Department for Infrastructure
Strategic Plan for Greenways
Strategic Plan for Greenways

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Executive Summary

AECOM, in association with Sustrans, were commissioned by the former Department for Regional Development (DRD) – now the Department for Infrastructure – to develop a strategic approach to a shared greenway network.

The aim of the strategic plan is to build a regional greenway network, significantly increasing the length of traffic free routes to encourage a substantial increase in the number of people walking and cycling as regular part of everyday life. This follows on from the Bicycle Strategy published in August 2015, which sets out the vision for transforming cycling in the period up to 2040.

A series of written consultations were undertaken with all eleven local councils, building on preliminary work undertaken by the ‘Greenways Working Group’ (chaired by the former DRD and including representatives from central and local government and some arms length bodies) along with a number of other government consultees. There was a positive response with Councils providing their ideas on potential greenways in their areas as part of an overall network. The proposed greenway network has been developed, in the main, on the former railway network, but it also includes other pieces of redundant infrastructure e.g. disused canals.

Once the initial consultation stages were over, an initial network was developed. A route assessment methodology was developed and the routes assessed in terms of a primary network and a secondary network, where the latter serves as feeder routes into the primary network.

Following this assessment, the Strategic Plan was developed. It provides a network of over 1,000 kilometres costing approximately £150 million and includes the following:

**Primary Network**
- An east west spine between Larne and Belcoo (the section between Lame and Craigavon would follow EuroVelo Route 1).
- A North West route between Craigavon and Derry-Londonderry (following EuroVelo Route 1).
- A North Coast route between Dungannon and Coleraine.
- A Southern route from Craigavon to Newry.
- Spur off Euro Velo Route 1 from Belfast to Newtownards via Comber.
- Onward international connections at Larne, Derry-Londonderry, Strabane, Belcoo and Newry

The primary network is approximately 450 kilometres in length and estimated to cost approximately £61 million

**Secondary Network**
- The secondary network would comprise the following:-
  - Belfast to Bangor
  - Belfast to Carrickfergus
  - Bangor to Newtownards Loop
  - Belfast to Carryduff
  - Comber to Newcastle and Ardglass via Downpatrick
  - Lisburn to Banbridge
  - Banbridge to Newcastle (including connection to Scarva)
  - Ballyclare (Doagh) to Draperstown via Antrim & Magherafelt
  - Ballyclare to Ballymena
  - Ballymena to Cushendall
  - Ballymena to Kilrea
  - Macfin to Ballycastle via Ballymoney
  - Coleraine to Giant’s Causeway via Portrush and Bushmills
  - Derry–Londonderry to Coleraine
  - Armagh to Newry via Markethill
  - Caledon to Maguiresbridge via Clogher Valley

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1 Department for Regional Development, *Northern Ireland Changing Gear – A Bicycle Strategy for Northern Ireland*, August 2015
- Omagh to Enniskillen
- Trillick/Ballinamallard (Bundoran Junction) to Beleek
- Limavady Junction to Dungiven
- Mossley to Carrickfergus via Greenisland

The secondary network is approximately 600 kilometres in length and estimated to cost approximately £88 million.

This is a long term strategic plan but it is anticipated that, with political commitment, three quarters of the primary network and a quarter of the secondary network could be delivered within a period of ten years.
1 Introduction and Background

1.1 Introduction
The main aim of this document is to present a strategic approach and overview to the development of a shared greenway network which is planned at a regional level and allows people to link to places locally, regionally and nationally by active modes of travel.

The Department for Regional Development’s 2013 review to the Regional Transport Strategy ‘Ensuring a Sustainable Transport Future – a New Approach to Regional Transportation’ aspires to a region with a modern, safe and sustainable transport system, which improves the quality of life for all. A central part of this is the complementary cycling vision set out in the Department’s Bicycle Strategy: ‘a community where people have the freedom and confidence to travel by bicycle for everyday journeys’ and its ambition to increase the number of people regularly walking and cycling.

The Department has identified the potential for the further development of greenways, particularly (but not exclusively) by utilising dismantled railway routes (e.g. the Comber Greenway and Foyle Valley Greenway) and restoring abandoned canal towpaths (e.g. the Newry Canal and Lagan towpaths). In conjunction with the 2015 Bicycle Strategy, this development will bring potential benefits to a wide range of areas from health, physical activity and active travel to strengthening of the local economy and environment and tourism as well as reducing congestion, reducing wear and tear on the roads and improving air quality.

The Strategic Plan proposes the following definition for greenways in order to make sure that a high quality product is delivered. A ‘greenway’ is a traffic-free route designed for non-motorised use to connect people and communities to all kinds of destinations for commuting, everyday journeys or leisure and recreation.

The increasing demand and desire for greenway development is recognised by all local councils and the strategy has been developed in consultation with them as well as a variety of other stakeholders. The Department has also sought to ensure that greenways are developed in order to provide the maximum value to the region and the localities they serve.

In support of this, in March 2016, the Department announced a small grants programme for the development of greenway schemes. This competitive scheme is aimed at providing support for councils to work up projects that will be able to deliver a step change in greenway provision in line with the proposals put forward in this Strategic Plan. The small grants programme will be a three stage competition with successful projects eventually receiving a grant of up to £25,000 to develop detailed designs and a fully worked up project bid for assessment.

At the interregional and European level, the new INTERREG V Programme for 2014-2020 is one of 60 programmes across the European Union designed to promote greater levels of cross-border co-operation, where developmental problems are exacerbated by the existence of borders. One of the Programme’s key priority areas is Sustainable Transport, with the development of cross-border greenways being a theme. The aim of the theme is to develop 80km of new cross-border greenways that will primarily encourage modal shift away from the private car to walking and cycling.

1.2 Study Area
The Strategy covers a total area of over 14,000 km² and an estimated population of over 1.8 million. Its largest centres of population are: Belfast (330,000), Lisburn (120,000), Derry-Londonderry (108,000), Newtownabbey (62,000) and Bangor (59,000).

