

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



STAGE 1 CONSTRAINTS STUDY AND ROUTE OPTIONS REPORT



The North West Greenway Network project has been supported by the European Union's INTERREG VA Programme, managed by the Special EU Programmes Body (SEUPB)



Quality Control Sheet

Issue	Date	Prepared	Date	Checked	Date	Approved	Date
1 (Draft)	25.05.18	RM	May 18	KOS	May 18	RA	May 18
2 (Draft 2)	12.06.18	RM	June 18	KOS	June 18	SH	June 18
3 (Draft 3)	14.06.18	RM	June 18	KOS	June 18	SH	June 18
4 (Rev 0)	21.06.18	RM	June 18	KOS	June 18	SH	June 18

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0 EXECUTIVE SUMMARY

The Constraints Study and Route Options Report describes the Stage 1 of the Route Selection Process for the proposed Derry / Londonderry to Buncrana Route of North West Greenway Network (NWGN) Scheme.

It 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 1.

The report identifies a Study Area and describes the Constraints, Opportunities and Areas of Interest within the Study Area that will inform the selection of a number of “Route Corridor” Options.

Two Route Corridors from Derry / Londonderry to the border at Bridgend have been identified, three further Route Corridors from Bridgend to Inch Lake have been identified and a further three Route Corridors identified from Inch Lake to Buncrana. A separate sub-section contains two routes to Newtowncunningham, one from Bridgend and one from Inch Lake. Some of these routes contain sub-options for specific sections of their length. The report describes these Route Corridors and explains why they were selected.

A number of Assessment Criteria are defined, with an explanation of how each Route Corridor will be assessed against these criteria.

The Public Consultation Process (of which this report forms a part) that will be undertaken in advance of the Preferred Route Selection is outlined.

The Preferred Route Selection Process will be undertaken at Stage 2, and this report provides a sample Assessment Matrix showing how the Preferred Route will be selected.

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 North West Greenways Plan (2015) to develop a comprehensive interconnected regional Cross Border Greenway Network.

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 North West 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

NI Strategic Plan for Greenways- sets out a high level vision for NI to develop new Greenway routes and contribute to overall modal shift targets.

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.derrystabane.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

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 North West 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 North West 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 emerging: “Strategy for the Future Development of Greenways”

Developed following an extensive national consultations process this 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 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 lists a number of National and Regional Greenway projects which are identified as the initial priorities for development. This list includes the North West Greenway Network including Route 2 – Derry/Londonderry to Muff.

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

2.3.2 Local Policy Documents

(Draft) 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 will 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 the 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:

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- 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 North West 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.

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** 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 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, the Greenway may or may not be fenced along each side. If required, a consistent standard of fencing will be agreed with adjacent or affected landowners dependent on the location or adjacent land uses. 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 Greenway 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 to Bunrana – approx. 32.5km

Route 2 – Derry to Muff – approx. 10.5km

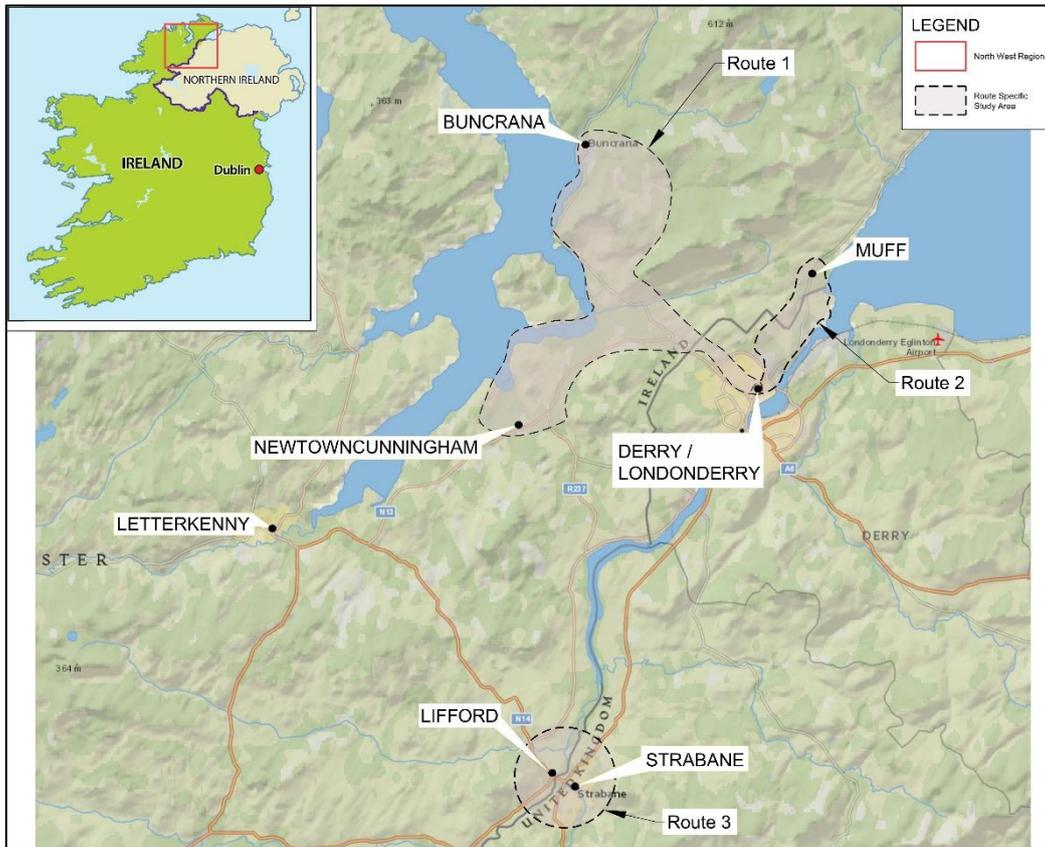
Route 3 – Strabane to Lifford – approx. 3.5km

Each route will be designed in accordance with relevant design standards, including (but not limited to) the 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) and Rural Cycleway Design (DN-GEO-03047) and will include associated feature lighting, hard and soft landscaping, furnishings, accommodation works and appropriate safety features.

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 Bunrana, 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 North West Greenways Action Plan which is envisaged to eventually extend beyond Bunrana to the north via Carndonagh and will also have links to the proposed cycle corridor to Letterkenny. The development of this Route should facilitate connection to these future provisions.

Figure 3.2 – North West 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 AND POTENTIAL ROUTE CORRIDORS

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 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), Inch Wildfowl Reserve, Lough Swilly Marina, North West Golf Club and Buncrana 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.

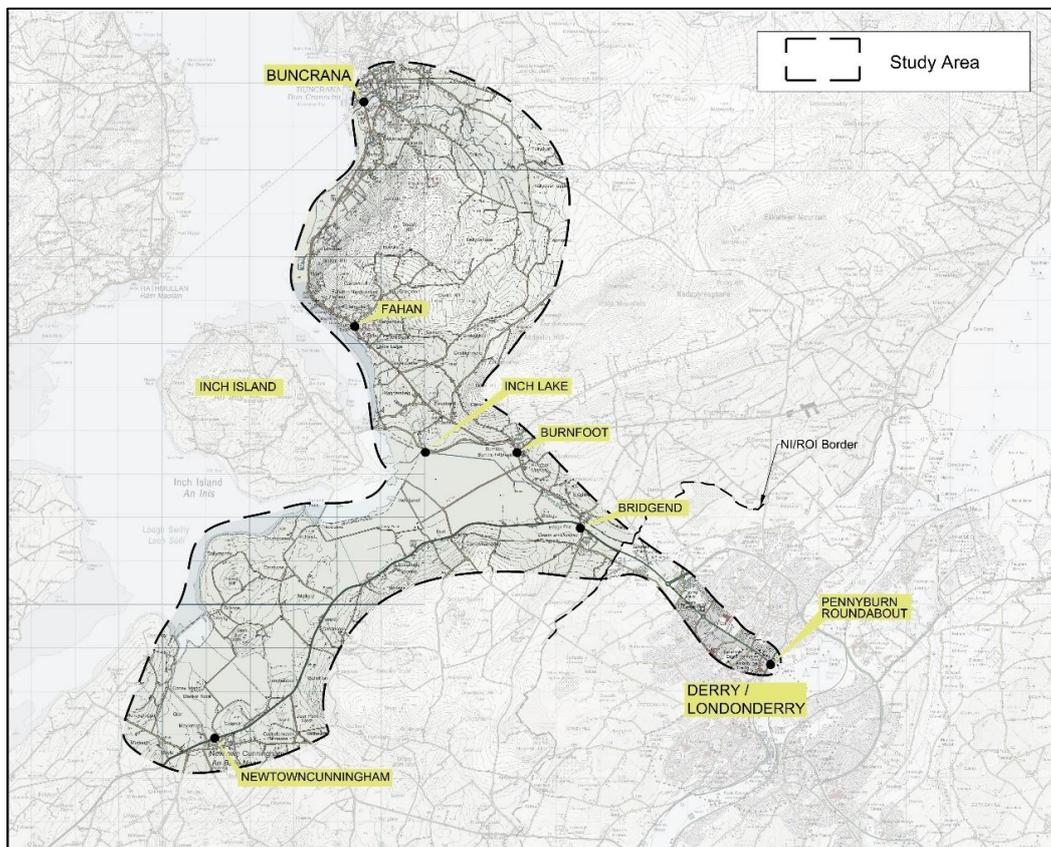
Within Sections 5 & 6 of this report, route corridors are considered under 5 individual sub-areas or sections. These are:

- Section 1: Routes from Derry / Londonderry to Bridgend
- Section 2: Routes from Bridgend to Inch Lake.
- Section 3: Routes from Inch Lake to Fahan / Buncrana
- Section 4: Routes from Fahan / Inch Lake to Buncrana
- Section 5: Routes from Bridgend / Inch Lake 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.

