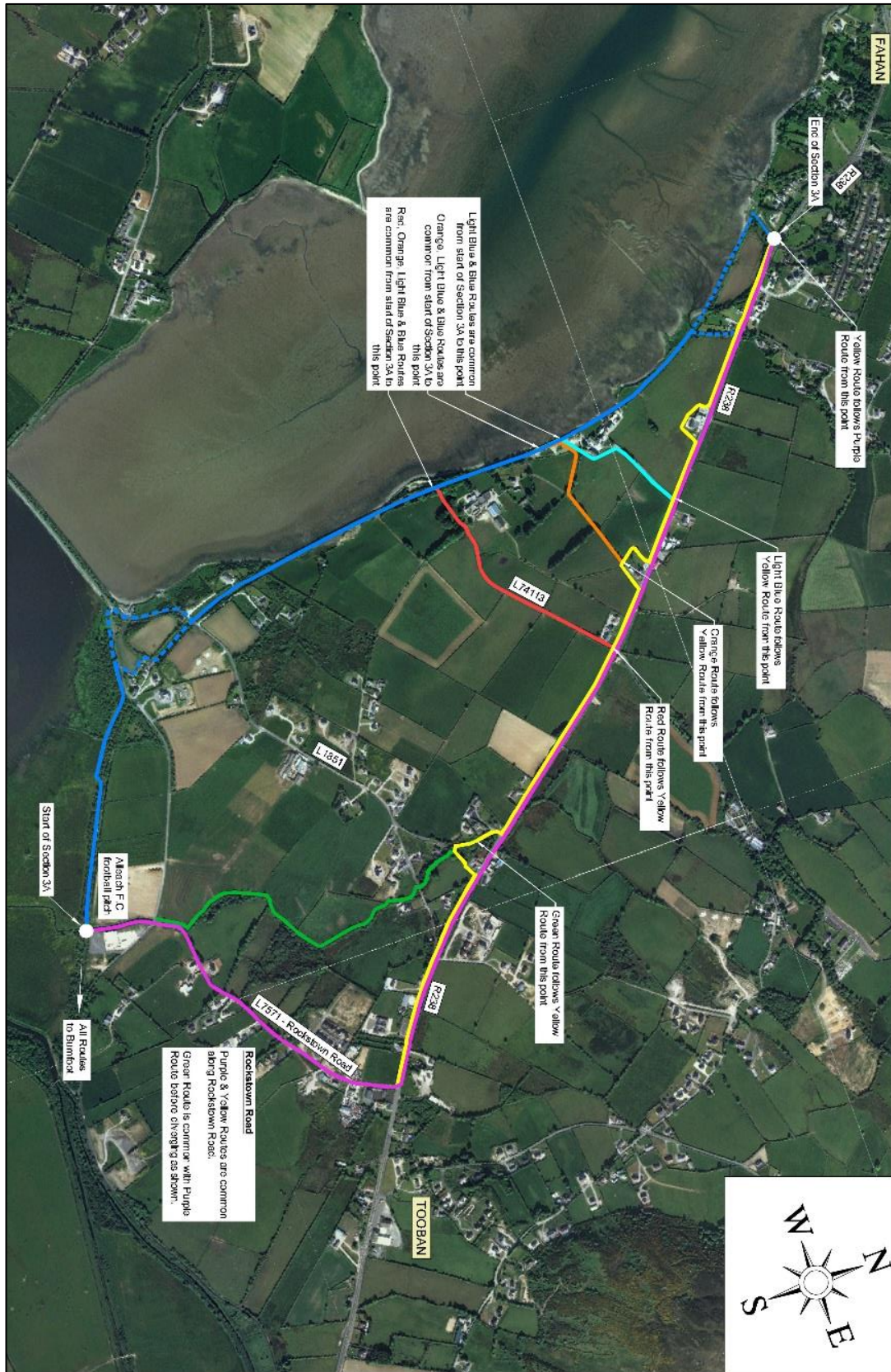


Figure 6.3.2 – Section 3A Expanded Route Corridors (February 2019)



6.3.1 Blue Corridor Description (Section 3A)

This corridor starts at the intersection of the Skeoge and Burnfoot rivers at Inch Lake and utilises the route of the Inch Wildfowl Reserve Walk, along the line of the old railway line to Inch Embankment where it turns north briefly for approximately 500m before turning west to re-join the alignment of the old railway line near the old railway bridge on the L1851.

From the intersection of the Skeoge and Burnfoot rivers at Inch Lake the greenway would run immediately adjacent to the boundary of the Lough Swilly SAC/ SPA. Screening and public access control measures as well as ongoing management will be required to avoid potential for adverse impacts to this sensitive and protected environment.

A greenway through this section would consist of widening the existing Inch Wildfowl Reserve Walk to 3m as far as Inch Embankment. From the Embankment northwards towards the line of the railway, there are a number of alignment options available along which the greenway could be constructed. The acquisition of private lands would be required for any of these options and therefore further discussions with the relevant landowners, plus a detailed assessment of the design and construction issues on each option will be required before a final recommendation on the preferred alignment could be agreed. As these options comprise a small proportion of the overall corridor, it is not considered necessary to further investigate the various options at this point.

The corridor continues northwards to follow the general alignment of the old railway line through an area known locally as Castletown, past two farm yards and dwellings and close to the shoreline of Lough Swilly to a point where it re-joins the R238 and terminates at approximately the entrance to the Rectory Housing Development to the south of St. Mura's Church (COI).

The total length of this Blue Corridor as described above is approximately 3.5km.

Variations on the Blue Corridor:

A further three corridor options which can be considered variations on the Blue corridor were considered at the Second Public Consultation event in February 2019, as follows:

Red Corridor:

The Red Corridor is identical to the Blue Corridor from Inch Wildfowl Reserve Walk to Inch Embankment and along the old railway line as far as the L74113 Local Tertiary Road. From this point it turns right and follows this route as far as the R238. Private land acquisition would be required along this road to construct a greenway segregated from vehicular traffic. Along the R238 additional lands would be acquired as necessary to achieve a consistent cross section. This is assumed to include routing the greenway behind dwellings or businesses where there is insufficient space on the roadside of such premises to provide a facility in line with minimum design and safety standards.

The total length of this corridor is approximately 4.4km.

Orange Corridor:

The Orange Corridor is identical to the Blue Corridor from Inch Wildfowl Reserve Walk to Inch Embankment to where it joins with the old railway line. It continues along the old railway line for approximately 1,100m, past the L74113 and the first farm yard and dwelling. Before the second farmyard in this area it turns right and generally follows the boundary between the two farms (to avoid severance) through greenfields as far as the R238. Along the R238 additional lands would be acquired as necessary to achieve a consistent cross section. This is assumed to include routing the greenway behind dwellings or businesses where there is insufficient space on the roadside of such premises to provide a facility in line with minimum design and safety standards. Private land acquisition would be required for the entirety of this route.

The total length of this corridor is approximately 4.2km.

Light Blue Corridor:

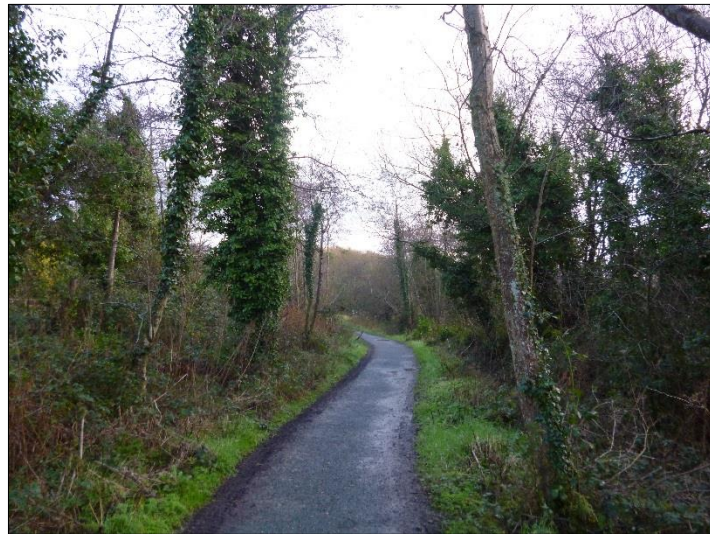
The Light Blue Corridor is identical to the Blue Corridor from Inch Wildfowl Reserve Walk to Inch Embankment to where it joins with the old railway line. It continues along the old railway line for approximately 1,100m, past the L74113 and the first farm yard and dwelling. Immediately in advance of the second farmyard and outbuildings the route turns right and around the rear of farm buildings before running alongside the existing private farm lane for approximately 385m as far as the R238. Private land acquisition would be required along this road to construct a greenway segregated from vehicular traffic. Along the R238 additional lands would be acquired as necessary to achieve a consistent cross section. This is assumed to include routing the greenway behind businesses where there is insufficient space on the roadside of such premises to provide a facility in line with minimum design and safety standards. Private land acquisition would be required for the entirety of this route.

The total length of this corridor is approximately 3.9km.

Further detail on each of these route corridors is provided in Appendix G.

Section 3A Blue Corridor Pictures:

Inch Wildfowl Reserve
Walkway



Corridor along Lough Swilly Shoreline. (Photo taken with landowners permission)

Blue Corridor, looking north along shore of Lough Swilly. Greenway could be constructed along top of embankment



6.3.2 Purple Corridor Description (Section 3A)

This corridor shares the alignment of the Blue Corridor along Inch Wildfowl Reserve Walk as far as the grounds of An Aileach football club, where it turns north to follow a watercourse for a short distance, before it connects with the L1841 Watery Road opposite its junction with the L7571 Rockstown Road. The route crosses the Watery Road and continues along Rockstown Road for approximately 850m where it joins the R238 at Fahan Presbyterian Church.

At this point, the corridor turns west and continues along the R238 and terminates at approximately the entrance to the Rectory Housing Development to the south of St. Mura's Church (COI).

The route along this corridor along Rockstown Road would consist of a lower trafficked road facility, with pedestrians and cyclists sharing the carriageway with vehicular traffic. Private land acquisition would not be required in this section. Available traffic count data (approx. 200 vehicles per day, 85percentile speed approx. 40km/hr) indicates this type of facility would be acceptable under the design standards, although the steep gradients would need to be considered further.

Along the R238, the greenway would be constructed along the southern side of the road, and as presented at the Public Consultation Event of 26th & 27th June 2018, and for the purposes of this report and scoring assessment, the facility is proposed to be constructed entirely within the corridor of the existing roadway.

From the Rockstown Road junction to the extents of the 60km/h speed limit of Tooban village, the facility would be constructed along the existing hard shoulder or by widening the existing footway. Thereafter, in the 100km/h section of the R238 towards Fahan, the greenway would be constructed within the verge of the R238 where available, and at localised pinch points greenway users may be required to use the carriageway hard shoulder. Such pinch points are identified and possible mitigations considered in Section 8.6.6 (Physical Constraints Criterion Assessment) below.

The total length of this option, including that portion shared with the Section 3A – Blue Corridor, is approximately 4km.

Variations on the Purple Corridor:

A further two corridor options which can be considered variations on the Purple corridor were considered at the Second Public Consultation event in February 2019, as follows:

Yellow Corridor:

This corridor is identical to the Purple Corridor from Inch Wildfowl Reserve Walk, via the Rockstown Road to as far as the junction with the R238. It varies from the Purple Corridor along the R238 towards Fahan, where it is assumed that this route will be developed by acquiring additional lands as necessary alongside the R238 to achieve a consistent cross section. This is assumed to include routing the greenway behind dwellings or businesses where there is insufficient space on the roadside of such premises to provide a facility in line with minimum design and safety standards. Visualisations highlighting the Greenway facility on the proposed Yellow corridor were presented at the public consultation and are shown on

the following page (and in Appendix G). The total length of this corridor is approximately 4.3km.

Green Corridor:

The Green Corridor follows the Purple Corridor from Inch Wildfowl Reserve walk, crossing the Watery Road towards Rockstown Road, where it would be constructed offline and parallel to the Rockstown Road for approx 100m. From that point, it diverges from the Rockstown Road and continues along the banks of the existing watercourse to the north as far as Tooban, connecting to the L1851 Inch Road at the “Dispensary Junction” with the R238. The greenway would then be constructed as per the Yellow Corridor from that point onwards to Fahan village.

The total length of this corridor is approximately 3.8km.

Further detail on both of these route corridors is provided in Appendix G.

The following visualisations describe the variance in the Purple and Yellow Corridors.

Existing
View of
R238



Purple
Corridor



Yellow
Corridor



Section 3A Purple Corridor Pictures:

R238 from Junction with Rockstown Road. Greenway would be constructed within available footway and verge.



Purple Corridor along R238. Greenway would be constructed along grass verge

Purple Corridor along R238. Greenway would be constructed along the line of the existing footpath.

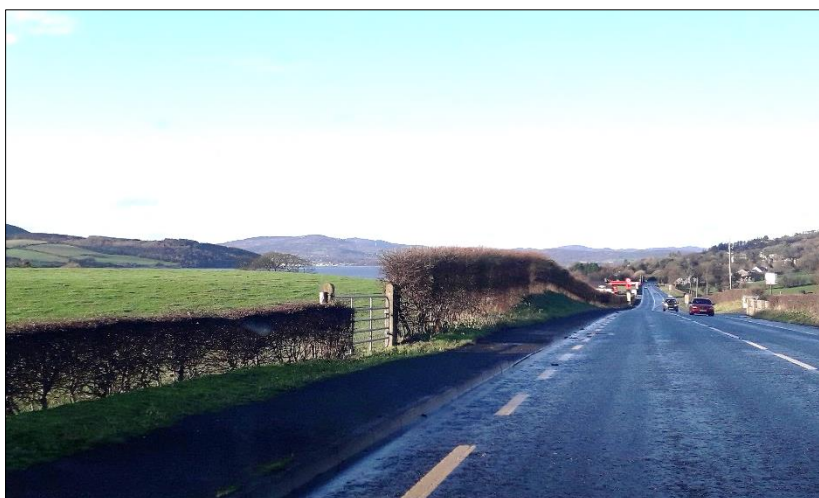
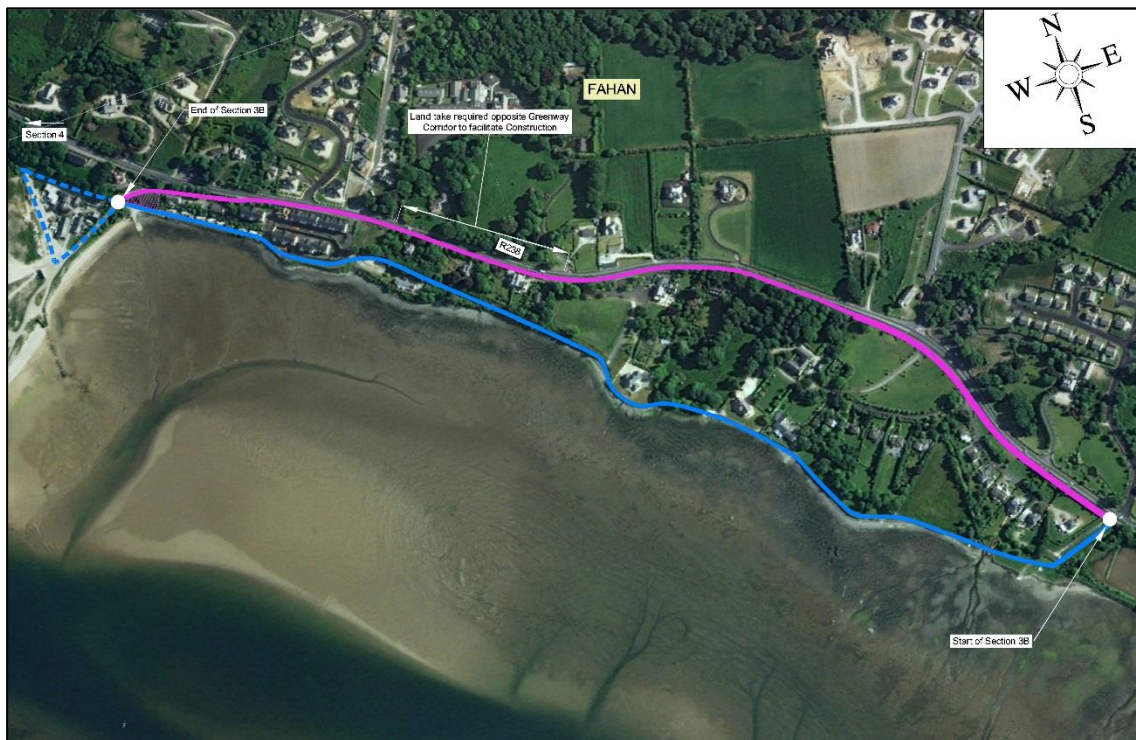


Figure 6.3.3 – Section 3B Route Corridors



6.3.3 Blue Corridor Description (Section 3B)

The Blue Corridor in this section starts at the entrance to the Rectory Housing Development at the end of Section 3A and continues along the shoreline of Lough Swilly as far as Fahan Marina. The total length of the corridor is 1.2km.

A greenway along this corridor would be constructed to the south-west of approximately 12 dwellings from the enclosed lagoon at the Gort area, traversing overgrown areas, rear gardens and accesses to the shore. To the southwest of Fahan House the route would need to be constructed along the shoreline on a causeway or boardwalk structure within the SPA / SAC due to the presence of two dwellings which front directly onto the shoreline. The greenway continues on the former railway corridor before traversing the front garden of a dwelling in the grounds of the Red Door Country House and crossing the edge of that property's gardens along the shoreline.

The route continues to the shore side of a further five dwellings, approximately following the old rail corridor, as well as running to the landside of two dwellings to the east of the Roneragh Apartment complex. The route would continue along the corridor of the service road to the rear of the apartments before connecting with the remainder of the old railway line along a number of mobile homes in the grounds of the Lough Swilly Yacht club connecting onwards to Fahan Marina.

Detailed design would be required to determine the exact alignment of the corridor and given the proximity to a number of residential properties, as well as to the Lough Swilly SPA & SAC. Sensitive design and ongoing consultation with property owners will be required to develop a design which can minimize impacts on the residential amenity. Ongoing consultation with the NPWS will be required to develop a design which avoids significant adverse impacts to, or facilitates uncontrolled public access to sensitive, protected habitat.

Section 3A Blue Corridor Pictures:

GW Corridor to southwest of Fahan House. GW would be constructed within the SPA / SAC as described above.



View along the shoreline at the gardens of the Red Door Country House, Fahan

(Greenway would be constructed at the edge of the embankment with fence relocated inland)

View along old railway corridor with Mobile Homes West of Roneragh Apartments



6.3.4 Purple Corridor Description (Section 3B)

The Purple Corridor starts at the entrance to the Rectory Housing Development on the southern environs of Fahan village and continues to follow the route of the R238 through Fahan as far as the access road to Fahan Marina. The total length of the corridor is approximately 1.25km.

A greenway along this corridor would be constructed along the southern side of the carriageway, utilising and / or widening the existing footway where possible. Footpath width varies between approximately 1.5m and 2.1m, although it is predominantly less than 2m wide. In some areas footpath width is below 1.5m. There are opportunities to widen the footpath (by removal or reduction of grass verge and reduction of the carriageway width) to provide a consistent and desirable greenway cross section.

From the entrance to the Red Door Country House for a distance of 260m there is no existing footpath. In order to provide a segregated greenway facility through this section the acquisition of private lands on the eastern side of the carriageway would be required. Provision of a segregated facility would also require realignment of the carriageway and detailed design would be required to determine the extent of realignment, and the achievable greenway corridor.

Section 3B Purple Corridor Pictures:

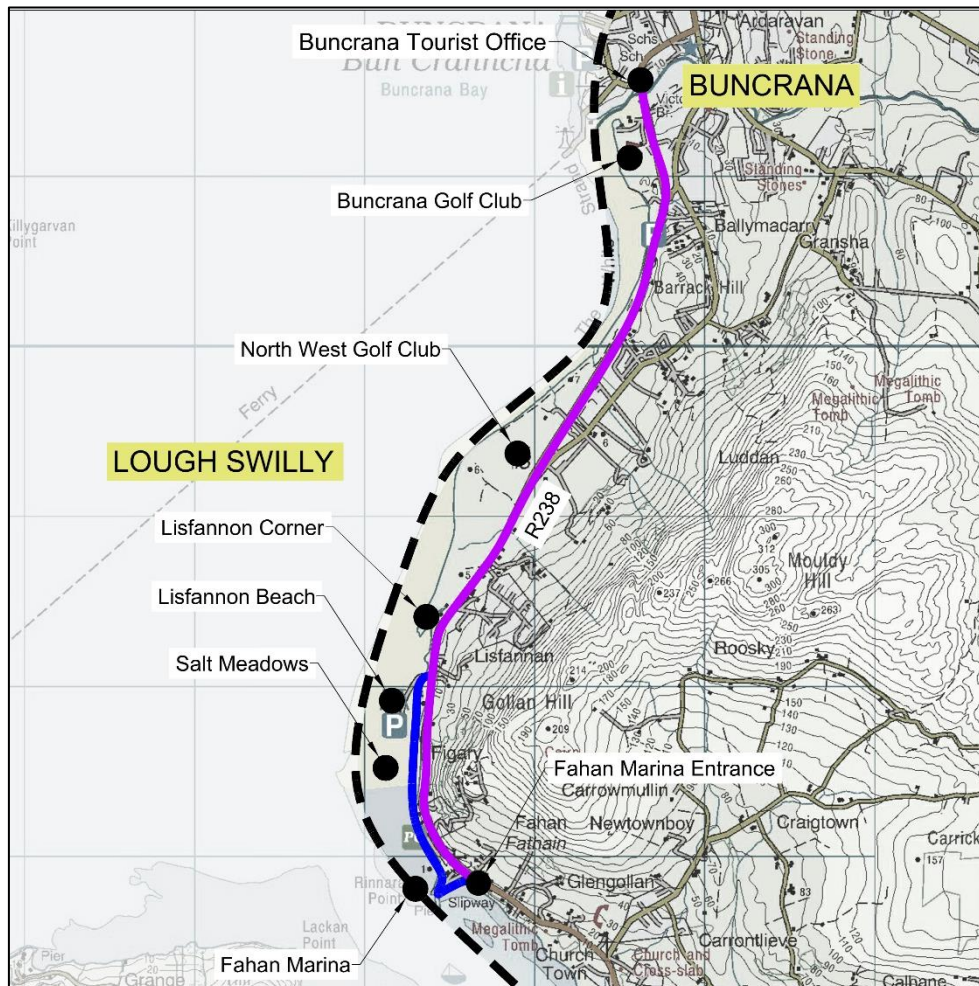
View towards Fahan from the entrance to the Red Door



R238 through Fahan, approaching the access road to Fahan Marina. GW proposed on LHS.

6.4 Section 4 – Fahan to Buncrana

Figure 6.4.1 – Section 4 Blue & Purple Corridors



6.4.1 Purple Corridor

The Purple Corridor starts at the access road to Fahan Marina and continues to follow the route of the R238 through Fahan, Lisfannon, and onto to Buncrana where Route 1 terminates. The total length of the corridor is approximately 5.1km.

A greenway along this corridor would be constructed along the western side of the carriageway, utilising and / or widening the existing footway where possible. Footpath width through the village varies between approximately 1.3m and 2.1m, although it is predominantly less than 2m wide. There are limited opportunities to widen the footpath (or reduce the carriageway width) to provide a consistent and desirable greenway cross section. Through Fahan Village, private land acquisition is not deemed achievable due to the number of individual landowners from which private land would be required.

From the end of the footpath at the northern end of Fahan (i.e. where the speed limit ends, known locally as 'The Lookout'), to the entrance to Lisfannon Beach, there is limited space to provide a greenway facility segregated from the carriageway due to the steep embankment behind the road restraint barrier, which drops down to the salt marshes below the road level. Greenway users would be required to use the hard shoulder and appropriate signage and road markings would be provided to direct users along this section.

At the entrance to Lisfannon Beach and onwards to the southern extents of North West Golf Club, the greenway would be constructed behind the road boundary, defined by boundary fencing / road restraint barrier.

The section referred to locally as Lisfannon Corner, (a distance of approximately 100m past a private residence and approaching the junction with R238 and the southern entrance to Lisfannon Heights housing development) represents a particularly severe pinch point as there is no hard shoulder which could be utilised for a greenway design. Private lands will be required to provide some degree of segregation for greenway users from the R238, and initial discussions have taken place with affected landowners to explore the extent of private lands which could be required. Further discussions through detailed design stage will be required, but for the purposes of this report, it is assumed that while segregation will be provided, a moderate pinch point will remain.

Section 4 Purple Corridor Pictures:



Main St at Fahan, looking back towards Burnfoot. Greenway proposed on RHS of photo

Extended Pinch Point along
the R238, looking towards
Fahan.



For approximately 300m after Lisfannon Corner, along the southern extents of the NW Golf Club the road embankment falls sharply at the edge of the hard shoulder with insufficient space to construct the greenway behind the road edge. Detailed design would be required to provide an engineering solution to resolve these variances in levels and to provide a consistent greenway cross section. A localised reduction in the cross section of the greenway may be required however this will be resolved at detailed design stage and for the purposes of this report a 3m cross section will be assumed. The design would also need to consider and mitigate the potential impacts on adjacent landowners.

From this point to the roundabout entering Buncrana, a distance of approx. 2.8km, the greenway would be constructed on the existing grass verge, or where available, the line of the old railway corridor, and a consistent cross section, meeting the desirable design standards could be achieved. Private Lands would not be required, and the greenway design would be developed to ensure the requirements of adjacent landowners are considered and addressed as far as practicable.

The remaining section of the greenway, from the roundabout its end point at Buncrana Tourist Office would utilise the existing footpath and localised widening could be provided to ensure a consistent cross is achieved.

6.4.2 Blue Corridor - Shoreside Option

The Blue Corridor starts at the access road to Fahan Marina and the section of the corridor distinct and separate from the Purple Corridor follows the access road to the Fahan Marina / Rinnaraw Point area, where it joins the alignment of the old railway line behind the Railway Tavern and Firebox Grill and continues north parallel, but at a lower level to, the R238 where it rejoins the Purple Corridor at Lisfannon Beach. The total length of the corridor is approximately 5.4km.

A design through this section would be considered a 'shared street' design (in accordance with the National Cycle Manual) for approximately 350m as far as the railway line and detailed design would be required to determine the exact alignment. Associated traffic calming,

signage and road markings would be provided. Alternative greenway alignments, segregated from vehicular traffic, could be provided to minimise the shared section. These would involve construction of ramped access to the lower, railway level with the associated land acquisition and construction costs implications and will be explored at detailed design stage if this route corridor is progressed. For the purposes of this assessment the shared section as described above will be assessed.

From the Railway Tavern onwards to Lisfannon Beach, an off-line greenway facility would be provided, utilising the existing access laneway, the former railway corridor to the rear of the residences along the R238 and continuing around the headland to the north of the Marina along the base of the R238 road embankment, construction sensitive design and environmental and construction management would be required to mitigate any potential impacts on the adjacent Lough Swilly SPA and SAC designations.

The greenway would continue along as a raised structure along the foot of the road embankment (and outside the SPA and SAC designated salt marsh habitat area) up to Lisfannon Beach and detailed design of an appropriate structure (e.g. cantilevered boardwalk) and an acceptable alignment would be required. Sensitive design and ongoing management will be required to avoid significant adverse impacts to, or facilitating public access to this sensitive and protected habitat. (It is noted that the salt marshes are accessible to the general public at present and are regularly frequented. It is envisaged that greenway infrastructure would assist in channeling footfall away from the salt marshes).

Land acquisition would be required throughout this section and land registry records indicate that the majority of land parcels are unregistered, with reputed owners identified in some sections while other unregistered sections including portions comprising the public road embankment and the dunes / salt marshes and are currently in public use.