Many walking and cycling routes have already been developed in line with national, regional, local and even European policies. In developing proposals for new greenways it is important to place them within a logical hierarchy of routes. It is also important to understand the level of planning and development necessary to develop a greenway network.
1.3 Existing Cycling Networks

1.3.1 International Routes: EuroVelo

EuroVelo is the European Cycle Network and is managed by the European Cyclists’ Federation in cooperation with national and regional partners – Sustrans is one of the national representatives. The vision of international bicycle routes, crossing and linking all the countries of the European continent, was first developed in the early 1990s, inspired by the success of national cycle routes in Denmark and the Netherlands. To date, EuroVelo currently comprises fifteen routes which connect the whole of the European continent. EuroVelo signposting can now be found in Austria, France, Germany, Hungary, Serbia, Slovakia and Switzerland. More than one-third of the total network is in place and work is under way on sections of the network in many countries. It is envisaged that the Network will be substantially complete by 2020 and will be over 60,000km long.

EuroVelo Route 1: The Atlantic Route (see Figure 1) stretches from Scandinavia to Portugal connecting some of the world’s most beautiful landscapes and seascapes. In Ireland, EuroVelo Route 1 enters/leaves via Larne and follows existing routes through Belfast and then west to Lough Neagh, the Sperrins and Derry~Londonderry before crossing into Co Donegal.

Developing the greenway network will provide opportunities to enhance and make EuroVelo Route 1 more traffic-free, thereby attracting more people – both domestically and internationally – to cycle.

1.3.2 The National Cycle Network

The National Cycle Network (NCN) is a network of both regional and local routes that stretches over 14,000 miles across these islands (see Figure 2). In 2013, 750 million people used the Network including walkers, joggers, wheelchair users and horse riders. Just under half of the trips made on the Network annually were by foot.

Around 26 million journeys were made on the NCN here in 2014, an increase of 4% from 2012. A recent survey of users along the Comber Greenway (NCN 99) highlighted the diverse demographic of users. Not only were 41% walkers or joggers but the survey revealed a near even split across the six age brackets of users from 16-64 and older. Of those using bicycles on the Greenway most (76%) cycle for leisure or exercise, with 14% using the path for commuting to work.

There is already some 1,600km of National Cycle Network developed and signed here. However, the need for more traffic-free provision, specifically greenways, is evident. Although significant sections of greenway have been developed the total proportion of traffic-free provision here (currently 260km or around 15% of the total Network) is less than elsewhere where traffic-free greenways make up about 30% of the Network. The Strategic Plan should present proposals which will transfer most of the NCN network from public roads to traffic-free routes.

Despite limited investment to date, usage of the Network has brought about quantifiable benefits to society. One in three of all Network users could have used a car for their journey, but chose not to, with those travelling by bike more likely to have made this choice (58%). That equates to 157 million fewer car journeys. Those who chose not to use a car saved £215 million in fuel, and carbon to the value of £25 million. Users of the Network are physically active, and the benefit to health (in terms of a reduced demand on health services), calculated using the World Health Organisation’s HEAT tool, is £277 million for those who cycle and £526 million for those who walk on the network.

1.3.3 Regional Routes

Within the framework of the NCN regional routes have been developed. Often these routes are branded and themed in correlation to the area they traverse, connecting people to places of interest, natural and scenic beauty. The Inis Eoghain Cycleway, North West and Kingfisher Trails are good examples of these (see Figure 3). As many overlap with NCN and local routes they can also be used for leisure and commuting.

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3 Ibid.

4 Sustrans NI. Comber Greenway Attitudinal Survey, Autumn 2015.

1.3.4 Local Routes
Within urban areas, a number of local cycle networks exist which complete the hierarchy of provision. The local cycle network within Belfast, Derry–Londonderry, Omagh and Coleraine are good examples (see Figures 4 and 5), with multiple routes, both on and off road, offering local people and visitors a range of route options. Again, within these environments there is overlap between local, regional and national routes. The design and engineering of the local routes may be much more urban in character and lighting is likely to be required to allow more use in winter time.

1.4 Walking Networks
Given the popularity of walking as highlighted in the previous section it would be remiss not to consider the existing and potential networks of designated walking routes as part of future greenway development.

Many greenways were developed initially as walking routes. They were later upgraded, either by simply resigning/designating that existing space or widening and/or resurfacing the path to accommodate people using bicycles, people with disability and even horse riders. The most common example of this is within local urban networks where existing footpaths, whether adjacent to roads or through open spaces, are widened and resurfaced to a ‘shared use’ standard.

Although it is not always possible or preferable to upgrade walking routes to greenways it is important to include them in mapping and promotional information when new greenways are developed. As well as giving a clearer picture of the wider networks and connections, doing so will also increase the attractiveness and usage of the greenway networks from a tourism and marketing perspective.

The Ulster Way is a 625 mile circular walking route (http://www.walkni.com/ulsterway/). The route includes certain sections designated as ‘Link Sections’ which are not waymarked but are mainly on public roads – some of which can be very busy. The majority of the route is labelled as ‘Quality Sections’ which are on established waymarked ways, predominately off road. Many of the Quality Sections of the Ulster Way are also well known greenway sections of the National Cycling Network (e.g., Lagan and Newry Towpaths – NCN 9 and the North Down Coastal Path – NCN 93).

In recent times the International Appalachian Trail (IAT) initiative (http://iat-sia.org/) with chapters across the world, including Britain and Ireland has established a route from Killybegs, Co Donegal to Larne, Co Antrim (http://www.walkni.com/iat/). Like the EuroVelo concept, IAT is more of a branding and marketing exercise that utilises existing national/regional walking routes to promote longer, international trails for local and international visitors alike. The Strategic Plan will show the potential for upgrading this to traffic-free.