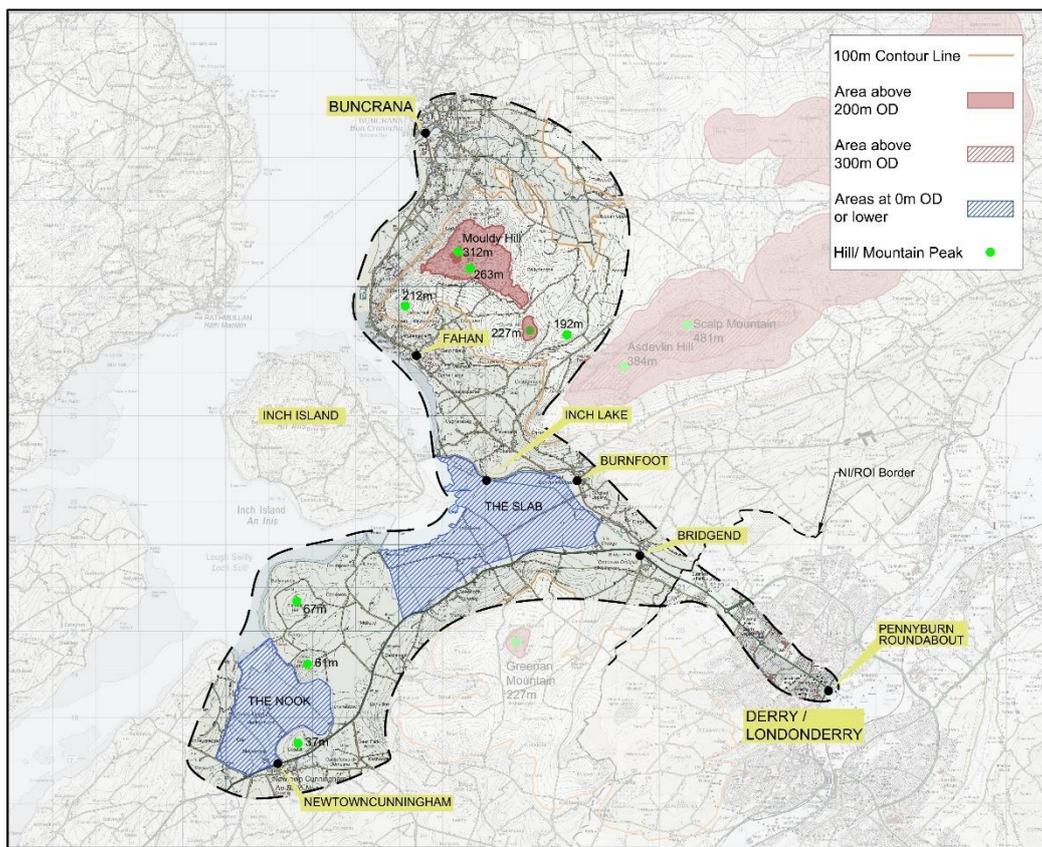
On the Swilly side corridors, levels rise from sea level at Lough Swilly, to levels varying between 5m OD (Buncrana) along the R238, 20m (at Figary) along the R238 and 10m (at Bridgend) along the N13.

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.

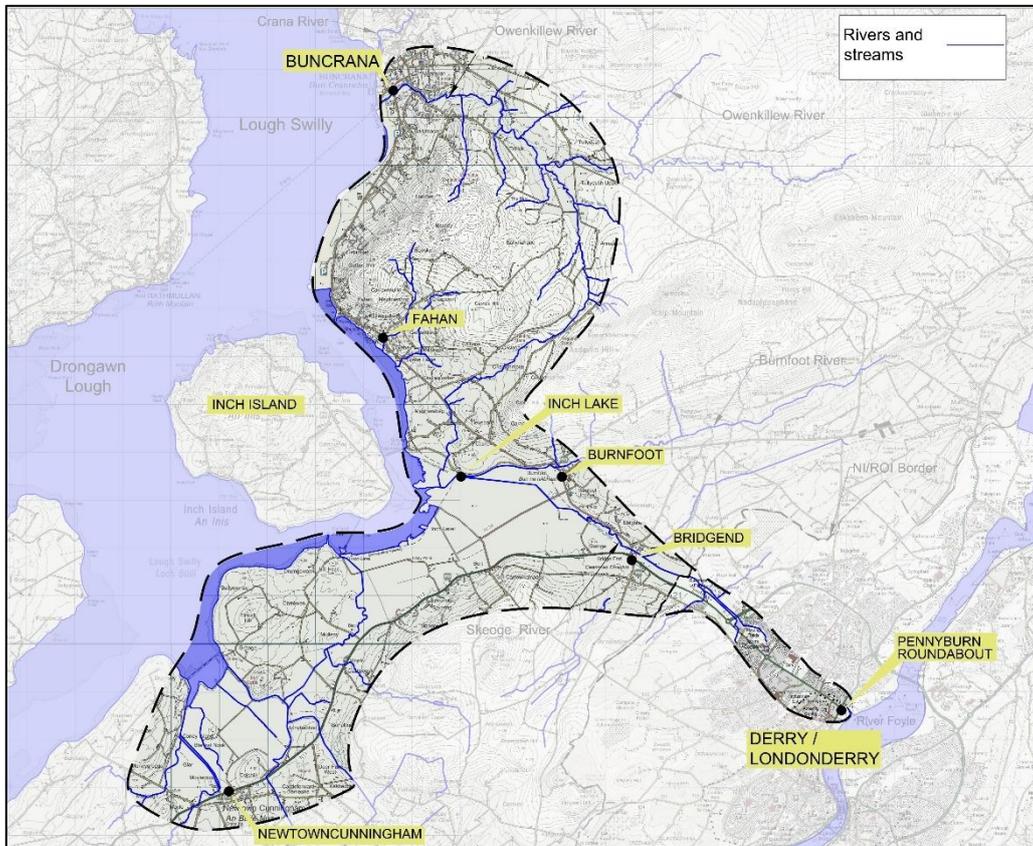
A number of river embankments and water channels within the study area in the areas of the Skeoge River, Burnfoot River and the Blanket Nook are maintained by the Office of Public Works (OPW) and will have requirements in terms of access and maintenance.

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 Lisfannen and Tra Ban. Lough Swilly adjacent to the Study area is part of the Lough Swilly Special Protection area and the Lough Swilly Special area of Conservation. 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) 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. While the SPA area is bounded by the shoreline, any development which has potential to impact on the species for which the SPA is designated area may need to be assessed in accordance with the Habitats Directive.

5.3.2 Designated & Protected Areas – Republic of Ireland

The Lough Swilly SPA bounds the Study Area along the Inch levels and along the western coastal boundary northwards to the upper extent of the SPA at Lisfannan 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 Meadows, 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.

Portions of route corridors between Burnfoot to Bunrana have the potential to run close to, or through, portions of both of these areas.

An area of the hill lands at Fahan / Lisfannon are designated Areas of Especially High Scenic Amenity under the County Donegal Development Plan 2012-2018.

5.3.3 Ecology, Flora and Fauna – Northern Ireland

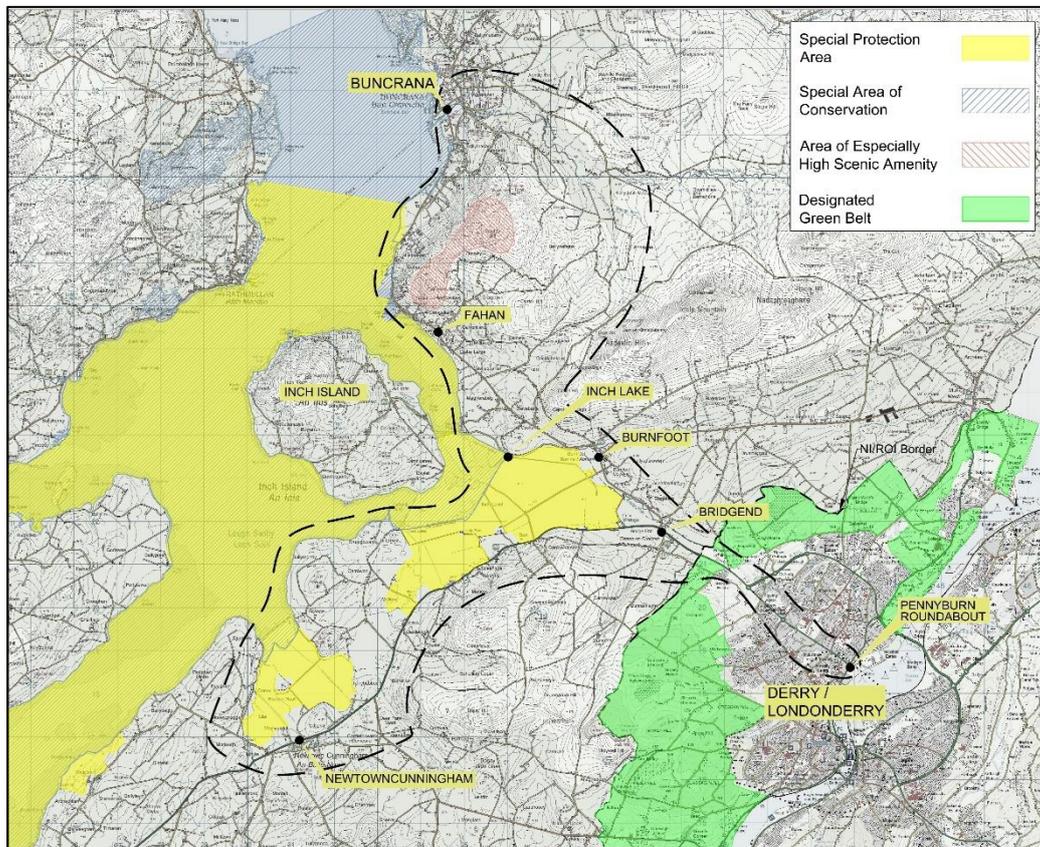
Aside from the Lough Foyle SPA, there are few notable areas of ecological interest within the Study Area, with carriageways generally free from trees and foliage beyond grasses and light brush. The potential exists for the presence of invasive species, e.g. Japanese Knotweed and Salmonberry. Detailed surveys to establish the extent of invasive species will be progressed as the preferred route corridor emerges.

Carriageways and roads are bounded by hedgerows consisting of native species such as hawthorn, ash, sycamore and beech.

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 consisting of native 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.

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.

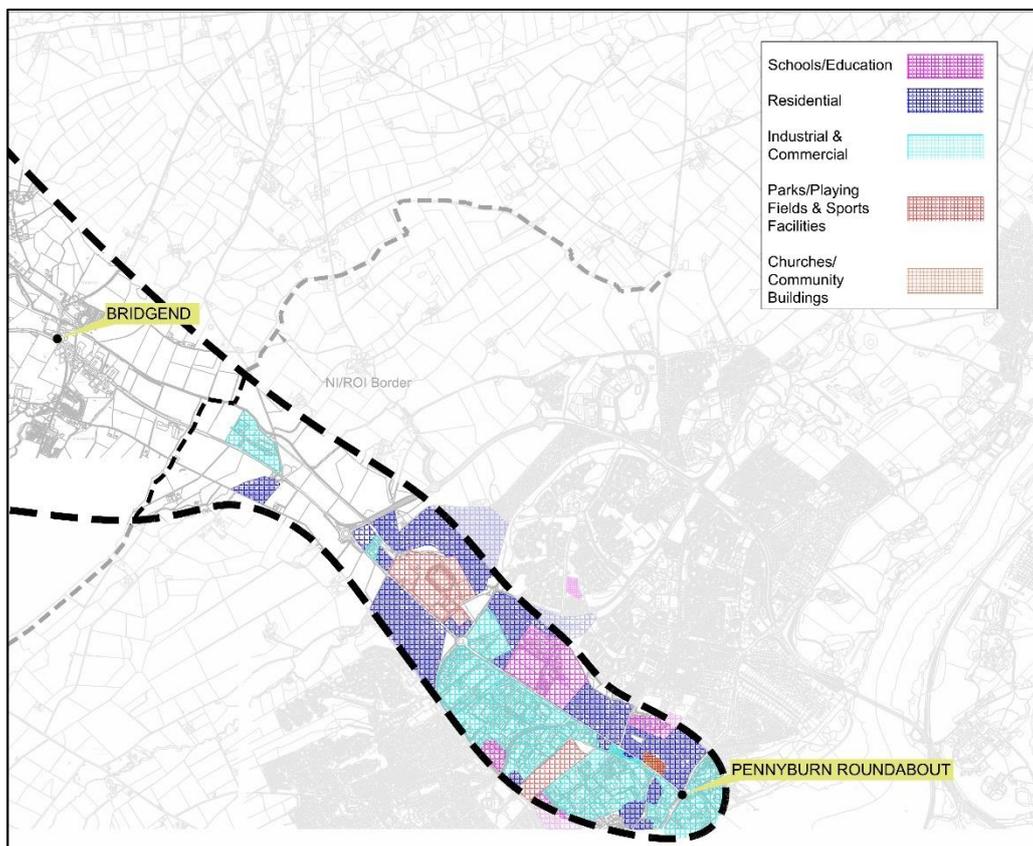
5.4 Existing Land Use and Zoning

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. 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