Section 4 Blue Corridor Pictures:

Old Railway Line, from Fahan Marina towards the salt marshes. Old Railway Bridge currently in use as an access from Fahan to the beach



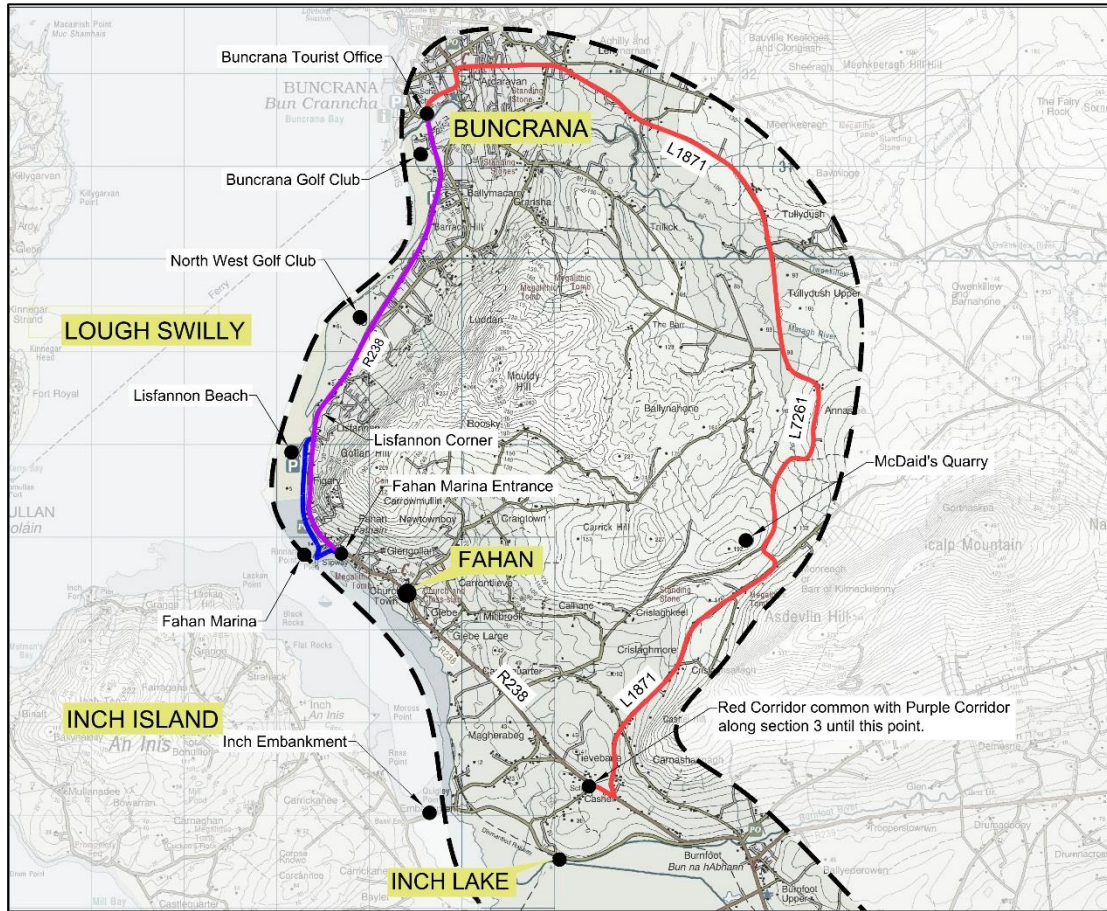
Old Railway Line, from Fahan Marina towards the salt marshes

View north along the salt marshes at the foot of the embankment to the R238. Greenway would be constructed on the embankment. A 'boardwalk' design could be provided.



6.4.3 Red Corridor – Tullydish Option

Figure 6.4.3 – Section 4 Route Corridor Options, including Red Corridor



This corridor offers an alternative route from Inch Lake to Buncrana by omitting the transit via Fahan and Lisfannon. This option shares a route with the Section 3 – Purple Corridor along Rockstown Road as far as the junction with the R238 at Fahan Presbyterian Church.

The corridor turns east along the R238 for approximately 300m, where the greenway would be constructed within the available grass verge. The route then turns north-east along the L1871 road to Crislaghmore, following this road for approximately 3.2km, where it turns north-west to join the L7261 after which it continues north-east and follows the road for a further approximately 4km to the bridge at Tullydish. At that point, the corridor continues from Tullydish River along the L1781 for a further approximately 4.8km to Buncrana.

As far as the outskirts of Buncrana, the facility along this corridor would be described as a lower-trafficked shared road design (as described in Dept. for Transport, Tourism and Sport’s: “Strategy for the Future Development of Greenways”) with appropriate road marking and signage provided. Private lands would not be required and the corridor does not show the facility severing existing land ownership boundaries. At Buncrana and onwards to the end of

Route 1 at Buncrana Tourist Office, the greenway would utilise existing footpaths which would be widened as far as practicable to provide a consistent cross section.

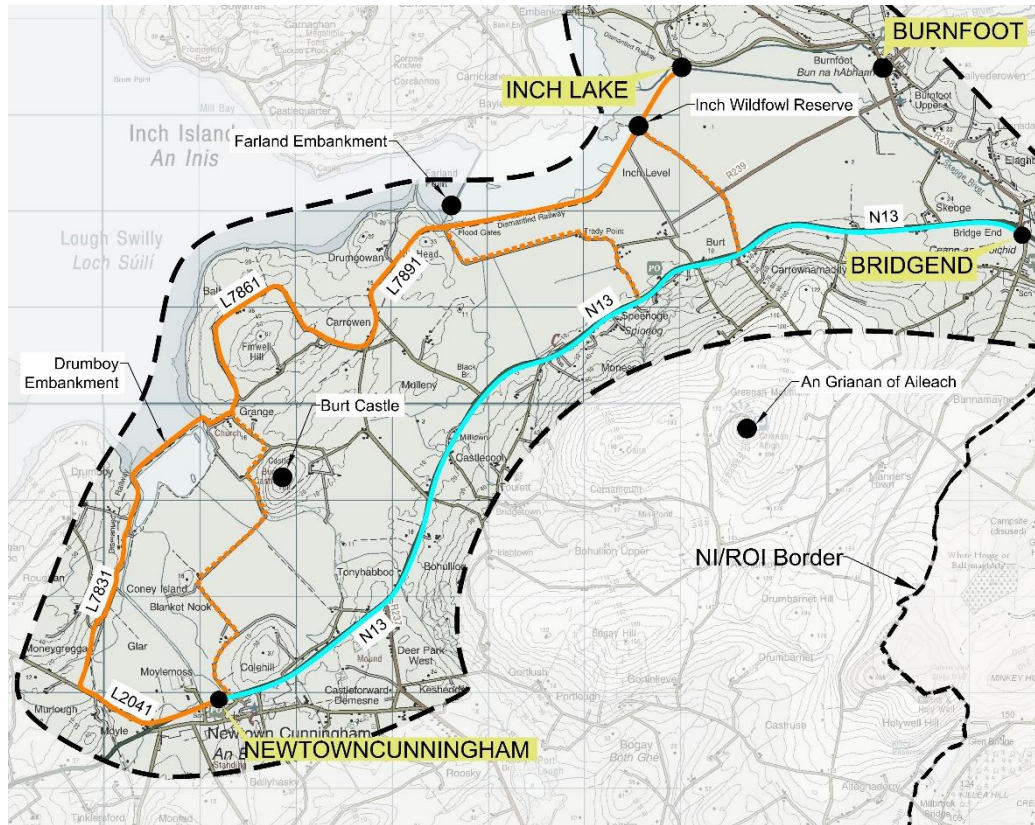
This corridor would involve significant elevational changes, both over the full length of the corridor in general, and in localised sections. The total length of this option, including that portion shared with the Section 3 – Purple Corridor, is approximately 14km

Red Corridor - Typical Road type between Tooban and Tullydish



6.5 Section 5 – Bridgend / Inch Lake to Newtowncunningham

Figure 6.5.1 – Section 5 Route Corridors



6.5.1 Light Blue Corridor Description

The Light Blue Corridor starts at the N13 roundabout at Bridgend and runs along the length of the existing N13 route, passing through the townland of Burt to its endpoint at Newtowncunningham. The total length of this option is approximately 11.3km.

A greenway or walking/cycling facility along this corridor would be constructed on the southern side of the N13 carriageway, within the existing road cross section utilising the existing footways and/or carriageway verge. Should this corridor emerge as the preferred route, the acquisition of small parcels of private lands may be considered at detailed design stage to increase the available cross section and eliminate pinch points. However this possibility is not assessed in this report and it is not considered that 3rd party lands will be acquired.

Starting at the end of Section 1, the facility would cross the R238 roundabout and utilise the existing footway/verge on the southern side of the N13 for approx 200m to where the footway ends. From that point onwards towards Skeoge Cottages (approx 800m to the west), the facility would continue along the existing verge, before utilising the existing green area to the front of the Skeoge Cottages housing development. From Skeoge Cottages to the junction of

the L2021 (Grianan Aileach Road), a distance of approx. 1.8km, the facility can be located in the existing verge or roadside embankment for the majority.

From the L2021 junction past the front of St. Aengus's Church, Burt and An Grianan Hotel to the junction of the L7921, the existing layby, footway, verge and hard shoulder would be reconfigured to provide a suitable facility while maintaining existing parking provisions at the church and the hotel. From the L7921 for approx 1.5km to the section of traffic calming at Moness Cottages, the facility would run within the verge.

From Skeoge Cottages to Moness Cottages, a distance of approx. 3.7km, a consistent cross section could be provided for the majority of the route, however a number of localised pinch points would remain which would impact on the design of the facility and achieving the desirable cross section. These localised pinch points are described further in Section 8.8.6 below.

At Moness Cottages, the facility would be incorporated into the existing traffic calmed section with the provision of a kerbed facility alongside the roadway within the existing hard shoulder. From the end of the traffic calmed section for approx. 300m, the pedestrians / cyclists would be required to use the hard shoulder, and would then continue along the existing verge or roadside embankment for the majority of the remaining 4.5km as far as the All Saints Church (Church Of Ireland) at Newtowncunningham. (There are a number of pinch points in this section as set out in Section 8.8.6 which would green cyclists / pedestrians to share the hard shoulder) with.

After the church the facility would merge into the green area alongside the L2018 at Colehill, where it connects to the Donegal Cycle Route, a 200km scenic route which forms part of the National Cycle Network & the Eurovelo 1 Atlantic Coast Cycle Route.

From Colehill, the facility would continue to its endpoint Newtowncunningham via the existing footway corridor along the N13 and to the rear of the crash barrier.

Newtowncunningham is also the confluence of the Donegal Cycle Route (Eurovelo 1) and the Sustrans National Cycle Network Route 1 which connects to Route 92 (which runs from Ballinamallard near Enniskillen, Co Fermanagh back to Derry)

Section 5 Light Blue Corridor Pictures:

Typical N13 profile
at traffic calming /
crossing at Moness
Cottages



Verge approaching
Topaz Station at Burt



Footpath and layby
and St Aengus'
Church, Burt

6.5.2 Orange Corridor Description

This corridor starts at the intersection of the Skeoge and Burnfoot rivers at Inch Lake and follows the route of the existing Inch Wildfowl Reserve walkway as far as the Farland Embankment access to Inch Island connecting to the existing car park. The construction of the greenway would involve widening the existing path to provide a consistent cross section.

From the car park at Farland Embankment the corridor follows the old railway line for approximately 650m to connect to the L7981 local road. Third party lands are required at this location and the route would be shared with farm access for some of the way. The route continues on the L7981 as an on road shared cycle route to its junction with the L7861, continuing along the L7861 turning onto the L78611 and continuing to, and across, the Grange Embankment at Blanket Nook. This section of the corridor passes through the townlands of Carrowen, Ballymoney and Grange.

From the Grange Embankment, the corridor follows the L7831 to its junction with the L2041 where it merges with the Donegal Cycle Route (Eurovelo 1) as described above. The corridor then proceeds along the Donegal Cycle Route to the southeast along the L2041 crossing the N13 at the existing refuge islands, and proceeding along the L2051 (Newtowncunningham Main St), connecting to Sustrans National Cycle Network Route 1 (as described above) to terminate at Scoil Colmcille NS, adjacent to the commercial complex with shop and restaurant. The corridor passes through the townlands of Moneyreggan, Murlough and Moyle.

The greenway facility from Farland Embankment to Grange Embankment, and from Drumboy to Newtowncunningham would consist primarily of a shared facility on lower trafficked local roadways, with pedestrians and cyclists sharing the carriageway with vehicular traffic (except for a short off-line section along the old railway line, as described in 2nd paragraph above, and shown in 2nd Photo). Available traffic survey data indicates very low volumes of traffic using these roads and a design in accordance with the prevailing design standards can be achieved.

This corridor would transit close to, or through, areas of the Lough Swilly Special Protection Area (SPA) (<https://www.npws.ie/protected-sites/spa/004075>) and Special Area of Conservation (SAC) (<https://www.npws.ie/protected-sites/sac/002287>) and would require sensitive design and management in consultation with the National Parks and Wildlife Service.

Along Grange Embankment, the design of the greenway would be developed to minimise the potential impact on the Lough Swilly SAC & SPA. If a suitable design, acceptable to the relevant Statutory Authorities and Environment Agencies could not be achieved, an alternative link to Newtowncunningham could be provided, linking the greenway around the perimeter of Burt Castle and via the L7841 to the N13 opposite All Saints Church (COI) at Colehill Park following the existing Sustrans National Cycle Network Route 1.

The total length of this option is approximately 13.3km, of which approx. 8.3km would consist of a shared facility on lower trafficked roads. The remaining 5km is off-line and traffic free.

Section 5 Orange Corridor Pictures:

Grange
Embankment at
Blanket Nook

(Potential to
construction GW to
RHS of wall, but to
be considered at
detailed design
stage and in line with
Environmental
considerations)



Former rail embankment
from Farland Car Park to
L7981



L7861 at Grange –
connection to EuroVelo
1 Route

7 PUBLIC CONSULTATION PROCESS

The Stage 1 Constraints Study and Route Option Report was published on 26th June 2018. The report was published on DCSDC and DCC’s website, and on the project website – www.nwgreenway.com. Links to the report were also published on the local authorities dedicated social media space at Facebook and Twitter.

Following the publication of the report, two Public Consultation Events were held as detailed below at which the drawings and proposals outlined in the Stage 1 Report were displayed.

Members of the Project Team were present at each event to explain the Project proposals, drawings and programme for delivery to the public. Feedback forms which provided the public with an opportunity to formally comment on the proposals and on the consultation event were distributed and the public was encouraged to complete and return these forms. A return date of 27th July 2018 was indicated initially, allowing four weeks for the public to consider and comment on the proposals. This date was subsequently extended to 31st August 2018, for submissions to be returned after the summer holiday period.

The following table summarises the Public Consultation Events.

Table 7.1 – Summary of Public Consultation Events

Date	Venue	Nrs Signed Attendance *
1 st Public Consultation Event, 26 th June 2018	Swilly Yacht Club, Fahan, Co. Donegal	136
2nd Public Consultation Event, 27 th June 2018	Templemore Sports Complex, Templemore, Co. Derry/Londonderry	62

* Sign in sheets were provided at each event and the numbers of signed in attendees are given in the table. It is noted that at busy periods some people may not have signed in, while others attending choose not to sign in.

762 feedback forms were returned, including those provided on the days of the Public Consultation Events, and those returned by post / email. It is noted that approx. 650 submissions were received on behalf of a single landowner, however each individual feedback form has been reviewed and assessed as an individual submission.

Appendix C included in this report contains further details on the public feedback provided following these events.

As noted in the Foreword to this report, and in Section 6.3, concerns were raised through the consultation process by landowners and the public as to the suitability of both routes in Section 3, (originally presented on 26th and 27th June 2018). DCC subsequently decided to convene a second consultation regarding Section 3 in order to consider a number of alternative/variant routes and to allow third parties potentially affected by these routes to view and make observations on them.

This event was held on 7th February 2019 as follows:

Table 7.2 – Summary of Second Public Consultation Event

Date	Venue	Nrs Signed Attendance *
7 th February 2019	Fowler Hall, Tooban, Co. Donegal.	88

* Sign in sheets were provided at each event and the numbers of signed in attendees are given in the table. It is noted that at busy periods some people may not have signed in, while others attending choose not to sign in.

Feedback from both the initial and second Public Consultation Events, on all the route corridor options presented, was assessed in line with the ‘Preamble to Public Feedback’ as described in Section 8.3.11 of this report.

8 ASSESSMENT OF ROUTE CORRIDOR OPTIONS

8.1 Introduction

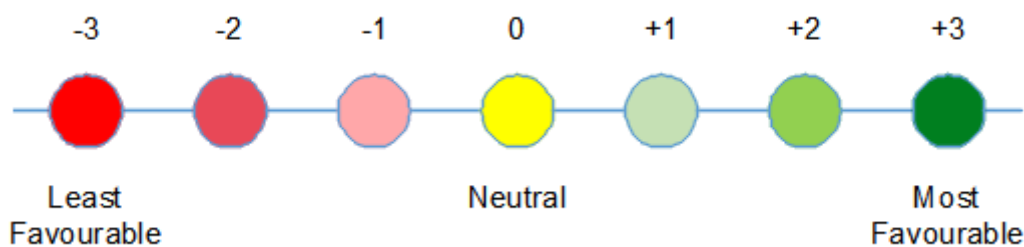
The assessment of each Route Corridor was carried out with reference to the route specific aims and objectives, and the assessment criteria and scoring matrix established in the Stage 1 report. For each of the criteria, a preamble which describes assessment and scoring process has been provided. The same approach and methodology has been carried through and applied for both the NI and the ROI sections.

8.2 Route Corridor Assessment Criteria

The Route Corridor Assessment Criteria set out the criteria used to score the Route Corridors and select the Preferred Route Corridor Option and are based on the Scheme Assessment Reporting (SAR) assessment criteria outlined in TD37/93 of the Design Manual for Roads and Bridges (DMRB) & Transport Infrastructure Ireland (TII, formerly National Roads Authority) Project Management Guidelines. The DMRB & TII criteria are more relevant to motorway and road schemes and are not strictly relevant to greenway schemes. Therefore, the Route Corridor Assessment Criteria have been adapted to reflect the proposed greenway scheme.

Each route corridor has been scored against the assessment criteria, having regard to the Route Specific Aims and Objectives and using the following scoring matrix, where the most favourable rating for a particular criteria will be +3 (green) and the least favourable will be -3 (red). The Preferred Route Corridor will be the Route with the highest overall score.

Scoring Matrix



The views of members of the public on the respective route options must be recorded and reflected in the route scoring. Routes which receive negative feedback will score lower than those which have neutral or positive feedback.

The route assessment criteria adopted for this Greenway Scheme are informed by policies and documents identified in Section 2 of the Stage 1 report. As part of carrying out the assessment under these criteria this report includes a preamble to each assessment criterion

which expands and further defines how the Project Team carried out the assessment of each route corridor.

Eleven Assessment Criteria have been identified as follows;

- (i) Modal Shift
- (ii) Connections and Local Access
- (iii) Cultural, Heritage and Visual Attractions
- (iv) Landscape and Visual
- (v) Flora, Fauna and the Environment
- (vi) Physical Constraints
- (vii) Quality of Service
- (viii) Material Assets and Human Beings
- (ix) Potential Cost
- (x) Physical cross-border connectivity
- (xi) Public Feedback

8.3 Preambles to Route Assessment Criteria

8.3.1 Preamble to Modal Shift

Extract from Stage 1 Report:

NWGN Modal Shift aims and objectives will be assessed against each route corridor. We will consider each corridor in relation to its connectivity / proximity to towns and villages, residential areas, schools and places of work and its potential to impact on the way in which people commute and travel between these places. High score will be awarded where a corridor has potential to deliver significant change in how the local population commute and travel.

Further to the paragraph above, in assessing this criterion, the project team considered the potential for each of the route corridors being compared to deliver “significant change in how the local population commute and travel” as set out above, and to meet the Route Specific Aims and Objectives outlined in Section 3.3 of the Stage 1 Report.

The key Route Specific Objectives defined at Stage 1 which are relevant to the Modal Shift criteria are:

- Connect the town of Buncrana (Co. Donegal) and the commuter villages of Fahan (Co. Donegal), Burnfoot (Co. Donegal) and Bridgend (Co. Donegal) with the city of Derry / Londonderry.

- Connect the town of Buncrana (Co. Donegal), the city of Derry / Londonderry (NI) with the town of Newtowncunningham (Co. Donegal).
- Offer an attractive and cost effective sustainable alternative to private motor vehicle transport by providing connections between residential areas and areas of employment, commercial centres and recreational facilities.

In accordance with these objectives it is considered that the greatest potential to bring about a significant increase in modal shift can be expected from routes which connect the major population centres listed above to major destinations/trip generators such as large employers or education centres. These can be categorised as **Primary Modal Shift Drivers**. Primary modal shift drivers include:

- Secondary schools
- Major employers
- Key Cities, Towns and villages listed in the Route Objectives

It is also recognised that a secondary contribution to an increase in modal shift at a local level can be made by connecting smaller settlements and communities to local destinations such as local service centres, small employers and smaller educational centres which can be categorised as **Secondary Modal Shift Drivers**. Secondary modal shift drivers include:

- Smaller villages and settlements.
- Primary schools
- Local employers
- Local services (shops etc.)

Therefore, the key factor in assessing the potential of any corridor option to deliver modal shift is how it connects to Primary and Secondary modal shift drivers, how it impacts on existing provisions, and how likely people are to use it for key journeys.

Connection to major modal shift drivers would permit greater numbers of users to connect to both the key nodes and other services along the length and are those considered to have the most relevant volumes of the user group (i.e. adults or secondary school pupils) who would consider removing car journeys in lieu of cycling

Connection to minor modal shift drivers would still permit users to connect to both the key nodes and other services along the length but would be those which would offer lower numbers of potential journey changes, or would be users less likely to replace car transport (i.e. Primary school pupils).

Where an existing cycle provision is in place, but the provision of a particular route option envisaged under this project has the potential to cause existing users to cease to travel by bicycle or foot and instead resume travel by car, this should be considered as a negative influence on the score for this criteria, despite the ability to connect to the end nodes and other listed modal shift drivers.

Finally it is considered that for a proposed route to have potential to lead to a significant change in travel behaviour and to be considered an “attractive and cost effective, sustainable alternative to private motor vehicle transport” the assessment must also consider some elements of the quality of service and user experience which any potential users would encounter, with particular reference to the needs of commute cyclists as defined in relevant standards and guidance documents.

While a route may connect to Primary and Secondary modal shift drivers, if the route does not offer an attractive experience meeting the needs of the prospective user, it is ultimately less likely to attract actual use and therefore less able to deliver modal shift.

Therefore where a route corridor fails to provide a minimum standard under the Quality of Service criteria as detailed in Section 8.3.7, when the Quality of Service assessment is finalised, the final Modal Shift score will be reconsidered, and a reduced score applied if appropriate.

8.3.2 Preamble to Connections and Local Access

Extract from Stage 1 Report

Connections and Local Access Criteria will assess how each corridor links greenway users to local amenities such as accommodation, food and retail outlets, comfort breaks and public transport.

In considering this criterion the Project Team examined best practice guidance for recommended frequency of access to amenities such as accommodation, food and retail outlets.

The standards for Eurovelo cycle routes are set out in a European Cyclists Federation (ECF) document, **Guidance on the route development process (2011)**, which has minimum requirements for access to basic accommodation at minimum 30km intervals and access to food and drink (at pubs, restaurants etc) every 15-45km. In order to be certified as a touring route for all user categories the requirement set down in the ECF **European Certification Standard for the European cycle route network (2018)** is that there should be access to “Food or rest areas available every 15 km. Drinking water available every 15 km.”

The ROI Dept of Transport, Tourism and Sport (DTTAS) Greenways and Cycle Routes Ancillary Infrastructure Guidelines does not provide detailed guidance on frequency of access to these amenities but does states that routes (particularly for leisure cyclists) should have regular resting areas & opportunities to buy food and drink. It does state that “ideally, major rest areas (e.g. at a halfway point on a 50km Greenway) should have somewhere on or close to the Route to get basic food and drink and toilet facilities”.

The relevance for access to public transport is outlined in **Cycling by Design (Transport Scotland, June 2011)** as being based on provision of a “competitive door to door alternative to the private car for medium to long distance trips” and this standard recommends that “People are more likely to cycle if the journey to the public transport terminal is convenient and there is good, reliable provision of cycle parking or bicycle carriage to allow them to continue their journey using public transport.”

The ECF requirement for access to public transport is that “access the route is legally and physically possible at least every 75km” while the ROI DTTAS Greenways and Cycle Routes Ancillary Infrastructure Guidelines recommend that routes should “be accessible via public transport at critical points”.

Therefore the primary focus is that access should be available to public transport hubs or terminals where these exist within the study area. It is considered that links to local bus stops or services is of limited importance, particularly as most of these services do not have facilities for the carriage of bicycles on-board.

Having regard to the connectivity provided by all route alternatives considered in this report to the towns and villages identified in the Route Specific Aims and objectives, the maximum distance between connection to food, drink and toilet facilities is approximately every 6km with the exception of the Red route between Fahan and Buncrana - which is still less than 15km.

Therefore, at the outset of this assessment, as each route corridor option ultimately connects users to the major amenities at each node, and when linked to all the sections that would comprise the entire preferred greenway route, ample access to the major amenities would be provided, it was deemed that all routes would start with the maximum score of 3.

After consideration was given to how each route corridor connects with the major amenities within the overall study area, a further exercise was carried out to determine on how each route corridor connected to the local amenities within each section.

Where there are additional amenities within a section, routes which do not connect to these amenities will be awarded lower scores than those which do.

8.3.3 Preamble to Cultural, Heritage and Visual Attractions

Extract from Stage 1 Report

This criteria will compare how each corridor connects greenway users with notable Cultural, Heritage and Visual Attractions within the Study Area.

In considering this criterion, the Project Team considered how each greenway route linked to the Cultural, Heritage and Visual Attractions within a section, and also the importance of each feature within the section under a number of key categories which are set out below.

To assist in this criteria the information contained in the National Monuments Service and Northern Ireland sites and monument record database was assessed, as well as any notable sites or features identified during the public consultation process. Section 5.7 of this report has been revised and updated to include a number of additional sites and features identified since the Stage 1 Assessment.

Under this criteria the views of significant landscapes, or of significant flora and fauna, were not assessed, as these will be considered under separate criteria.

The key categories are;

- (i) Items which could be considered to be, or are designated in the sources referred to in Section 5.7, as of National or International significance:

This includes listed or protected structures or buildings, internationally acknowledged points of historic interest, battlefields of note and items scheduled for inclusion on the next revision of the respective registers of listed or protected structures. Such items may be the reason for visitors to travel to a certain area.

- (ii) Items which could be considered to be, or are designated in the sources referred to in Section 5.7, as of Regional significance:

This includes items or locations that while not formally listed or scheduled on a national basis are none the less of regional interest and significance and which could attract visitors once in the area.

- (iii) Items which could be considered to be, or are designated in the sources referred to in Section 5.7, as of local significance or niche interest:

This includes items or locations that hold particular significance in local history, lore or heritage or are significant examples of specialist interest, examples of which may be minor features of railway heritage, WW1 emplacements etc.

A Greenway route will ideally provide as good a connection as possible to as wide a number of Cultural, Heritage and Visual attractions as possible to encourage external tourism and local access to historic offerings.

Therefore when assessing and scoring the Cultural, Heritage and Visual Attraction criteria within each section consideration will be given to how each route connects to:

- The number of attractions within a section
- The type of attractions within a section
- The number of attractions a route can access
- The type of attractions a route can access

Where a section contains a range of attraction types, ranging from national significance to local significance, careful consideration was given to the relative value of connecting a major attraction but missing a significant portion of locally significant attractions, versus a lesser connection to a major attraction but a more consistent level of connection to regional and local attractions.

Note:

A number of route corridors in the various sections traverse the line of the old Londonderry & Lough Swilly Railway Line. Aside from locations where the rail corridor is clearly defined by the tree / hedge boundary, (e.g. Photo Below of the corridor at Elagh Road), the old Station House at Burnfoot and some isolated structures (e.g. remaining bridges), there are no distinctive features of the railway remaining.



View along old railway line from Elagh Road

In terms of the Cultural, Heritage and Visual Attractions assessment, and with all other factors equal, it is not considered that a corridor along the old railway line would score more favourably than a corridor which does not traverse the old railway line, unless the remaining features are deemed sufficiently striking or notable to merit a more favourable score.

8.3.4 Preamble to Landscape and Visual

Extract from Stage 1 Report

An assessment of the landscape and views along each corridor will be carried out. A Landscape & Visual Assessment will be completed which will rate the views at key points along each corridor, with high scores awarded where a corridor option provides striking or exceptional views across the landscape.

In assessing this criterion, a Chartered Landscape Architect undertook a Landscape and Visual Assessment Report which considered the views at key points along each corridor option within a section.

This report provides an outline summary of the landscape within the study area and the perceived Landscape Quality of the route corridors which have been identified in the Stage 1 Report. It describes the Landscape and Visual Experience along each corridor option and evaluates each route corridor under comparison. The results of this Landscaping and Visual Assessment are carried forward into the scoring of each route.

A copy of this report is appended to this Stage 2 Report.

8.3.5 Preamble to Flora, Fauna and the Environment

Extract from Stage 1 Report

Similar to 'Landscape and Visual' criteria, we will assess how each corridor provides a connection to notable flora and fauna within the Study Area. We will also consider proximity to designated environmental sites, e.g. Special Areas of Conservation (SAC), Special Protection Areas, (SPA) and Areas of Outstanding Natural Beauty (AONB).

The effect of the construction of a proposed corridor on the environment will also be considered and corridors that negatively impact on the environment will score less highly than those which do not.

This criterion is a combined assessment of the interaction of the proposed development with designated environmental sites, notable habitats and fauna and all aspects of the natural environment (whether designated or not) generated by the construction and operation of the route corridors.

In the context of this report, it is not considered that providing a connection for the public via a proposed greenway corridor to a designated environmental site is a positive factor in the assessment.

In addition, where a proposed greenway corridor connects with an existing trail or pathway that links to an environmental designation or sensitive environment (i.e. Inch Wildfowl Reserve Walk, coastal zones and salt marsh habitat), the potential to increase the impact on the environment by widening, enhancing the existing trail, introducing greater numbers of people to a sensitive environment, or introducing public access to an area where access was not previously facilitated are considered.