1.5 What the Greenway Network Might Look Like?
The proposed greenway network will substantially replace, where applicable, the current National Cycle Network by transferring on road routes to traffic free routes. It may also add new routes to make the greenway network accessible to more people.

The new greenway network will be a better connected traffic free network with connecting access routes for communities to provide the freedom and confidence for people to become more active. It will encourage more people to commute to work by foot or bicycle, more children will walk or cycle to schools, and it will provide a major leisure and recreation resource for local people and visitors alike.

1.6 What Benefits the Greenway Network Can Deliver?
The benefits of greenways are wide ranging and well documented. It is not surprising that the development of greenways forms part of many strategic transport, environment, health and economic policies from the European Union and national level down to regional and local councils. A more detailed review of the policy and strategic context of greenway development can be found in Sections 2 and 3.
To appreciate the role of Greenways it is necessary to understand their potential usage and to measure what is recorded on completed schemes. It is also worth reviewing a few general statistics about how we travel.

The latest annual Travel Survey reveals that we each make just over 900 trips per annum on average. The clear majority of these (72%) are made by private car although around two thirds of them are less than 5 miles in length. One third of all journeys are less than two miles in length – journeys that could and in most cases should be made by foot or bicycle but we continue to use the car even for these shorter journeys. The car was the dominant mode of transport (78%) for all journeys over one mile. 6

The sprawling nature of many land developments locally makes residents and visitors feel that they have no choice but to drive, even for short journeys. A complete greenway network, properly developed and promoted as part of the local, regional and national transportation system, will offer effective alternatives by connecting homes, workplaces, schools, amenities and open spaces.

The development of a comprehensive greenway network will also go some way to achieve this by overcoming barriers so that routes are traffic free, more direct (and in some instances shorter) and more attractive, so more people would be willing to walk and cycle more often and a little further.

The various benefits of greenways can be placed into three categories: health and well-being; economic; and, social and environmental. Specific greenway case studies have been included in the Appendices as examples of best practice. The case studies examine how the greenway schemes have benefited their respective areas in relation to the three benefit categories.

1.6.1 Health and Well-Being

It has been estimated that obesity and weight related diseases cost our economy around £370 million a year. In Britain, the government currently spends about £6 billion a year on the direct medical costs of conditions related to being overweight or obese. That is 5% of the entire budget of the NHS. These costs are expected to rise. By 2030 it is estimated that obesity will cost the NHS between £10 billion and £12 billion. 8

Already ranked as the most obese country in Western Europe, we are on track to become the most obese country in Europe by 2025. 9 Adult obesity levels here are still comparable to Britain at 25%, but they have risen by over 5% since 1997. Perhaps more worryingly, 25% of children aged 2-10 were classed as overweight and obese – a figure that has not changed since 2005-6. 10

It has been demonstrated that people who do regular physical activity have:

- up to 35% lower risk of coronary heart disease and stroke
- up to 50% lower risk of type 2 diabetes
- up to 50% lower risk of colon cancer
- up to 20% lower risk of breast cancer
- 30% lower risk of early death
- up to 83% lower risk of osteoarthritis
- up to 68% lower risk of hip fracture
- 30% lower risk of falls (among older adults)

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7 Dr Perry, Ivan J. “The cost of overweight and obesity on the Island of Ireland.” Safefood, November 2012.
• up to 30% lower risk of depression
• up to 30% lower risk of dementia

By addressing some of the most cited barriers people have to cycling – such as perceptions of safety, limited bicycle infrastructure and low confidence – greenways facilitate informal, everyday social interaction and exercise, thereby contributing to the health and wellbeing of users as well as generating significant overall health savings.

A recent study by researchers in the Netherlands found that when a person rides a bike for one hour it extends life by the same amount of time on average – it is not lost time. Those figures equate to living for six months longer for every 75 minutes of cycling done a week and about 11,000 deaths per year saved through cycling.11

There is also a growing pool of evidence that shows how increased levels of active travel can have positive impacts on not only physical but mental health and well-being. Long running studies showed that active travel improved concentration levels, decision making abilities and lowered stress levels among people who walked or cycled to work compared to those who travelled by car.12

It is clear that based on the available evidence of the health benefits of active travel alone an investment in greenways is recoverable in the short term. Such investment is ‘spend to save’.

1.6.2 Social and Environmental

It is estimated that each year in Britain over 40,000 deaths are attributable to outdoor air pollution.13 One of the recommendations in the report is for government, employers, and schools to promote alternatives to cars fuelled by petrol and diesel by encouraging and facilitating active travel options like walking and cycling. It specifically recommends that local transport plans should: expand cycle networks, encourage employers to support alternatives to commuting by car and develop ‘islands’ of space away from traffic for safer walking and cycling.14

Greenways preserve and improve the environment by providing green infrastructure, increasing biodiversity and reducing congestion, contributing to lowering of carbon emissions and getting more cars off the road. The cost of congestion to the British economy is estimated at £4.3 billion a year, or £491 per car-commuting household.15

Serving as “green lungs”, greenways connect multi-functional zones with compatible land uses and allowing recreational and ecosystem conservation to operate in the same space. They also act as features for climate change adaptation and mitigation for flood prevention, water and carbon storage.

Greenways lend themselves to more social interaction. Their characteristics can produce both environmental and social benefits, because they are easily accessible and can bring nature and people together. To understand greenways, it is important to recognise the social life linked to them based on the new activities, features and people who use them. Greenways also provide opportunities for volunteering, walking and cycling clubs and public access to previously inaccessible areas.

The development of traffic free infrastructure, particularly greenways, can also have a positive impact on social inclusion and encouraging new and harder to reach groups to take up cycling and walking. For example, when compared to on road route data, the traffic free route data from the NCN shows higher than expected representation of female, elderly and African and

14 Ibid.
Caribbean, minority and ethnic (BME) groups among those who cycle on shopping trips. The data also revealed more females and younger age groups making trips to educational establishments and BME groups and younger age groups making commuting trips. It is important, therefore that these ‘softer’ impacts of greenway development, whilst often more difficult to calculate and evidence, should not be underestimated or undervalued when looking at the range of benefits they can bring to a population.