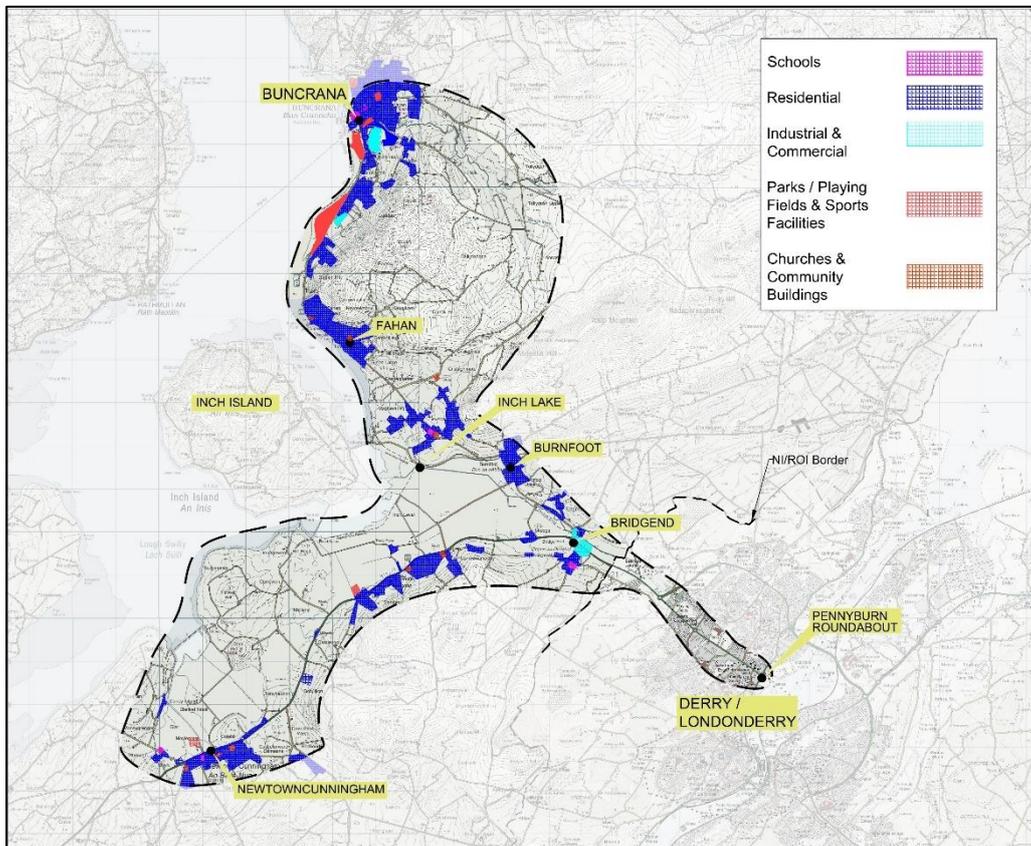
Outside of the urban area of Buncrana and the smaller communities of Bridgend, Burnfoot, Tooban, Fahan, Burt and Newtowncunningham land use is mainly agricultural, with only limited retail or industrial properties along the route corridors. The exception to this is the industrial estate at Lisfannon.

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

Permission has been granted 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.)

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

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

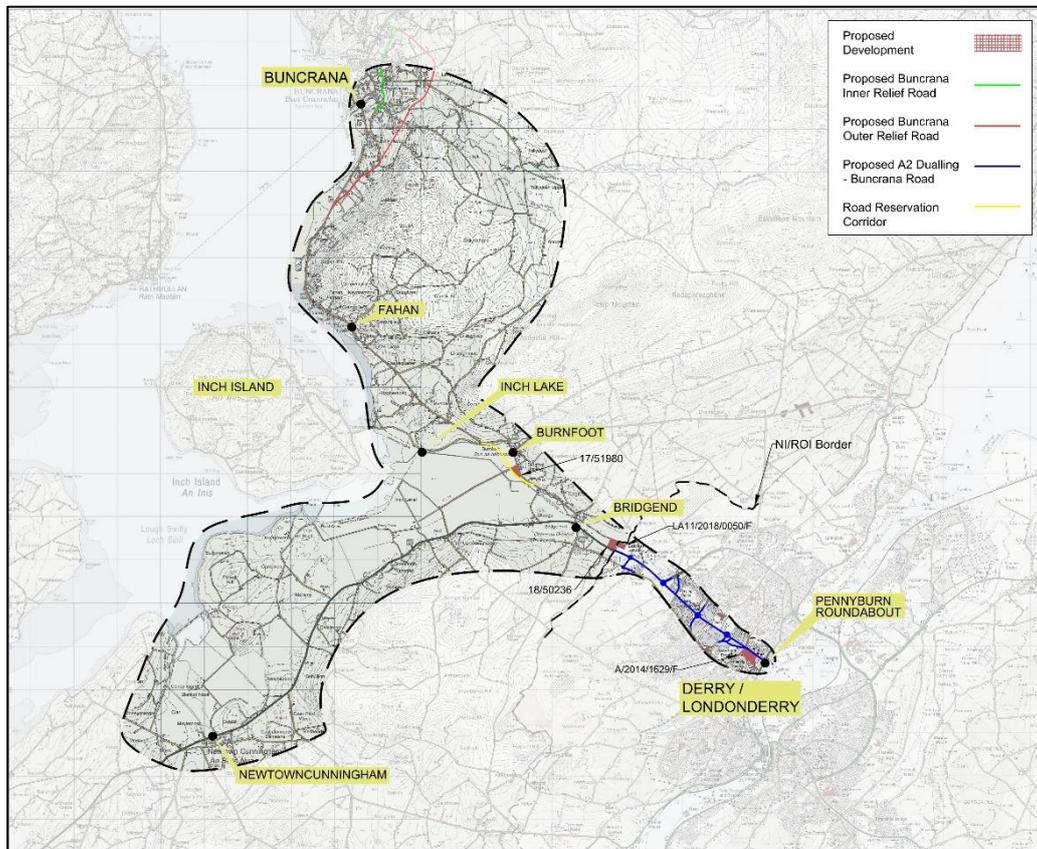
5.5.2 Proposed Developments - Republic of Ireland.

Lands to each side of the N13 between Burnfoot Village and the border have been zoned as ‘Special Economic Development Opportunity’ in the Donegal County Council Seven Strategic Towns Local Area Plan 2018-2024.

Within this land parcel, a planning 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 granted.

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

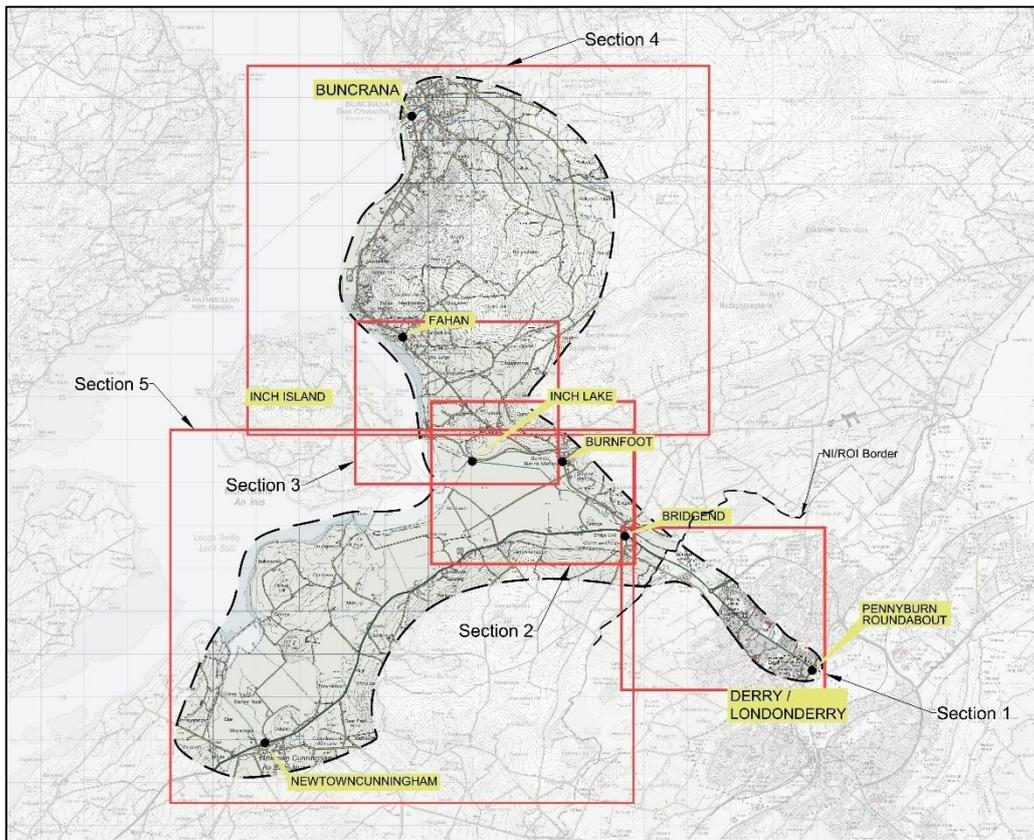
Figure 5.5 - Proposed Developments



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 attractions 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 main community attraction in the Rep. of Ireland of this section is the commercial hub 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.