In this assessment, the project team considered the interaction of construction works and usage of the route corridor with the environment, while also rating the sensitivity of the 'environment' affected, and avoidance and mitigation measures that may be appropriate. Therefore, the construction of a greenway route beside a road which required the removal of a planted hedgerow, was considered to hold less potential for adverse impacts than the construction of a greenway route beside a road which required the removal of an established, mature tree-lined border. A greenway route constructed through a wooded area and requiring the removal of several mature trees, which could not be replaced was considered to hold more potential for adverse impacts than a greenway route constructed beside a road, where replacement planting could be provided to offset the loss of a road border / hedgerow.

Where a route corridor passes through, or close to a designated environmental site, it is acknowledged that there would be potential for the development to result in adverse impact on the features for which the site is designated. The project team considered the potential for impacts on the designation, protected species and habitats, and the range and suitability of available design solutions to avoid or mitigate the impact on the designation.

In relation to the ROI sections of Route 1, in accordance with Article 120(1)(b)(i) of the Planning and Development Regulations 2001 (as amended), Donegal County Council has concluded, based on a preliminary examination of the nature, size and location of the development, that an Environmental Impact Assessment Report (EIAR) will be required regardless of the final route corridor selected. As such, an EIA/EIAR will be required to be submitted as part of the planning application submissions for the greenway.

On the basis of a preliminary assessment and objective criteria, it is recognised that the development, alone and in combination with other plans or projects, could have significant effects on a Natura 2000 site in view of the site's conservation objectives. Therefore, the development must be accompanied by Appropriate Assessment (AA) and a Natura Impact Statement. AA involves an examination of the implications of the proposed development for the Natura 2000 site and its qualifying interests (QI) and conservation objectives. In general terms the obligation to put concern for potential effects on Natura 2000 sites at the forefront of decision making at all stages is noted.

The EIAR and NIS will consider the Greenway development as a whole (including portions in Northern Ireland and in Ireland) and will fully consider the potential impacts of the greenway on a range of transboundary environmental aspects, and the final design of the facility would be informed by the findings of Environmental Impact

Assessment to ensure that potential adverse impacts are acknowledged and addressed by avoidance, reduction or mitigation.

Furthermore, prior to construction stage a detailed Construction Management Plan, outlining construction methodologies, timescales, pollution control waste management, public access and ongoing greenway maintenance measures would be required to be agreed with the relevant Statutory Authorities, and works would be restricted to agreed times of the year.

While the EIAR will be expected to demonstrate that the final design construction, operation and ongoing maintenance of the greenway will not have a significant impact on sensitive environments, protected species and designated sites, for the purposes of the route corridor assessment process, the *potential* impact of the greenway will be considered.

In scoring this criteria, the potential cumulative effect of the impact of the proposed greenway corridor on the environment is considered. Higher scores will be awarded to route corridors which have lower impacts on the environmental features, or do not impact on sensitive environments, protected species and environmental designations.

8.3.6 Preamble to Physical Constraints

Extract from Stage 1 Report

Physical Constraints, e.g. topography, river / stream crossing points, carriageway crossing points and local ‘pinch’ point, likelihood of flooding will inform the design of the preferred greenway. While significant changes in topography and river / stream crossing points bring opportunities for scenic landscape views and attractive features along a greenway they can also present design and construction challenges in relation to achieving desired gradients.

Carriageway crossing points can deter greenway users and ‘pinch’ points, or sections of where path width varies, can make the greenway a less attractive amenity. These issues also present safe design challenges.

In assessing each of the Route Corridors, these types of physical constraints will be considered and scored accordingly.

In assessing this criterion the Project Team considered the following physical constraints on each route corridor, grouped into categories to facilitate the assessment process;

Category 1:

- Stream / River Crossings

- Areas at risk of flooding or within tidal range

For these types of constraints, the Project Team considered the number of each constraints, and the type of design solution that could be provided, e.g. short bridge or culvert at a stream crossing (depending on width of channel) or a major bridge structure. Short span bridges / culverts represent a relatively straightforward design challenge while major bridge structures involve more complex design.

Major bridge crossings would also add significant cost to the average cost per kilometer of the route corridor and are therefore also assessed in the 'Potential Cost' category.

Design solutions at areas of flooding were considered on a case by case basis, as outlined in the discussion on each route corridor.

Category 2:

- Steep Gradients / Changes in Level
- Localised Pinch Points, E.g. narrow cross sections, utilities infrastructure (e.g. pylons), or other obstructions that might impact on the design of the greenway.
- Extended Pinch Points, E.g. narrow cross section over an extended length, or a section with multiple entrances over an extended distance along which the design will need to allow for potential conflict between greenway users and vehicles using these entrances. For the purposes of this report an extended pinch point is defined as being greater than 50m length.

For these types of constraints the Project Team considered the potential impact of each of the constraints on achieving the desirable greenway cross section (refer to desirable cross sections provided in Stage 1 report) and / or a greenway gradient which would be in accordance with the design standards.

The Project Team also considered the range of design solutions available for each constraint.

In general, where a design solution involved additional land acquisition – e.g. to mitigate a pinch point that impacted on achieving the desirable cross section by purchasing private land – it was assumed, within the context of the scoring exercise and preferred route selection process, that the land could be purchased and the desirable cross section subsequently achieved. The impact of this assumption was then assessed in the 'Material Assets and Human Beings' scoring criteria.

However, as noted in the descriptions of the route corridors in Sections 6.2 to 6.5, and as presented at the Public Consultation Events of 26th & 27th June 2018, for the purposes of this report, the online greenway corridors along;

- the R238 from Bridgend to Fahan (Lisfannon corner), and
- the N13 from Bridgend to Newtowncunningham

assume that the acquisition of private lands will not be considered. The route corridors through these sections have been assessed on the basis that a greenway would be constructed within lands in public control, and that any pinch points would remain.

The practicality of implementing design solutions was also considered. For example, where a route corridor involved a steep gradient, a practical design solution could be to provide rest stops along the steep section, or to provide a meander in the greenway alignment within available lands to reduce the gradient. An impractical design solution, within the context of the greenway scheme could be to carry out significant excavations to allow the gradient to be reprofiled, or to attempt to purchase significant additional lands to introduce a meander.

Category 3:

- Nr of Major Road crossings required (where a route corridor crosses from one side of road to the other)
- Nr of minor road crossings – i.e. where side roads, access roads etc. cross the route corridor

For the major road crossing constraints, the design solutions considered were controlled or uncontrolled crossing points, while for minor road crossings, the design team will need to consider each crossing depending on the volumes of vehicular traffic using the minor road and the prevailing design standards.

Therefore, the Physical Constraint criteria can be considered as an assessment of;

- The number of physical constraints on each corridor,
- The severity of the constraints and whether practical design solutions can be implemented to mitigate.
- Impact any residual constraint will have on the cross section of the greenway.

Routes which have higher numbers of constraints which cannot be mitigated by reasonable and practical design solutions will score less than those with no constraints or constraints that can be easily mitigated.

A table describing the main physical constraints on each corridor, the design solution, and the residual impact is provided in the assessment of each corridor below.

8.3.7 Preamble to Quality of Service

Extract from the Stage 1 Report

For a greenway to attract high volumes of pedestrians / cyclists it must provide an attractive 'product'. The key desirable features of a greenway can be described as:

- Segregated from vehicular traffic
- Safe and accessible for all greenway users
- Developed in accordance with best practise and international standards, and;
- Substantially 'off road', .i.e. through green field lands, preferably where Private land acquisitions are not required.

Route Corridors that can deliver these features will score highly.

INTRODUCTION:

When assessing this criterion, the project team considered whether or not each route option could deliver an attractive product which would encourage usage from a high volume of pedestrians and cyclists. The Project team also acknowledges that by ensuring a high quality product is delivered it will ensure the high level aims and objectives of the project are met.

As outlined in the aims and objectives for the project, for a route to be attractive it must:

- Create a safe and **pleasant** amenity along which the local population can commute, socialise, and **use as a recreational and leisure facility**
- Provide a Greenway route that is safe, **comfortable and attractive to all user groups** (both cycling and walking) and provides a reliable and safe level of service.
- Provide a route that can facilitate comfortable combined use by cyclists and pedestrians in an environment that **feels safe** to both user groups, particularly in areas with high levels of mixed activity.
- Provide **high quality infrastructure which will attract increased visitors** to the area and drive the demand for associated cycling/walking related facilities e.g. cafes, bike hire etc.

ASSESSMENT:

In order to determine whether a greenway corridor offered an attractive product and meet aims and objectives / criteria set out above, the corridor was assessed in terms of the four desirable features of a greenway as outlined in the Stage 1 report, i.e.;

- a) Segregated from vehicular traffic
- b) Safe and accessible for all greenway users
- c) Developed in accordance with best practise and international standards, and;
- d) Substantially 'off road', .i.e. through green field lands, preferably where private land acquisitions are not required.

It was also noted that the definition of each of the four desirable features, and consequently the 'attractiveness' of the greenway product, varies when applied to greenways in differing environments and settings, i.e. urban and rural, as what defines an attractive, segregated, safe, off-road greenway designed in accordance with best practice in an urban setting may differ from that in a rural setting.

Therefore, in assessing the Quality of Service for a route corridor, the following approach was adopted;

- Assess the setting of the corridor, i.e. urban or rural, or the proportion of the corridor within each setting. The design standards that would be applied within an urban or rural environment were also considered.
- Assess the corridor in terms of the four desirable features, with each feature assessed in terms of its definition in an urban or rural context. The link between each of the four features and consequential 'attractiveness' of the greenway corridor was also considered.
- Final engineering judgement based assessment of the attractiveness of the greenway product that could be delivered along the route corridor.

1. Assessment of Rural and Urban, and Design Guidelines to be considered:

For the purposes of the design of the greenway, and the assessment of this scoring criteria, the following definitions have been applied:

- Rural locations are considered to be outside of city, town or village fabric and boundaries, and not subjected to a local speed limit. The DTTAS Greenway Strategy guidance will be considered and DMRB standards will apply as appropriate. National Cycle Manual guidance may be applicable on lower speed sections with low traffic volumes.
- Urban locations are considered to be inside city, town or village boundaries and are subjected to a local speed limit. The National Cycle Manual and the Design Manual for Urban Streets will be the primary design guides.

2. Assessment of Four Desirable Features

- a) Segregated from Traffic

In terms of this assessment, it is considered that a facility that is fully removed from vehicular traffic and does not run within or alongside a road corridor is the maximum, and most desirable form, of segregation.

Where the maximum level of segregation cannot be provided, and the greenway runs within/alongside an existing road corridor, the desirable level of segregation will be that dedicated space for pedestrians and cyclists is provided, and incorporates vertical separation from vehicular traffic using kerbs. It is also highly desirable that, where possible, this level of segregation will be increased by providing horizontal separation using a verge/buffer strip preferably including hedges, fences or barriers.

In locations where the above forms of segregation cannot be achieved, the following levels of segregation will be considered;

Providing a dedicated cycle lane facility on the carriageway with segregation by way of road markings. This is in compliance with standards for urban areas but is generally undesirable on rural roads or roads with higher traffic volumes and speeds, other than in exceptional circumstances where traffic volumes and speeds can be demonstrated to be very low. However having regard to the project aims and objectives and desire to provide a Greenway facility these type of arrangements should only be considered where insufficient space was available to provide a more desirable cross section.

Completely unsegregated facilities where cyclists and pedestrians share the road space with motorised traffic are considered to be not acceptable in most scenarios, however they may be considered in some urban situations or other locations where very low traffic volumes and speeds have been identified, and where ‘shared street’ or “quiet way” type measures (signage, road markings etc) are implemented in accordance with the prevailing guidelines and standards.

In scoring this element of the criteria, the ability of a greenway corridor to provide a minimum level of segregation as outlined in the prevailing design standards is deemed to be a requirement for a neutral or positive score, with corridors that can provide segregation above a minimum standard scoring more positively, while those that do not meet the minimum standards will score negatively.

b) Safe and accessible;

Safety

It will be a minimum requirement for all routes to be designed in accordance with relevant design standards. The further importance of the “perception of safety” is highlighted across all major design standards in UK and ROI as being a key design principle as highlighted in the extracts above.

Therefore it is considered that route options should be expected as a minimum to meet basic design and geometric standards in order to achieve neutral or positive scores. Where routes fail to achieve any element of the basic design standards negative scores will apply, however route options which provide facilities that offer a higher perception of safety, particularly for young/vulnerable user groups will receive more positive scores.

Accessibility

In assessing this element of the criteria, the accessibility of the corridor for all users, and in particular the needs of vulnerable users such as families with small children, elderly people, wheelchair users and the mobility impaired was considered. The ROI National Trails Office publication “Classification and Grading for Recreational Trails” provides various classifications of both walking and cycling trails indicating their suitability for different user groups, including “multi-access” trails which are defined as “accessible to all, including people with reduced mobility, wheelchair users, people with a vision impairment, using crutches, with a buggy, with small children, older people and so on”. Key factors influencing accessibility which can be considered at this stage are width, gradients and surface quality.

For ROI routes it will be desirable that the route will meet a minimum of Class 2 Cycling or Class 1 Walking trail standards.

Within Northern Ireland, the advice and requirements provided in the Planning Service’s ‘Planning Policy Statement (PPS) 3, Access, Parking and Movement’ and Development Control Advice Note (DCAN) 11, ‘Access for People with Disabilities’ will be considered, as well as the relevant Sustrans Design Guidelines.

c) Developed in accordance with best practise and international standards;

In considering this element a comprehensive review was undertaken of UK and ROI Design Guides and Technical Standards to identify the key drivers which may impact on the attractiveness of the proposed greenway and its potential to “attract high volumes of pedestrians / cyclists”.

Core Design Principles:

“Extensive networks of high quality routes that enable people to cycle safely and conveniently should reflect the five core design principles of:

- *coherence*
- *directness*
- *safety*
- *comfort*
- *attractiveness”*

(Reference Sustrans Design Manual, Chapter 1: Principles and Processes of Cycle Friendly Design).

The above five principles of cycle network design are common across design guidance published in both NI & ROI by various relevant Transport Authorities and Sustrans.

Some of the key desirable features under these headings which will be considered when assessing the route corridor options are set out below (non exhaustive).

Coherence:

Routes “should be logical and continuous. Delays, detours, gaps or interruptions should be avoided.” (National Cycle Manual, ROI)

Be continuous and recognizable. Offer consistent standard of protection throughout” (Sustrans Design Manual, Ch1)

Routes should be continuous from an origin to a destination, easy to navigate and of a consistent Quality of Service. (TII Rural Cycle Design Offline)

Directness:

“Be based on desire lines. Result in minimal detours or delays. Provide a positive advantage, in terms of directness and priority, over motor traffic.” (Sustrans Design Manual, Ch1)

Cycling infrastructure should be as direct as possible, minimising any delays or detours. Should confer an advantage in terms of average distance or journey time when compared with other transport networks. (NCM)

Safety:

“Design should minimise the potential for actual and perceived accident risk. Perceived risk is a key barrier to cycle use and users should feel safe as well as be safe.” Cycle by Design, Transport For Scotland

“Any perception of a lack of safety could be a deterrent to cycling” NCM, ROI

“Core Design Principles: Be safe and be perceived as safe” Sustrans Design Manual, Chapter 1: Principles and processes of cycle friendly design

See also Section 2 (b) above.

Comfort:

“Anything that causes discomfort or delay, or requires a disproportionate amount of effort, is likely to result in the cycling facility not being used.” (National Cycle Manual, ROI). Key elements include surface quality and avoiding excessive gradients.

“Be designed to avoid complicated manoeuvres. Enable cyclists to maintain momentum” Sustrans Design Manual, Chapter 1: Principles and processes of cycle friendly design

Routes should minimise the mental and physical stress required. Routes should meet surface width, quality and gradient standards and be convenient, avoiding complex manoeuvres. (Cycle by Design, Transport for Scotland)

Attractiveness:

Infrastructure should be designed in harmony with its surroundings in such a way that the whole experience makes cycling an attractive option. A route should complement and where possible, enhance the area through which it passes. (Cycle by Design, Transport for Scotland)

The cycling environment along a route should be pleasant and interesting. This is particularly important for beginners, tourists and recreational cyclists. (NCM ROI)

The ability for people to socialise by walking or cycling two abreast, or to stop and rest or look at a view, makes for a more pleasant experience. (TII Rural Cycle Design Offline)

Technical Standards

All the relevant technical design standards outlines in Appendix A shall be expected to be complied with fully at the detailed design stage. Route corridors should not have features or attributes which will be likely to limit the ability to meet these standards. Key considerations include:

Gradients: Routes should be able to achieve minimum standards for gradients, and where standards are exceeded lengths kept to a minimum.

Cross Section: Routes should be able to meet minimum cross section required for their locations and route type (road class, urban/rural etc). Standards that will apply include 'DN-GEO-03031 Rural Road Link Design' and 'DN-GEO-03036 Cross Sections and Headroom' for ROI and 'DMRB Vol 6, Section 3, Part 5 TA90/05' for NI.

Separation from traffic: Separation distances from traffic in accordance with standards are key to the attractiveness of the facility. Standards that will apply include 'DN-GEO-03036 Cross Sections and Headroom' for ROI and 'DMRB Vol 6, Section 3, Part 5 TA90/05' for NI. . "The space needed for a cyclist to feel safe and comfortable depends on.....the distance from, and speed of other traffic" (DN-GEO-03036 Cross Sections and Headroom)

- d) Substantially 'off road', .i.e. through green field lands, preferably where private land acquisitions are not required

Recommendations in relation to traffic free routes and other forms of segregation are already referred to in this preamble. In the scoring of this element of the Quality of Service criteria, an 'off road' corridor is further defined as a section of greenway that could be constructed through lands where there would be no normal vehicular traffic can access (except for maintenance vehicles). Therefore a greenway which was constructed through a verge or margin adjacent to a road, would not be considered 'off road'. In an urban setting, a greenway within a public park could be considered 'off road'.

Route Corridors that are 'off road' will be awarded higher scores than corridors that are not considered 'off road'.

3. Final Overall Assessment of the 'Attractiveness' of the Corridor

Having given consideration to all the factors contributing to the Quality of Service criteria, it was also considered that the final assessment, and scoring, of the route corridor should include a final reflection on the complete greenway facility that could be delivered on that corridor.

In particular, the potential for the 'attractiveness' of a route to be defined by its 'weakest link' was considered. For example, if a route corridor could be designed to exceed the minimum Best Practise and International standards for the majority of its length, but failed to meet minimum segregation, safety and accessibility standards for a short section, the overall 'attractiveness' of the greenway facility could be considered lower than a route which could be designed to meet, but not exceed, Best Practise and International standards for its entire length.

CONCLUSION AND SCORING PRINCIPLES

In conclusion, in determining a score for this criterion, it was considered that a neutral (zero) score was merited where the minimum prevailing design standards could be applied to a route corridor, across its entire length. Corridors which exceeded the minimum design standards (either for the entire route, or sections of the route) were awarded positive scores, and corridors which failed to meet the minimum design standards (either for the entire route, or sections of the route) received negative scores.

8.3.8 Preamble to Material Assets and Human Beings

Extract from Stage 1 Report:

This criteria is defined by two sub-headings as follows:

a) Existing Land Use:

The impact of a corridor on existing Land Use will be an important consideration. High scores will be achieved where the proposed corridor uses lands of which have low or neutral usage value, or where existing path networks are developed. Lands which have a high usage value (e.g. agricultural) and on which the proposed greenway may have a negative impact, will score less well.

b) Land Ownership

Land ownership will be a key factor which considering the suitability of a route corridor. Where private land purchase is not required, higher scores will be achieved. Conversely, if large tracts of private lands are required to construct the greenway, this will result in lower scores. Preference given to options that do not require the acquisition of private lands. In sections of a route corridor where this is unavoidable private land take will be minimised with severance of land boundaries avoided as far as practicable.

Further to the definition as set out in the Stage 1 Report, in the assessment of this criterion the project team considered the impact of a number of key factors a potential greenway route would have on private lands;

Requirement for Private Land;

It is considered highly preferable to deliver this project primarily on lands in public ownership or control, however it is also recognised that in order to provide a Greenway which meets the project aims and objectives and meets with design principles and standards, the use or acquisition of privately owned lands is likely to be required. Where viable routes which require no private lands exist these will be deemed to be low impact, while the greater the quantity of private lands required the higher the impact and lower scores will be awarded accordingly.

Amount of individual land owners affected;

Where a route corridor requires the use of private lands the project team evaluated comparable route corridors in the section being considered in terms of the number of individual landowners that would be affected. The number of landowners from which land needed to be acquired would affect the mechanism for seeking to access or

acquire the lands. Routes which affect higher numbers of landowners in comparison to the alternative route options will be considered to have more impact and be awarded lower scores.

Severance;

As stated in the Stage 1 Report, and in accordance with the recommendations of the DTTAS Strategy (ROI), severance of lands will be minimised as far as practicable. Where a route corridor severs a land holding, the impact was considered during the assessment. Greenway routes which sever lands will be considered as 'high impact' during the assessment and scoring process.

Impact on Land Usage;

The usage value of any lands being impacted by route corridors was considered. High usage value lands were considered to be those which affect people's domestic dwellings or business and livelihood. Routes which impact on lands from domestic dwellings and gardens, or which impact negatively on any business operation will be considered to have high impact.

The impacts of routes which traverse agricultural lands will be considered carefully, and a preliminary assessment has been carried out by an agronomist to assess the implications for any farm holdings potentially impacted by route corridors.

Routes traversing private lands which are of lower usage value, e.g. undeveloped industrial lands, brown field sites, or lands zoned for specific purposes, etc. will be considered to have lower impact than route use high usage lands, and will be scored accordingly.

It is also recognised that the development of a greenway may be beneficial to some existing land uses, especially those pertaining to the leisure/tourism services sector.

As noted in the DTTAS Greenway Strategy, an Agronomist Study has been prepared which assessed the potential impact of the greenway on agricultural lands. A synopsis of this report is included in the Appendix to this report.

The scores of each corridor where agricultural lands are reflective of the findings of the Agronomist Study.

A copy of the relevant sections of the Agronomist Report will be made available to affected landowners on request from DSCDC / DCC.

Impact on privacy;

Route corridors which impacted on the privacy of houses, e.g. an offline corridor constructed adjacent to private houses, or a corridor adjacent to a carriageway which

required the construction of new greenway infrastructure (as distinct from widening existing public path infrastructure) were considered to have a high impact during the assessment and scoring process. In such locations, options to provide reasonable mitigation or screening were considered. Where reasonable mitigation could be provided, this was considered to reduce the severity of the impact, and where reasonable mitigation options could not easily be provided, the severity of the impact was considered to be increased.

In the final assessment and scoring of each route corridor, those routes which have a greater combination of high impacts in relation to the above key factors, while also considering the severity of the impact, will score less favourably than those with fewer high impacts.

8.3.9 Preamble to Potential Cost

Extract from Stage 1 Report:

The potential cost of each corridor option will be assessed against the overall project budget. At this stage of the design process, a fixed rate per km of greenway will be estimated and applied to each route. For each corridor an assessment of structures (eg bridges, river crossings) will be included in the estimated costs. High cost options will receive a lower score than lower cost options.

In assessing this criterion the Project Team considered that the construction cost per km for a standard greenway profile, as estimated in the Project Cost Plan and taking into account, standard widths, normal ground conditions, minor structures or design challenges, (for example, small limited sections of retention that can be resolved with a dwarf wall kerb or similar), and limited or no demolition or significant site clearance would be used to determine the baseline cost for each corridor.

Factors which directly added or subtracted from the overall cost were considered under the following categories:

(i) Route length

When assessing route options within a section, certain routes may offer a shorter plan length over alternative sections. Where a shorter route is available, there would be a corresponding saving in km length costs if no other factors or influences were in effect.

(ii) Design Challenges

Structures that do not add value to the scheme have a negative impact on the overall cost profile for any given section. Such structures could include:

- Earth retention (i.e. retaining walls, gabions etc.)
- Underpinning
- Extensive Culverting operations
- Removal of areas of invasive species (i.e. Japanese Knotweed or similar)
- Significant reprofiling of existing terrain (i.e. extensive cutting or filling to form route contours)
- Extensive breaking out of rock or similar hard materials

(iii) Structures

Individual structures such as bridges, boardwalks, cantilevered structures etc. have the potential to impose significant cost over both isolated instances and longer stretches of a route.

Therefore, the Potential Cost criteria can be considered as an assessment of;

- The divergence in length between route options
- The number of design challenges considered to be present in any given route
- The number of structures that would be required in any given route

Potential Land Acquisition Costs are not considered in this criteria.

The construction cost per km of greenway is estimated to be €315,000 based on project cost plan.

8.3.10 Preamble to Physical Cross Border Connectivity

Cross Border Connectivity is a key aim and objective for the scheme. Each corridor or section (or combination of sections) within NI provides a link to the corridors or sections in ROI, and vice versa. Therefore each route corridor will be achieved the maximum score of 3 in this assessment.

8.3.11 Preamble to Public Feedback

Extract from Stage 1 Report:

The views of members of the public on the respective route options must be recorded and reflected in the route scoring. Routes which receive negative feedback will score lower than those which have neutral or positive feedback.

The approach to scoring of this criterion involved an assessment of any substantive issues raised during the public consultation stage process with a particular focus on tangible objections or obstacles identified regarding any of the corridor options. The overall broad level of support for, or opposition to, any of the corridors proposed was also taken into account.

Each of the feedback forms was reviewed and an assessment of the support for or opposition to each corridor was carried out.

A further detailed review was undertaken of the nature of the substantive issues being raised, particularly in the case of feedback in opposition to an element of the proposals as expressed on the returned forms. The comments/issues raised were grouped into a range of categories (e.g. health & safety concerns, impact on livelihood and privacy, design issues, environmental concerns etc.) as presented in the tables provided and referenced in the following sections.

Where issues raised in the Public Feedback comments were also already considered and assessed under other scoring categories, to avoid 'double scoring' of an issue (i.e. if a potential physical constraint was identified in the public feedback), it was judged proper that the individual comment raised be only considered under the appropriate scoring criteria, not under public feedback.

Where views and comments were provided that expressed concerns or highlighted issues with any overall aspect of the scheme (e.g. design, construction or usage of the Greenway), these issues / concerns were assessed in terms of the available solutions and measures that could be proposed and / or implemented to mitigate and alleviate the effect of the issue raised.

Corridors on which the issues raised presented significant challenges to the resolution of the issue received a lower score than those corridors on which the issues raised could be more easily addressed.

Therefore in scoring this criterion, the following key factors were considered and assessed;

- The assessment of the support for, or opposition to, a particular route corridor;
- The substantive issues raised by the public, particularly objections or opposition to route options which had not already been clearly considered in the other scoring criteria;

-
- The mitigation measures that could be implemented to address and alleviate the effect of the issues raised.

8.4 Assessment of Section 1 – Derry / Londonderry to Bridgend Corridors

8.4.1 Modal Shift

Purple Corridor:

The Purple corridor connects Derry with Bridgend and when linked with the corridors in Sections 2 – 5, with Burnfoot, Fahan, Newtowncunningham and Buncrana. It connects with the primary modal shift generators at St. Columb’s College, the extended Springtown Industrial Estate, Whitehouse Retail Park, Elagh Business Park, as well as the residential areas across the western environs of Derry, and at Bridgend. It also connects with the adjacent secondary modal shift generators in the extended urban area of Derry, eg local employers and services. At Bridgend, the route connects with modal shift generators at Bridgend Business Park.

Blue Corridor:

Similar to the Purple Corridor, the Blue Corridor connects Derry with Bridgend, the onwards destinations of Burnfoot, Fahan and Buncrana, and the primary modal shift generators across the area.

Scoring Summary:

As described above both corridors are considered to provide comprehensive opportunities to deliver significant modal shift and are awarded a score of 3.

Corridor	Purple	Blue
Mark	3	3

8.4.2 Connections and Local Access

Scoring Summary:

Within the context of the final greenway between Derry & Buncrana, and considering the proposed scoring assessment as set out in the Preamble, it is considered that ample access to the amenities and food retail outlets with this section are provided at the end point of each corridor, and initially each corridor is awarded the maximum score of 3.

While the Purple Corridor generally provides a more direct link to the various amenities along the central portion of the route, given that the corridors run broadly parallel and are separated by a distance of approximately 180m to 220m it is not considered this more direct connection merits a variance in the scores between the two corridors. The score of 3 for both corridors is unchanged.

Corridor	Purple	Blue
Mark	3	3

8.4.3 Cultural, Heritage and Visual Attractions

Scoring Summary:

As stated above, given the proximity of the corridors, in the assessment of this criteria, it has been assessed that the scores for each corridor are equal, as there is not a sufficient distinction between the corridors to merit a variance in scores.

There are no Cultural, Heritage or Visual attractions of national or regional significance within this section of the study area. There are listed structures, such as the Gate Lodge at Glengalliagh Hall and a house and outbuildings at Derryowen, close to Coshquin, but these are considered to be of local significance / niche interest in the context of this report. These items are distributed close to, but not on, the corridors noted and could potentially be accessed by users by a short trip if they left the direct greenway.

A score of 1 is merited for each corridor.

Corridor	Purple	Blue
Mark	1	1

8.4.4 Landscape and Visual

A copy of the Landscape and Visual Assessment Report which describes in the landscape character and scenic views available within the Study Area is appended to this report. The scores provided in that report are included below.