1.6.3 Economic
The role that greenways play as economic drivers in an area has not traditionally been recognised. This perception has changed with additional research, evidence and the tangible benefits of greenways being experienced by more people. The main ways that greenways do this are by increasing access to employment and amenities (shops, restaurants, accommodation, etc), and by encouraging cycle tourism in the areas along them. There is even a growing base of evidence that suggests greenways are having a positive impact on property values; by increasing access to amenities and improving the natural beauty of communities they make adjacent properties easier to sell.

In 2014, the Assembly’s Committee for Regional Development led an Inquiry into the Benefits of Cycling to the Economy. A briefing paper for the Committee highlighted the significant contribution cycle tourism makes annually to local and national economies. It is estimated, for example, that cycling tourism is worth £36 billion per annum to the EU economy as a whole; with £1 billion to Britain and £28 million to Ireland respectively. Market research into the existing value of cycle tourism here has not been as robust. However, Tourism NI will be publishing a research study (in 2016) looking specifically at cycle tourism.

The Great Western Greenway in Co Mayo stands out as an exemplar of not only cycling tourism and regeneration for a remote and rural area but also as something that has benefited local transport and health. The private sector has engaged with it and developed products and services specific to it, boosting the local economy and job creation.

Usage estimates in 2011 were around 80,000 “visits” or “uses” per year with a demographic breakdown of 38% “local” (Co. Mayo) visitors, 39% domestic visitors and 23% overseas visitors. The counter and monitoring data along the Greenway shows that there are pronounced morning peaks and afternoon/evening Monday to Friday. This indicates that not only are tourists and visitors using this facility, but it is being used as a sustainable travel mode for locals.

In England, The Way of the Roses carries 130,000 ‘leisure’ cycle trips where the users spend money on local goods and services generating approximately £3 million for the local economy in 2012.

In Scotland, the continued investment in the NCN has led to an additional 70km of improved network, since 2012. Of the many positive impacts the investment has had, the benefit to the economy has been highlighted in recent studies: by 2013 the indicative value of leisure cycling and cycle tourism is worth an estimated £101 million.

The benefits of active lifestyles are well documented and the economic benefits associated with the development of greenways outlined above indicate a clear rationale for planning, developing and building a greenway network.

### Table 1 - Estimated indicative value of leisure cycling and cycle tourism on the NCN in Scotland

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<tr>
<td>Tourist</td>
<td>£32 million</td>
<td>£101 million</td>
</tr>
<tr>
<td>Home based</td>
<td>£221 million</td>
<td>£197 million</td>
</tr>
<tr>
<td>Total Route Spend</td>
<td>£253 million</td>
<td>£298 million</td>
</tr>
</tbody>
</table>
2 Policy and Strategic Context

2.1 Introduction
As discussed in Section 1.5, the increasing interest in and growth of greenway networks across Europe and other parts of the world means that there is no shortage of associated policy initiatives at both central and local government level that support greenway development.

Andrew McClelland provides a thorough literature and policy review in Cross-Border Greenways and Cycle Routes on the Island of Ireland: A review of policies and future opportunities in the development of a regional network. The report reviews and summarises policy and strategy documents from a high European level down to local Councils.

Of the fourteen national and regional policy documents reviewed pertinent to cycling/greenway and cycle route development on the island of Ireland all but one specifically referenced and advocated greenway development. Of the seven local council development plans reviewed, all made specific reference to developing more walking/cycling infrastructure (including greenways).

2.2 Regional Policy Context
In March 2012, the Department for Regional Development published its Regional Development Strategy 2035. The strategy aims to take account of our economic ambitions and needs, and put in place spatial planning, transport and housing priorities that will support and enable the aspirations of the Region to be met. The Strategy lays out regional guidance to improving the economy, society and the environment.

Economy: Improve connectivity between and access to our cities and towns. Encourage environmentally sustainable tourism development.

Society: Ensure that environmental quality in urban areas is improved and maintained, particularly with adequate provision of green infrastructure. It is important to promote recreational space within cities, towns and neighbourhoods, and new developments or plans should make provision for adequate green and blue infrastructure.

Environment: “Transportation currently accounts for a quarter of the man-made greenhouse gas emissions. It is also the only sector where emissions are rising rather than falling. In order to address this we need to promote ways to make the most efficient use of our infrastructure so that we can move people and freight safely and reliably while also reducing pollution.” The strategy recommends reducing greenhouse gas emissions, noise and air pollution from transport in addition to using more energy efficient forms of transport.

Strategic Guidance has been developed to provide long term policy directions and the following Spatial Framework Guidance (SFG) references greenways. This includes:

SFG5: Protect and enhance the quality of the setting of the BMUA and its environmental assets:
Protect and enhance the network of open spaces in the BMUA. The network consists of country parks, landscape wedges, parks and forests and community greenways. They are important recreational facilities which help to define a sense of place and character for urban communities. Opportunities should be taken for connections to an enhanced network of pedestrian paths, cycle-ways and ecological corridors. These have the potential to support biodiversity by linking existing ecological areas creating a network of green spaces throughout the BMUA.

SFG9: Protect and enhance the quality of the setting of Londonderry City and the North West and its environmental assets
Protect and enhance the network of open spaces in the North West. The network consists of open countryside, country parks, urban parks, forests and community greenways. They are important recreational facilities which help to define a sense of place and character for urban communities. They provide opportunities for healthy lifestyles. Opportunities should be taken for connections to an enhanced network of pedestrian paths, cycle-ways and ecological corridors.