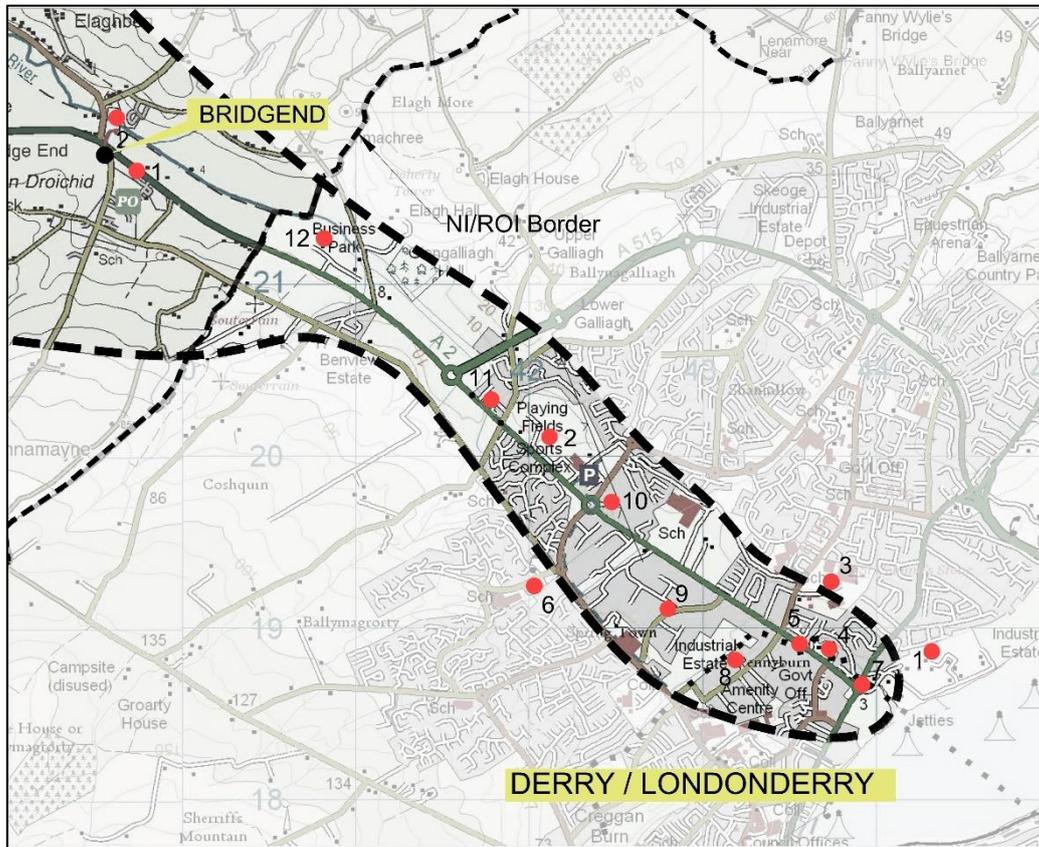
There are no public parks or facilities in this section

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 community attraction in section 3 is the commercial hub at Burnfoot which includes a community centre, a variety of shops, cafes, 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 5.6.2 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)

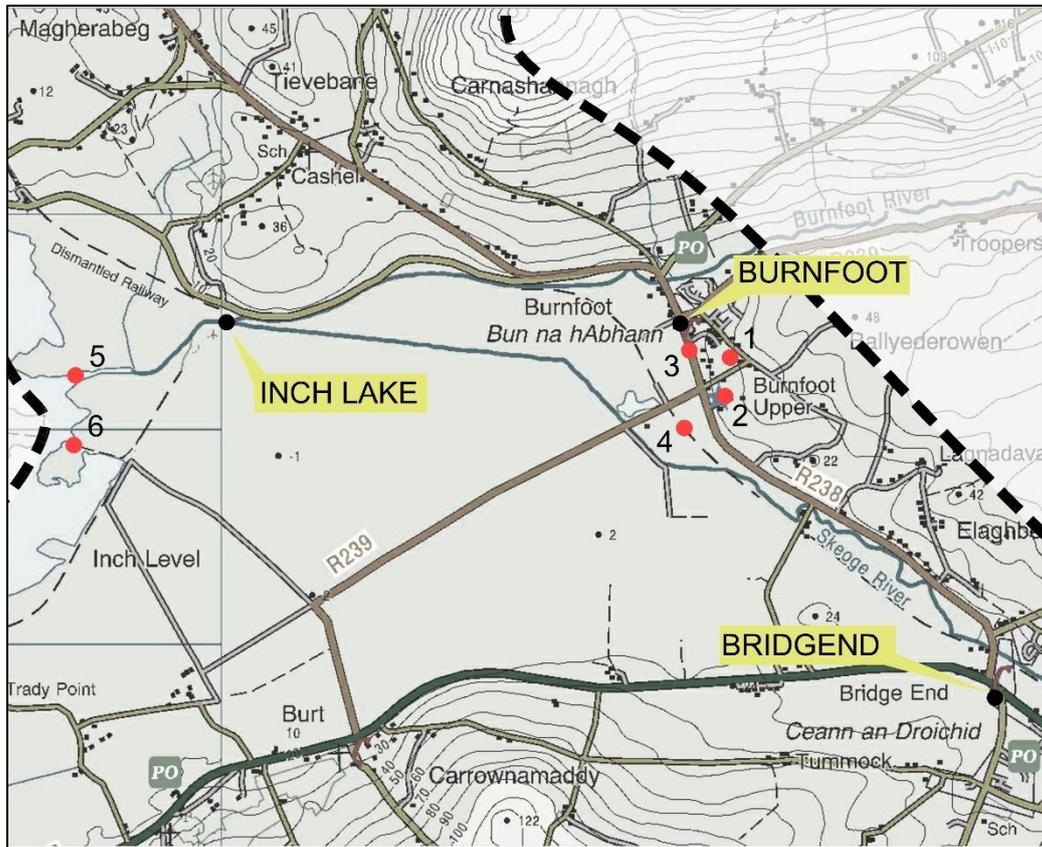


Table 5.6.2 - Amenities and Attractions – Section 2 (Bridgend to Inch Lake)

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 (large employer)
5	Environmental	Lough Swilly Special Protection area
6		Lough Swilly Special Area of Conservation

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

The main community attraction in section 3 is 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 walkway along the course of the existing historic rail way alignment.

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

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

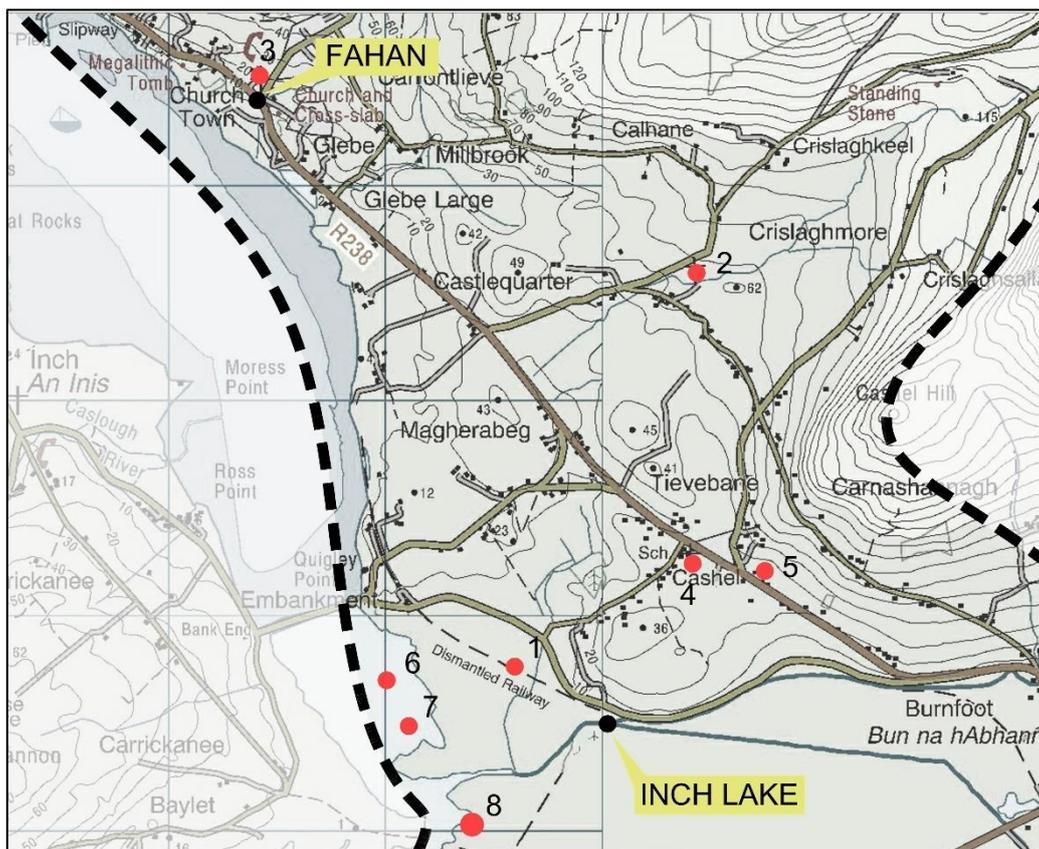


Table 5.6.3 - Amenities and Attractions – Section 3 (Inch Lake to Fahan)

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	Environmental	Lough Swilly Special Protection area
7		Lough Swilly Special Area of Conservation
8		Inch Wildfowl reserve walk

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

The main congregation of amenities in this section is the urban centre of Bunrana 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 below 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.

There were no community buildings, Churches or commercial hubs identified in the eastern section of the area shown in Figure 5.6.4. However, the part of the Study Area provides travel views of areas of forestry and peat uplands and geographic features such as Scalp Mountain. Route Corridors through this area are described in Section 6.3.3 and referred to as the 'Tullydish Option'.

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

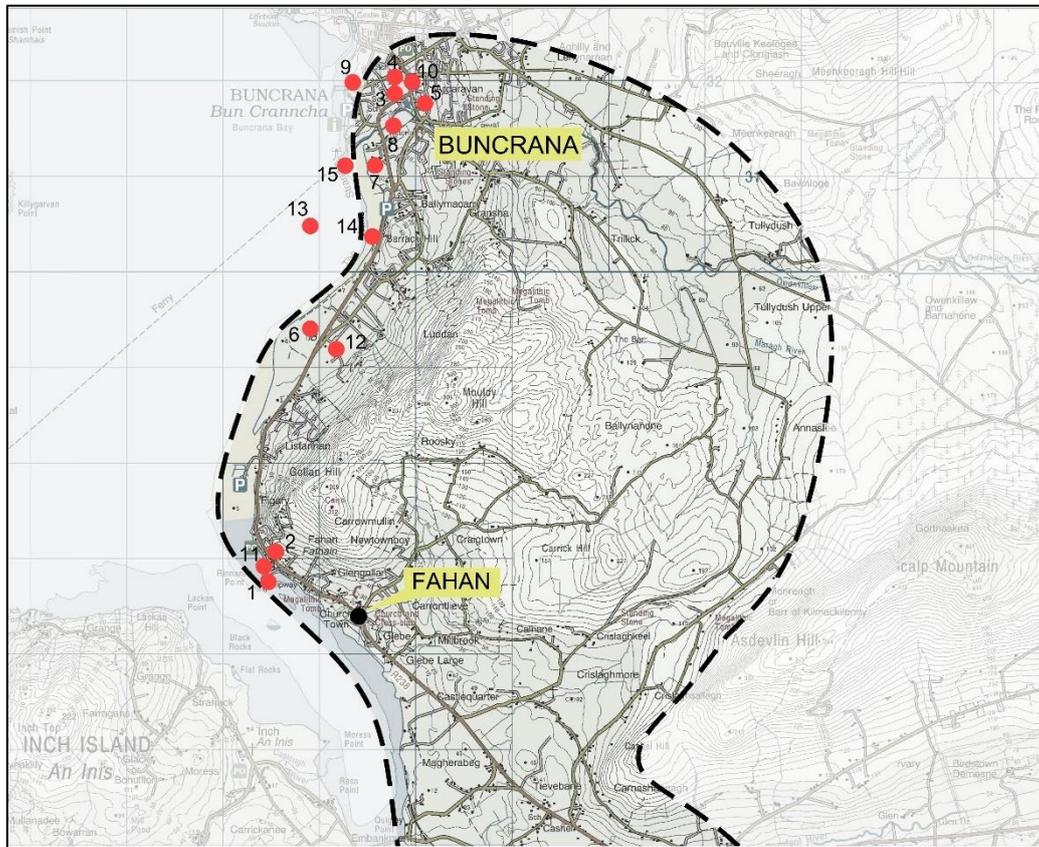


Table 5.6.4 - Amenities and Attractions – Section 4 (Fahan to Buncrana)

Reference	Description	Amenity / Attraction
1	Community Buildings & Churches	Swilly Yacht Club and Marina
2		Chapel of the Immaculate Conception
3		St. Mary's Oratory
4		Fahan Lower Christ Church
5		Garda Station
6		North West Golf Club
7		Buncrana Golf Club
		Buncrana GAA Club
		Buncrana Youth Club
8	Commercial Hub	Buncrana town Centre
9		Fahan dining establishments
10		Lisfannan Business park
11	Environmental	Lough Swilly Special Area of Conservation
12		Lisfannan Beach
13		Tra Ban Beach

5.6.5 Local Amenities and Attractions – Section 5 (Bridgend / Inch Lake to Newtowncunningham)

The main community attraction in Section 5 is the commercial hub of 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 walkway along the course of the existing historic rail way alignment as well as the historically significant Grianán of Aileach

Figure 5.6.5 shows the locations of key Amenities and Attractions across Section 5 of the Study Area and a list of these is included in Table 5.6.5.