Scoring Summary:

Corridor	Purple	Blue
Mark	-1	0

8.4.5 Flora, Fauna and the Environment

Purple Corridor:

The Purple Corridor does not connect with any environmental designated areas. The corridor is adjacent to the A2 / N13 and does not provide any connection with ‘notable’ flora and fauna. Construction of the corridor would require minimal localised removal of hedgerow planting / vegetation along the carriageway boundary (e.g. along H1A lands, and approaching the eastern environs of Bridgend).

Blue Corridor:

The Blue Corridor does not connect with any environmental designated areas. While it is ‘off-line’ from the road network, and follows the alignment of the old railway line and Skeoge River through zoned housing lands from Elagh Road to Bridgend (approximately 2.6km) and makes an attractive setting for a greenway (as assessed in the Landscape and Visual Assessment), the habitat and hedgerows are not deemed to be ‘notable’ in terms of this assessment. The PEA has indicated evidence of some protected species (bats, badgers and otters) and detailed site surveys will be required to determine if these species are evident along this corridor, and to inform the final route alignment.

The route of the greenway through St Columb’s college and Templemore Sports Complex would be designed to minimise the loss of any significant mature trees and construction along the remaining section of the Corridor would include the removal of scrub vegetation and other planting of low ecological significance. Scrub clearance and site preparation works will be scheduled to minimise potential for adverse impact, in accordance with the findings of ecological and bird surveys. Any loss of planting would be mitigated by replacement planting appropriate to the native local environment. Between A515 and Elagh Road, the H1A lands are zoned for residential

development, and this is considered to further highlight the potential for low environmental impact as this area will become part of the urban landscape.

Notwithstanding this, detailed environmental surveys in accordance with relevant legislation and guidelines will be progressed to support the detailed design and statutory approvals process should this route corridor emerge as the

Note – DCC Environment Section are currently assessing a contaminated lands site in the fields adjacent to greenway route on the approach to Bridgend. The site is being appraised under the EPA Guidelines. The Blue Corridor is not believed to encroach on any contaminated lands, however it is noted that if the ongoing DCC assessment identifies any contaminated waste material in the vicinity of the route corridor, appropriate remediation actions will be pursued by the Council. Should any alterations to the alignment of the route be required as a result of DCC’s assessment, this can be considered at the appropriate design stage.

Scoring Summary:

The Purple Corridor is alongside the A2 / N13 and due to the removal of short sections of hedgerow of relatively low environmental value the construction of the greenway is considered to have a low potential impact on the environment. A score of 2 is awarded.

The Blue Corridor, although traversing through greenfield sites for a significant portion of its length, requires minimal clearance of vegetation as the route of the railway has remained clear of trees and overgrowth since its abandonment. In addition, a portion of this land is already zoned for residential development. Vegetation and hedgerows that will be required to be removed to facilitate construction are considered to have a relatively low environmental value. However, as noted in the PEA, there is some evidence of protected species along this route, and potential impacts on those species will need to be carefully assessed and mitigated. A score of 1 is awarded.

Corridor	Purple	Blue
Mark	2	1

8.4.6 Physical Constraints

Note:

The proposed A2 Buncrana Road Widening Scheme is deemed to be a Physical Constraint that will need to be considered regardless of which corridor emerges as the preferred greenway route. In order to minimise and avoid duplication of design work, and to ensure the designs for each scheme are compatible the respective design teams have met regularly.

A greenway along the Purple Corridor would need to complement the A2 Road Scheme design along the full length common to each scheme, and this would require careful co-ordination of both programme and design, in particular where significant works and alternations to major junctions are proposed as part of the A2 Scheme.

The Blue Corridor is distinct from the A2 scheme along the off-line sections, and while the co-ordination of both designs will still be required, it is considered that this would be mostly restricted to minor road crossings, e.g. at Elagh Road.

It is considered that the residual physical constraint is more severe for the purple corridor than the blue corridor.

The tables provided below summarises the main physical constraints on each corridor, categorised as outlined in the Preamble, Section 8.3.6, the possible mitigation options, and the residual impact of the physical constraint after the mitigations options have been considered.

Purple Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Co-ordination with A2 Buncrana Rd Design	As noted above	Ongoing consultation between respective design teams	Moderate
Pinch Point between Faustina Retail Park & Branch Rd Roundabout	Category 2 – Localised Pinch Point	Proposals to acquire land at Faustina Retail Park not part of this project Remove left slip deceleration lane to achieve desired cross section	Low
Crossing at Branch Road Roundabout	Category 3 - Major Road Crossing	Provide suitable new controlled crossing points	Low

		where appropriate and in accordance with design standards.	
Crossing at A515 – Skeoge Roundabout	Category 3 - Major Road Crossing	Provide suitable new controlled crossing points where appropriate and in accordance with design standards.	Low
Pinch Point between Upper Galliagh Rd & Whitehouse Retail Park	Category 2 – Localised Pinch Point	Approach landowner to determine if private land can be acquired to provide desirable cross section. If not, cross section to be maximised within available landtake, and residual impact deemed to be low.	Low
Pinch along boundary of H1A lands	Category 2 – Localised Pinch Point	Construction of embankment	None. Cost impact addressed separately.
Pinch Point at end of footpath at Elagh Business Park	Category 2 – Localised Pinch Point	Reduced width cross section	Moderate
12 commercial entrances along approx. 450m section through Bridgend	Category 2 – Extended Pinch Point Category 3 - Minor Road Crossings	Provide most appropriate design of each crossing in line with the design standards, and to improve these crossings for greenway users as far as practicable. Cross section maximised where possible.	Significant
Pinch point at the Gap Cafe	Category 2 – Localised Pinch Point	See discussion below	Moderate
Pinch at Private Residence at Bridgend	Category 2 – Localised Pinch Point	Limited opportunity to widen footpath to provide desirable cross section. Pinch point would remain unless private land could be acquired.	Moderate
Crossing of the R238	Category 3 - Major Road Crossing	Provide suitable crossing point in accordance with design standards.	Low

Assuming private Lands can be acquired (except at the Gap Café as noted below), it is considered a consistent greenway cross section, with an appropriate level of segregation can be achieved for the majority of this corridor.

In order to remove the constraint at the Gap Café and to provide a design in accordance with the design standards, private land to be front of the café would need to be acquired, and all existing parking to front of the café would need to be relocated. This solution is deemed to be outside the scope of this project, and therefore land acquisition in this area is not considered further. This constraints remains, and is deemed to have a moderate residual impact that will be assessed further in the Quality of Service assessment.

The remaining moderate residual impacts are also considered in the Quality of Service assessment.

It is also noted that the A2 Buncrana Road Scheme provides a significant constraint for the section of this corridor from Pennyburn Roundabout to St Columb’s College. While this section of the corridor was included in the Stage 1 Constraints Study & Route Options Report, and is part of NWGN Aims and Objectives, it has been decided not to consider this section further until clarity emerges on the design of the A2 Buncrana Road scheme.



Pinch Point at the Gap Café, Bridgend

Blue Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Co-ordination with A2 Buncrana Rd Design	As noted above	Ongoing consultation between respective design teams	Low
Pinch Point between Faustina Retail Park & Branch Rd Roundabout	Category 2 – Localised Pinch Point	Proposals to acquire land at Faustina Retail Park not part of this project Remove left slip deceleration lane to achieve desired cross section	Low
Crossing of Templemore Road to access Templemore Sports Complex	Category 3 - Major Road Crossing	Utilise existing controlled crossing points, or provide new controlled crossing points where appropriate and in accordance with design standards.	Low
Crossing of A515 (Skeoge Link Road) to access old railway line at H1A lands	Category 3 - Major Road Crossing	Utilise existing controlled crossing points, or provide new controlled crossing points where appropriate and in accordance with design standards.	Low
Change in levels from A515 to old railway line	Category 2 – Steep Gradient/Change in Levels	Provide suitable transition ramp	Low
Crossing of sheugh at Skeoge River at Bridgend Business Park	Category 1 – Stream River Crossing	Provision of appropriate pedestrian / cycle bridge / culvert	None. Cost impact addressed separately.
Crossing of the R238	Category 3 - Major Road Crossing	Provide new crossing point in accordance with design standards and Road Authority Approval	Low

Except for the residual pinch point at Faustina Retail Park, a greenway with a consistent cross section can be delivered along this corridor. Suitable crossing points will be provided across major roads in accordance with the relevant design standards, and the residual impact of these crossings is considered to be low. Careful design will

be required to ensure variances in levels can be addressed by providing ramp accesses in accordance with the design standards.

At Bridgend, where the greenway would cross the drainage sheugh, a culvert, or short bridge structure would be required and there would not be a residual impact on the design.

It is not considered that any of the constraints noted above have a significant residual impact on quality of service, assessed in Section 8.4.7 below.

Scoring Summary:

The Blue and Purple corridors are common up to, and including, the Branch Road Roundabout and share the same physical constraints along this section. Both corridors also cross the A515, and although the location of the crossing would vary for each route, the residual impact is considered to be low.

Both routes include a number of minor road crossings, however a greenway along the Purple Corridor would have to cross multiple entrances to private and business entrances along the A2 / N13 which represent a low residual impact which would not occur on the Blue Corridor.

In addition there are a number of moderate residual impacts on the Purple Corridor, including 12 commercial entrances over a distance of approximately 450m at Bridgend, and the pinch points at the Gap Café, private house and at the end of the footpath at Elagh Business Park, which would impact on the desirable cross section.

A consistent greenway cross section could be provided along the Blue Corridor, with only low residual physical constraints remaining.

The co-ordination of design with the A2 Scheme would also be more onerous for a greenway along the Purple Corridor.

Accordingly, the Blue Corridor is awarded a score of 2. The Purple Corridor is awarded a neutral score of 0 (zero), as it is considered that the moderate residual constraints balance against the extended sections where a consistent cross section can be provided.

Corridor	Purple	Blue
Mark	0	2

8.4.7 Quality of Service

Purple Corridor:

The Purple Corridor is considered to be predominantly urban, except for a short section of approximately 1.5km, between the extents of the Derry and Bridgend speed limits, which is considered to be rural in terms of this assessment.

Within the urban sections, vertical segregation of greenway users from vehicular traffic by way of a road kerb is achievable along all of the corridor, and opportunities to improve the horizontal separation by providing a buffer strip exist along the majority of the corridor. A consistent cross section is achievable for the majority of the route. However as described in Section 8.4.6, the extended section of 450m with 12 entrances to businesses would remain and this constraint would impact on the ability to achieve a consistent cross section in line with the design standards.

At the rural section, between the speed limit at Skeoge Roundabout and the speed limit to the eastern side of Bridgend, a greenway construction could be provided as follows:

- Adjacent to the carriageway and bordering H1A lands. New greenway infrastructure with consistent cross section. Vertical and horizontal separation could be achieved.
- Along the boundary with Elagh Business Park (approx. 840m length) there is an existing kerbed footpath, which includes a segregated cycleway and provides sufficient horizontal separation between vehicular traffic and greenway users. No construction required.
- From the end of the footpath at Elagh Business Park, a greenway could be constructed within the existing grass verge, or behind the existing road restraint barrier. Vertical and horizontal separation could be achieved for the majority of this section however a moderate residual pinch would remain for a short distance at either side of the border.

While a design can be provided that is safe and accessible for greenway users, it is considered that given the large volumes of traffic, and the associated noise and air pollution, along the A2 / N13, a greenway facility along the corridor would not be considered 'attractive' or 'pleasant'. In particular vulnerable greenway users, or families with young children, may not be comfortable using the facility.

It is also noted that greenway users would have to cross multiple minor road crossings, entrances to business parks, as well as the condensed section of entrances at Bridgend which would further detract from the attractiveness of the greenway.

A score of 0 (zero) is considered appropriate for this corridor.

Blue Corridor:

A greenway facility along this corridor would be 'off-line' for the majority of its length. As noted in the Preamble, this is the most desirable level of segregation from vehicular

traffic, and a consistent cross section, in accordance with the minimum prevailing design standards can be achieved for these sections. This includes the greenway facility through Templemore Sports Complex, and from Upper Galliaugh Rd to Bridgend, via Whitehouse Retail Park & the old railway lands. Further discussions with St Columb’s College would be required before the greenway alignment could be finalised and determined to be ‘off-line’ or ‘on-line’.

The remaining section of the Blue Corridor, i.e. from St Columb’s College to Branch Road Roundabout would be on-line, and in common with the Purple Corridor greenway users would be separated from vehicular traffic by means of road kerb but the cross section would be below the minimum prevailing design standard.

It is considered that a greenway facility along the off-line sections would be attractive and pleasant for greenway users.

While it is noted that crossing points of major roads, could not be reasonably designed out, it is considered that the effect of these issues on the greenway facility would not substantially detract from its attractiveness.

This corridor is considered to merit the maximum score of 3.

Corridor	Purple	Blue
Mark	0	3

8.4.8 Material Assets and Human Beings

Purple Corridor:

The majority of lands required for the Purple corridor are in public control, but small sections of lands would be required from 5Nr landowners at Whitehouse Retail Park and along H1A lands to ensure a greenway facility in accordance with the prevailing design standards could be constructed.

H1A lands are zoned for housing and the acquisition of lands could have an effect on development proposals.

As discussed in Section 8.4.6 the corridor assessed in this report does not include land acquisition at the Gap Café (The acquisition of land to the front of the Gap Café to remove this constraint entirely would require the removal of all available car parking in this area) and at Faustina Retail Park.

There is no requirement for obtaining agricultural lands, and no severance of lands is anticipated. Likewise, the impact on privacy is deemed to be low. The potential impact on businesses along the A2 and N13 will be considered at detailed design stage to

ensure potential conflicts between greenway users and vehicles accessing these businesses are minimised.

Blue Corridor:

With the exception of the lands in Templemore sports Complex, and the short section approaching Brand Rd Roundabout, and lands adjacent to the R238 at Bridgend, all of the lands required to construct the a greenway along this corridor are in private ownership, with 16 separate landowners potentially affected (depending on the final greenway alignment at Bridgend. The lands required vary in existing usage from brownfield industrial areas, zoned housing lands, and greenfield lands. Severance of lands is not envisaged and the impact on privacy is also deemed low, however careful design will be required at Bridgend in particular to ensure the privacy of adjacent landowners and properties is not impacted.

In addition, the greenway alignment through private lands would need to be carefully co-ordinated to ensure future development plans are not adversely affected and potential adjustments to the alignment to minimise impacts on landowners will be explored in more detailed at detailed design stage.

Scoring Summary:

The Purple Corridor can mostly be delivered availing of lands in the public domain and although small parcels of lands from multiple landowners would be required, impacts on land usage, severance and privacy are considered low. A score of 1 is awarded.

The Blue Corridor has a significant impact in this assessment as private lands from multiple landowners would be required. However impacts on severance and privacy are deemed low, and provision of suitable accommodation works (subject to further discussions with affected property owners) could be expected to minimise the impact of the greenway as far as practicable. A score of -1 is awarded.

Corridor	Purple	Blue
Mark	1	-1

8.4.9 Potential Cost

Scoring Summary:

It is considered that the Blue Corridor can be delivered within a reasonable margin of the average greenway construction costs, as it does not present significant design or construction challenges that would have a significant cost, and scores 0 (zero) in this assessment.

The Purple Corridor would require the construction of an embankment along the boundary with H1A lands where there is a variance in levels between the A2 and adjacent lands to provide a greenway in accordance with the design standards.

In addition, construction of the greenway adjacent to Buncrana Rd (A2 / N13) would include potentially significant construction cost overheads due to the anticipated requirement to provide appropriate traffic management plans, and the associated restricted working conditions. These factors are considered to increase the potential cost of the greenway above a reasonable margin of the average greenway cost for the scheme. A score of -1 is awarded.

Corridor	Purple	Blue
Mark	-1	0

8.4.10 Public Feedback

Scoring Summary:

The comments and issues raised by the public on both the route corridors were related primarily to traffic issues, (i.e. a desire to provide a traffic free greenway, and segregation from traffic noise & fumes), safety concerns and a preference to travel along a quieter and more scenic route. These issues have been considered by the design team in determining the preferred route, under the Quality of Service and Landscape & Visual Assessment criteria.

Other issues raised include a desire to re-use the old railway line, impacts on existing landowners and entrances, integration with existing amenities, and disruption of natural habitats.

Appendix C of this report provides a summary of the substantive issues raised by the public during the consultation process.

The issues raised by public are considered to be more positively addressed on the Blue Corridor, which is predominately off-line, avails of the old railway line where

possible and has a lesser impact on entrance to businesses and residences than the Purple Corridor. However the Purple Corridor requires a lesser disruption to natural habitats, which is also an issue raised by the public. In addition, traffic and “user-friendly” issues and concerns raised could be mitigated to some degree on the Purple Corridor by increasing the level of segregation from traffic and developing the design in accordance with design principles set out in the Quality of Service assessment. As noted in Section 8.3.7 providing a safe design will be a minimum project requirement.

The assessment of public feedback also included an analysis of the levels of support for each corridor. The Blue corridor received a high level of positive support, with limited numbers expressing support for the Purple corridor.

In assessing the public feedback scores, the project team considered the mainly “off-road” and lightly trafficked nature of the Blue corridor as a positive factor, and coupled with the level of support for the route, a score of 3 is merited.

The Purple Corridor is considered to score less favourably, as it is beside the A2 / N13 and the associated traffic concerns and issues. It is noted that a design in accordance with the prevailing design standards can be achieved for the corridor which is considered to mitigate some of the issues and concerns raised by the public in this section of the corridor. The reduced levels of scenic views available and the considerably lower levels of public support for the corridor are also factored into the scoring assessment and a score of 1 is merited.

Corridor	Purple	Blue
Mark	1	3

8.4.11 Summary Scoring Sheet for Section 1 Corridors

	Purple	Blue
Modal Shift	3	3
Connections and Local Access	3	3
Cultural, Heritage and Visual Attractions	1	1
Landscape and Visual	-1	0
Flora, Fauna and the Environment	2	1
Physical Constraints	0	2
Quality of Service	0	3
Material Assets and Human Beings	1	-1
Potential Cost	-1	0
Physical Cross Border Connectivity**	3	3
Public Feedback	1	3
Total	12	18

** Refer to Section 8.3.10

A table summarising the scores for each route and a short summary of the scoring assessment is provided in Appendix F of this report.

8.5 Assessment of Section 2 – Bridgend to Inch Lake Corridors

8.5.1 Modal Shift

Scoring Summary:

When linked with the other Sections comprising Route 1, each of the corridors in Section 2 would link Derry / Londonderry with Buncrana, Newtowncunningham and the key towns and villages in the Study Area.

The corridors also connect with the only primary modal shift generator (E&I Engineering) in this section of the Study area and with secondary modal shift generators within Burnfoot. As described above all corridors are considered to provide comprehensive opportunities to deliver significant modal shift and are awarded a score of 3.

While it is noted that additional linkages of approximately 730m and 515m respectively would be required to connect the Blue and Red Corridors with the centre of Burnfoot, this is not considered sufficient to impact on the scoring of this assessment, and each of the corridors is initially awarded a score of 3.

As noted in the preamble, where a route corridor fails to provide a minimum standard under the Quality of Service criteria, the final Modal Shift score will be reconsidered, and a reduced score applied if appropriate.

As described in Section 8.5.7 below, the Purple Corridor scores negatively in the Quality of Service criterion (ref Section 8.5.7 below) and accordingly it is considered appropriate to reduce its Modal Shift score to 2 to reflect the impact of a poor Quality of Service on the potential of the route to deliver Modal Shift.

Corridor	Blue	Red	Purple
Mark	3	3	2

8.5.2 Connections and Local Access

Scoring Summary:

Within the context of the final greenway between Derry & Buncrana, and considering the proposed scoring assessment as set out in the Preamble, it is considered that ample access to the amenities and food retail outlets with this section are provided at the end point of each corridor, and initially each corridor is awarded the maximum score of 3.

Within the extent of the relevant part of the Study Area, each of the corridors connect with the local amenities, facilities food outlets at Burnfoot.

The Purple corridor provides a direct connection with these amenities and a score of 3 is awarded.

The Blue and Red corridors, require additional linkages of approximately 720m and 515m respectively to provide a connection with the services in the centre of Burnfoot, and as such a reduced score of 2 is considered appropriate due to the need for users to divert slightly from the Greenway to access these facilities in comparison to the Purple Corridor.

Corridor	Blue	Red	Purple
Mark	2	2	3

8.5.3 Cultural, Heritage and Visual Attractions

Scoring Summary:

There are a limited number of items within the study area section that are of Cultural, Heritage or Visual attraction. There are scheduled items, such as historic middens or Neolithic hearths or houses of regional architectural and these are considered to be of local significance / niche interest in the context of this report. These items are distributed close to, but not on, the corridors noted and could potentially be accessed by users by a short trip if they left the direct greenway.

The ruins of Burnfoot Rail Station are evident on the Red Corridor, however in the context of this assessment this feature is not deemed so significant as to merit a variance in the score. There is however some potential for this building to be renovated as a feature on a greenway corridor along the Red Corridor.

Given the geographic distribution of the items of interest, and the physical separation between the Blue, Red and Purple Corridors, for the purpose of this report the ability of each corridor to deliver suitable links to Cultural, Heritage and Visual Attractions is equal and a score of 1 is awarded to all corridors.

Corridor	Blue	Red	Purple
Mark	1	1	1

8.5.4 Landscape and Visual

A copy of the Landscape and Visual Assessment Report which describes in the landscape character and scenic views available within the Study Area is appended to this report. The scores provided in that report are included below.

Scoring Summary:

Corridor	Blue	Red	Purple
Mark	1	1	0

8.5.5 Flora, Fauna and the Environment

Blue Corridor:

The Blue Corridor connects directly with, and travels through, the Lough Swilly SPA for part of its length. This assessment does not consider providing a connection for the public via a proposed greenway corridor to a designated environmental site as a positive factor in the assessment and scoring has been assigned accordingly. An EIAR and NIS, as described in the Preamble to this criterion (Section 8.3.5) are considered to be required as accompaniments to a greenway planning application comprising this route option.

The construction of the greenway would require the clearance of vegetation and scrub, and some localised sections of hedgerow between Bridgend and the R239, however significant clearance of trees / mature vegetation would not be required. Compensatory planting will be provided to mitigate the loss of any trees / hedgerows. It is also noted that recent activity by the current landowner has removed trees and shrubbery, along part of the corridor route, in particular where it enters the SPA.

Prior to construction stage a detailed Construction Management Plan, outlining construction methodologies, timescales, pollution control waste management, public access and ongoing greenway maintenance measures would be required to be agreed with the relevant Statutory Authorities, and works would be restricted to agreed times of the year.

Red Corridor:

The Red Corridor also connects directly with, and travels parallel to the Lough Swilly SPA for part of its length, however its alignment is closer to the external boundary of SPA than the Blue Corridor.

The construction of the greenway here would also require the clearance of vegetation and scrub, some localised sections of hedgerow between Bridgend and the R239, and along the route of the old railway line from the R239 to its intersection with the Burnfoot River, however significant clearance of trees / mature vegetation would not be required. The timing of the removal of vegetation, site preparation works and construction works will be informed by the findings of ongoing bird surveys. Compensatory planting with native species will be provided to mitigate the loss of trees / hedgerow habitats. It is also noted that recent farm management and site clearance work in this area has led to the removal of some trees and shrubbery, along the section adjacent to the Burnfoot River.

As part of the EAIR, at design and construction stages, consideration would be required to ensure the development of the greenway would not adversely impact on the features for which with SPA is designated, and similar constraints to the Blue Corridor on the construction programme and methodology would be imposed. Mitigation measures will be informed by the findings of the EIAR.

The design and construction of the bridge on the Red Corridor at Inch Wildfowl Reserve Walk would also require consideration to ensure any environmental impacts are identified and mitigated.

This route does not cross through habitat that is in foraging use by the qualifying interests of the SPA, and is distant to that habitat. Potential views of greenway users by birds would be screened by an intervening embankment, thus the potential for disturbance impacts here is reduced. There remains a risk that construction and use of a greenway along this corridor, could result in significant disturbance and adverse impacts to the Natura 2000 designated site, however it is understood that this may be appropriately mitigated. Mitigation will be informed by the findings of ongoing route specific assessments.

It is considered that as the Red Corridor is closer to the boundary of the SPA, the potential significance of impacts associated with a greenway along this corridor would be less than that of the Blue Corridor.

Purple Corridor:

The purple corridor is fully on-line and within the existing boundary of the R238 verge and carriageway. The corridor is outside the SPA designation. While it would pass close to the SPA boundary, it is not considered to provide a connection to it, nor to notable flora and fauna.

Construction of the greenway would require the removal of some vegetation, sections of hedgerow along the verge and boundary of the R239 but this is not deemed to have any significant environmental value and would be replaced by compensatory planting.

Scoring Summary:

The Blue & Red Corridors connect directly with the Lough Swilly SPA and to the notable birdlife for which it is designated. The design and construction of the greenway would need to be carefully managed to ensure that the SPA is not affected and regular update meetings with the relevant Statutory Authorities would be required to ensure the design is progressing accordingly.

It is anticipated that an EIA report / NIS will identify all potential environmental impacts and ensure suitable mitigation measures are considered and implemented as appropriate.

As the Blue Corridor traverses through valued foraging habitat in use by the qualifying interests of the SPA, which are noted to be sensitive to disturbance, and the potential impact could be difficult to successfully mitigate. Potential for adverse impacts to result to the SPA would be more significant than the Red Corridor which is along the boundary of the SPA, scores of -3 and -1 are awarded to the Blue & Red corridors respectively.

Construction of a greenway along the Purple Corridor would have minimal impact on the environment has any hedgerows or vegetation to be removed is considered to have limited environmental significance and would be replaced. The corridor does not connect directly with the SPA or notable flora and fauna in this section of the Study Area, which is considered to have positive effect on the scoring of the criterion, a score of 1 is awarded.

Corridor	Blue	Red	Purple
Mark	-3	-1	1

8.5.6 Physical Constraints

The tables provided below summarises the main physical constraints on each corridor, categorised as outlined in the Preamble, Section 8.3.6, the possible mitigation options, and the residual impact of the physical constraint after the mitigations options have been considered.

Blue Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Localised pinch point at waste pumping station	Category 2 – Localised Pinch Point	Accept as localised pinch point, or construct new retaining wall	Low
Flooding History at Skeoge Road and surrounds (in particular major flood event at Burnfoot and Bridgend, August 2017)	Category 1 – Flood Risk	Flood event was an extreme event and was caused by wider catchment issues, which cannot be mitigated by this project. Opportunities to provide localised drainage improvements and increased storage adjacent to the dwellings at Skeoge Road can be explored at detailed design stage.	Low
Crossing of Skeoge Rd	Category 3 – Minor Road Crossing	Provide new crossing point in accordance with the prevailing design standards and roads authority approval	Low
Crossing of R239 (Slab Road)	Category 3 – Major Road Crossing	An existing signalised crossing is in place near the line of the GW and options to amend or utilise this controlled crossing can be explored at detailed design stage.	Low
Farm access along Skeoge River, from divergence in red & blue corridors	Category – Other. (Note high volumes of farm machinery can be expected)	Final alignment of GW to be progressed in conjunction with landowner to minimise impact on farm practises and GW users.	Low

<p>Crossing farm access lane(s) between R239 and existing footbridge.</p>	<p>Category – Other. (Note high volumes of farm machinery can be expected)</p>	<p>Provide suitable crossing type and access controls to allow safe crossing of Greenway by agricultural traffic and prevent unauthorised access by greenway users to farm.</p>	<p>Low</p>
<p>Conflict with OPW access requirements to Skeoge River for approx. 225m</p>	<p>Category – Other Access required to the bank for 5 year cleaning cycles, alternating between N & S banks – i.e. access with heavy plant required on Greenway corridor approx every 10 years. Waste material normally placed on bank</p>	<p>Discuss range of available accommodation works with OPW and explore option of maintenance being carried out solely from Northern bank. Seek to acquire additional lands to segregate Greenway from OPW corridor over the length of the constraint.</p>	<p>Low</p>

The Blue Corridor is ‘off-line’ and segregated from vehicular traffic along its entire length (except for the 2 minor road crossings identified above). A consistent greenway cross section can be achieved and it is not considered that any of the constraints noted above have a significant residual impact on Quality of Service, assessed under Section 8.5.7 below.

Red Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Localised pinch point at waste pumping station	Category 2 – Localised Pinch Point	Accept as localised pinch point, or construct new retaining wall	Low
Flooding History at Skeoge Road and surrounds (in particular major flood event at Burnfoot and Bridgend, August 2017)	Category 1 – Flood Risk	Flood event was an extreme event and was caused by wider catchment issues, which cannot be mitigated by this project. Opportunities to provide localised drainage improvements and increased storage adjacent to the dwellings at Skeoge Road can be explored at detailed design stage.	Low
Crossing of Skeoge Rd	Category 3 – Minor Road Crossing	Provide new crossing point in accordance with the prevailing design standards and roads authority approval	Low
Crossing of R239 (Slab Road)	Category 3 – Major Road Crossing	An existing signalised crossing is in place near the line of the GW and options to amend or utilise this controlled crossing can be explored at detailed design stage.	Low
Crossing of Skeoge River at divergence between Blue and Red corridors	Category 1 – River Crossing	Provision of appropriate pedestrian / cycle bridge	None. Cost implications scored elsewhere
Crossing of the confluence between Skeoge River and Burnfoot river. (note – alignment to be confirmed at detailed design)	Category 1 – River Crossing	Provision of appropriate pedestrian / cycle bridge	None. Cost implications scored elsewhere

<p>Crossing farm access lane(s) between R239 and bank of Burnfoot River.</p>	<p>Category – Other. (Note high volumes of farm machinery can be expected)</p>	<p>Provide suitable crossing points and access controls to allow safe crossing of Greenway by farm machinery and prevent unauthorised access by greenway users to farm.</p>	<p>Low</p>
<p>Conflict with OPW access requirements to Burnfoot River for approx. 1,750m</p>	<p>Category – Other Access required to the bank for 5 year cleaning cycles, alternating between North & South banks – i.e. access with heavy plant required on Greenway corridor approx every 10 years. Waste material normally placed on bank</p>	<p>Discuss range of available accommodation works with OPW and explore option of maintenance being carried out solely from Northern bank. Accept closure of greenway during works. Provide low cost surface type (unbound or surface dressed) which could be restored after OPW works on 10 year cycle.</p>	<p>Moderate</p>

A consistent greenway cross section, with an appropriate level of segregation can be delivered for all sections along this corridor, except for the localised potential pinch point at Bridgend.