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22 Ibid. pp41-2.
23 Department for Regional Development. Regional Development Strategy 2035.
Also launched in 2012, The Department for Regional Development’s *Ensuring a Sustainable Transport Future – A New Approach to Regional Transportation* sets out how the Department will develop regional transportation beyond 2015, when the current transport plans reach their forecast year. At its core, the new approach has its focus for sustainability in the travel choices that people make. It stresses the importance of accessible transport to addressing exclusion and improving access to education, employment and social opportunities.

Published in June 2014, the Public Health Agency’s *Making Life Better 2012-2023* is the ten year public health strategic framework providing direction for policies and actions to improve health and wellbeing. It builds on the *Investing for Health* strategy (2002–2012) and retains a focus on the broad range of social, economic and environmental factors which influence health and wellbeing. It brings together actions at government level and provides direction for implementation at regional and local level.

The *Making Life Better* framework set out a series of agreed themes, one of which, Theme 4 – “Creating the Conditions”, focuses on the wider economic and environmental determinants that provide the fundamental conditions to support good health and wellbeing. Within this theme two of the agreed actions and commitments are:

- Implementation of an Active Travel Strategy Action Plan, providing increased opportunities for sustainable transport options such as walking and cycling and promotion of a number of demonstration projects
- Improve transportation infrastructure and services to help achieve a modern, sustainable, safe and fully accessible transport system which actively contributes to social inclusion and everyone’s quality of life – this has a particular focus on older people and people with disabilities

In August 2015, the former DRD launched the Bicycle Strategy for Northern Ireland, Northern Ireland *Changing Gear*. Greenway development features prominently in the Strategy and the Department undertakes to look at proposals to develop both urban and rural greenways as it aspires “to use rural greenways as an integral part of the comprehensive network in order to create long distance, high quality routes.”

On 26 May 2016, the Executive agreed the draft Programme for Government Framework 2016-21. The draft framework contains 14 strategic outcomes, supported by 42 indicators. Given the wide range of benefits that greenways bring to an area it is evident that the development of a comprehensive greenway network can help deliver against the following outcomes:

Outcome 2: We live and work sustainably - protecting the environment.
Outcome 4: We enjoy long, healthy, active lives.
Outcome 11: We give our children and young people the best start in life.
Outcome 13: We have created a place where people want to live and work, to visit and invest.
Outcome 14: We connect people and opportunities through our infrastructure.

Relevant Indicators within the Framework include:

- Increase the use of public transport and active travel
- Increase environmental sustainability
- Improve our attractiveness as a destination
- Increase shared space

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• Improve air quality
• Increase quality of life for people with disabilities

In addition to the PfG there are several other strategy and policy documents that support the development of greenways. For example, the ‘Outdoor Recreation Action Plan’ includes a success indicator that “By 2020 to have increased the traffic free sections of the National Cycle Network by 20%” and the strategy for Sport and Physical Recreation – ‘Sport Matters’, also includes targets for participation. In addition, Local Councils are drawing up their Community and Development Plans which will provide an opportunity to further explore, plan and zone the development of the Primary and Secondary network.

2.3 European Context
The Lisbon Treaty of 2009 established a new reference framework for the development of the European Union, placing its priorities on, among other things, sustainable development, transport and tourism. The subsequent Declaration of Madrid of 2010 seeks the creation of a ‘European Green Network’ and specifically requests ‘permanent funding lines for planning, construction, promotion and maintenance of greenways’, including investment from the private sector backed by ‘strategies of corporate social responsibility’ (European Greenways Association, 2010, p.3).

The European Commission is working towards sustainable, energy-efficient transport which does not have negative effects on the environment. Priorities include promoting co-modality (combining various transport modes in the same chain), technical innovation and a shift towards the least polluting forms of transport — especially for long distance and urban travel.

In March 2010 the European Commission published ‘Europe 2020 – A Strategy for Smart, Sustainable and Inclusive Growth’. This forms the cornerstone of all EU policies and programmes for the current funding period 2014-2020. It puts forward three mutually reinforcing priorities for smart, sustainable and inclusive growth. Sustainable transport strategy is set out under the “sustainable growth” priority, through the flagship Initiative: “Resource efficient Europe”, which supports a shift towards a resource efficient and low-carbon economy. At EU level this includes proposals to modernise and decarbonise the transport sector. At national level, Member States will need to coordinate implementation of infrastructure projects, to develop interconnected transport networks, with a particular focus on urban areas.

The TEN-T – Connecting Europe policy (2014) focuses on connecting Europe through major infrastructure such as rail and road. It also highlights the potential for long distance walking and cycling routes, suggesting that: “Where possible, synergies with other policies should be exploited, for instance with tourism aspects by including on civil engineering structures such as bridges or tunnels bicycle infrastructure for long-distance cycling paths like the EuroVelo routes.” European Territorial Cooperation is one of the two goals of cohesion policy, and enables joint actions between Member States, for example, through programmes such as INTERREG V which funds cross border and transnational projects.

2.4 Other relevant Context
In March 2015, the Department for Transport in London published “Investing in Cycling and Walking: An Economic Case for Action” which summarises recent changes in the evidence base as well as the key legacy studies that should help not only to quantify the impacts resulting from investment in cycling and walking, but also to make the case for investing in cycling and walking above other demands on budgets.

This was followed up a year later (March 2016) with the launch of the Department’s first ever Walking and Cycling Investment Strategy (CWIS). Under Section 21 of the Infrastructure Act 2015, the government is required to set a cycling and walking

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investment strategy for England. Among the listed ambitions of the CWIS is to create “A wider green network of walkways, cycleways and open spaces that lets people actively incorporate nature into their daily lives.”

2.5 Cross Border Connections

EuroVelo Route 1 crosses from Scotland to Ireland, passing through the north on its way to the northwest, the west and the south so cognisance should be taken of the connections between these areas. In particular with respect to cycle tourism where the opportunity exists to extend trips by using the proposed network.