Figure 5.6.5 – Amenities and Attractions – Section 5 (Bridgend to Newtowncunningham)

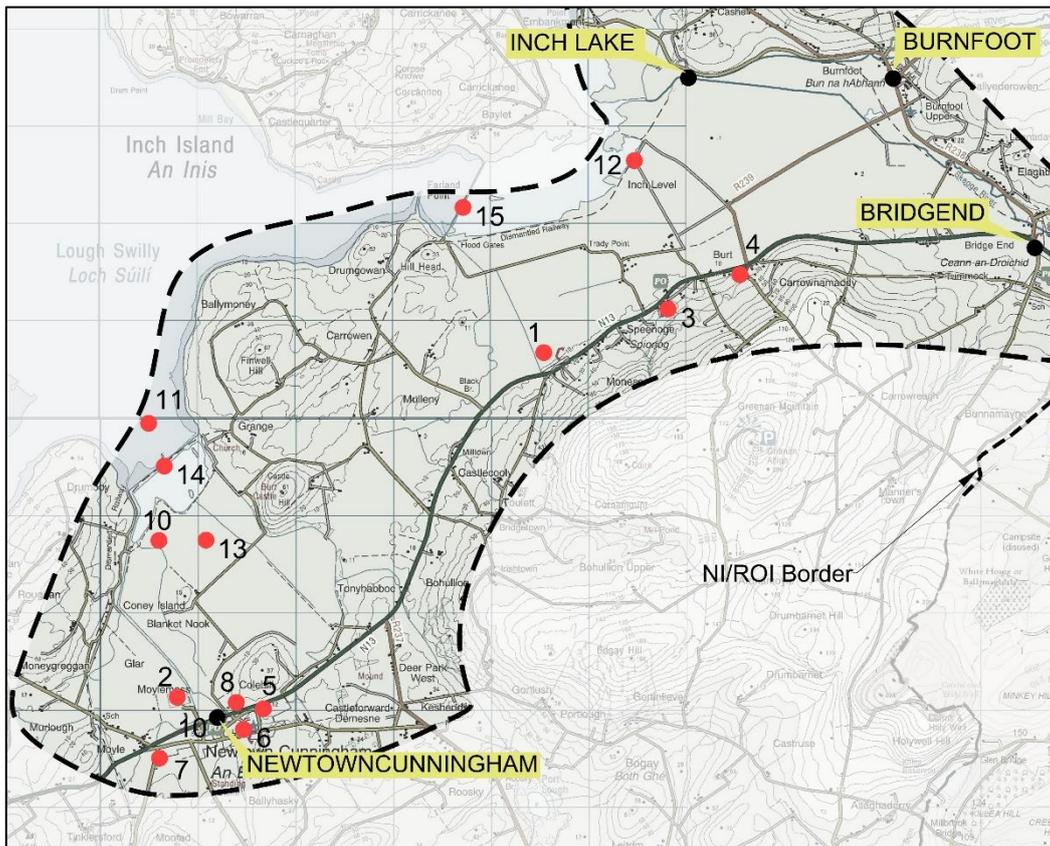


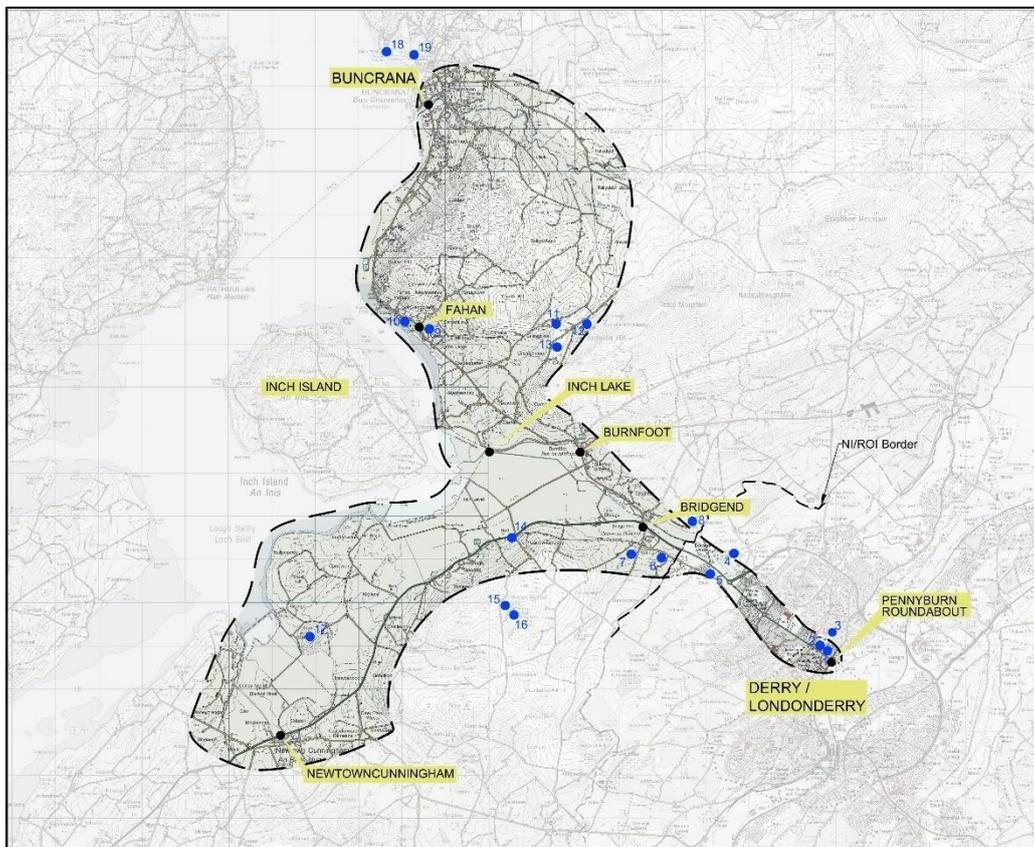
Table 5.6.5 - Amenities and Attractions – Section 3 (Bridgend to Newtowncunningham)

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	Environmental	Lough Swilly Special Protection area
11		Lough Swilly Special Area of Conservation
12		Inch Wildfowl reserve walk
13		Blanket Nook Wildfowl breeding grounds
14		Grange Embankment Causeway
15		Farland Embankment Causeway

5.7 Built Environment and Local Heritage

There are several historic buildings and scheduled sites and monuments within the Study Area. The historic record for that part of the Study Area located in the Rep. of Ireland notes a considerable number of historic houses. It is likely that most of these are in private ownership and are not listed individually. As other historic sites may 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. Certain sites and monuments are shown on Figure 5.7 below.

Figure 5.7 – Built Heritage



The following table provides a summary of the key sites and monuments within the Study Area (not exhaustive).

Table 5.7.1 – Built Heritage

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
6	Remains of ring fort	Scheduled	Off N13 at Bunnamayne
7	Standing stone	Scheduled	Off N13 at Bunnamayne
9	Remains of ring fort	Scheduled	Off N13 at Dundrean
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 Crishlaghmore
14	Standing stone	Scheduled	In the townland of Crishlaghmore
15	St. Aengus Church	Listed	N13 at Burt
16	Standing stones	Scheduled	Speenoge / Grianán of Aileach area
17	Grianán of Aileach	National Monument	Grianán of Aileach
18	Burt Castle	Scheduled	Castle hill, Burt

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 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

The Stage 2 Route Selection Report will consider travel patterns in more details and will include available information on population counts and commuter and traffic movements.

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

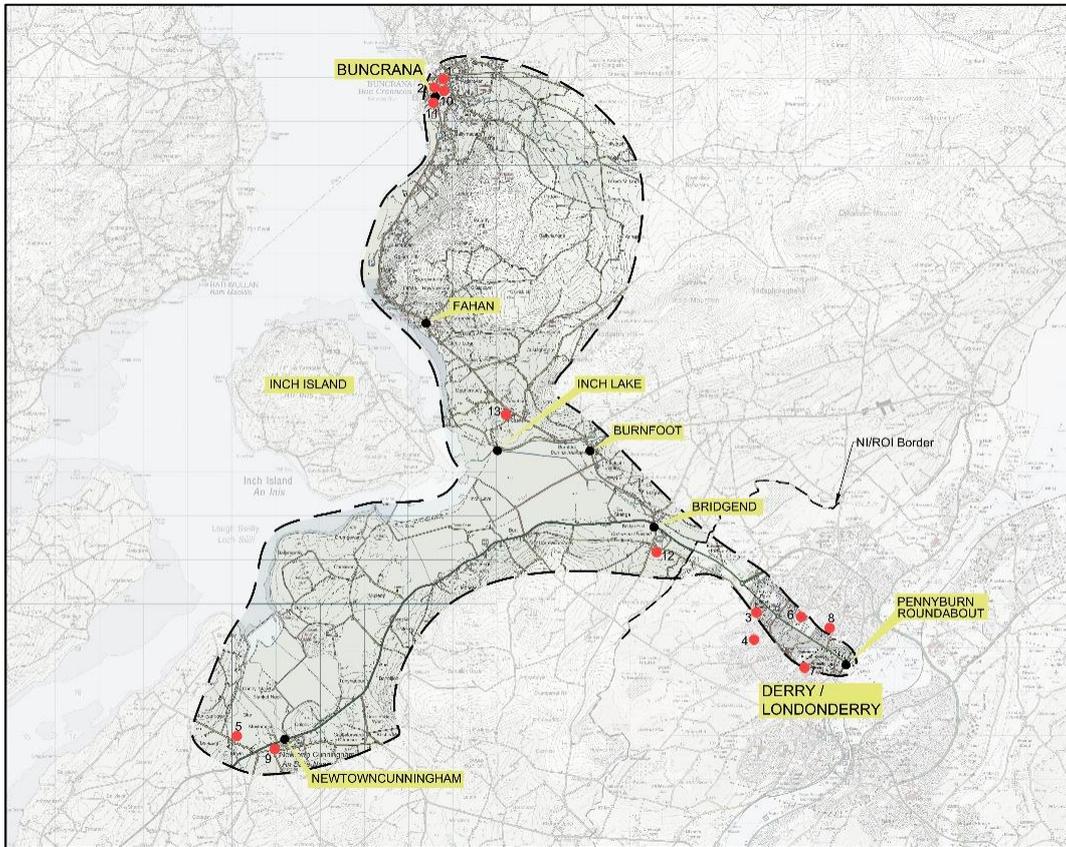


Table 5.8.2.1 – Primary Schools

	Name and Location	Description	Student Numbers
1	Buncrana National School	A Primary School catering for Boys and Girls, located on St. Mary's Road, Buncrana	34
3	Groarty Primary School	A Primary School catering for Boys and Girls, located on Coshquin Road, Derry	37
4	Holy Family Primary School	A primary School catering for Boys and Girls, located on Aileach Road, Derry	253
5	Moyle National School	A Primary School catering for Boys and Girls, located in Newtowncunningham	83
8	St. Patrick's Primary School	A Primary School catering for Boys and Girls, located on Racecourse Road, Derry	867
9	Scoil Cholmcille	A Primary School catering for Boys and Girls, located on Bankin Lane, Newtowncunningham	232
10	Scoil Iosagáin	A Primary School catering for Boys and Girls, located on St. Mary's Road, Buncrana	734
12	Scoil Naomh Aonghusa	A Primary School catering for Boys and Girls, located on Carrick Bridge Road in Bridgend	209
13	Scoil Naomh Mura	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	Description	Student Numbers
2	Crana College	A Post-Primary School catering for Boys and Girls, located on Crana Road, Buncrana	539
6	St. Columbs College	A Post-Primary Grammar school catering for Boys, located on the A2, Derry	1540
7	St. Mary's College	A Post-Primary secondary school catering for Girls, located on the Northland Road, Derry	911
11	Scoil Mhuire	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