The moderate residual impact noted will have a potential effect on Quality of Service and will be further assessed in 8.5.7 below. It also poses an ongoing operational question over access to the greenway for extended periods of work by the OPW.

It may be possible to reach an operational agreement or schedule with the OPW to minimise closure times. However, this agreement is not scored in this assessment.

Purple Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Localised pinch point on R238 leaving Bridgend	Category 2 – Localised Pinch Point	Alterations to existing bridge structure are considered outside the scope of this project. No other practicable options available	Moderate
Crossing of Skeoge Rd	Category 3 – Minor Road Crossing	Provide new crossing point in accordance with the prevailing design standards and roads authority approval	Low
Crossing of R239 (Slab Road)	Category 3 – Major Road Crossing	Provide new crossing point in accordance with the prevailing design standards and roads authority approval	Low
Localised pinch point on R238 leaving Burnfoot. Less than 1m width available.	Category 2 – Localised Pinch Point	Alterations to existing bridge structure are considered outside the scope of this project. No other practicable options available	Moderate
Multiple entrances into commercial premises along the R238 in Burnfoot	Category 2 – Localised Pinch Points	Provision of appropriate cycle-friendly crossings in accordance with design standards and suitable signage	Low
Extended pinch point leaving Burnfoot village towards L1841-2 (Watery Road). Footpath less than 1.5m width	Category 2 – Extended Pinch Point	No practicable opportunity to widen existing footpath to provide desirable cross section.	Moderate
Extended pinch point leaving Burnfoot village towards L1841-2 (Watery Road). Minimal verge in which to construct GW	Category 2 – Extended Pinch Point	In order to remove this pinch point, private lands would be required and this can be explored at detailed design stage should this corridor emerge as preferred. For the purposes of this report the pinch point is assessed as significant	Severe

L1841-2 has no existing pathway, and no space to widen with acquisition of lands	Category 2 – Extended Pinch Point (approx. 170m)	Lower Trafficked Road design. Traffic calming measures and appropriate signage could be considered at detailed design stage	Significant
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A consistent greenway cross section, with an appropriate level of segregation and in accordance with the design standards could not be achieved for all of this corridor, with a number of extended and localised pinch points where some greenway users would be required to share the carriageway, or hard shoulder, with vehicular traffic.

In particular, unless private lands could be acquired, pedestrians and cyclists would both be required to share the carriageway with vehicular traffic on the R238 (for 170m within the 100km/hr speed limit) from the end of the footpath at Burnfoot towards L1841-2.

The moderate and significant residual impacts noted will have a considerable potential effect on Quality of Service and will be further assessed in Section 8.5.7 below.

In particular, the requirement to use a shared road surface for circa 1.8km represents a significant physical constraint that cannot easily be overcome without acquiring a significant quantity of private lands. While it is noted that available traffic survey data (daily volumes of traffic approximately 290 vehicles per day, with minimal heavy good vehicles), indicates that a design in accordance with the prevailing design standards could be achieved along the L1841-2, the 85percentile speed of approximately 78km/hr is a concern.

Scoring Summary:

The Blue Corridor runs off-line for its entire length and a consistent cross section can be provided. The required crossing of two minor roads can be accommodated by providing crossing points in accordance with the prevailing design standards. A score of 3 is merited.

The Red Corridor has a similar range of Physical Constraints as the Blue Corridor, and a consistent cross section can be provided for the length of the corridor. The residual physical constraint at the Burnfoot River where the OPW will require access for tracked machinery to maintain the waterway cannot be completely mitigated. This could also require the greenway at this section to be closed for the duration of these maintenance works, as it may not be considered safe or practical to allow greenway users access to the works site. A score of 2 is merited.

The Purple corridor runs on-line beside the R238 and as such encounters crossings of the minor roads common with the Blue and Red corridors, and a number of commercial entrances on the approach to, and within, Burnfoot. Design solutions can be provided for these issues in accordance with the prevailing design standards. However, a number of residual constraint remains which cannot easily be designed out or mitigated

without acquiring extensive private lands and which impact on the provision a facility in accordance with the design standards remain. A score of -2 is awarded.

Corridor	Blue	Red	Purple
Mark	3	2	-2

8.5.7 Quality of Service

Blue Corridor:

The corridor is off-line and rural for its entire length from Bridgend to Inch Lake and is segregated from traffic other than crossings of 2 local roads.

No residual physical constraints remain which are considered to have a measurable effect on the accessibility, safety or experience of the Greenway.

It is considered that a greenway utilising this corridor would be considered an attractive product and it meets the prevailing design standards for the majority of the route.

Given the overall offering by the Blue Corridor, it is considered that the maximum score of 3 is appropriate.

Red Corridor:

As with the Blue corridor, the Red corridor is off-line and rural for its entire length from Bridgend to Inch Lake and is segregated from traffic other than crossings of 2 local roads.

No residual physical constraints remain which are considered to have a measurable effect on the accessibility, safety or experience of the Greenway.

It is considered that a greenway utilising this corridor would be considered an attractive product and it meets the prevailing design standards for the majority of the route.

Given the overall offering by the Blue Corridor, it is considered that the maximum score of 3 is appropriate.

Purple Corridor:

The Purple corridor is predominantly rural, with an urban section as it passes through Burnfoot village.

For online sections from Bridgend to, and through Burnfoot, vertical segregation of greenway users from vehicular traffic by means of a kerb is considered achievable for

the majority of the route, however the narrow grass verge approaching Burnfoot would require some greenway users to share the hard shoulder with vehicular traffic, and horizontal separation by means of a buffer strip would not be achievable for the majority of the route. A consistent cross section could not be provided without acquiring private lands. (As stated in the Preamble, this is not currently envisaged for this corridor).

From Burnfoot to the end of the corridor at Inch Lake, segregation of greenway users from vehicular traffic will not be possible and the use of a shared road surface will be necessary. While a design in accordance with design standards can be achieved given the low volume of traffic using this road, a shared facility will considerably reduce the user experience and quality of service provided.

While a ‘safe’ design would be a minimum requirement should this route be developed, it is not considered that a greenway facility would be either accessible to all greenway users, or offer an attractive product, as its proximity to high volumes and speed along the R238 (approx. 9,500 vehicles per day, including approx. 5% HGV, 85percentile speed of 87km/hr), varying cross sections and shared sections is not considered likely to “feel safe” and therefore could deter some greenway users, in particular families with young children, and less experienced commuter cyclists.

Along the L1841-2 to the end of Section 2 due to limited available cross section widths, a greenway would consist of a lower trafficked road design where users would not be segregated from vehicular traffic. Available traffic count information as described in Section 8.5.6 indicates that this design standard can be achieved, however this design is not considered to deliver an attractive product along this section.

In addition, the Purple Corridor offers an ‘online’ greenway facility in a section of the Study Area, where two offline options are proposed.

A score of -3 is considered appropriate for this corridor.

Corridor	Blue	Red	Purple
Mark	3	3	-3

8.5.8 Material Assets and Human Beings

Blue and Red Corridors:

With the exception of limited sections at Bridgend village, all of the lands required for Blue & Red Corridors are in private ownership, with 3Nr and 5Nr landowners affected respectively. The lands are predominantly agricultural usage. Some severance of lands may be required, however this will be minimised and the impact on privacy is also deemed low.

Purple Corridor:

The majority of lands required for the Purple corridor are in public control. Should this corridor emerge as the preferred route, the acquisition of small parcels of private lands may be considered at detailed design stage to increase the available cross section at localised pinch points.

There is no requirement for obtaining agricultural lands, and no severance of lands is anticipated. Likewise, the impact on privacy is deemed to be low, and the potential impact on businesses along the R238 where the greenway crosses their entrances will be considered at detailed design stage.

Scoring Summary:

The Purple corridor can be delivered with lands predominantly within public control. Some small sections of private lands may be required but this will be considered a detailed design stage, as will mitigation measures to avoid any impact on businesses where the greenway crosses their entrance. A score of 3 is awarded.

The Blue and Red corridor requires the usage of considerable areas of private land, with the consequent effects on value and usage, and an Agronomy Report assessing the potential impacts of the greenway on agricultural lands has been prepared, and informs the assessment of this criterion. Negotiations with landowners will be undertaken to ensure the greenway design is developed to mitigate any severance and impacts on privacy as far as practicable, and to agree a schedule of accommodation works. A score of -1 is awarded to each corridor.

Corridor	Blue	Red	Purple
Mark	-1	-1	3

8.5.9 Potential Cost

Screening of the greenway from the SPA will be required on both the Red & Blue corridors and while it is considered that this would be marginally more costly on the Blue Corridor, it was not deemed so significant as to increase the construction cost for either corridor above the average greenway construction costs. A score of 0 (zero) is appropriate for the Blue Corridor. It is considered that the bridges required on the Red Corridors will have an impact on the cost of delivering a greenway along that route, and a score of -1 is awarded.

Construction of the Purple Corridor adjacent to the R238 would include potentially significant construction cost overheads due to the anticipated requirement to provide appropriate traffic management plans, and the associated restricted working conditions. This factor, coupled with the variance in length of the Purple Corridor over the Red & Blue Corridors are considered to increase the potential cost of the greenway above a reasonable margin of the average greenway cost for the scheme. A score of -1 is awarded.

Corridor	Blue	Red	Purple
Mark	0	-1	-1

8.5.10 Public Feedback

Scoring Summary:

The range of comments and issues raised by the public on the route corridors were related primarily to traffic issues, (i.e a desire to provide a traffic free greenway and separation from traffic noise and fumes), safety concerns, impact on existing land use and property and an ability to travel along a quieter and more scenic route. Other issues raised include a desire to re-use the old railway line, the ability to achieve proximity to local services and disruption of natural habitats. These issues have been considered by the design team in determining the preferred route, as indicated the relevant scoring criteria.

Favourable comments were expressed for the Blue & Red Corridors, given their separation from traffic, closer access to nature, the relatively flat profile of the corridors suiting cyclists and the ability to incorporate the old railway line into the scheme. It was also noted that the Red corridor provided closer access to Burnfoot village and local services. Issues of concern related to the potential impact of the blue corridor in particular on the existing natural environment, the requirement for both corridors to acquire private lands and potential perceptions of safety on a route travelling away from populated areas during darkness. These issues will be addressed as the detailed design of the greenway is developed.

The issues identified as they relate to the Purple Corridor were its proximity to a busy road in general, and the transit through Burnfoot village in particular, with the associated noise and pollution and while these issues are assessed in the Quality of Service assessment, they cannot be easily mitigated in the context of this project. Concern was also expressed over the crossing of the R238 at Bridgend at the nexus between this Section and the preceding Section 1 as this is perceived as quite a busy road. This issue could be addressed by the development of a crossing point in accordance with the appropriate design standards.

In support of the Purple corridor, some members of the public noted that this corridor would have a lower impact on existing habitats, followed a more direct route, and that they considered it provided a safer route for walkers.

Appendix C of this report provides a summary of the substantive issues raised by the public during the consultation process.

The assessment of public feedback also included an analysis of the levels of support for each corridor. The Blue corridor received a high level of positive support. The Red corridor also received positive support, but at a lesser level than the Blue corridor. The public were less receptive to the Purple corridor due to a high level of concern over its proximity to the R238 and associated traffic-related issues.

In assessing the public feedback scores, the project team considered the “off-road” and lightly trafficked nature and scenic views available (as noted in the Landscape Assessment) on the Blue & Red corridors as positive factors, and coupled with the level of support for those routes, a score of 3 is merited.

The Purple corridor scored negatively due to the proximity of the corridor to traffic, the reduced levels of scenic views available and the lower levels of public support for the corridor. Points expressed in favour of this corridor are also considered in the scoring assessment, however these were not considered to have a sufficient merit to improve the score. A score of 1 is merited for the Purple corridor.

Corridor	Blue	Red	Purple
Mark	3	3	1

8.5.11 Summary Scoring Sheet for Section 2 Corridors

	Blue	Red	Purple
Modal Shift	3	3	2
Connections and Local Access	2	2	3
Cultural, Heritage and Visual Attractions	1	1	1
Landscape and Visual	1	1	0
Flora, Fauna and the Environment	-3	-1	1
Physical Constraints	3	2	-2
Quality of Service	3	3	-3
Material Assets and Human Beings	-1	-1	3
Potential Cost	0	-1	-1
Physical Cross Border Connectivity	3	3	3
Public Feedback	3	3	1
Total	15	15	8

** Refer to Section 8.3.10

A table summarising the scores for each route and a short summary of the scoring assessment is provided in Appendix F of this report.

Note on Preferred Route at Section 2

Within the context of Section 2, both the Red and Blue Corridors were initially considered to provide suitable options for greenway corridors.

Given that both options;

1. Are predominantly within a single land holding,
2. have a potential impact on the SPA,
3. have similar constraints imposed by the OPW regarding the maintenance requirements for the Skeoge & Burnfoot Rivers

the detailed design of a greenway along either corridor would involve a sensitive and precautionary approach to design (minimising potential for impacts to designated and features of ecological value and conservation concern) ongoing consultations with relevant stakeholders (e.g. landowners, BWI and NPWS) to further explore the range of mitigation options which could be considered.

Therefore both corridors were deemed to be worthy of further consideration through the detailed design process and issues arising out of consultations with the stakeholders would determine the final choice of the greenway routes.

It is noted however that initial consultations with NPWS have indicated that a greenway along the section of the Blue Corridor from Slab Road to Inch Lake would not be preferred, and therefore the Project Team has decided to omit this section from further consideration.

From Slab Road to Inch Lake, the Red Corridor is considered to be the preferred greenway corridor.

For the section between the Skeoge Road and the Slab Road, ongoing consultations with landowners and Statutory Authorities will be required to determine the preferred greenway corridor.

8.6 Assessment of Section 3A & 3B – Inch Lake to Fahan Marina Corridors

Assessment of variations to Purple and Blue Corridors:

These corridors, as described in Section 6.3, are considered to be variations to the Blue and Purple corridors originally proposed, with modifications to address some of the design and safety concerns raised in the initial Public Consultation, as well as providing alternative options to transit through private lands and farm holdings.

While each of the variations are considered to have broadly the same characteristics for the majority of the criteria, some variance in the scores is anticipated.

The assessment process for the Section 3A corridors is summarised as follows:

1. Assess Blue & Purple Corridors as described in Section 6.3. Assessment of each corridor in terms of the scoring criteria is outlined below, and summarised in Appendix F.
2. Assess the full suite of variations to the Blue and Purple corridors in terms of the scoring criteria to determine if the variation options emerged as more preferable to the corridor identified in the initial assessment. A summary of the scoring narrative for each of this corridors is provided in Appendix G.

Assessment of Public Feedback:

As outlined above, consultations events were held in June 2018 and February 2019, and public feedback was sought on the route options proposed at each event. For the assessment of the Public Feedback criterion, the Project Team adopted the following approach:

1. Public Feedback Assessment and Scores for the Blue & Purple Section 3A Corridors is based on the feedback received from the June 2018 event and is presented below in Section 8.6.10 of this report. It is noted that the Blue & Purple Corridors presented at this event were largely identical to the revised Section 3A Blue & Purple Corridors, with the only difference being the end point relocated from Fahan Marina to The Rectory.
2. Following receipt of all public feedback received from the February 2019 Consultation Event, a review of support for the Section 3A Blue & Purple Corridors as presented at that event, along with comments received on these proposed routes was undertaken. It was not considered that the quantity of feedback, issues raised, or comments received, merited a variance in the Public Feedback scores as initially assessed. It is also noted, that no new issues were raised.

3. Public Feedback Assessment and Scores for the Section 3B Blue & Purple Corridors is based on the feedback received from the February 2019 event. This is presented in Section 8.6.21 of this report.
4. Public Feedback Assessment and Scores for the additional Section 3A Corridors (Green, Yellow, Red, Orange, Light Blue) is based on the feedback received from the February 2019 event. This is presented in Appendix G to this report.
5. Appendix C summarises the of all consultation events, and includes details of attendances at the events, support for each of the route corridors proposed, and a summary of the issues raised.

Section 3A Corridors – Inch Lake to Entrance to The Rectory Housing Development

8.6.1 Modal Shift

Scoring Summary:

When linked with the other Sections comprising Route 1, each of the corridors in Section 3A connects with Derry, Buncrana and the key towns and villages identified in the Project Aims and Objectives. There are no primary modal shift generators within this section of the study area, and while there are some limited secondary modal shift generators along the R238, (e.g. Scoil Naomh Mura Primary School at Tooban), which link with the purple corridor only, these are not deemed sufficient to merit a variance in the scores particularly as the Purple Corridor is 16% longer in order to connect to these trip generators, and initially a mark of 3 is awarded to each route.

As noted in Section 8.6.7 below, the Purple Corridor scores negatively in the Quality of Service criterion, with a range of issues identified over multiple extended sections.

In addition, the longer, less direct route, could result in the route not meeting several key needs of commute cyclists and could therefore deter them from using this route

These factors are considered to significantly impact the potential of a greenway along this corridor to deliver modal shift. Accordingly it is considered that the Modal Shift score for the Purple Corridor is reduced to 1.

Corridor	Blue	Purple
Mark	3	1

8.6.2 Connections and Local Access

Scoring Summary:

Within the context of the final greenway between Derry & Buncrana, and considering the proposed scoring assessment as set out in the Preamble, it is considered that ample access to the amenities and food retail outlets with this section are provided along each corridor, and initially each corridor is awarded the maximum score of 3.

Both corridors connect with the full range of amenities at Fahan, and the Purple Corridor provides a direct connection with the amenities along the R238, e.g. Cyclists Rest and the Topaz filling station. No such amenities exist along the Blue Corridor and a short detour would be required to connect with Topaz. Both corridors connects with the grounds of Aileach Football Club.

It is considered that the Blue Corridor scores marginally less favourably when compared with the Purple Corridor in this assessment. Therefore a score of 2 is awarded to the Blue Corridor.

Corridor	Blue	Purple
Mark	2	3

8.6.3 Cultural, Heritage and Visual Attractions

Scoring Summary:

There are a number of items within the study area section that are of Cultural, Heritage or Visual attraction. The majority of these are centred on the area of Fahan village which is common to both corridors.

Outside the Fahan area, through the section of the Study Area where these routes diverge there are a limited number of further scheduled items, such as historic middens, castle bases or houses and rail structures of regional architectural interest, and these items are distributed closer to the Blue Corridor.

In particular an old railway bridge at Magherabeg is considered to have potential to provide an attractive feature on a greenway along this section. (<http://www.buildingsofireland.ie/niah/search.jsp?type=record&county=DG®no=40903815>).

While these are considered to be of local significance / niche interest in the context of this report, given these features are distributed closer to the Blue Corridor, and that there is very little of significance (in the context of this report) on the Purple Corridor, a more favourable score is considered appropriate for the Blue Corridor.

A score or 1 is merited for the Blue Corridor, and a 0 (zero) score for the Purple Corridor.

As noted in the Preamble, the fact that the Blue Corridor avails of the old railway line does not in itself merit an increased score in comparison to the Purple Corridor.

Corridor	Blue	Purple
Mark	1	0

8.6.4 Landscape and Visual

A copy of the Landscape and Visual Assessment Report which describes in the landscape character and scenic views available within the Study Area is appended to this report. The scores provided in that report are included below.

Scoring Summary:

Corridor	Blue	Purple
Mark	3	1

8.6.5 Flora, Fauna and the Environment

Blue Corridor:

The Blue Corridor provides a direct connection to the Lough Swilly SPA and SAC. This assessment does not consider providing a connection for the public via a proposed greenway corridor to a designated environmental site as a positive factor and the scoring has been assessed accordingly. The potential to increase the impact on the environment by introducing greater numbers of people to a sensitive environment is considered in this assessment.

Construction of the greenway would involve widening the existing Inch Wildfowl Reserve Walk and the removal of some vegetation which is considered to have a low ecological value. Elsewhere along the corridor, localised removal of trees or hedgerows will be required, and again these are not considered to have a high ecological significance. Removal of shrubbery, or individual trees will be scheduled to minimise potential for adverse impact, in accordance with the findings of ecological and bird surveys and will be mitigated by the provision of compensatory planting. Some new and enhanced screening planting along the interface with the SPA may be required and this will be considered at detailed design stage and as the environmental mitigation measures are explored in full.

Notwithstanding this, and for the purposes of this report, it is considered that a greenway close to the shore of Lough Swilly, running along the boundary of the Designated SAC and SPA designations which overlap at this section, from the L1851 as far as R238, would have a high potential impact on the SPA and SAC designations. It is acknowledged that this corridor introduces public access to a sensitive environment where public access has not previously been facilitated and therefore appropriate design, construction methods and ongoing facility management would be of the greatest importance.

As noted in the Preambles Section 8.3.5 of this report, an EIAR and NIS would be required to be submitted as part of the planning application for a greenway that is considered to have potential to impact on Lough Swilly SPA and SAC. This EIAR would fully consider the potential impact of the greenway on a range of issues, and the final design of the facility would be informed by EIAR to ensure that potential impacts can be successfully mitigated. Furthermore, prior to construction stage a detailed Construction Management Plan, outlining construction methodologies, timescales and waste management would be required to be agreed with the relevant Statutory Authorities, and works would be restricted to agreed times of the year.

Purple Corridor:

The purple corridor is fully on-line and will pass close to the Lough Swilly SPA and SAC designation for the short section where it is common with the Blue Corridor.

Along Rockstown Road, construction of the greenway would have minimal impact on the environment, while along the R238 it is considered that the removal of the grass verge, or hedgerows where required, consists of vegetation of limited ecological significance. Some localised trimming of trees and shrubs would also be required, and compensatory planting would be provided.

Scoring Summary:

The Blue Corridor connects directly with the Lough Swilly SPA and SAC. The potential impact on the SPA and SAC, and the mitigation measures that would be required to be included in the design and construction of the facility to mitigate such impacts are considered significant, and a score of -2 is awarded to the Blue Corridor.

The Purple Corridor is also considered to provide a connection to the SPA. Its potential impact on the SPA is considered to be less severe than the Blue Corridor however, and coupled with the low environmental impact of the development and construction of the facility along Rockstown Road and R238, a score of 2 is merited.

Corridor	Blue	Purple
Mark	-2	2

8.6.6 Physical Constraints

The tables provided below summaries the main physical constraints on each corridor, the possible mitigation options, and the residual impact of the physical constraint after the mitigations options have been considered.

Blue Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Potential for flooding along shoreside	Category 1 - • Areas at risk of flooding or within tidal range	Flood Risk Assessment to be carried out to determine frequency / extent of flood events. Detailed design required to ensure GW construction does not increase existing flood levels. Opportunities to mitigate flooding will be considered at detailed design. Appropriate warning signs to be provided. Noted that flooding of the greenway considered permissible at this location.	Moderate
Steep Gradient on the L-1851 in the Inch Bank area	Category 2 - Steep Gradients	Potential rest area at detailed design. Gradient over short distance broadly in line with design standards.	Moderate
Proximity to Shoreline in Castletown / Gort area	Category 2 – Localised Pinch Point	Careful design of greenway and boundary treatments	None
Crossing of Gort River at Fahan	Category 1 – River Crossing	Provision of appropriate pedestrian / cycle bridge	None. Cost implications scored elsewhere

A consistent greenway cross section, with an appropriate level of segregation can be delivered for all sections along this corridor, assuming private lands could be acquired

where necessary. Detailed design would be required to determine the exact alignment of the greenway from Inch Embankment to the railway line, however given the variance in ground level, it is considered that a moderate residual impact will remain, albeit over a short section of the corridor. An appropriate rest stop area along this section could be provided and it is not considered that this issue would have a notable effect on the assessment of the Quality of Service criterion.

Purple Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Steep Gradient over extended distance on the L-7571 (Rockstown Road)	Category 2 - Steep Gradients Approx. 6%	Gradient in excess of design standards cannot be mitigated. Potential rest area at detailed design.	Moderate
Rockstown Road has no existing pathway, and no space to widen without acquisition of lands into residences etc.	Category 2 – Extended Pinch Point	Provide on road cycleway with suitable signage and road markings.	Moderate
Pinch Point for approx 120m from Rockstown Road to St Mura’s National School (60km/h zone)	Category 2 – Extended Pinch Point	Extend kerbing to edge of running carriageway. Reduced width of greenway over this distance would remain (approx 2.5m)	Low
Narrow width of verge to R238 at various locations (100km/h zones)	Category 2 – Localised Pinch Point	Reduced width of greenway over short distances, some greenway users required to use the hard shoulder	Moderate to Significant
Pinch point (approx 60m) at dwelling and sheds approx 250m northwest of Tooban Village speed limit. (100km/h zone)	Category 2 – Extended Pinch Point	Greenway users would be required to use hard shoulder at this location.	Severe, given the speed limit & traffic volumes
Pinch point from Inch Road (L1851 for approx 160m northwest past two dwellings. (100km/h zone)	Category 2 – Extended Pinch Point	Greenway users would be required to use hard shoulder at this location.	Severe, given the speed limit & traffic volumes

<p>Pinch point for approx 80m across dwellings to northwest of L74113 road. (100km/h zone)</p>	<p>Category 2 – Extended Pinch Point</p>	<p>Greenway users would be required to use 2m wide hard shoulder at this location. Small retaining structure could be used to widen hard shoulder.</p>	<p>Severe, given the speed limit & traffic volumes</p>
<p>Pinch point at dwellings opposite Cyclists Rest public house.</p>	<p>Category 2 – Extended Pinch Point</p>	<p>Users would be required to use existing 1.2m footpath in front of dwellings as shared path or cyclists required to use existing hard strip with minimal separation from traffic.</p>	<p>Severe, given the speed limit & traffic volumes</p>
<p>730m section from Cyclists Rest to speed limit at Fahan – no hard shoulder with existing 1.2 to 1.5m footpath immediately adjacent to live lane. (100km/h zone)</p>	<p>Category 2 – Extended Pinch Point</p>	<p>Widen existing footway where possible to provide suitable shared path. However cyclists likely to be required to share carriageway with live traffic.</p>	<p>Severe, given the speed limit & traffic volumes</p>
<p>Pinch point for approx 60m at Topaz station southwest of Fahan Village. Dual entrances to service station with approx 1m kerbed strip between petrol forecourt area and live carriageway lane. (100km/h zone)</p>	<p>Category 2 – Extended Pinch Point</p>	<p>Provide suitable signs and road markings to guide users across entrances. Users would be required to use live carriageway lane at front of forecourt area.</p>	<p>Significant, given the speed limit & traffic volumes</p>
<p>Crossing of 2 “L” roads</p>	<p>Category 3 – Minor Road Crossing</p>	<p>Provide new crossing point in accordance with design standards and roads authority approval</p>	<p>Low</p>
<p>OPW access required to stream channel at An Aileach FC</p>	<p>Category – Other Access required to the bank for cleaning cycles. waste material normally placed on bank</p>	<p>Discuss range of available accommodation works with OPW and explore option of maintenance being carried out solely from Northern bank. Accept closure of greenway during works. Provide low cost surface type (unbound or surface dressed) which could be restored after OPW works on 10 year cycle.</p>	<p>Moderate</p>

A consistent cross section, with an appropriate level of segregation and in accordance with the design standards could not be achieved for the majority of the corridor along R238 and the design would consist of sections of shared carriageway or sections of greenway with below standard design. As noted in the table above, along the R238 from Rockstown Road to the entrance to The Rectory Housing Development (approx. 2.5km), pinch points totalling approximately 1.21km, over six locations, have been identified at which the cross section would be below the desirable minimum width for a greenway in this location.

The route along Rockstown Road would be a shared use facility for greenway users and vehicular traffic.

The residual impacts noted will have a considerable potential effect on Quality of Service and will be further assessed in Section 8.7.7. below.

In particular, the requirement to use a shared road surface for significant stretches on this route, represents a severe physical constraint that cannot easily be overcome without acquiring a significant quantity of private lands.

Scoring Summary:

The Blue corridor runs off-line for its entire length and a consistent cross section can be achieved. It is considered that the short section of steep gradient near Inch Embankment could not practicably be designed out within the context of this project and would remain as a residual constraint. However as it only comprises a short section of the corridor, and an appropriate rest stop area along it a score of 2 is considered appropriate in this assessment.