It is worth noting that the Department for Transport, Tourism and Sport in the south of Ireland has identified, as a priority the need to target investment to enable people to make smarter travel choices and is administering three policies in support of this; Smarter Travel Areas (STAs), Active Travel Towns (ATTs) and National Cycle Network (NCN).

Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009-2020 is the transport policy for Ireland that sets out how the vision of a sustainable travel and transport system can be achieved. It recognises the economic and environmental benefits of sustainable transport. From this document Ireland’s First National Cycling Policy Framework was created. One of the objectives of the policy is to “Provide designated rural signed cycle networks providing especially for visitors and recreational cycling... paying close attention to the opportunities of using both the extensive disused rail network and canal/river tow-path networks as cycling/walking routes.”

The National Transport Authority (NTA) is funded to administer a range of behaviour change programmes to complement these policies; Smarter Travel Workplaces, Smarter Travel Campuses and Green Schools Travel. The National Roads Authority (NRA) has also recognised the need to provide better provision for non-motorised users. Since 2014, it is a requirement to provide off road facilities for walking and cycling as part of certain types of new road schemes.

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3 The Vision, Aims and Objectives

3.1 Vision
This Strategic Plan sets out the following vision, aims and objectives for the development of greenways:

A region where people have ready access to a safe traffic-free environment for health, active travel and leisure.

3.2 Aims
It has been demonstrated in section 1.5 how greenways benefit health and the environmental, social and economic well-being in areas where they are developed.

Therefore the aim of this project is to encourage a substantial increase in the number of people walking and cycling as a regular part of everyday life through the development of a plan to build a connected and accessible regional greenway network, significantly increasing the length of traffic free routes.

3.3 Development of Objectives
Realising this vision will create a region where active travel, through the use of the greenways and other active travel infrastructure, is part of everyday life for everyone – improving health and well-being, economic activity, social interaction and providing a resource for recreation and leisure. Key to this will be to develop a walking and cycling network of greenways that helps connect centres of population with destinations such as places of interest, green spaces, workplaces, shops, schools and residential areas with each other. These objectives will help achieve the aims of the Strategic Plan for Greenways.

Guidance on these has been derived by examining a range of central and local government objectives. Local Government has a remit for outdoor recreation and providing green spaces will be high on their agenda. Key associations with central government objectives are set out below:

Department for Infrastructure
- To increase active travel for commuting and other everyday utility journeys in order to reduce congestion and have a positive impact on road and user safety
- To support multi-modal journeys linked to sustainable transport such as buses and trains

Department for Agriculture, Environment and Rural Affairs
- Better appreciation and use of the environment
- Good habitat and landscape quality
- To enhance biodiversity along the greenway corridors
- To reduce greenhouse gas emissions and improve air quality

Department for the Economy
- To improve access to employment and job creation, particularly in rural areas
- To encourage tourism, particularly though the development of themed routes to promote local facilities and destinations and the promotion of related business activities – bike hire, bike repair, coffee shops, accommodation, etc.

Department for Health
- To improve the overall physical and mental health and wellbeing of people by promoting active travel
- To reduce traffic noise and pollution in neighbourhoods

Department for Communities
- To create places and spaces for more social interaction and inclusion
- To help address transport poverty in disadvantaged urban and remote rural areas

3.4 Strategic Plan – Overriding Objectives
The ‘Bicycle Strategy for Northern Ireland’ sets out the vision for transforming cycling in the period up to 2040. The Strategic Plan for Greenways can play an important part in this and will have similar objectives, namely:
1) To improve opportunities for social interaction through the development of new opportunities travelling by the greenway network;

2) To increase the number of geographic areas and populations that are accessible to greenways and their use;

3) To improve public health by offering better opportunities through the development of an extensive greenway network;

4) To increase safety for people using the bicycle through the provision of an extensive and well connected traffic free network; and

5) To achieve economic benefits as a result of development of the strategic greenway network.

3.5 Sub Objectives
We have also developed as series of related sub objectives:

1) To encourage and promote active travel and healthy lifestyles for those who live, work and play within network corridors.

2) To encourage and promote throughout the network a ‘One Path’ ethos which encourages sharing, respecting and enjoying the path by all users.

3) To get communities involved from the inception of the project through construction and on into maintenance and management. For example, encouraging and promoting community ownership and engagement through organised events and volunteering.

4) To put in place appropriate maintenance and management regimes that deliver the highest standards of amenity provision.

5) To integrate active travel along the greenways with other modes of sustainable transport such as public transport. This could include, for example, increasing cycle storage capacity on buses and trains or provide secure cycle parking at stations.

6) To establish the greenways not just as active travel routes but as public amenity spaces where people can meet, relax, play or enjoy nature which are used by a wide range of people.

7) To create links to the Greenways that connect residential areas, schools, community facilities, places of work and places to visit.

3.6 Targets
We have set out specific targets as follows:

1) To have 75% of the Primary Network delivered by 2026.

2) To have 25% of the Secondary Network delivered by 2026.

3) To increase the number of journeys made on the Greenways Network and the National Cycle Network to 50 million by 2026.
4 Developing Greenways

4.1 Introduction
This section highlights the main issues to be addressed when developing greenways. The information and advice in this section is not meant to be prescriptive, rather as general guidance based on several years of experience of greenway development that has been gathered by the organisations involved in writing this Strategy.

4.2 Identification of Route Corridor
As a first step in developing a Greenway a basic route corridor should be identified. This can be based on a combination of the alignment of a former railway line, public open space, flood embankment, road verges / quiet roads. The corridor should provide a range of route options, which may be developed. The initial planning stage should not set out a prescriptive route alignment, particularly when it might involve land negotiations / acquisition.

4.3 Information Gathering
The next step would be to start collecting information about the route corridor. This would include such things as:
- Land in public / private ownership
- Planning policies / designations
- Population information
- Character / visual quality of route
- Existing commercial services / places of interest
- General technical information – river crossings / roads / topography structures / surfaces etc.
- Existing designated routes, NCN, Ulster Way, others.