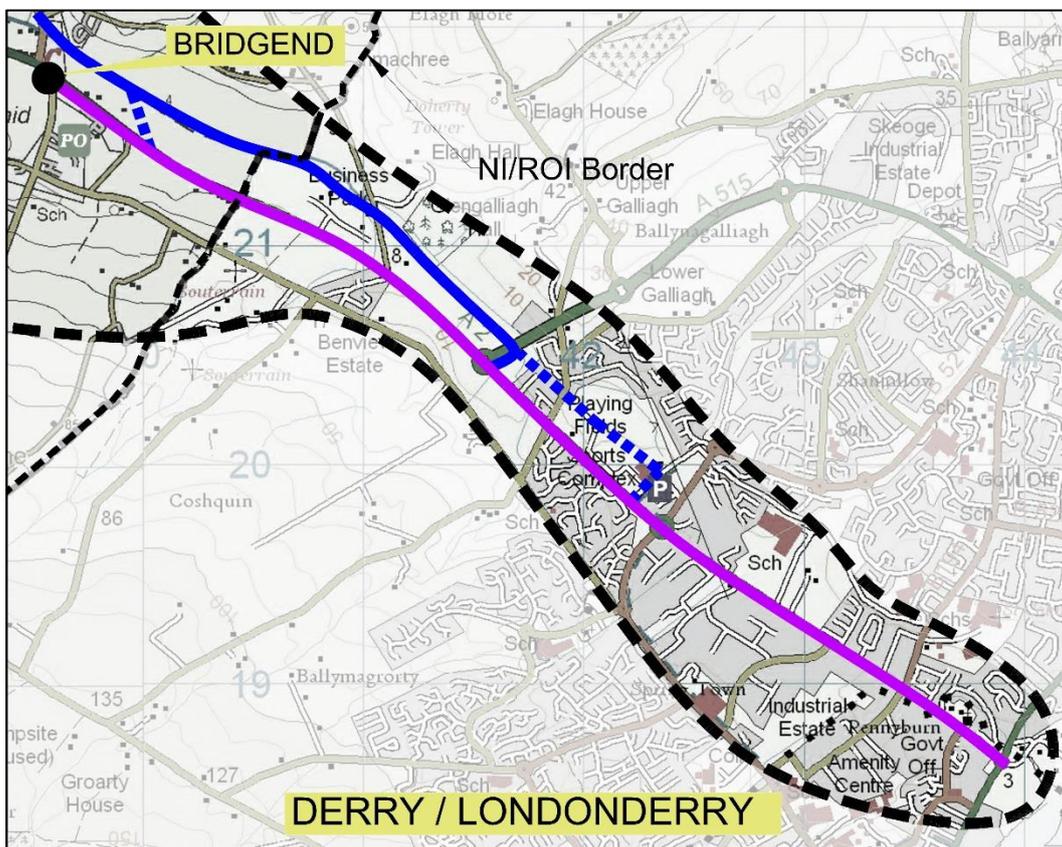
Route Corridor options have been identified based on the aims and objectives noted in Sections 2.3 and 2.4, and on the Constraints, Opportunities and Areas of Interest identified in Section 5.

The proposed Greenway route will incorporate the preferred route identified across each section.

Figure 6.1 to 6.12 in the following sections show the Route Corridor options. The corridors identified are approximately 10m wide, allowing flexibility in the detailed route alignment and design of the Greenway.

6.1 Section 1 – Derry / Londonderry to Bridgend

Figure 6.1 – Section 1 Route Corridors



6.1.1 Purple Corridor:

This option starts at the Pennyburn roundabout. The corridor runs along the length of the existing A2 route, passing through the Branch and Skeoge roundabouts to the Border between Elagh Business Park and Bridgend.

This route then continues along the N13 route to Bridgend. This option may also incorporate a short corridor along lands at St. Columns College.

Where this corridor runs along the alignment of the A2 between Pennyburn Roundabout and St. Columbs College, this route will be developed as part of the A2 Buncrana road scheme.

Picture 6.1.1.1 – A2 at St. Columbs College



6.1.2 Blue Corridor:

The Blue corridor shares the Purple Corridor route from the Pennyburn roundabout to the Elagh Business Park. At Elagh Business Park, the route would turn north to intersect with, and then follow the alignment of the Skeoge River and the historic route of the Derry / Londonderry to Buncrana rail route to the intersection of the N13 & R238 at Bridgend.

3rd party lands will be required along this route. Final alignments would require coordination to ensure the corridor does not sever existing land ownership boundaries. This corridor allows the Greenway to develop along a section of waterway and to reflect the historic rail network.

A number of options exist for the transit to the rear of Bridgend that would be examined in detail during later design stages, but which include linking an existing housing development along the Skeoge river, continuing along the route of the Skeoge river to the rear of the Business park and transiting through unused lands at the existing N13 / R238 roundabout.

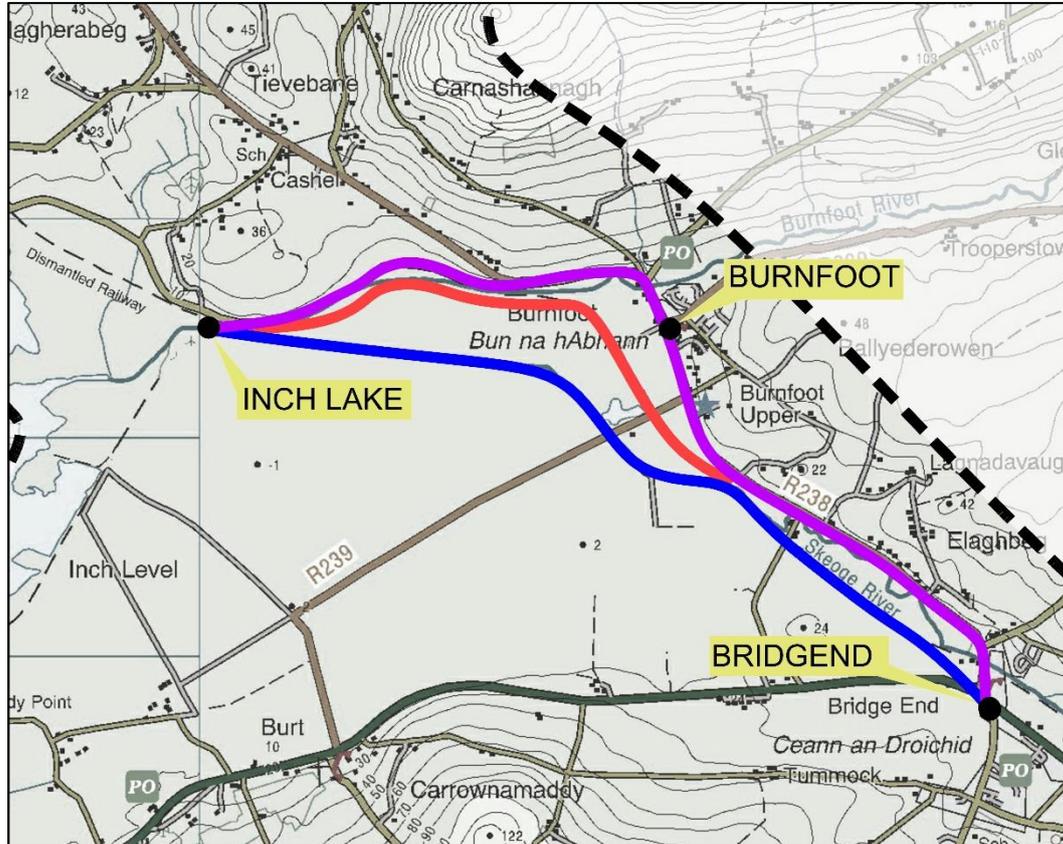
The total length of this option, including the section shared with the Purple Corridor, is approximately 5.6km.

Picture 6.1.2.1 – N13 / R238 Roundabout



6.2 Section 2 - Bridgend to Inch Lake:

Figure 6.2 – Section 2 Route Corridors



6.2.1 Blue Corridor

This corridor starts at the intersection of the N13 and R238, and continues west generally following the alignment of the historic route of the Derry / Londonderry to Buncrana rail route to a point approximately mid-way between the Skeoge road and the R239.

Here the where the corridor departs from the alignment of the rail track and follows the Skeoge river embankment west to the footbridge crossing the intersection of the Skeoge and Burnfoot rivers as part of the Inch Wildfowl Reserve trail at Inch Lake.

3rd party lands will be required along this corridor. Final alignments would require coordination to ensure the corridor does not sever existing land ownership boundaries.

This corridor would transit close to, or through, areas of the Lough Swilly Special Protection Area and would require sensitive design and management.

Other than crossings of public highways at the R238, R239 and the Skeoge Road this corridor would be fully off road and significantly separate from road traffic.

This corridor allows the Greenway to develop along a section of waterway and to reflect part of the historic rail network.

The total length of this option is approximately 4km.

Picture 6.2.1.1 – Skeoge River Embankment at R239



6.2.2 Red Corridor:

This corridor starts at the intersection of the N13 and R238 and shares a route with the Section 2 – blue corridor to a point approximately mid-way between the Skeoge road and the R239.

From this point, this corridor continues to follow the historic alignment of the rail track to the rear of the village of Burnfoot, joining and following the Burnfoot river / rail embankment west to the footbridge crossing the intersection of the Burnfoot and Skeoge rivers as part of the Inch Wildfowl Reserve trail at Inch Lake.

A crossing structure would be required at this point to join this corridor to the existing pathway. 3rd party lands will be required along this corridor. Final alignments would require coordination to ensure the corridor does not sever existing land ownership boundaries.

This corridor would transit close to, or through, areas of the Lough Swilly Special Protection Area and would require sensitive design and management.

Other than crossings of public highways at the R238, R239 and the Skeoge Road this corridor would be fully off road and significantly separate from road traffic.

This corridor allows the Greenway to develop along a section of waterway and to reflect the historic rail network.