The physical constraints identified on the Purple Corridor are considered to range from moderate to severe and impact significantly on the available design options for the greenway and on the ability to provide a desirable cross section, or segregated greenway, for a significant portion of the corridor. A score of -3 is awarded.

Corridor	Blue	Purple
Mark	2	-3

8.6.7 Quality of Service

Blue Corridor:

The corridor is off-line and rural for its entire length from Inch Lake to the approach to Fahan village, where it becomes on-line and urban. It is segregated from traffic other than a crossing of one local road.

No residual physical constraints remain which are considered to have a measurable effect on the accessibility, safety or experience of the Greenway.

It is considered that a greenway facility along this corridor would be considered an attractive and pleasant product and the maximum score of 3 is deemed appropriate.

Purple Corridor:

The Purple corridor is predominantly rural, with an urban section as it passes through Fahan village as well as 400m within an urban environment through Tooban from Rockstown Road to the junction with Nurses Lane (L1861). In this urban section a segregated facility could be provided, however optimum level of horizontal segregation would not be achieved and the greenway width may be less than the desired 3m in some sections.

In the rural sections from Tooban to Fahan, a consistent cross section could not be achieved given the residual constraints indicated in Section 8.6.6. Segregation of greenway users from vehicular traffic by means of a kerb could only be achieved in isolated locations, and the ability to provide an appropriate level of horizontal segregation is compromised by the width of the road verge and the limited opportunities to widen it.

On the remaining sections users would effectively be required to use the existing roadway to walk and cycle within the parameters of the Rules of the Road. This would require pedestrians and cyclists to share on the hard shoulder, or at some locations for cyclists to use the running carriageway while pedestrians used the existing footways. In some locations, particularly severe constraints mean that all users may need to use the running carriageway for short sections.

Given the volume of traffic on the R238 as indicated by available traffic survey data, (i.e. approx. 11,000 average daily traffic, including 5% HGV, 85percentile speed approx. 90km/hr) and the associated noise and air pollution, it is not considered that a greenway along this section would offer an attractive or pleasant user experience.

The facility provided would effectively place cyclists onto the existing road network, which while allowable under road traffic legislation, is not likely to be perceived as safe by the majority of potential greenway users. It is noted that R238 traffic volumes are significantly above the volumes that would comply with a lower trafficked road design.

Along the Rockstown Road, segregation of greenway users from vehicular traffic will not be possible. The facility along this section of the corridor would be described as a lower-trafficked shared road (as described in Dept. for Transport, Tourism and Sport's:

“Strategy for the Future Development of Greenways”) and the available traffic count data (ie approx. 200 vehicles per day) supports this design. It is noted that gradients of approx. 6% are evident on this section also.

Given these issues, it is considered that this will considerably reduce the user experience and quality of service provided on this section of the corridor.

Given these issues, it is considered that a Quality of Service score of -3 is deemed appropriate.

Corridor	Blue	Purple
Mark	3	-3

8.6.8 Material Assets and Human Beings

Blue Corridor:

From the end of the publically controlled lands at Inch Wildfowl Reserve Walk at Inch Embankment, as far as the connection with the R238, all lands along this corridor are in private ownership. These lands are primarily agricultural, with farming practises consisting of mainly dairy and livestock. Land would be required from nine landowners should this corridor should this corridor be progressed. There would be significant impact on these landowners, with some severance of lands, and in particular a high potential impact on privacy.

Ongoing discussions and negotiations with landowners would be required to progress the development a greenway along this corridor.

Purple Corridor:

For the purposes of this assessment and as described in Section 6.3.2 and all of the lands required to construct a greenway along the Purple Corridor are in public control. There is no requirement for obtaining agricultural lands, and no severance of lands is anticipated.

Given that the greenway would cross multiple private entrances along the R238, as well as any access points to fields, it is considered that there would be some minimal impact on privacy.

The acquisition of some minor parcels of private lands to allow the removal or lessening of pinch points may be considered however this could be considered further at detailed design stage if this corridor was to be progressed.

Scoring Summary:

The Blue corridor requires the usage of considerable areas of private (and agricultural) land, with the consequent effects on privacy and severance. In some locations, there is potential for considerable impacts on privacy and while appropriate accommodation works could be provided to mitigate these impacts, the corridor is considered to have a very high impact on Material Assets and Human Beings.

Consequently, a score of -3 is awarded.

The Purple corridor can be delivered on lands within public control, with no impact on agricultural lands or severance. There is some potential for an effect on privacy on house owners located close to the R238. Appropriate accommodation works will be considered at these locations to reduce or mitigate this impact. A score of 2 is awarded.

Corridor	Blue	Purple
Mark	-3	2

8.6.9 Potential Cost

Scoring Summary:

The Purple corridor is the longer corridor, with approx. 400m of increased distance over the shorter Blue corridor. Construction of a greenway along this corridor would involve extensive traffic calming measures along the R238 which are considered to increase the potential cost of construction. However, the limited works required along Rockstown Road are considered to balance any significant variance in construction costs from the average greenway cost and therefore a score of 0 (zero) is deemed appropriate.

The Blue Corridor is marginally shorter than the Purple and the variance in length is not considered significant in the scoring of this assessment. The potential for expensive mitigation measures along Lough Swilly SPA is considered sufficient to increase the potential construction cost of a greenway along this route above the average cost and therefore a score of -1 is merited.

Corridor	Blue	Purple
Mark	-1	0

8.6.10 Public Feedback

Scoring Summary:

The range of comments and issues raised by the public on the route corridors related primarily to potential impacts on land and property owners (e.g. privacy, safety concerns from proximity to farm yards, farm animals and machinery, impact on existing land use and property, increased security risk to properties); and to traffic related issues (e.g. a desire to travel along a quieter and more scenic route, separation from vehicular traffic and safety concerns along the R238).

Other issues raised include a desire to re-use the old railway line, reaching local communities, terrain profiles, access in case of emergency, coastal erosion, and disruption of natural habitats.

Support was expressed for the Purple corridor in terms of closer access and integration with existing churches, schools, shops and food/beverage providers as well as a lower impact on land ownership and usage. However the issues of concern raised on the Purple corridor were related to a lesser connection with the natural environment, provision of a less scenic route and proximity to a busy road and these particular issues cannot be mitigated entirely should this corridor be progressed. These issues are considered to have a negative effect on the scoring assessment for the Purple Corridor.

The overwhelming issues of concern expressed on the Blue corridor were the impact on privacy, safety of users in close proximity to farm lands and farm yards, potential liability of farmers for actions of greenway users and negative impacts on personal and business safety and viability. A design of a greenway along this corridor would include mitigation measures to reduce the impact of these issues, and ongoing consultations would be required with affected landowners – however for the purposes of this scoring assessment these issues are considered to have a negatively effect on the Blue Corridor.

The assessment of public feedback also included an analysis of the levels of support for each corridor. The Purple corridor received a high level of positive support, with a significantly lesser level of support being expressed for the Blue corridor. It is noted that the majority of the feedback received was collated under one combined submission, however for the purposes of this assessment, these have been treated as individual submissions.

In assessing the scores for each corridor, the Project Team considered that the range of issues and concerns raised on both corridors should be scored negatively in the assessment. When combined with the significant level of support for the Purple Route, and the levels of opposition to the Blue Route, following scores were deemed appropriate.

Corridor	Blue	Purple
Mark	-2	0

8.6.11 Summary Scoring Sheet (Section 3A)

	Blue	Purple
Modal Shift	3	1
Connections and Local Access	2	3
Cultural, Heritage and Visual Attractions	1	0
Landscape and Visual	3	1
Flora, Fauna and the Environment	-2	2
Physical Constraints	2	-3
Quality of Service	3	-3
Material Assets and Human Beings	-3	2
Potential Cost	-1	0
Physical Cross Border Connectivity**	3	3
Public Feedback	-2	0
Total	9	6

** Refer to Section 8.3.10

A table summarising the scores for each route and a short summary of the scoring assessment is provided in Appendix F of this report.

Section 3B Corridors – The Rectory Housing Development to Fahan Marina

8.6.12 Modal Shift

Scoring Summary:

Each corridor, when linked with the corridors in the other sections, provides effective links with Derry / Londonderry, Buncrana, Bridgend and Burnfoot. There are no primary Modal Shift generators in the area, and it is considered that the secondary Modal Shift generators, (e.g. The Railway Tavern at Fahan Marina, and the Red Door Country House at Fahan) connect equally to each corridor. The maximum score of 3 is awarded to each route corridor.

Corridor	Purple	Blue
Mark	3	3

8.6.13 Connections and Local Access

Scoring Summary:

Within the context of the final greenway between Derry & Buncrana, and considering the proposed scoring assessment as set out in the Preamble, it is considered that ample access to the amenities and food retail outlets with this section are provided at the Fahan end point of each corridor. Both routes also connect equally with The Red Door Country House. Each corridor is awarded the maximum score of 3.

Should the Blue Corridor emerge as the preferred route, consideration could be given to providing a direct access from the greenway to the Red Door should the property owner be amenable to such a proposal.

Corridor	Purple	Blue
Mark	3	3

8.6.14 Cultural, Heritage and Visual Attractions

Scoring Summary:

There are no Cultural, Heritage or Visual attractions of national or regional significance within this section of the study area. There are listed structures, such as St Mura's Church of Ireland and Graveyard, and a range of buildings and residential properties along the R238 in Fahan, (as listed in Table 5.7.2 of this report), however these are considered to be of local significance / niche interest in the context of this report. These items are distributed adjacent to the Purple Corridor, while the Blue Corridor does not provide a connection, or view of, a comparable range of such features. 5.7.2

The old single arch bridge near Fahan Marina, a remnant of the old Railway Line, is common to both route corridors.

Given the geographical distribution of these features adjacent to the Purple Route, it is awarded a score of 1. The Blue Corridor scores 0 (zero).

Corridor	Purple	Blue
Mark	1	0

8.6.15 Landscape and Visual

A copy of the Landscape and Visual Assessment Report which describes in the landscape character and scenic views available within the Study Area is appended to this report. The scores provided in that report are included below.

Scoring Summary:

Corridor	Purple	Blue
Mark	1	3

8.6.16 Flora, Fauna and the Environment

Purple Corridor:

The Purple Corridor does not connect directly with any areas designated for environmental conservation or protection. The corridor is adjacent to the R238 and does not provide any connection with 'notable' flora and fauna. Construction of the corridor would require removal of hedgerow planting / vegetation along the carriageway boundary before St Mura's COI which would be replaced by new planting / boundary treatment. Along the boundary with Nazareth House, where carriageway realignment would be required, construction of the greenway would require the removal of some trees and vegetation. These trees are not deemed to have any significant environmental value and would be replaced by at least an equal amount of compensatory planting, however detailed design would be required to determine the exact number of trees to be removed and focused environmental surveys in accordance with relevant legislation and advice from Statutory Authorities would be required to ensure potential environmental impacts are considered and appropriate mitigation measures and replacement planting proposed to ensure no net biodiversity loss results.

Blue Corridor:

The Blue Corridor provides a direct connection to the Lough Swilly SPA and SAC. This assessment does not consider providing a connection for the public via a proposed greenway corridor to a designated environmental site as a positive factor and the scoring has been assessed accordingly. The potential to increase the impact on the environment by introducing greater numbers of people to a sensitive environment is considered in this assessment.

Construction of the greenway would involve construction of a boardwalk structure along the foreshore and within the boundaries of the designated Natura 2000 designated sites. This proposal would present significant environmental challenges and initial consultations with NPWS have outlined the likely difficulties in ensuring that significant impacts to the environment would not result from the construction or use of a proposed development following this route, and therefore obtaining approval for such a design.

Elsewhere, where the greenway would traverse along the landward side of the foreshore, on the boundary of the SAC / SPA, new screening planting may be required and this will be considered at detailed design stage and as the environmental mitigation measures are explored in full.

Notwithstanding this, and for the purposes of this report, it is considered that a greenway close to the shore of Lough Swilly, running along the boundary of the Designated SAC and SPA areas, would hold potential for a high impact on the SPA and SAC designations. It is acknowledged that this corridor introduces public access to a sensitive environment where public access has not previously been facilitated and

therefore appropriate design, construction methods and ongoing facility management would be of the greatest importance.

As noted in the Preambles Section 8.3.5 of this report, an EIAR and NIS would be required to be submitted as part of the planning application for a greenway that is considered to have potential to impact on Lough Swilly SPA and SAC. This EIAR would fully consider the potential impact of the greenway on a range of issues, and the final design of the facility would be informed by EIAR to ensure that potential impacts can be successfully mitigated. A Construction Environmental Management Plan (CEMP) will accompany the planning application and prior to construction stage a detailed CEMP, outlining construction methodologies, timescales, environmental and waste management proposals would be required to be agreed with the relevant Statutory Authorities, and works would be restricted to agreed conditions and times of the year.

Scoring Summary:

The Purple Corridor is alongside the R238 and due to the removal of short sections of hedgerow of relatively low environmental value, as well as some trees where carriageway realignment is proposed. Whilst these hedges are generally species-poor and generally poorly structured, the ecological value of hedgerows and mature trees is still acknowledged. Any removed trees will be replaced with compensatory tree planting of native species and at least the same length of hedges that are removed will be replanted, normally alongside the new Greenway to include a wider range of native species representing a biodiversity gain. The construction of the greenway is considered to have a low potential for adverse impact on the environment. A score of 2 is awarded.

The Blue Corridor connects directly with the Lough Swilly SPA and SAC, and for a short section traverses through these Natura 2000 designations on the foreshore side. The potential impact on the SPA and SAC, and the mitigation measures that would be required to be included in the design and construction of the facility to avoid and reduce such impacts are considered significant and NPWS have outlined the potential difficulties in achieving approvals for such a design. A score of -3 is merited.

Corridor	Purple	Blue
Mark	2	-3

8.6.17 Physical Constraints

The tables provided below summarises the main physical constraints on each corridor, categorised as outlined in the Preamble, Section 8.3.6, the possible mitigation options, and the residual impact of the physical constraint after the mitigations options have been considered.

Purple Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
230m section with no existing footpath along R238 from The Rectory to start of footpath at entrance to private residences	Category 2 – Extended Pinch Point	Construction of segregated GW facility with minimum desirable cross section can be achieved by utilising the grass verge, reducing the width of the existing hatched island at centre of carriageway and localised carriageway realignment.	Low Cost implications scored elsewhere.
240m section approaching the entrance to the Red Door, narrow footpath (approx. width 1.5m to 2.0m)	Category 2 – Extended Pinch Point	Construction of segregated GW facility can be achieved by reducing the width of the existing hatched island at centre of carriageway and localised carriageway realignment. Desirable cross section may not be achievable, and will be determined at detailed design stage. A minimum cross section of 2.5m is considered achievable.	Moderate Cost implications scored elsewhere.
270m section from the entrance to the Red Door to, no existing footpath.	Category 2 – Extended Pinch Point	Acquisition of private lands at Nazareth House required to facilitate carriageway realignment and construction of GW with minimum desirable cross section.	Low Cost implications scored elsewhere.

<p>120m section approaching the access road to Fahan Marina, narrow footpath (approx. width 1.5m to 2.0m at narrowest point)</p>	<p>Category 2 – Extended Pinch Point</p>	<p>Construction of segregated GW facility can be achieved by reducing the width of the existing hatched island at centre of carriageway and localised carriageway realignment. Desirable cross section may not be achievable, and will be determined at detailed design stage. A minimum cross section of 2.5m is considered achievable.</p>	<p>Moderate Cost implications scored elsewhere.</p>
<p>13Nr vehicular entrances to private residences, 1Nr entrance to commercial property</p>	<p>Category 3 – Minor Road Crossings</p>	<p>Provide suitable crossing point in accordance with design standards.</p>	<p>Moderate</p>

A greenway with a consistent cross section can be delivered for the majority of this corridor, however some sections with a cross section between 2.5m to 3.0m are anticipated. Detailed design will be required to determine the cross section, and it will be maximised as far as practicable. Carriageway realignment will be required, as well as reduction in the width of the central median, and detailed design will be required to determine the extents of realignment required. From the entrance to the Red Door, where there is no existing footpath, private lands will be required to facilitate the proposed realignment. The residual impact of these constraints is considered to be 'Low' to 'Moderate' and are considered further in the Quality of Service assessment.

There are a total of 14nr entrances to residential and commercial properties along the corridor, including two entrances which are used as an access to multiple properties. Suitable crossing points will be provided across major roads in accordance with the relevant design standards, and the residual impact of these crossings is considered to be moderate.

Blue Corridor

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Potential for flooding along shoreside	Category 1 - Areas at risk of flooding or within tidal range	<p>Flood Risk Assessment to be carried out to determine frequency / extent of flood events.</p> <p>Detailed design required to ensure GW construction does not increase existing flood levels. Opportunities to mitigate flooding will be considered at detailed design.</p> <p>Appropriate warning signs to be provided.</p> <p>Noted that flooding of the greenway considered permissible at this location.</p>	Moderate
Pinch point due to proximity to dwellings/shoreline to southwest of Fahan House	Category 2 - Localised Pinch point.	Construction of causeway / boardwalk structure with Lough Swilly high tide mark. Careful design of boundary treatments.	<p>None</p> <p>Impacts on Cost, Material Assets and Human Beings (incl. Residential Amenity) and Environmental implications scored elsewhere.</p>
Pinch Point (100m) due to proximity to dwellings on both sides of route to East of Roneragh Apartments	Category 2 - Extended Pinch point.	Careful design and boundary treatments, potential requirement for structures/retaining walls.	<p>Low.</p> <p>Cost implications scored elsewhere.</p>

Pinch point (110m) along Roneragh Apartments service road	Category 2 - Extended Pinch point.	Relocation of crash barrier and boundary fence. Detailed design required to determine if structure required. Alternative to share access road with GW traffic.	Significant
Pinch Point along Rail Corridor at Lough Swilly Yacht Club Mobile Homes	Category 2 - Extended Pinch point.	Relocation of Mobile Homes likely to be required.	None Cost implications and impact on Material Assets and Human Beings scored elsewhere.

As noted in the table, the implications of the issues relevant to Environmental Constraints and to Material Assets and Human Beings are addressed elsewhere in this report, as are the costs associated with constructing the greenway. Therefore it is considered that the moderate constraint at Roneragh Apartments is the only constraint with a residual impact on the cross section of the greenway. Detailed design will be required to determine the proposed greenway alignment and design along this section.

Flood risk is also identified as a moderate risk, similar to the assessment for Section 3A (Blue Corridor).



Potential Pinch point along Roneragh Apartments service road

Scoring Summary:

Construction of the greenway would require the realignment of a significant portion of the R238 carriageway on the approach to Fahan. The residual physical constraints identified on the Purple Corridor are considered to range from low to moderate and a segregated greenway facility with a consistent cross section can be provided for the majority of the route. Where the desirable cross section cannot be achieved (in two locations) it will be maximised as far as practicable, however these locations extend for distances of 240m and 120m. Given the constraints identified to achieving the desirable cross section, plus the 14Nr crossings to private / commercial entrances, a score of -1 is awarded.

The Blue corridor runs off-line for its entire length and a consistent cross section can be achieved for the majority of the route. It is considered that the residual constraints at the service road to Roneragh Apartments, which could result in a reduced cross section or a section of greenway shared with the carriageway depending on the detailed design alignment, and the flood risk along the shoreline, merit a score of 1.

Corridor	Purple	Blue
Mark	-1	1

8.6.18 Quality of Service

Purple Corridor:

The Purple Corridor is considered to be entirely urban, and is within the extents of the Fahan speed limits.

Vertical segregation of greenway users from vehicular traffic by way of a road kerb is achievable along all of the corridor, and while opportunities to improve the horizontal separation by providing a buffer strip exist along the majority of the corridor, there is approximately 360m where the desirable cross section may not be achievable.

As described in Section 8.6.17, the extended section of 1.25km with 14Nr entrances to private residences / commercial properties remain and this constraint would detract from the attractiveness of the greenway to potential users.

While a design can be provided that is safe and accessible for greenway users, it is considered that given the large volumes of traffic, and the associated noise and air pollution, along the R238, the greenway facility along the corridor would not be considered 'attractive' or 'pleasant'. In particular vulnerable greenway users, or families with young children, may not be comfortable using the facility.

A score of 0 (zero) is considered appropriate for this corridor.

Blue Corridor:

A greenway facility along this corridor would be ‘off-line’ for the majority of its length. As noted in the Preamble, this is the most desirable level of segregation from vehicular traffic, and a consistent cross section, in accordance with the minimum prevailing design standards can be achieved for these sections.

The residual physical constraints at the Roneragh Apartments and the flood risk are not considered to have a measurable effect on the accessibility, safety or experience of the Greenway.

It is considered that a greenway facility along this corridor would be considered an attractive and pleasant product and the maximum score of 3 is deemed appropriate.

Corridor	Purple	Blue
Mark	0	3

8.6.19 Material Assets and Human Beings

Purple Corridor:

The majority of lands required for the Purple corridor are in public control, however private lands from Nazareth Housing Nursing Home would be required to facilitate the proposed carriageway realignment. There would be an associated impact on land usage and privacy, however in terms of this assessment these impacts are not considered significant as appropriate boundary treatment could be provided. Severance of lands is not anticipated.

For the remaining section of the corridor, the greenway facility would cross 14Nr entrances along the R238, although it is noted that the existing kerbed footpath currently extends across all but five of these entrances. It is considered that there would be some minimal associated impact on privacy due to the construction of the greenway along this section.

Blue Corridor:

The acquisition of private lands from multiple landowners (primarily residential, as well as lands in the ownership of the Red Door Country House), would be required for the majority of this corridor. In particular, there would be significant associated impacts on

privacy and land usage, for which reasonable mitigation measures may not easily be provided. Severance of lands is not anticipated.

The greenway alignment through private lands would need to be carefully co-ordinated to ensure future development plans are not adversely affected and potential adjustments to the alignment to minimise impacts on landowners will be explored in more detailed at detailed design stage.

Ongoing discussions and negotiations with landowners would be required to progress the development a greenway along this corridor.

Scoring Summary:

The Purple Corridor can mostly be delivered availing of lands in the public domain. Lands would be required from one landowner, and the associated impacts on land usage and privacy are considered low. Impacts on privacy where the greenway crosses multiple private entrances is also considered low. Overall, the effect of these issues merits the reduction of one mark from the maximum score, and a score of 2 is awarded.

The Blue Corridor has a highly significant impact in this assessment as private lands from multiple landowners would be required, along with associated impacts on land usage and privacy. A score of -3 is awarded.

Corridor	Purple	Blue
Mark	2	-3

8.6.20 Potential Cost

Scoring Summary:

The construction of the greenway along the Purple Corridor adjacent to the R238 would include carriageway realignment costs, and well as potentially significant construction cost overheads due to the anticipated requirement to provide appropriate traffic management plans, and the associated restricted working conditions. These factors are considered to increase the potential cost of the greenway above a reasonable margin of the average greenway cost for the scheme. A score of -1 is awarded.

A greenway along the Blue Corridor would potentially involve extensive sections of cantilevered boardwalk along the shoreline, and landscaping and boundary treatment to screen the SPA / SAC from greenway users, and also to mitigate privacy impacts on residential properties. These costs would significantly impact on the ability to

deliver a greenway within a reasonable margin of the average greenway cost for the scheme and a score of -2 is awarded.

Corridor	Purple	Blue
Mark	-1	-2

8.6.21 Public Feedback

Scoring Summary:

The range of comments and issues raised by the public on the Section 3B Route Corridors as presented in February 2019 related primarily to potential impacts on land and property owners (e.g. impacts on livelihoods and residential properties), the environment (e.g. impacts on wildlife and coastal erosion); and traffic related issues (e.g. a desire to travel along a quieter and more scenic route, separation from vehicular traffic and associated safety concerns along the R238).

Other issues raised include a desire to provide scenic views of the coastline.

Support was expressed for the Purple Corridor in terms of less impact on residential properties, especially gardens. It was also noted that the route provided a better connection with Fahan, and was closer to historical points of interest in the village.

However the issues of concern raised on the Purple corridor were related primarily to its proximity to the R238 and associated traffic concerns. While a greenway facility in accordance with the design standards can be provided for the majority of the route, these particular issues cannot be mitigated entirely should this corridor be progressed. These issues are considered to have a negative effect on the scoring assessment for the Purple Corridor.

The overwhelming issue of concern expressed on the Blue corridor was the impact on privacy at private residences and gardens. A design of a greenway along this corridor would include mitigation measures to reduce the impact of these issues, and ongoing consultations would be required with affected landowners – however for the purposes of this scoring assessment these issues are considered to have a negatively effect on the Blue Corridor. Other issues of concerns reflected the potential for coastal erosion and the possible impact on the greenway facility. Should this corridor be progressed, this issue would be considered further at detailed design stage.

The assessment of public feedback also included an analysis of the levels of support for each corridor. Both corridors received broadly similar levels of support, with the Blue Corridor achieving marginally more support.

In assessing the public feedback scores, the project team considered the mainly “off-road” and traffic free nature of the Blue corridor as a positive factor. However, this is counter balanced by the issues arising in relation to the potential impact on residential properties and privacy, plus the potential impact on the environment which are

considered negative factors in the assessment. Coupled with the levels of support for the route, a score of -1 is merited.

The Purple Corridor is considered to score more favourably, given the issues raised in relation to traffic and safety can be mitigated through the design process. While these issues are initially considered to have a negative effect on the scoring assessment, this is offset by achieving a design in accordance with the prevailing design standards can be achieved for the majority of the corridor. This is considered to mitigate some of the issues and concerns raised by the public in this section of the corridor. The reduced levels of scenic views available and the marginally lower levels of public support for the corridor are also factored into the scoring assessment and a score of 0 is merited.

Corridor	Purple	Blue
Mark	0	-1

8.6.22 Summary Scoring Sheet (Section 3B)

	Purple	Blue
Modal Shift	3	3
Connections and Local Access	3	3
Cultural, Heritage and Visual Attractions	1	0
Landscape and Visual	1	3
Flora, Fauna and the Environment	2	-3
Physical Constraints	-1	1
Quality of Service	0	3
Material Assets and Human Beings	2	-3
Potential Cost	-1	-2
Physical Cross Border Connectivity**	3	3
Public Feedback	0	-1
Total	13	7

** Refer to Section 8.3.10

A table summarising the scores for each route and a short summary of the scoring assessment is provided in Appendix F of this report.

8.7 Assessment of Section 4 - Fahan to Buncrana Corridors

Note – As the Blue and Purple corridors are common except for the section from Fahan Marina to Lisfannon Beach as described in Section 6.4, the corridors are assessed described as one in the Scoring Assessment, except where the scores are deemed to differ.

8.7.1 Modal Shift

Purple Corridor (incl Blue Shoreside Option):

When linked with the other Sections comprising Route 1, each of these corridors would link Derry / Londonderry with Buncrana, Newtowncunningham and the key towns and villages in the Study Area.

These corridors also connect with the major modal shift generators and employment centres at Buncrana. The corridor also connects with secondary modal shift generators in the area and along the R238.

Red Corridor:

The Red corridor connects with the Tooban area, and directly to Buncrana, but does not provide a connection to Fahan. Connections to Derry / Londonderry, Bridgend, Burnfoot and Newtowncunningham are provided when connected with the other sections of the scheme, however it does so by a more indirect route than the alternative corridors. The corridor connects with the major modal shift generators and employment centres at Buncrana, however it misses connections with secondary modal shift generators along the R238.

Scoring Summary:

The Blue and Purple corridors are considered to provide comprehensive opportunities to deliver / increase modal shift within the relevant section of the Study Area and in the initial assessment are awarded a score of 3.

As noted in the preamble, and as described in Section 8.7.7 below, the Purple Corridor scores negatively in the Quality of Service criterion, with extended sections considered to detract from its potential to deliver Modal Shift, and a point is deducted from its score.

The Red Corridor does not connect with Fahan which is a key aim and objective of the scheme. While the corridor does link with some primary and secondary modal shift generators in the study area, it connects Buncrana with the rest of the scheme via a long, indirect and incoherent route and is considered to have minimal potential to

deliver or increase modal shift. The corridor also scores negatively in the Quality of Service criterion. Therefore a score of -3 is awarded.

Corridor	Purple	Blue	Red
Mark	2	3	-3

8.7.2 Connections and Local Access

Within the context of the final greenway between Derry & Buncrana, and considering the proposed scoring assessment as set out in the Preamble, it is considered that ample access to the amenities and food retail outlets with this section are provided at the end point of each corridor, and initially each corridor is awarded the maximum score of 3.

Scoring Summary:

The Purple & Blue Corridors connect directly with the great majority of local amenities between Fahan and Buncrana, including those along the R238. The majority of food outlets are located in the Buncrana urban area, although some are located along the R238, and the score of 3 is not revised.

The Red corridor connects directly with the local amenities in the urban area of Buncrana but does not connect with any other significant amenities. Other than connections at Buncrana, and one connection at Tooban, the Red Corridor does not provide effective connections to any amenities along its central section, and misses the connection to any of the amenities that the Blue & Purple Corridor offers. As stated in the Preamble there should be access to 'food or rest areas available every 15km', and this corridor is, at 14km long, towards the extreme of this consideration.

For these reasons it is considered that a deduction of 2 marks is merited for the Red Corridor, and a score of 1 is awarded.