4.4 Community Consultation
This is a very sensitive piece of work and the timing and approach needs to be specifically designed for each route, particularly the timing and approach to landowners. Using a third party organisation (other than central / local government) to take the lead in community engagement may be helpful in securing support from local communities. Buy in by the local communities along the corridor will be essential, particularly in understanding the economic opportunities / and health and well-being benefits for the area.

4.5 Policy in Relation to Land Acquisition
Before approaches are made to landowners, key policy guidelines need to have been established. Consideration should be given to whether the land needs to be in public ownership in order to progress the scheme as other more open arrangements / agreements could be put in place? A form of partnership working and collaboration to achieve shared objectives is ideal and generally better than an imposed solution. While the guidelines should be agreed and consistent, the application of the guidance should respond to local circumstances.

4.6 Media Communications
Greenways have the potential to benefit everyone in some way, whether it is a health benefit or economic / business opportunity. The benefits of greenways have been communicated earlier in this report and it is important that these can be picked up by other areas e.g. health in terms of promoting their own aspirations and projects.
4.7 Planning the Route
Once the base information is in place, planning the route can begin. From information gathered, it is likely that there will be a number of options in relation to route alignment available. From experience elsewhere, the best approach may be to start developing sections that are already in public ownership and can be delivered relatively quickly.

Having a Plan B is an important part of the development planning, particularly where there are complex technical or land ownership issues.

The route is unlikely to be developed all at one time. A phased approach is most likely and plans will be required to ensure suitable alternative / interim routes / sections are in place.

4.8 Obtaining Statutory And Other Approval
Each route will have its own specific requirement. Early engagement with the local planning authority will be essential.

4.9 Costs and Funding
There is a lot of available information that can be used to calculate the project costs and this has been used to provide overall costs. Where land has to be acquired, this can add further additional onto the overall project construction costs.

Funding for these projects which have economic, environmental and social benefits may come from a variety of sources and early research will help identify potential sources.

4.10 Local Economic Benefit / Construction
Most Greenways are relatively simple to construct and the potential exists to construct them in small sections. This provides the opportunity for SMEs to undertake the work (investing in the local economy. Maintenance can also follow a local agenda and potentially can involve local landowners through local agreements.

4.11 Design Standards
There are numerous documents available that can provide guidance on design standards including:

- Sustrans Design Manual: Handbook for Cycle Friendly Design (Chapters 5 & 6)
- Department for Transport, Cycle Infrastructure Design Guide (including guidance on shared use routes)
- Transport for London, Cycling Design Standards
- Canals and Rivers Trust, Guidance for Towpath Design
- Cycling England, Archived Guidance
- Outdoor Recreation NI, Principles and Standards for Trail Development in Northern Ireland

In addition to the online links, more information on engineering standards can be found in Section 7.

4.12 Making the Most of Greenways
Each Greenway will present unique opportunities to promote and encourage activities and linkages within the surrounding area that it passes through. Plan the network of linkages from the start and promote their benefits. Plan events themed around what the local areas have to offer. Interpretation and presenting local stories and information is an important part of this.
4.13 Long Term Maintenance and Management
Planning for the future upkeep and management of the route is essential from the outset. Greenways should be viewed in the same way as public parks and maintained to appropriate standards.

Maintenance requirements can be met by, for example, engaging local contractors or local landowners. Volunteering can be organised locally to both pro-actively and reactively address maintenance and ongoing enhancement. Community groups and volunteering organisations will be important in not just the upkeep but in the ongoing development of the route, including being able to attract additional funding.

4.14 Behavioural Change
‘Building it and they will come’ is often the approach to infrastructure projects such as Greenways. However, as well as building the routes, resource should be invested in publicising them, providing information on how they might be accessed, facilities that are available and what the potential benefits might be. This would include travelling to work, leisure activities for the family, where to hire a bike, good coffee shops etc. Also important is how engaged a local community feel, as ownership of a particular project will encourage high usage.
5 Overview and Assessment of Potential Greenways

5.1 A Brief Overview of the Disused Railway Network
From a technical point of view, old railway lines provide an excellent opportunity to convert into greenways. If intact they often have good beds to surface, with little engineering required to bring them to an acceptable standard for light use such as walking and cycling.

The majority of the potential greenways set out in this plan are derived, where possible, from former railway corridors (see Appendix C). However, given that most of the abandoned lines have been closed for at least 50 years, track ownership is a very complex issue because of continuing development and changing land use and ownership. Where lines ran alongside the road, their reservations have frequently been incorporated into road widening schemes. In other cases they have been used for road bypasses. Some railway property has never been sold and is either demolished or lying derelict. Once a line is abandoned and the track bed sold to several new owners the natural linearity and associated right of way is lost.

Some lengths of line have been kept in public ownership (e.g., local councils or DfI), providing the opportunity for relatively easy development into greenways. Many parts, however, are in private ownership and further work needs to be undertaken to identify owners and initiate negotiations.

It is not just about looking at the original railway alignment. Greenways require linear access at intervals along the route. These could be spurs to other, secondary greenways or local links to communities, commercial and visitor attractions. It is important, therefore, to identify land and ownership adjacent to the dismantled railway lines. Community buy in and engagement is an essential element of establishing land ownership, promoting development and ensuring informal ownership and management.

5.2 Use of Canals, Embankments Other Infrastructure
Riverside paths are a particularly attractive location for greenways. They can often be continuous for quite long distances. They may be the only route available through the urban environment. They lead out from towns into the countryside, often they have opportunities for passing under road and rail bridges and they always have open water to give a spacious aspect to the journey. River corridors also connect communities, villages and towns.

Whilst paths alongside rivers may occasionally flood, paths on flood embankments are afforded a greater level of protection. Flood embankments can provide excellent routes with wide ranging views over the countryside. They may present an easier option to building near water courses and further examination of this as an opportunity is required. Support of the appropriate agencies (e.g., NIEA or Rivers Agency) and, of course, any private owners is critical.