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

Picture 6.2.2.1 – Historic railway route at R239



6.2.3 Purple Corridor

This corridor starts at the intersection of the N13 and R238 and follows the route of the R238 to a point approximately 150m to the west of the village of Burnfoot, where the corridor turns left onto the L1841, running parallel to the Burnfoot River.

The corridor follows the route of this road for approximately 1.7km where it turns left to meet the intersection of the Burnfoot and Skeoge rivers.

This corridor would transit close to, or through, areas of the Lough Swilly Special Protection Area and would require sensitive design and management.

Some 3rd party lands may be required along this route; however, these will be minimised as far as is practical and will be predominantly along, or adjacent to, the R238 or L1841 carriageway boundaries.

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

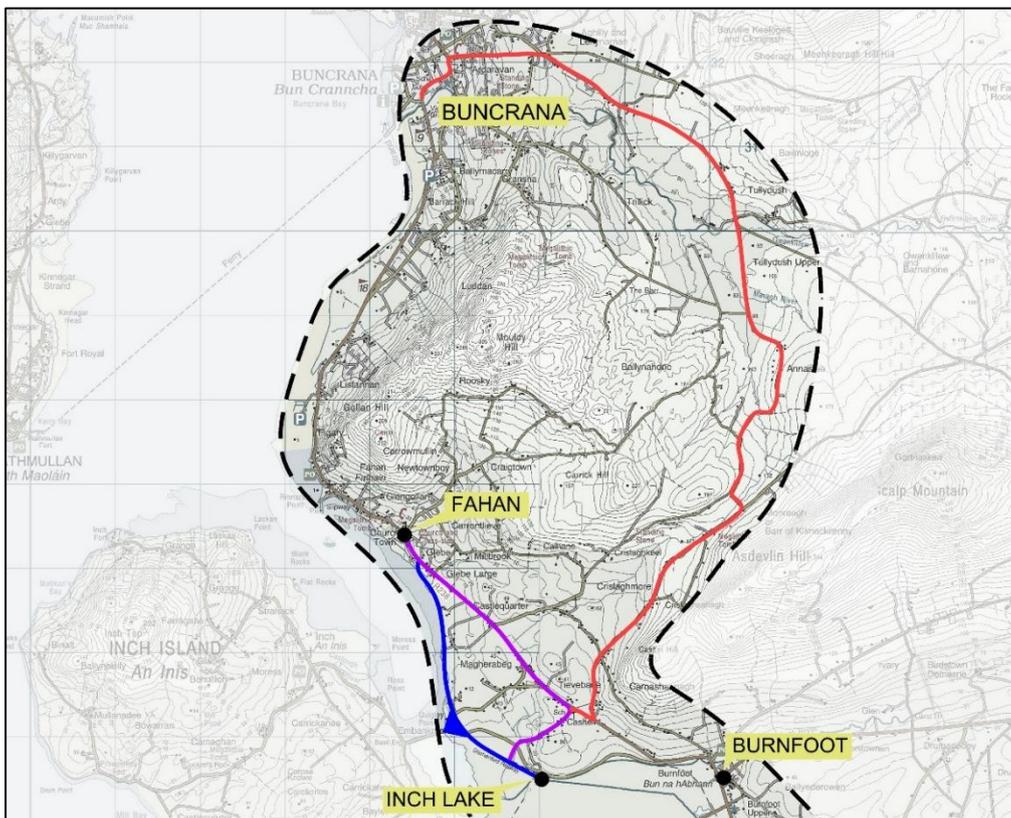
The total length of this option is approximately 4.7km.

Picture 6.2.3.1 – R238 entering Burnfoot



6.3 Section 3 – Inch Lake to Fahan / Buncrana

Figure 6.3 – Section 3 Route Corridors



6.3.1 Blue Corridor

This corridor starts at the intersection of the Skeoge and Burnfoot rivers at Inch Lake and follows the route of the Inch Wildfowl Reserve walkway, along the historic alignment of the rail track to the Inch Embankment where it rejoins the L1851 and turns north briefly for approximately 500m before turning west to rejoin the historic alignment of the rail track.

The corridor continues to follow the general alignment of the rail track to a point where it rejoins the R238 at a point approximately 370m from St. Mura's Church (C.o.I.), where the corridor turns west and continues through the village of Fahan.

3rd party lands will be required along this corridor. Final alignments would require coordination to ensure the corridor does not sever existing land ownership boundaries.

This corridor would transit close to, or through, areas of the Lough Swilly Special Protection Area and would require sensitive design and management.

The greater part of this corridor would be fully off road and significantly separate from traffic, the exception being the transit between the end of the Inch Wildfowl Reserve walkway at Inch Embankment on the L1851 and the section of the R238 into Fahan Village.

This greater part of the corridor allows the Greenway to be developed close to the shore of Lough Swilly and to reflect the historic rail network.

The total length of this option is approximately 4km.

Picture 6.3.1.1 – Inch Causeway / Wildfowl Walkway Junction



6.3.2 Purple Corridor

This corridor shares a route with the Section 3 – blue corridor along the historic alignment of the rail track for approximately 400m where it turns north to follow a water course and then joins the L1841 before continuing north for approximately 850m and transiting through the area known as “Rockstown” to join the R238 at the intersection at Fahan Presbyterian Church.

At this point, the corridor turns west and continues along the R238 to the village of Fahan.

Some 3rd party lands may be required along this route; however, these will be minimised as far as is practical and will be predominantly along, or adjacent to, the R238 or local access road carriageway boundaries.

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

The total length of this option, including that portion shared with the Section 3 – blue corridor, is approximately 4.4km.

Picture 6.3.2.1 – R238 Junction at Fahan Presbyterian Church



6.3.3 Red Corridor (Tullydish Option)

This corridor offers an alternative route from Inch Lake to Buncrana by omitting the transit via Fahan and Lisfannon (i.e. Section 4 Route Corridor Options).

The corridor turns east along the R238 for approximately 300m where it 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 following this road for a further approximately 4km to the bridge at Tullydish.

This corridor continues from Tullydish River along the L1781 for a further approximately 4.8km to Buncrana.

Some 3rd party lands may be required along this corridor; however, these will be minimised as far as is practical and will be predominantly along existing rural roads.

This corridor would involve significant elevational changes, both over the full length of the corridor in general, and in localised sections.

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

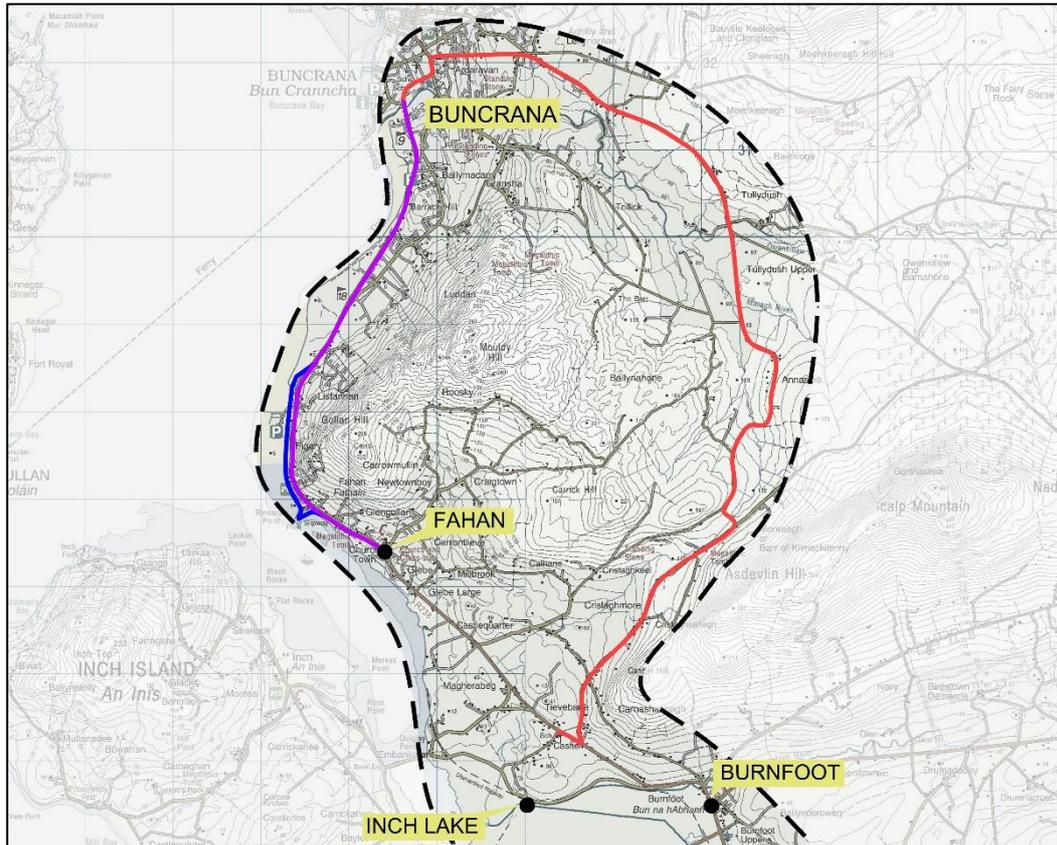
The total length of this option, including that portion shared with the Section 3 – Purple Corridor, is approximately 14.4km

Picture 6.3.3.1 – Typical Road type between Tooban and Tullydish



6.4 Section 4 – Fahan / Inch Lake to Buncrana

Figure 6.4 – Section 4 Route Corridors



Note – The Red Corridor show on Figure 6.4 is previously described in Section 6.6.3 of the report, i.e. the ‘Tullydish Option’. It describes an option that could be considered should the Inch Lake to Fahan and Fahan to Buncrana corridors not be progressed and is included on Fig 6.4 to give a complete representation of the corridor options to Buncrana.

6.4.1 Purple Corridor

This corridor starts at Fahan village and continues to follow the route of the R238 through the area of Lisfannan to Buncrana where Route 2 terminates.

Some 3rd party lands may be required along this corridor; however, these will be minimised as far as is practical and will be predominantly along, or adjacent to, the R238 carriageway boundaries.

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

The total length of this option is approximately 6km.

Picture 6.4.1.1 – R238 at Lisfannon



6.4.2 Blue Corridor - Shoreside Option

While the majority of the Purple Corridor follows the carriageway of the R238, an option exists to divert a portion of this corridor away from the carriageway and closer to the Lough Swilly Shore.

In this option, the corridor would follow the R238 to the access road to the Fahan Pier / Rinnaraw Point area, where it would join the historic alignment of the Derry to Bunrana rail road west and north in parallel with, but at a much lower level to, the R238. A number of options exist for the transit between the access road and the rail alignment which would be examined in detail during later design stages, but which include forming an embankment to the rear of the existing church, following the existing road to the “Railway Tavern” or forming a new route to the front of the existing yacht club premises.

Some 3rd party lands may be required along this option.

This option would transit through the existing beach access area at Lisfannon and continue around the small headland to the north of the beach parking to rejoin the R238 at a point approximately 600m north of the beach access point. From this point, this option would continue along the main section 4 corridor.

This option would involve crossing wetlands making up part of the Swilly Special Protection Area and would require sensitive design and management.

A suitable structure would also be required to transit the rock and foreshore area to the north of the Lisfannon beach access. This option would add a further approximately 300m to Section 4.