Corridor	Purple	Blue	Red
Mark	3	3	1

8.7.3 Cultural, Heritage and Visual Attractions

Scoring Summary:

There are a number of items within the study area section that are of Cultural, Heritage or Visual attraction. The majority of these are centred in the Buncrana urban area or along the R238 and are related to buildings of regional architectural interest. These are considered to be of local significance / niche interest in the context of this report.

Given the geographic distribution of the items of interest, the Blue and Purple Corridors are considered to provide equal access and score 1.

While the Red corridor offers connection to those items located in the Buncrana urban area, it otherwise offers no meaningful connection to other items and thus achieves a score of 0 (zero).

Corridor	Purple	Blue	Red
Mark	1	1	0

8.7.4 Landscape and Visual

A copy of the Landscape and Visual Assessment Report which describes in the landscape character and scenic views available within the Study Area is appended to this report. The scores provided in that report are included below.

Scoring Summary:

Corridor	Purple	Blue	Red
Mark	1	2	2

8.7.5 Flora, Fauna and the Environment:

Purple Corridor:

The Purple Corridor connects with the Lough Swilly SPA / SAC after Lisfannon beach, from where the corridor runs parallel with the external boundary to this designated area, and connects with the notable flora and fauna for which the area is designated.

Along the section from Lisfannon Beach to Buncrana Golf Club where the greenway would be behind and adjacent to the road boundary and close to the beach, detailed design would be required to determine the exact alignment and construction detail and the design would be developed to minimise any potential environmental impacts. The purple corridor is noted to be within the boundary of the SAC/SPA for portions of its length from the Tank Road junction to the roundabout entering Buncrana. Greenway design would be informed by the findings of detailed environmental impact assessment and will be developed to minimise any potential for adverse environmental impacts.

The construction of the greenway, would require vegetation of relatively low environmental or ecological value to be removed. This would be scheduled to minimise potential for adverse impact, in accordance with the findings of ecological and bird surveys and compensatory replacement planting would be provided. Ongoing consultations and discussions with Statutory Environmental Agencies would be required to ensure an acceptable design is provided.

While passing close to the Lough Swilly SAC and SPA, for the purposes of this report, screening along the Purple corridor is not currently considered necessary.

Blue Corridor:

Where it diverges from the Purple Corridor, the Blue Corridor passes along the boundary of the SPA and SAC at the foot of the embankment to the R238 and adjacent to the salt marshes habitat. Sensitive design will be required, as well as ongoing discussion with Statutory Authorities, to ensure an acceptable design that controls public access, avoids, reduces and/or mitigates potential for adverse impact on the environment and the habitats of acknowledged conservation importance within the SAC is provided. Initial discussions have been held with NPWS to explore some of the constraints and potential impacts associated with construction close to this habitat and these issues will be assessed further through the EIAR process and project design evolution should this corridor emerge as the preferred route.

It is noted that the salt marshes are accessible to the general public at present and are regularly frequented. It is envisaged that greenway infrastructure would assist in channelling footfall away from the salt marshes, however for the purposes of this scoring assessment, this potential is not considered to affect the score.

Along the section from Fahan Marina on the old railway line, greenway construction would require the removal of some vegetation and isolated trees, however this will be minimised as far as practicable to minimise potential for adverse environmental impacts.

Red Corridor:

The Red Corridor does not connect with the Environmental Designated Areas in this section of the Study Area, although it does connect with some interesting and notable Flora and Fauna around Tullydish (as noted in public consultation feedback, red squirrels are found around this area).

The Red corridor will run fully on-line and as such, construction of the facility would not have an impact on the environment as no roadside verges or hedgerows are proposed to be removed.

Scoring Summary:

The Blue & Purple Corridors connects directly with the Lough Swilly SPA and SAC and the construction and use of either option would require careful and sensitive design to mitigate potential adverse impacts on sensitive environments, protected species and the designated areas. As discussed in the Preamble, the final design of the facility would be informed by the findings of Environmental Impact Assessment (EIA/EIAR) and Natura Impact Statement (NIS) to ensure that potential adverse impacts are acknowledged and addressed by avoidance, reduction or mitigation.

The section where the corridors diverge presents minimal potential environmental impacts on the Purple Corridor, while the potential impact of the Blue Corridor would need to be more carefully assessed, mitigated and controlled. Therefore, the Blue Corridor is considered to score less favourably than the Purple Corridor.

A score of -1 and -2 is merited for the Purple & Blue Corridor respectively.

The Red Corridor scores positively in this assessment, due to the connection with notable fauna and the natural, unblemished environment around Tullydish, and the minimal construction impact generated by the development of the facility. Therefore a score of 3 is awarded.

Corridor	Purple	Blue	Red
Mark	-1	-2	3

8.7.6 Physical Constraints

The tables provided below summarises the main physical constraints on each corridor, categorised as outlined in the Preamble, Section 8.3.6, the possible mitigation options, and the residual impact of the physical constraint after the mitigations options have been considered.

Constraints Common to Both Purple & Blue Corridors

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Pinch Point from Lisfannon Beach access, approaching Lisfannon Corner (600m approx)	Category 2 – Extended Pinch Point	Construction of GW on suitable alignment behind road restraint barrier, adjacent and parallel to the beach. Consistent cross section can be achieved.	Low, Cost and Environmental considerations assessed elsewhere
Pinch Point at residence at Lisfannon corner (100m approx)	Category 2 – Extended Pinch Point	Segregated GW facility will be provided. Detailed design required to determine cross section that can be provided.	Significant
Pinch point after Lisfannon Corner along NW Golf Club (300m approx.)	Category 2 – Extended Pinch Point	Construct GW on road embankment by means of retaining wall or boardwalk structure. May require reduced cross section	Moderate
Proximity to North West Golf Club	Other – Safety Considerations (errant golf balls & GW users)	Ball Stop Netting to prevent golf balls crossing to GW	None

Purple Corridor Only:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Crossing of L-1801-1 (Access Road to Fahan Marina)	Category 3 - Minor Road Crossing	Provide new uncontrolled crossing point in accordance with design standards and roads authority approval	Low
Narrow footpath (approx. width 1.5m to 2.0m) from the access road to Fahan Marina to the speed limit sign. (distance approx. 570m)	Category 2 – Extended Pinch Point	Limited opportunity to increase footpath width	Significant, extended
Multiple entrances into commercial & residential premises along the R238 from Fahan Marina to end of speed limit.	Category 3 - Minor Road Crossing	Design of crossing points in accordance with design standards and roads authority approval	Moderate
Pinch Point from speed limit to access to Lisfannon Beach.	Category 2 – Extended Pinch Point	No opportunity to provide segregated GW facility within the road corridor. GW to be denoted in the hard shoulder by road markings and signage	Severe, extended

A greenway along the Purple Corridor would not have a consistent cross section, with two significant and one severe residual pinch points and physical constraints remaining. In some sections through Fahan village, the existing footpath width is below standard and could not be reasonably widened without significant land acquisition (residential properties, rear gardens and the established building lines of dwellings, garages etc). In such locations, cyclists would be directed to share the carriageway with vehicular traffic.

The moderate to severe residual impacts noted will have a considerable potential effect on Quality of Service and will be further assessed in Section 8.7.7 below.

Blue Corridor Only

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
L-1801-1 to Fahan Marina has no existing pathway, and no space to widen	Category 2 – Localised Pinch Point	Shared road surface (Option to provide a segregated facility will be explored at detailed design stage)	Moderate
Moderate gradient on L-1801-1 for short distance	Category 2 – Changes in Level	None, within the context of this report.	Low – gradient is within acceptable gradients for the short distance encountered
Embankment to R238 from 'The Lookout' toward Lisfannon Beach Access. (SAC and Salt Marshes to bottom of embankment)	Category 2 – Localised Pinch Point.	Construction of Boardwalk Section cut into embankment to mitigate potential environmental impact on SAC	Low. Cost impact addressed separately.
Embankment from R238 down to SAC Boundary.	Other – invasive species evident on embankment	Treatment or removal in line with regulations	Low. Cost impact addressed separately.

The physical constraints along the Blue Corridor (where it diverges from the Purple Corridor) are at each end i.e. the proposed shared section along the access road to Fahan Marina, at the bottom of the embankment to the R238.

A consistent cross section could be achieved for the majority of the corridor, and the short shared section of 350m at Fahan Marina can be designed in accordance with the National Cycle Manual, and would be described as a 'shared street' facility. Options to reduce the extent of this shared section will be considered at detailed design stage, and could be progressed if private lands were acquired. However for the purposes of this report, the shared section is assumed to extend from the junction with the R238 to the Railway Tavern.

The moderate residual impact of the gradient through this section will be assessed further in the Quality of Service discussion in Section 8.7.7 below, as will the significant & moderate residual identified on the Purple Corridor which are common to both.

Red Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Crossing of numerous L roads along the corridor.	Category 3 - Minor Road Crossing	Provide new uncontrolled crossing point in accordance with design standards and roads authority approval	Low
Considerable number of steep inclines along the corridor	Category 2 – Changes in Level	None	Moderate
L Roads for corridor have no existing pathway, and no space to widen without acquisition of lands along entire corridor	Category 2 – Extended Pinch Points	Lower-Trafficked Road design.	Significant

The Red Corridor is predominately a shared facility and it could be described as a lower-trafficked road in accordance with the DTTAS “Strategy for The Future Development of Greenways” and traffic survey data would be required to ensure this design standard could be achieved. As such the development of the facility would consist of mainly of road markings and signage, with some construction, and footpath widening at Bunrana. It is not envisaged that the physical constraints relating to steep gradients and the narrow carriageway at Rockstown Road and from R238 around Tullydish to Bunrana can be addressed within the context of this scheme.

It is considered that a significant residual constraints would remain, given the presence of large construction plant accessing McDaid’s Quarry (national grid co-ordinates 55.088003, -7.404841), and this impact is discussed further in the Quality of Service assessment below.

Scoring Summary:

A greenway along the Purple Corridor would not have a consistent cross section and with several significant pinch points along its length that cannot be reasonably designed out in the context of this project. A score of -3 is merited.

The Blue Corridor avoids two significant residual constraints on the Purple Corridor, and although a moderate significant pinch at Lisfannon Corner, along with some moderate residual constraints, it is considered to score more favourably than the Purple Corridor and a score of -1 is awarded.

The Red Corridor includes a significant physical constraint, however these are evident across a significant length of the route, and score of -2 is awarded.

For all corridors, the impact of these residual constraints are also addressed in the Quality of Service assessment.

Corridor	Purple	Blue	Red
Mark	-3	-1	-2

8.7.7 Quality of Service

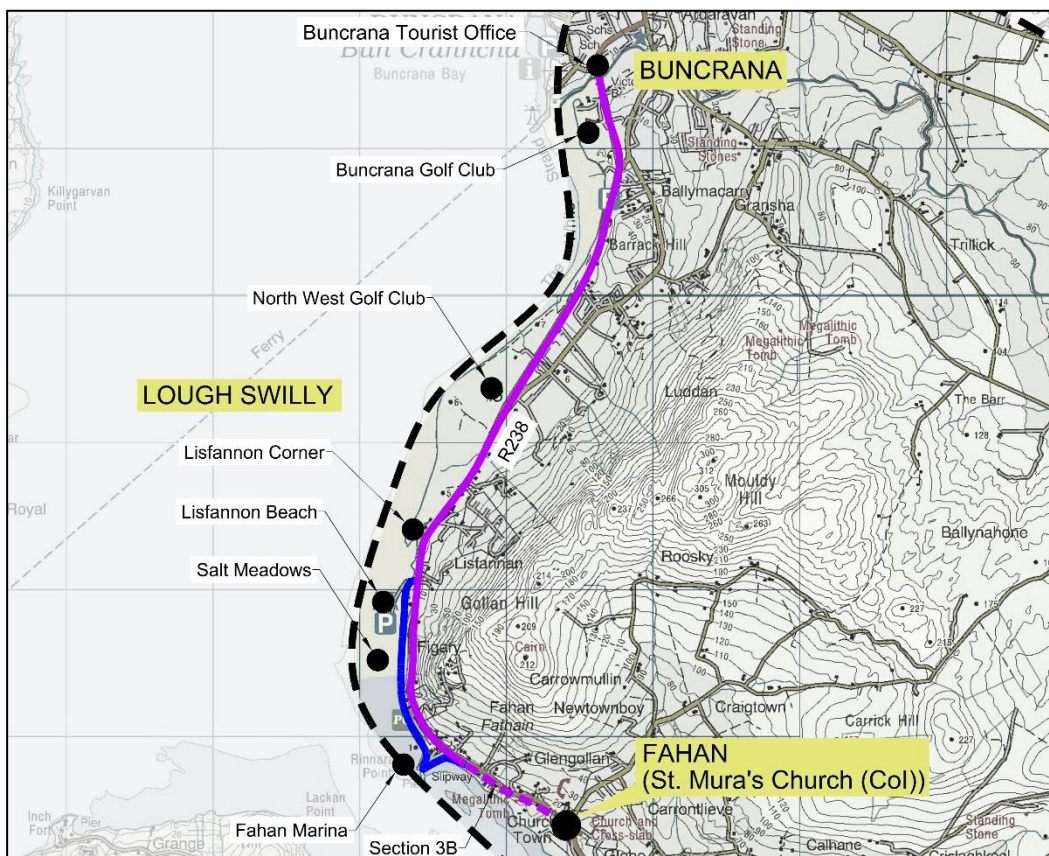


Figure 6.4.1 – provided for reference to key areas referenced below

Purple & Blue Corridors:

For the assessment of the Purple and Blue Corridors, the greenway facility is described in three distinct sectors.

Purple Corridor, where it is distinct from Blue Corridor, i.e. from Fahan Marina to Lisfannon Beach

This sector is a mix of urban (600m from the Marina to the end of the Fahan speed limit) and rural (750m onwards to Lisfannon Beach). A greenway facility along this section of the Corridor would utilise the existing footpath through Fahan which ranges from approximately 1.3m to 2.1m wide. There is limited opportunity to increase the width of this footpath to provide a consistent cross section, or to provide a desirable level of horizontal segregation. Cyclists would be required to share the carriageway with vehicular traffic.

As noted in the Physical Constraints assessment, a significant, extended pinch point would remain from the Fahan village speed limit to Lisfannon Beach (approx. 750m), along which vertical segregation cannot be achieved and pedestrians and cyclists would be required to use the hard shoulder, demarcated by road markings and with appropriate signage included in accordance with the prevailing design standards. It is also noted that greenway users would have to cross multiple minor road crossings and private entrances to residences and businesses which would further detract from the attractiveness of the greenway.

While a design could be provided that is safe for greenway users (this will be a minimum requirement), relaxations and / or departures from the design standards will be required. The facility is not considered to meet the accessibility requirements of all greenway users, and the section where all greenway is along the hard shoulder is considered likely to deter all potential users. In particular vulnerable greenway users, or families with young children, may not be comfortable using the facility. The facility provided would effectively place cyclists onto the existing road network, which while allowable under road traffic legislation, is not likely to be perceived as safe by the majority of potential greenway users. It is noted that R238 traffic volumes are significantly above the volumes that would comply with a lower trafficked road design.

Furthermore, the facility could not be considered attractive or pleasant given the proximity to large volumes of traffic within a 100km/h speed zone, and the associated noise and air pollution, along the R238. Available traffic survey data indicates average daily traffic volume greater than 10,000, with 5% HGV traffic and an 85 percentile speed of approx. 70km/hr.

A score of -3 is considered appropriate for this sector of the corridor.

Blue Corridor, where it is distinct from Purple, i.e. from Fahan Marina to Lisfannon Beach via shoreside

A greenway along the Blue Corridor, where it diverges from the Purple, would be a shared facility along the Fahan Marina access road as far as the Railway Tavern. From the point where it joins the alignment of the old railway line, the facility is considered to be off-line, although some access for local traffic may be required and any such requirements can be assessed at detailed design stage.

The extent of the shared facility is approximately 350m and available traffic survey data indicates that a design in accordance with the prevailing design standards can be

achieved, albeit a section of the greenway with a gradient of approx. 4% over 260m would remain.

From behind the Railway Tavern and onwards to Lisfannon Beach, a consistent greenway cross section can be provided and it is considered that an accessible, attractive and pleasant product can be provided.

The greenway facility along this sector is considered to offer a high Quality of Service. A score of 2 is deemed appropriate, with the relatively short shared section meriting the loss of a mark. As noted in Section 6.2.4, should this corridor emerge as preferred, options to provide a segregated greenway will be considered as detailed design stage.

Lisfannon Beach to Buncrana, Common to Purple & Blue Corridors

This sector of the corridor is considered predominantly rural, except for the final 600m urban section through Buncrana.

Excluding Lisfannon Corner, vertical and horizontal separation can be achieved, and the opportunity exists to provide a consistent cross section and to considerably increase horizontal segregation and set-back the greenway from the R238, both approaching Lisfannon Corner and from the beginning of the North West Golf Club as far as Buncrana Roundabout. The urban section through Buncrana can also be designed in accordance with the prevailing design standards.

The existing severe and extended residual pinch point at Lisfannon Corner would be mitigated by the acquisition of private lands and the provision of a segregated facility. Detailed design will be required to determine the greenway cross section that can be achieved, and for the purposes of this report a moderate, extended residual pinch point is assessed.

For the great majority, a greenway through this sector could be considered accessible, attractive and pleasant, however the short portion of the greenway at Lisfannon Corner it considered to have a significant negative effect on the Quality of Service score. A score of -1 is considered appropriate.

Given the range of design cross sections along each of the corridors within this section, and the severity of the residual physical constraints, it was considered appropriate that the lowest score for any sector comprising the corridor would be awarded as the score to the whole corridor. That is, that the score would be determined by the 'weakest' section of corridor as that section is considered to impact the overall attractiveness of the product.

Therefore, the Purple Corridor is awarded a score of -3, and the Blue Corridor is awarded a score of -1

The following table summarises each of the sectors described above

Description	Length (m) / Urban / Rural	Vertical Segregation	Horizontal Segregation**
Purple Corridor, where it is distinct from Blue Corridor; i.e. from Fahan Marina to The Lookout	600m (urban),	Yes for pedestrians, vulnerable users only. Cyclists directed to shared the carriageway with vehicular traffic	No.
Purple Corridor, where it is distinct from Blue Corridor; i.e. from The Lookout to Lisfannon Beach	750m (rural)	No	No
Blue Corridor, where it is distinct from Purple, i.e. from Fahan Marina to Lisfannon Beach via shoreside	2,250m	Yes, except for 350m shared section along access road to the Marina.	Yes, except for 350m shared section along access road to the Marina.
Lisfannon Beach to Buncrana, Common to both Options	3,750m, rural	Yes	Yes

** by means of buffer strip or GW width above the minimum standard

Red Corridor:

The Red corridor is predominantly rural to the point where it enters the town of Buncrana. For the greater part of its route, the Red corridor will encounter moderate to steep inclines up to 7% gradient, and will require shared surfaces for its length. This will considerably reduce the user experience and quality of service provided.

Given the low volumes of traffic on this corridor, it is considered that a facility along this corridor would be described as a lower trafficked road design, however the existing steep gradients along the route could be considered to deter the majority of users other than experienced touring or club cyclists.

Overall it is not considered the development of a facility that would achieve an appropriate standard of design to be considered an attractive or pleasant product and a score of -3 is considered appropriate.

Corridor	Purple	Blue	Red
Mark	-3	-1	-3

8.7.8 Material Assets and Human Beings

Purple Corridor:

Construction of the greenway along this corridor would require private lands from two landowners; one residential property at Lisfannon Corner; and at the North West Golf Club. Severance of lands would not be required, and detailed design as well as ongoing discussions with landowners would be required to ensure any potential impacts on privacy are mitigated.

Blue Corridor:

Where it is distinct from the Purple Corridor, the lands along the old railway line from the rear of the Railway Tavern, northwards towards the salt marsh at the foot of the carriageway embankment, are predominantly unregistered and for the purposes of this report it is assumed that unregistered lands required for the construction of the greenway will be acquired by Donegal County Council. Where the greenway would be constructed on the carriageway embankment as far as the access to Lisfannon Beach, the lands are in public control.

While there is some local vehicular access and parking along this section of the corridor, accommodation measures will be developed to minimise impacts on residences adjoining the corridor. Severance of lands would not be required, and the potential impact on privacy will be considered in detail with relevant landowners and appropriate mitigation measures adopted accordingly.

Red Corridor:

All of the lands required to deliver a facility along the Red Corridor are in public control and comprise the existing road network and footpath. It is not anticipated that any significant impact on the privacy would arise.

Scoring Summary:

Development of a greenway along the Purple Corridor would require the acquisition of private lands from two landowners however impacts on severance and privacy are considered to be low. A score of 1 is merited.

The additional lands required for the development of a greenway along the Blue Corridor, and the potential impact on privacy of residents adjoining the corridor, are not considered to merit a variance in the overall score applied to the Purple Corridor.

A score of 3 is considered appropriate for the Red Corridor, as minimal impacts on Material Assets and Human being are envisaged by the development of a facility along this corridor.

Corridor	Purple	Blue	Red
Mark	1	1	3

8.7.9 Potential Cost

The Red corridor is the longest corridor, with approx. 9km additional length over the other corridors. However, given the nature of the facility proposed which would not require the construction of new infrastructure for the majority of the route, construction costs would be lower than the average cost indicated in the Preamble, and a score of 2 is awarded.

It is considered that for the majority of its length, the Purple route can be delivered within a reasonable margin of the average greenway costs, and therefore a neutral score is considered appropriate.

Where it diverges from the Purple Route, the Blue corridor would require a boardwalk section for approximately 700m approaching Lisfannon Beach to avoid construction on the salt marshes which are part of the Lough Swilly SAC. The cost effect is considered sufficient to increase the cost of constructing this corridor above the average cost and therefore a score of -1 is awarded.

Corridor	Purple	Blue	Red
Mark	0	-1	2

8.7.10 Public Feedback

Scoring Summary:

The range of comments and issues raised by the public on the route corridors were related primarily to traffic issues, (i.e a desire to provide a traffic free greenway), safety concerns, disruption of natural habitats, an ability to travel along a quieter and more scenic route, proximity to local services and the impact on existing land use and property.

Support was expressed for the blue corridor in terms of separation from traffic, closer access to nature and an improved scenic views along the section where it diverges from the Purple Corridor. Some issues of concern were raised on the Blue Corridor, in particular the potential impact of the facility on the environment. It is considered that

this potential impact has been addressed under Flora, Fauna and Environment criterion.

Support was expressed for the purple corridor in terms of a reduced impact on environmental designations, closer access to local amenities and less disruption on private property. However a particular concern was noted on the Purple corridor in terms of its proximity to a busy road and associated traffic related issues. While the detailed design of a facility along this corridor would aim to increasing the level of segregation from traffic as far as practicable, this cannot be achieved for significant portions of the corridor as described in Section 8.7.6. Furthermore, there would be significant residual safety issues with a facility from the northern end of Fahan village (known locally as at “The Lookout”) towards Lisfannon Beach Access where pedestrians and cyclists would share the hard shoulder with vehicular traffic.

The public were less receptive to the Red corridor due to a concern the gradients that this route would involve, and the shared road surfaces. However, in support of the Red corridor, some members of the public noted that this corridor would have a provide access to a diverse countryside area and reduces the risk to protected areas. It was also noted that stronger cyclists may favour this route.

In determining the public feedback scores, the project team considered the various issues and concerns raised as they related to each route, any specific issues raised on a particular route and the ability to mitigate these concerns and issues through the development of the design of the greenway.

Appendix C of this report provides a summary of the substantive issues raised by the public during the consultation process.

The assessment of public feedback also included an analysis of the levels of support for each corridor. The Blue corridor received a high level of positive support. The Purple corridor also received positive support, while the Red Corridor received minimal levels of support.

The following scores are deemed appropriate

Corridor	Purple	Blue	Red
Mark	0	2	1

8.7.11 Summary Scoring Sheet for Section 4 Corridors

	Purple	Blue	Red
Modal Shift	2	3	-3
Connections and Local Access	3	3	1
Cultural, Heritage and Visual Attractions	1	1	0
Landscape and Visual	1	2	2
Flora, Fauna and the Environment	-1	-2	3
Physical Constraints	-3	-1	-2
Quality of Service	-3	-1	-3
Material Assets and Human Beings	1	1	3
Potential Cost	0	-1	2
Physical Cross Border Connectivity	3	3	3
Public Feedback	0	2	1
Total	4	10	7

** Refer to Section 8.3.10

A table summarising the scores for each route and a short summary of the scoring assessment is provided in Appendix F of this report.

8.8 Assessment of Section 5 – Bridgend / Inch Lake to Newtowncunningham Corridors

8.8.1 Modal Shift

Scoring Summary:

Both corridors connect Newtowncunningham with Derry, Buncrana and the key towns and villages in the Study Area and provide linkages to the Primary Modal shift generators within this section of the study area. The Light Blue corridor takes a more direct route, and connects with the secondary modal shift generators along the N13 and is awarded a score of 3.

As noted in the preamble, where a route corridor fails to provide a minimum standard under the Quality of Service criteria, the final Modal Shift score will be reconsidered, and a reduced score applied if appropriate.

As per Section 8.8.7 below, the Light Blue Corridor scores negatively in the Quality of Service criterion and accordingly it is considered appropriate to reduce its Modal Shift score to 2 to reflect the impact of a poor Quality of Service on the potential of the route to deliver Modal Shift.

The Orange corridor offers limited links to Secondary Modal shift generators within this section and furthermore it takes a less direct route than the Light Blue Corridor. While the more attractive rural nature of the route and its connection to Inch Wildfowl Reserve Trail facility is acknowledged to offer some potential for modal shift, when considered in the context of this report, a greenway along this corridor is considered to offer marginal potential to deliver modal shift, and therefore a score of 1 is awarded.

Corridor	Light Blue	Orange
Mark	2	1

8.8.2 Connections and Local Access

Within the context of the final greenway between Derry & Newtowncunningham, and considering the proposed scoring assessment as set out in the Preamble, it is considered that ample access to the amenities and food retail outlets with this section are provided at the end point of each corridor, and initially each corridor is awarded the maximum score of 3.

Scoring Summary:

The Light Blue Corridor connects with an adequate range of amenities along the N13 (eg Burt GAC, An Grianán Hotel) and there is no change to this initial score.

There are no effective connections to any amenities along the central section of the Orange Corridor. As stated in the Preamble there should be access to ‘food or rest areas available every 15km’, and this corridor is, at 13.3km long, towards the extreme of this consideration.

For these reasons it is considered that a deduction of 2 marks is merited for the Orange Corridor, and a score of 1 is awarded.

Corridor	Light Blue	Orange
Mark	3	1

8.8.3 Cultural, Heritage and Visual Attractions.

Scoring Summary:

There are a number of items within this section of the study area that are considered a Cultural, Heritage or Visual attraction.

Perhaps the primary, and most widely known attraction is that of An Grianán of Aileach (National Monument number 140). This monument is located on Greenan Mountain, one of the highest areas within this section of the study area and accessing this feature would involve a detour of approx. 3km from the Light Blue Corridor, in addition to the significant increase in elevation. While this does not diminish the significance of this monument in the overall heritage of the study area, it is considered that direct connections with this key item are not practical within the scope of this project.

Aside from An Grianán of Aileach, there are a number of further scheduled items, such as sites of ring forts, Burt Castle, middens, ruins of churches, as well as houses and buildings considered to be of regional architectural interest. These are considered to be of local significance / niche interest in the context of this report.

The geographic distribution of these items is such that each corridor is considered to provide access to an equal number of items.

In this criterion, the Inch Wildfowl Trail, (and its associated car parking facilities at Farland & Pump House Car Parks) is considered an attraction of regional interest and significance and which could attract visitors, once in the area. While the Trail is not deemed a positive factor in the Flora, Fauna and Environment criterion, it is considered appropriate to assess the potential to attract greenway users to avail of these

attractions and facilities. The Orange Corridor connects directly with the Trail (and car parks), while the Light Blue Corridor does not.

Therefore a score of 1 is merited for the Light Blue Corridor, and a score of 2 is merited for the Orange Corridor.

Corridor	Light Blue	Orange
Mark	1	2

8.8.4 Landscape and Visual

A copy of the Landscape and Visual Assessment Report which describes in the landscape character and scenic views available within the Study Area is appended to this report. The scores provided in that report are included below.

Scoring Summary:

Corridor	Light Blue	Orange
Mark	0	2

8.8.5 Flora, Fauna and the Environment

Light Blue Corridor:

The Light Blue corridor is fully on-line and would be constructed within the boundary of the N13 carriageway and verge. It does not connect with any environmental designated areas and does not provide any connection with 'notable' flora and fauna.

Construction of a greenway would involve the removal of the existing grass verge, and where required to provide the desirable cross-section, the existing hedgerow. Some isolated removal for tress would also be required. It is considered that the verge and hedgerow is of relatively low environmental / ecological value, and it loss would be compensated by replacement planting with native species.

Orange Corridor:

The Orange Corridor connects to the Lough Swilly SPA, and SAC designation along portions of its length and to the notable flora and fauna along the route. Therefore, an EIAR and NIS, as described in the Preamble to this criterion (Section 8.3.5) are considered to be required to accompany the planning application for this development.

The design and construction of the greenway along this corridor would have to be developed in accordance with the findings of ongoing bird and ecological surveys and the EIA/NIS process to ensure the potential for adverse impacts to the SPA and SAC designations and qualifying interests are suitably acknowledged, avoided, and appropriately mitigated. For example, screening planting will be considered, as will limiting construction work to certain times of the year, to ensure any potential impact on the SPA is mitigated in accordance with the requirements of the relevant Statutory Authorities.

Where a greenway along the Orange Corridor is along the existing road network, the impact of construction will be minimal, however mitigation measures will be considered to ensure any potential impact on the SPA and SAC are suitably addressed.

Where the greenway would utilise (and widen, where appropriate) the existing Inch Wildfowl Trail, the potential to increase the impact on the environment by introducing greater numbers of people to a sensitive environment is considered in this assessment.

Scoring Summary:

The Light Blue corridor does not traverse NATURA 2000 designated sites, and runs outside of but parallel to the boundary of the Lough Swilly SPA, in part. Construction of the greenway is considered to have a low impact on the environment, as the anticipated clearance of vegetation and hedgerow along the N13 is not considered of high ecological value and could be offset by replacement planting with native species. Therefore a score of 1 is awarded.

The Orange corridor connects directly with the Lough Swilly SPA and SAC for approximately 4.2km of the corridor, (3.3km along Inch Wildfowl Reserve, 0.9km along Grange Embankment at Blanket Nook). An EIAR and NIS will be developed to assess the potential for adverse impact on the SPA and SAC, and to inform the design and construction methodology for a facility along this corridor to ensure potential adverse impact are avoided or mitigated. Mitigation measures will require screening and control of public access. Approvals from the relevant Statutory Authorities will be required as part of the planning process.

The potential impact on the environment for the remaining sections along the existing road network is considered to be significantly lower due to the limited extent of the construction works anticipated, however these sections will nevertheless be subject to the EIAR process. A score of -2 is merited for this corridor.

Corridor	Light Blue	Orange
Mark	1	-2

8.8.6 Physical Constraints

The tables provided below summarises the main physical constraints on each corridor, the possible mitigation options, and the residual impact of the physical constraint after the mitigations options have been considered.

Light Blue Corridor

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Crossing of N13 adjacent to Bridgend Roundabout (60km/h zone)	Category 3 - Major Road Crossing	Modify existing splitter islands to provide suitable crossing point with refuge area.	Moderate
Pinch point on footway (width 2m) along dwelling to the west of Bridgend Roundabout. (60km/h zone)	Category 2 – Localised Pinch Point	Accept localised pinch point.	Low
TII Weather Monitoring station in verge between Bridgend and Skeoge Cottages (100km/h zone)	Category 2 – Localised Pinch Point	Re-locate kiosk	None
Verge width less than 2m for approx 350m east of L7941 junction (100km/h zone)	Category 2 – Extended Pinch Point	Greenway users would be required to use hard shoulder at this location.	Severe
Pinch Point at rock outcrop and dwelling west of L7941 junction for 100m approx. (100km/h zone)	Category 2 – Extended Pinch Point	Greenway users would be required to use hard shoulder at this location.	Severe

Narrow existing footpath at St. Aengus's church in Burt	Category 2 – Localised Pinch Point	Accept localised pinch point. Realignment of a National Route (N13) to provide a consistent GW is not considered practicable under the scope of the proposed NWGN Scheme.	Moderate
Verge width less than 1m for approx 30m east of Burt Community Hall (100km/h zone)	Category 2 – Localised Pinch Point	Greenway users would be required to use hard shoulder at this location.	Significant
No defined footpath at Burt community hall	Category 2 – Localised Pinch Point	Provide defined footpath. Adapt / formalise existing parking arrangements. Road restraint barrier will be required.	Moderate
Pinch point at houses and commercial premises along N13 between Burt Graveyard and Callaghan Petrol Station for approx 160m (100km/h zone)	Category 2 – Extended Pinch Point	Accept pinch points over an extended section. Off-line diversion not considered practical at this location	Severe
Verge width less than 1m for approx 300m west of Moness Cottages Traffic Calming (100km/h zone)	Category 2 – Extended Pinch Point	Greenway users would be required to use hard shoulder at this location.	Severe
Pinch point at bridge parapet at Castlecooley Road (L7961)	Category 2 – Localised Pinch Point	Widen Bridge, or provide culvert at stream to facilitate GW crossing. (considered to be within the scope of this project given relatively minor nature of the proposed remediation works)	None Cost implications scored elsewhere
Level difference at crossing of L7971	Category 2 – Changes in Level	Retaining structure required to ramp greenway down to cross road.	None Cost implications scored elsewhere

Deep open drain in verge for approx 300m south of L7971 junction	Category 2 – Localised Pinch Point	Open drain to be culverted to allow GW construction	None Cost implications scored elsewhere
Verge width less than 1m due to rock outcrop for approx 60m south of farm entrance (100km/h zone)	Category 2 – Extended Pinch Point	Greenway users would be required to use hard shoulder at this location.	Severe
Crossing of 7 “L” roads	Category 3 – Minor Road Crossings	Provide crossing points in accordance with the prevailing design standards.	Low
Crossing of R237	Category 3 – Major Road Crossings	Provide crossing points in accordance with the prevailing design standards.	Low
Several localised pinch (circa 200m in total over 4km) points with verge approx 2m from R237 to Newtoncunningham COI	Category 2 – Localised Pinch Points	Accept reduced cross section	Moderate.
Verge width less than 1m for approx 40m due to retaining wall along Newtowncunningham COI graveyard (100km/h zone)	Category 2 – Localised Pinch Point	Greenway users would be required to use hard shoulder at this location.	Significant
Multiple entrances in to commercial and residential premises along N13	Category 3 – Crossings to private entrances	Where there is an existing footpath, crossing points in accordance with the prevailing design standards will be considered. Where there is no existing footpath, crossing points will not be provided.	Low

While a consistent greenway cross section with an appropriate level of segregation could be achieved for the majority of the route, five sections of extended residual pinch points, totally approximately 1km, plus several localised pinch points, would remain

along its full length. Pedestrians and cyclists would be required to use the hard shoulder of the N13 National Road as these locations.

In particular, sections of reduced greenway width, in very close proximity to a busy National primary route at St. Aengus' Church, Burt Community Hall, to the west of Moness Cottages and at Newtowncunningham Col Graveyard (300m south of Moness Traffic Calming represent physical constraints that cannot be easily overcome due to existing land usage and steep gradients immediately behind these locations.

The moderate to significant residual impacts noted will have a considerable potential effect on Quality of Service and will be further assessed in 8.8.7 below.

Orange Corridor:

Description of Physical Constraint Noted	Constraint Type	Possible Mitigation Options	Residual Impact
Crossing of numerous L roads along the corridor.	Category 3 – Minor Road Crossings	Design of facility is proposed as shared with carriageway, and therefore not anticipated that crossing points are required. Design at each junction with minor roads will be assessed at detailed design stage and appropriate signage will be provided.	Low
L Roads for corridor have no existing pathway, and no space to widen without acquisition of lands along entire corridor	Category 2 – Extended Pinch Points	Lower-Trafficked Road design.	Significant
Crossing of N13	Category 3 – Major Road Crossings	Modify and improve (as far as practicable) existing crossing point in accordance with design standards and roads authority approval	Moderate
Available width on Blanketnook Causeway	Category 2 – Localised Pinch Point	Reduce greenway width as appropriate. Detailed design required to determine achievable cross section.	Low
Moderate to steep incline at Carrowen (circa 100m)	Category 2 – Steep Gradient	Provide appropriate rest stops	Low

The significant residual impact noted will have a potential effect on Quality of service, and will be further assessed in Section 8.8.7 below.

The remaining residual constraints are considered to have a low to moderate impact on the greenway, and a consistent greenway cross section and design can be provided.

Scoring Summary:

The Light Blue Corridor has a number of residual constraints with significant to severe impacts which cannot be easily designed out or mitigated within the context of this project, and which will directly impact on the ability to provide a consistent and desirable cross section for a facility along this corridor. While a consistent cross section can be achieved for the majority of corridor, the residual constraints are considered such that a score of -3 is merited for this corridor.

The Orange Corridor includes a significant physical constraint which requires pedestrians and cyclists to share the carriageway with vehicular traffic along some locations. Available traffic data indicates that a design in accordance with the lower trafficked road design standard could be achieved and the impact of this design is assessed in the Quality of Service criterion. Careful design, as well as ongoing consultations with the relevant Roads Authority would be required to ensure a design compatible with the local road network could be provided. A score of -1 is merited for the Orange Corridor.

Corridor	Light Blue	Orange
Mark	-3	-1

8.8.7 Quality of Service

Light Blue Corridor:

In the context of this report, the Light Blue corridor is considered to be predominantly rural, with a short urban section at Newtowncunningham, and the greenway facility would be on-line and constructed within the existing grass verge.

For the majority of the route, vertical segregation of greenway users from vehicular traffic by means of a kerb can be achieved, however the cross section would only meet the minimum design standard, and increased horizontal segregation to increase the distance between road traffic and greenway users could not practicably be provided.

Given the volume of traffic on the N13, options to maximise levels of horizontal separation by providing a grass buffer will be considered further at detailed design stage.

Where vertical segregation can be provided (within both the urban and rural contexts), the greenway would be considered to be safe and accessible in line with the prevailing standards, however the attractiveness of the route would be reduced by the proximity to high volumes of traffic, the number of pinch points remaining, and the requirement to cross a significant number of private and commercial entrances along the N13.

However, extended and localised pinch points would remain and detailed design would be required to determine the achievable cross section at those locations. It is likely that pedestrians and cyclists will be required to share the hard shoulder space at several of these pinch points and this is considered to have a significant negative impact on the Quality of Service assessment, particularly when considering the implication on safety and accessibility for all potential users.

A score of -2 is considered appropriate for this corridor.

Orange Corridor:

The Orange corridor is rural for its full length and is off-line for approximately 39% of its length, and in these sections the greenway is considered to offer an attractive product, and would be safe and accessible to all users.

A residual constraint remains where the corridor is on-line, and the greenway facility would be shared with road network. While a design can be provided that will meet the prevailing design standards (lower trafficked road design), and available traffic survey information indicated low volumes of traffic, the requirement to share the greenway with vehicular traffic will reduce the attractiveness of the user experience and quality of service provided.

Given the significant section of the corridor that will be shared with vehicular traffic, albeit on lightly trafficked local roads in accordance with DTTAS guidance, a neutral score of 0 (zero) is considered appropriate.

Corridor	Light Blue	Orange
Mark	-2	0

8.8.8 Material Assets and Human Beings

Light Blue Corridor:

All of the lands required for the Light Blue Corridor are in public ownership and within the existing grass verge and boundary of the N13. It is considered that the route would have a moderate potential impact on privacy the greenway facility crosses the entrance private residences, and on agricultural practises where it crosses the entrances to farmlands and fields.

Orange Corridor:

With the exception of a section linking the Farland Bank towards Mullaney and the section crossing the Grange Embankment, all of the lands required for the Orange Corridor are considered to be in public control, including the sections of the Swilly Wetlands walkway currently leased by NPWS. For those lands requiring purchase, 2Nr landowners would be affected by a greenway facility along this corridor. However no severance of lands is anticipated and a low anticipated impact on privacy on residential usage is anticipated. It is not considered there is a risk of adversely impacting on agricultural lands.

Scoring Summary:

Both corridors are awarded a score of 2 in this assessment.

The Light Blue Corridor, while it does not require land acquisition, it considered to have a moderate impact on privacy.

Conversely, while the Orange Corridor would require land acquisition from two landowners, it is considered that impacts on severance, farming practises and privacy are limited.

Corridor	Light Blue	Orange
Mark	2	2

8.8.9 Potential Cost

Scoring Summary:

It is considered that for the majority of its length, the Light Blue corridor can be delivered within a reasonable margin of the average greenway costs and thus a neutral score of 0 (zero) is considered appropriate.

The Orange corridor is some 1.5km longer than the Blue corridor option, however construction works along the on-line section (approx. 61% of the route) would consist of localised improvements to the road surface, some clearance of vegetation to improve forward visibility and signage. Furthermore from the start of the corridor to Farland Embankment construction of the greenway would involve widening the existing path, and not a full width path construction.

Along the interface with the SPA & SAC, and at Grange Embankment in particular, some screening of the greenway from the designated areas would be required, which would increase landscaping costs.

However given the low construction costs for the majority of the route, it is considered that the greenway could be delivered below the average greenway cost, and a score of 1 is awarded.

Corridor	Light Blue	Orange
Mark	0	1

8.8.10 Public Feedback

The range of comments and issues raised by the public on the route corridors related primarily to safety and road traffic concerns, providing a ‘user friendly’ route and delivering scenic views.

Support was expressed for the Orange Corridor as it is considered to provide more scenic views, and would have limited interaction with vehicular traffic in comparison to the Light Blue Corridor.

The main issues of concern expressed on the Light Blue corridor related to its proximity to the N13 and the associated traffic and road safety concerns. The design of the facility along this corridor would consider these issues in detail, however it is noted that these issues could not be mitigated entirely.

Pertinent issues raised through the consultation process which did not specifically reference either of these two routes included the potential for impacts on the environment and in particular birdlife associated with the Lough Swilly SAC and SPA. These issues are considered to be relevant to the Orange Corridor, and will be

considered in full through the EIA / EIAR process. However, they are considered to have a negative effect on the scoring assessment for the Orange Corridor.

In terms of the levels of support for each corridor, the Orange corridor received a high level of positive support, with a significantly lesser level of support being expressed for the Light Blue corridor.

In assessing the scores for each corridor, the Project Team considered that the range of issues and concerns raised on both corridors should be scored negatively in the assessment. When combined with the significant level of support for the Purple Route, and the levels of opposition to the Blue Route, following scores were deemed appropriate.

In assessing the public feedback scores, the project team considered the scenic and mainly off-road / lightly trafficked nature of the Orange corridor, coupled with the level of support for the route as positive factors. The concerns and issues raised about potential environmental impacts were also considered and a score of 2 is merited.

The Light Blue Corridor is considered to score less favourably, as it is beside the N13 and the associated traffic concerns and issues. The lower levels of public support for the corridor are also factored into the scoring assessment and a score of 0 is merited.

Corridor	Light Blue	Orange
Mark	0	2

8.8.11 Scoring Summary Sheet for Section 5 Corridors

	Light Blue	Orange
Modal Shift	2	1
Connections and Local Access	3	1
Cultural, Heritage and Visual Attractions	1	2
Landscape and Visual	0	2
Flora, Fauna and the Environment	1	-2
Physical Constraints	-3	-1
Quality of Service	-2	0
Material Assets and Human Beings	2	2
Potential Cost	0	1
Physical Cross Border Connectivity	3	3
Public Feedback	0	2
Total	7	11

** Refer to Section 8.3.10

A table summarising the scores for each route and a short summary of the scoring assessment is provided in Appendix F of this report.

8.9 Preferred Route Corridor

Following the assessment of each of the corridor options, the Preferred Route is identified as:

- Section 1 – Blue Corridor, from St Columb’s College, via Templemore Sports Complex and along the alignment of the old railway line to Bridgend;
- Section 2 – as noted, it is considered that either the Red or Blue Corridors are considered to provide suitable options for greenway corridors, and the final alignment will be determined during the detailed design process and taking into consideration ongoing consultations with Statutory Authorities and landowners;
- Section 3A – Blue Corridor, widening the existing Inch Wildfowl Reserve Walk and from Inch Embankment running along the alignment of the old railway line along the shoreline of Lough Swilly as far as the entrance to the Rectory Housing Development;
- Section 3B – Purple Corridor, from the Rectory to Fahan Marina, with the greenway facility located on the southwestern side of the R238 carriageway;
- Section 4 – From the junction with the access road to Fahan Marina, via the Blue Corridor past Fahan Marina and along the alignment of the old Railway Line to the access to Lisfannon Beach, where it joins the Purple Corridor and continues on to its endpoint at Bunrana.
- Section 5 – the Orange Corridor from Inch Lake to Newtowncunningham.

The Preferred Route Corridor is described on Figure 8.9.1 on the next page.

The corridors as assessed in this report were generally 10m wide, with sections at Bridgend, Inch and Fahan Marina where the corridor presented for consultation was been widened locally to allow for assessment of alternatives at detailed design stage. Further to direct consultations with landowners at a number of locations during the course the Route Selection process, the exact extent of the preferred route corridor may be adjusted locally to accommodate additional options and design solutions developed in consultation with the affected landowners.

Following the publication of this report a more detailed Preferred Route Corridor Drawing will be produced and published which will indicate areas where localised design alternatives are being considered, and to identify the various options being assessed.

With regard to Section 3B, the assessment has indicated that the Purple Corridor is the preferred option, however further to feedback received at the Second Public Consultation event, DCC have since engaged directly with a large number of landowners adjacent to the Purple Route and have determined some further opportunities to improve the Quality of Service of the proposed facility along the Preferred Route Corridor, by increasing segregation from vehicular traffic, or by providing additional offline sections.

Further to these direct landowner engagements the Preferred Route corridor in Section 3B has been extended locally to incorporate a number of additional options which will be explored at detailed design stage as shown in Figure 8.9.2 on the following pages.

Figure 8.9.1 –Preferred Route Corridor

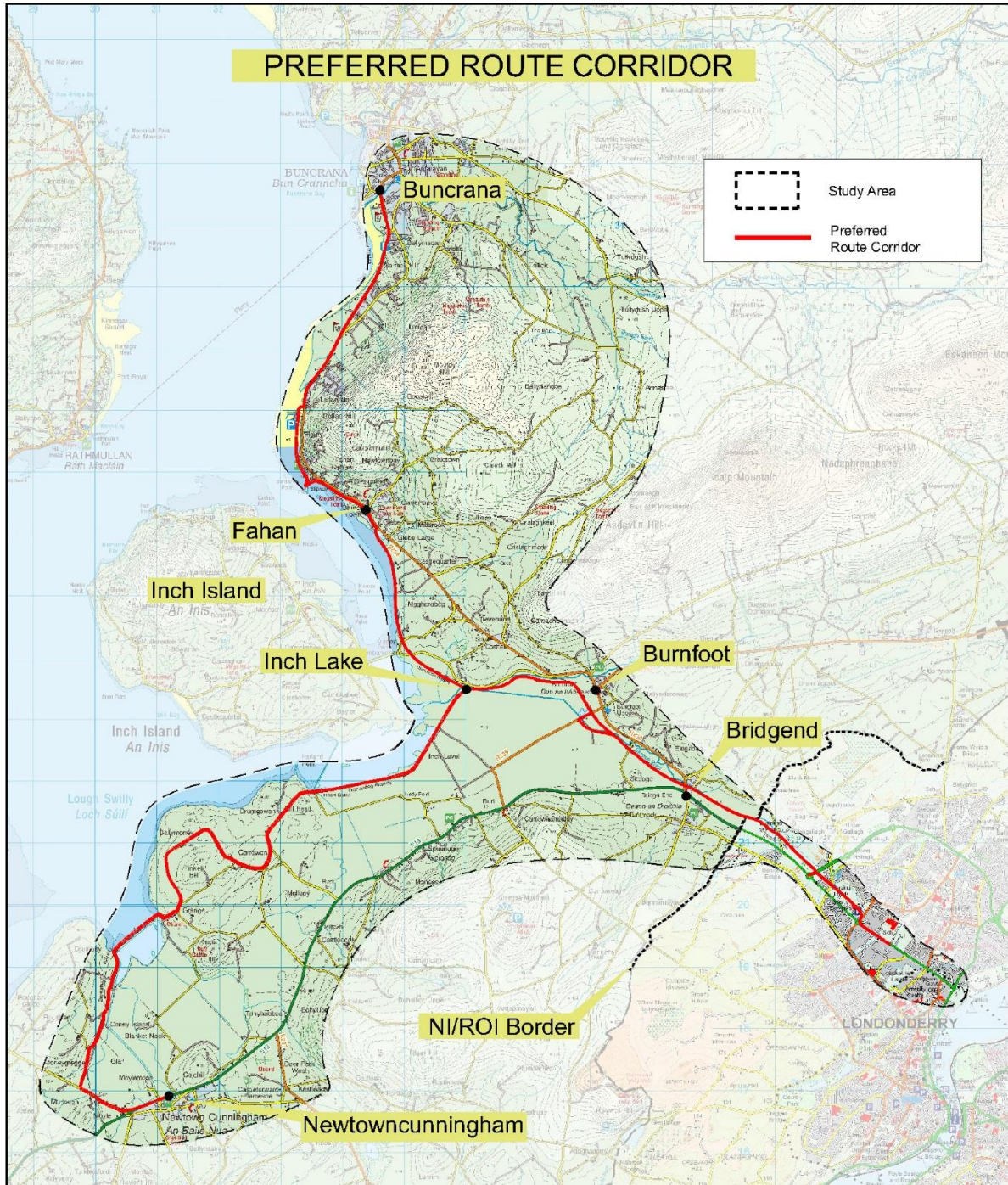


Figure 8.9.2 Expanded Purple (Preferred) Corridor at Section 3B



9 CONCLUSION, RECOMMENDATION AND NEXT STEPS

9.1 Conclusion and Recommendation

The Preferred Route is defined as the best combination of Route Corridor Options within the various sections of the Study Area that will deliver a greenway which best achieves the aims and objectives of the NWGN Scheme as outlined in Sections 2.0 and 3.3.

As identified in Section 8.9 above, the Preferred Route is defined as:

- Section 1 – Blue Corridor, from St Columb’s College, via Templemore Sports Complex and along the alignment of the old railway line to Bridgend;
- Section 2 – as noted, it is considered that either the Red or Blue Corridors are considered to provide suitable options for greenway corridors, and the final alignment will be determined during the detailed design process and taking into consideration ongoing consultations with Statutory Authorities and landowners;
- Section 3A – Blue Corridor, widening the existing Inch Wildfowl Reserve Walk and from Inch Embankment running along the alignment of the old railway line along the shoreline of Lough Swilly as far as the entrance to the Rectory Housing Development;
- Section 3B – Purple Corridor, from the Rectory to Fahan Marina, with the greenway facility located on the southwestern side of the R238 carriageway;
- Section 4 – From the junction with the access road to Fahan Marina, via the Blue Corridor past Fahan Marina and along the alignment of the old Railway Line to the access to Lisfannon Beach, where it joins the Purple Corridor and continues on to its endpoint at Buncrana.
- Section 5 – the Orange Corridor from Inch Lake to Newtowncunningham.

The development of the proposed greenway along this corridor, in conjunction with the delivery of the Route 2 and Route 3 sections of the overall NWGN scheme, would facilitate achieving the aims and objectives of the NWGN Scheme as outlined in Section 2.0.

Furthermore, the development of the proposed greenway along this corridor would deliver the Route 1 Specific aims and objectives as outlined in Section 3.3.

It is recommended that the Preferred Route Corridor as developed in accordance with the design standards and best practice guidance documents described in the appendices, and in line with the statutory requirements and approvals process of the relevant jurisdictions.

9.2 Next Steps

The next steps and key target dates for the delivery of NWGN Route 1, Derry to Buncrana and Newtowncunningham are:

- Ongoing throughout 2019: Meetings with affected Landowners (NI & ROI)
Consultations with Stakeholders

Detailed Design of Preferred Route Corridors

- Summer 2019: Submission of NI Planning Application
- Late 2019 Public Information Events
- 2nd / 3rd Quarter 2020: Publication of EIAR in line with Statutory Requirements
Submission of ROI Planning Application

APPENDIX A – LIST OF DESIGN GUIDELINES AND STANDARDS & GLOSSARY OF TERMS AND ABBREVIATIONS

Northern Ireland

Title	Details
Handbook for Cycle-Friendly Design	Sustrans, April 2014
Cycle Traffic and the Strategic Road Network, Interim Advice Note 195/16	Department for Infrastructure, Oct 2016
Provision for Non-Motorised Users, DMRB Vol5, Section 2, Part 5, TA 91/05	Design Manual for Roads and Bridges
Geometric Design Of Major/Minor Priority Junctions DMRB Vol6, Section 2, Part 6, TD 42/95	Design Manual for Roads and Bridges
Geometric design of Pedestrian, Cycle and Equestrian Routes DMRB Vol6, Section 3, Part 5, TA 90/05	Design Manual for Roads and Bridges
Traffic Signs Manual, latest editions of relevant chapters	Department for Infrastructure

Republic of Ireland

Title	Published By
National Cycle Manual	National Transport Authority, June 2011
Rural Road Link Design TII, DN-GEO-03031	Transport Infrastructure Ireland, June 2017
Cross Sections and Headroom TII, DN-GEO-03036	Transport Infrastructure Ireland, June 2017
Subways for Pedestrians and Pedal Cyclists TII, DN-GEO-03040	Transport Infrastructure Ireland, June 2017
Rural Cycleway Design (Offline) TII, DN-GEO-03047	Transport Infrastructure Ireland, April 2017
Geometric Design of Junctions TII, DN-GEO-03060	Transport Infrastructure Ireland, June 2017
Strategy for the Future Development of National and Regional Greenways	Department of Tourism, Transport and Sport
Greenways and Cycle Routes Ancillary Infrastructure Guidelines	Department of Tourism, Transport and Sport
ROI Traffic Signs Manual, latest editions of relevant chapters	Department for Transport, Tourism and Sport,

Other Documents

Title	Published By
Cycling By Design, Revision 1	Transport Scotland, June 2011
London Cycling Design Standards (LCDS)	Transport for London, June 2014

Glossary of Terms and Abbreviations

AA	APPROPRIATE ASSESSMENT
AONB	AREA OF OUTSTANDING NATURAL BEAUTY
BWI	BIRD WATCH IRELAND
COI	CHURCH OF IRELAND
CHVA	CULTURAL HERITAGE & VISITOR ATTRACTIONS
DCC	DONEGAL COUNTY COUNCIL
DCAN	DEVELOPMENT CONTROL ADVICE NOTE
DCSDC	DERRY CITY & STRABANE DISTRICT COUNCIL
DfI	DEPARTMENT FOR INFRASTRUCTURE
DMRB	DESIGN MANUAL FOR ROADS & BRIDGES
DTTAS	DEPARTMENT FOR TOURISM, TRANSPORT & SPORT
DRD	DEPARTMENT FOR REGIONAL DEVELOPMENT
ECF	EUROPEAN CYCLISTS FEDERATION
EIA	ENVIRONMENTAL IMPACT ASSESSMENT
EIAR	ENVIRONMENTAL IMPACT ASSESSMENT REPORT
EPA	ENVIRONMENTAL PROTECTION AGENCY
FI	FÁILTE IRELAND
IAN	INTERIM ADVICE NOTE
ICT	INTEGRATED CONSULTANTS TEAM
LCDS	LONDON CYCLING DESIGN STANDARDS
NI	NORTHERN IRELAND
NIS	NATURA IMPACT STATEMENT
NPWS	NATIONAL PARKS & WILDLIFE SERVICE
NWGN	NORTH WEST GREENWAY NETWORK
OD	ORDNANCE DATUM

OPW	OFFICE OF PUBLIC WORKS
PEA	PRELIMINARY ECOLOGICAL APPRAISAL
PSS	PLANNING POLICY STATEMENT
QI	QUALIFYING INTERESTS
ROI	REPUBLIC OF IRELAND
SAC	SPECIAL AREA OF CONSERVATION
SAR	SCHEME ASSESSMENT REPORT
SEUPB	SPECIAL EUROPEAN UNION PROGRAMMES BODY
SPA	SPECIAL PROTECTION AREA
TII	TRANSPORT INFRASTRUCTRE, IRELAND

APPENDIX B – DRAWINGS AND FIGURES

Figure	Drawing Title
3.2	Route Overview
4.1	Study Area
5.1	Topography
5.2	Rivers & Streams
5.3	Environmental Designations
5.4.1	Existing Land Use – NI
5.4.2	Existing Land Use – ROI
5.5	Proposed Developments
5.6	Local Amenities - Overview
5.6.1	Local Amenities – Section 1
5.6.2	Local Amenities – Section 2
5.6.3	Local Amenities – Section 3
5.6.4	Local Amenities – Section 4
5.6.5	Local Amenities – Section 5
5.7.1	Built Environment and Local Heritage – Section 1
5.7.2	Built Environment and Local Heritage – Section 2
5.7.3	Built Environment and Local Heritage – Section 3
5.7.4	Built Environment and Local Heritage – Section 4
5.7.5	Built Environment and Local Heritage – Section 5
5.8.2	Schools
6.1	Route Corridor Options – Overview
6.1.1	Route Corridor Options – Section 1
6.2.1	Route Corridor Options – Section 2
6.3.1	Route Corridor Options – Section 3
6.3.2	Section 3A Expanded Route Corridors (February 2019)
6.3.3	Section 3B Route Corridors
6.4.1	Route Corridor Options – Section 4 (Blue & Purple Corridors)
6.4.3	Route Corridor Options – Section 4 (including Red Corridor)
6.5.1	Route Corridor Options – Section 5
8.9.1	Preferred Route
8.9.2	Section 3B – Expanded Purple (Preferred) Route Corridor

APPENDIX C – SUMMARY OF PUBLIC CONSULTATION FEEDBACK

APPENDIX D – LANDSCAPE ASSESSMENT

APPENDIX E – PRELIMINARY ECOLOGICAL ASSESSMENT

APPENDIX F – SUMMARY OF ROUTE CORRIDOR SCORING ASSESSMENT

APPENDIX G – ASSESSMENT OF ADDITIONAL SECTION 3A CORRIDORS