Picture 6.4.2.1 – Access road to Pier from R238

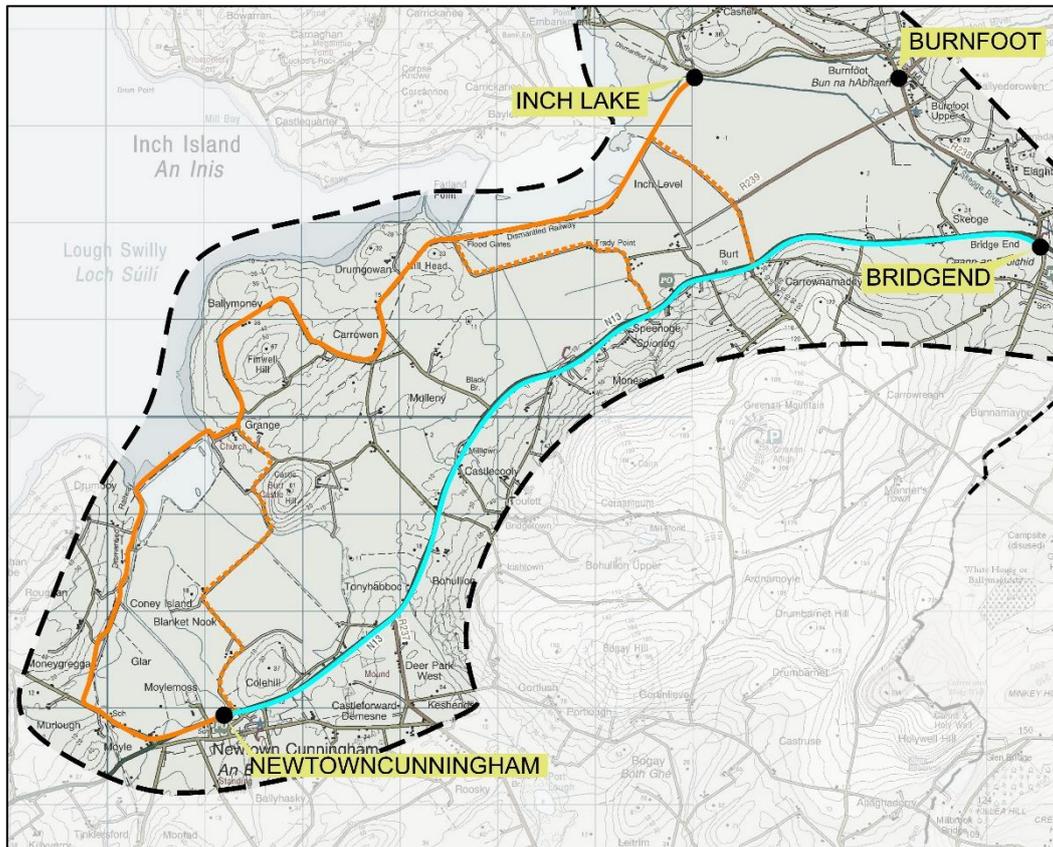


Picture 6.4.2.2 – Historic railway route towards Buncrana from Pier area



6.5 Section 5 – Bridgend / Inch Lake to Newtowncunningham

Figure 6.5 – Section 5 Route Corridors



6.5.1 Light Blue Corridor

This 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 the terminus at Newtowncunningham

It is not considered that 3rd party lands will be required along this route.

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

The total length of this option is approximately 11.3km

Picture 6.5.1 – Typical N13 profile at traffic calming / crossing at Moynes Cottages



6.5.2 Orange Corridor

This corridor starts at the intersection of the Skeoge and Burnfoot rivers at Inch Lake and follows the route of the Inch Wildfowl Reserve walkway, along the historic alignment of the rail track to the Farland Embankment.

From this point, the corridor follows the L7981 to its junction with the L7861, continuing along the L7861 to, and across, the Drumboy Embankment at Blanket Nook. This corridor passes through the townlands of Carrowen, Ballymoney and Grange.

From the Drumboy Embankment, the corridor follows the L7831 to its junction with the L2041 and then along the L2041 to the terminus at Newtowncunningham. This corridor passes through the townlands of Moneygreggan, Murlough and Moyle.

3rd party lands may be required along this corridor. Final alignments would require coordination to ensure the corridor does not sever existing land ownership boundaries.

This corridor would transit close to, or through, areas of the Lough Swilly Special Protection Area and would require sensitive design and management.

This greater part of this corridor allows the Greenway to develop along a close to the shore of Lough Swilly and to reflect the historic rail network.

The total length of this option is approximately 12.7km.

This corridor also has linking options to the Section 5 – Light Blue Corridor at three places, namely

From the Inch Wildfowl Reserve walkway from a point approximately 1/3 of the way from Inch Lake to Farland point along the L75311 to the R239 and from there to the N13.

From the southern end of Farland point embankment via the L7911 to the N13 at Speenogue.

From the eastern end of the Blanket Nook embankment, around the perimeter of Burt Castle via the L7841 to the N13 at a point approximately opposite All Saints Church (COI).

Picture 6.5.2 – Causeway at Blanket Nook



Note – Consideration may be given to a combination of route corridors to achieve the Project Objective of delivering the 32.5km greenway – e.g. the final route may be:

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

7 PREFERRED ROUTE SELECTION PROCESS

7.1 Public Consultation Process

The Public Consultation Process will be carried out in accordance with Statutory Requirements in both NI and ROI jurisdictions and is summarised as follows:

- Issue of Stage 1 Scheme Assessment Report to consultees and general public through DCSDC and DCC websites, social media and other platforms. Hard copies of the report will be available at Council offices in both jurisdictions.
- Public Consultation Event, advertised through local media outlets, Council websites and social media. At this Event, drawings describing the Constraints, Opportunities and Areas of Interest will be displayed and members of the Project Team will be present to explain the scheme, Route Corridor Options, and consultation process and to answer questions from the public.
- Following the Public Consultation Event, there will be a three-week period allowed for feedback from the consultation process to be forwarded to the Project Team. The Project Team will assess this feedback and use it to inform the selection of the Preferred Route as described in Section 7.2.11 below.

Table 7.1 – Summary of Public Consultation Approach and Key Dates

	Details	Date
Issue of Constraints and Route Options Report	Via DCSDC & DCC websites and social media. Report available from DCSDC and DCC offices	Week commencing Monday 25 th June
1 st Public Consultation Event	Lough Swilly Yacht Club, Station Road, Fahan, County Donegal	26th June 14:00 – 20:00
2 nd Public Consultation Event	Templemore Sports Complex, Bunrana Road, Derry.	27th June 14:00 – 20:00
Closing Date for Consultation Feedback		Friday 27 th July

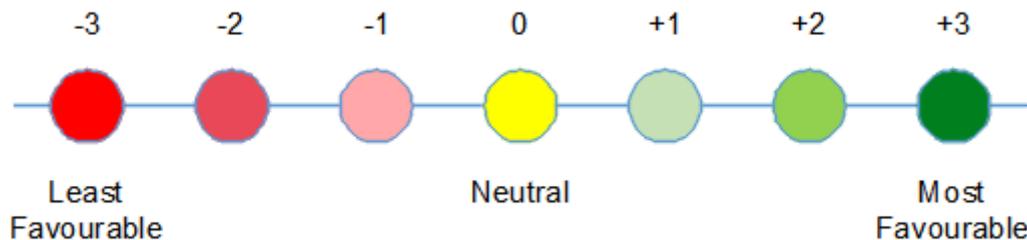
Statutory Consultation Events to support the proposed Planning Applications will be advertised in accordance with Planning Guidelines.

7.2 Route Corridor Assessment Criteria

The Route Corridor Assessment Criteria set out the criteria used to compare 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 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.

The Preferred Route Selection Process, which will be undertaken in the Route Selection Stage 2 Report, will assess each of the Route Corridors identified in Section 3.2 against each Assessment Criteria. Each route corridor will be scored against the assessment criteria 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



Feedback from Public Consultations will be sought under the headings of these Assessment Criteria and will be considered when assessing the Route Corridors Options.

The criteria adopted for the Greenway Scheme are informed by the user preferences that were identified in the Fáilte Ireland Cycling and Activities Research, guidance from EuroVelo documents and international best practice.

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

7.2.1 Modal Shift

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.

7.2.2 Connections and Local Access

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.

7.2.3 Cultural, Heritage and Visual Attractions

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

7.2.4 Landscape and Visual

An assessment of the landscape and views along each corridor will be carried out. A Landscape & Visual Assessment will be completed out 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.

7.2.5 Flora, Fauna and the Environment

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.

7.2.6 Physical Constraints

Physical Constraints, e.g. topography, river / stream crossing points, carriageway crossing points and local ‘pinch’ points, 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.

7.2.7 Quality of Service

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:

1. Segregated from vehicular traffic
2. Safe and accessible for all Greenway users
3. Developed in accordance with best practise and international standards, and;
4. Substantially ‘off road’, .i.e. through green field lands, preferably where 3rd party land acquisitions are not required.

Route Corridors that can deliver these features will score highly.

7.2.8 Material Assets and Human Beings

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 3rd party lands. In sections of a route corridor where this is unavoidable 3rd party land take will be minimised with severance of land boundaries avoided as far as practicable.

7.2.9 Potential Cost

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.

7.2.10 Physical cross-border connectivity

The core target project outputs of the NWGN project are, as noted in Section 1.1:

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.

Section 3.3 notes the following key scheme objective:

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

Therefore any Route Corridor considered must achieve this objective, and also complement the core project targets.

7.2.11 Public Feedback

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.

7.3 Sample Preferred Route Selection Matrix

Assessment Criteria	Corridor A		Corridor B		Corridor C		Corridor D	
Modal Shift								
Connections and Local Access								
Cultural, Heritage and Visual Attractions								
Landscape and Visual								
Flora, Fauna and the Environment								
Physical Constraints								
Quality of Service								
Material Assets and Human Beings								
Potential Cost								
Physical Cross-Border Connectivity								
Public Feedback								
Total Score								

APPENDIX A – LIST OF DESIGN GUIDELINES AND STANDARDS

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	Department for Infrastructure, latest editions of relevant chapters

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
ROI Traffic Signs Manual	Department for Transport, Tourism and Sport, latest editions of relevant chapters

Other Documents

Title	Published By
Cycling By Design, Revision 1	Transport Scotland, June 2011
London Cycling Design Standards (LCDS)	Transport for London, June 2014

APPENDIX B – DRAWINGS AND FIGURES

Figure 3.2 – North West Greenway Network – Route Overview

Figure 4.1 - Proposed Study Area

Figure 5.1 – Topography

Figure 5.2 – Rivers, Stream and Watercourses

Figure 5.3 – Environmental Designations

Figure 5.4.1 – Existing Land Use - Northern Ireland

Figure 5.4.2 – Existing Land Use – Republic of Ireland

Figure 5.5 - Proposed Developments

Figure 5.6 – Amenities and Attractions - Overview

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

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

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

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

Figure 5.6.5 – Amenities and Attractions – Section 5 (Bridgend to Newtowncunningham)

Figure 5.7 – Built Heritage

Figure 5.8.2 - Schools

Figure 6.1 – Section 1 Route Corridors

Figure 6.2 – Section 2 Route Corridors

Figure 6.3 – Section 3 Route Corridors

Figure 6.4 – Section 4 Route Corridors

Figure 6.5 – Section 5 Route Corridors