Canal towpaths share many of the characteristics of riverside paths and have long been favourite places to walk and cycle. They have the attraction of being continuous over long lengths with comfortable gradients. In general, they were built with access to adjacent areas which can provide opportunities to link the path to local communities. The Lagan Towpath and the Newry Canal are good examples of successful well used greenways along such watercourses.

5.3 Local Council Consultations
A series of consultations were undertaken with all the local councils.

Letters were sent on 8th March 2016 to key staff at Councils. These were followed up by phone calls to each council following the letters (which were sent by email). The full list of contact details is included in Appendix B. Further calls were made regarding responses in April 2016.

The following summarises the responses received from the councils.

5.3.1 Antrim and Newtownabbey Borough Council
The Council currently has no plans that would fit into the strategic network, although officials are liaising with Mid and East Antrim District Council on the Greensiland to Monkstown Greenway. A Doagh to Antrim route was mentioned as part of this study and
they were receptive to this, in principle. Some work is underway to look at the feasibility of extending the comber greenway to Donaghadee.

5.3.2 Ards and North Down Borough Council

Ards and North Down Borough Council identified three key projects for consideration as part of the development of the Strategic Plan for Greenways.

1. An Extension of the Comber Greenway

The Comber Masterplan has already completed a feasibility study for the extension of the Comber Greenway from its existing start / end into Comber Town Centre. This could be extended along the river and shore linking to Island Hill where it would join the existing path on 'top' of the flood protection bank along the shore of Strangford Lough. This path continues to the Floodgates at the Portaferry Road in Newtownards and around the new Londonderry Park along the canal path. It would require an off road route to be identified (the former railway line has been developed over) to bring it to the North Road area and out of the town to Whitespots Country Park at the Somme Museum. At that point it would join the Clandeboye Way path across the Leadmines and enter the Clandeboye Estate, passing Helens Tower. The path continues through Helen's Wood to Clandeboye Avenue and past Helens Bay. The Greenway would then join the North Down Coastal Path. This existing Path would allow for a Greenway in both directions, east to Bangor and onto Orlock Point where it currently ends or west to Holywood with the potential to continue past Holywood Exchange and into the Harbour Estate linking to the Titanic Quarter and the Comber Greenway.

2. A Further Extension to the Comber Greenway to Downpatrick

Given the success of the Comber Greenway the Council thought it would make obvious sense to continue along the route of the railway line to Ballygowan, Ballynahinch and Downpatrick. A route through the towns would need to be found as the old line has been lost but the Council are sure that this is possible.

3. Donaghadee to Newtownards

A link from Orlock Point to Donaghadee would join the Comber Greenway to this section. The Council have not been able to identify this yet (perhaps a segregated section beside the existing coast road) but it should be investigated as part of the next stage. Using the former railway line at Donaghadee harbour would allow the Greenway to commence at the town waterfront and travel along the Commons Park to the former Millisle Halt and then inland following the former railway track bed across country towards Conlig and back to Newtownards. This route would also have the potential to link with the Greenway outlined in No.1 above, either at Whitespots or into Newtownards.

The Council would like to assess the feasibility of a Greenway on the Ards Peninsula but there is limited space along the outer Peninsula where the coast road runs along the shore in many places. This is also largely the case on the Strangford Lough shore. However, the Council noted the National Trust has recently purchased 1,000 acres of land from the Londonderry Estate at Mount Stewart and wish to develop a path network on the Estate as a series of off road walking and cycling trails.

5.3.3 Armagh City, Banbridge and Craigavon Borough Council

The Council came forward with proposals for consideration in the Strategic Plan. The first was the connection between Portadown and Armagh along the abandoned railway line. The Council has already undertaken work on this including discussions with landowners.

The Council are also involved in the promotion of the Ulster Canal as a walking and cycling opportunity can. They have been involved with the INTERREG V application for the section of the Ulster Canal through to Caledon and would like to see this further extended to connect with Lough Neagh but this is likely to be taken forward by Waterways Ireland.

There are also a number of potential routes within the former Banbridge District Council area which were looked at a number of years ago. These include the line from Lisburn to Banbridge through Knockmore junction and the line from Banbridge to Scarva, which would link with the Newry Canal Way and the line from Banbridge to Ballyronan.
5.3.4  **Belfast City Council**
Belfast City Council provided a general response, reflecting their response to the Bicycle Strategy for Northern Ireland consultation.

5.3.5  **Causeway Coast and Glens District Council**
The Council provided a copy of some work undertaken on the section between Ballymoney and Ballycastle. The Feasibility Study into the creation of a greenway between Ballymoney and Ballycastle – Rail to Trail March 2016, was undertaken by the Causeway Coast and Glen Heritage Trust. This represents the Council’s main focus on greenway proposals.

5.3.6  **Derry City and Strabane District Council**
To date over 80km of traffic free (i.e. separated by at least a kerb from motor vehicle traffic) routes have been developed in the city alone, 30km of which are greenway standard. There is potential to expand the greenway network to communities and amenities away from the city centre and river basin, some of which could form part of longer greenway projects.

With the creation of the new Derry City and Strabane District Council in April 2015, a revised walking and cycling masterplan for the new Council area has been agreed. The masterplan highlights not only possible new purpose built greenway routes but improvements to the local network that would increase active travel and cognisance of these has been taken in developing the overall strategic plan.

5.3.7  **Fermanagh and Omagh District Council**
Fermanagh and Omagh District Council’s main priority is the development of the Sligo, Leitrim and Northern Counties Railway Greenway from Manorhamilton to Enniskillen. The Council is currently involved in a Phase II bid for INTERREG V under the sustainable transport theme for this greenway, along with Leitrim and Cavan County Councils. The SLNCR Greenway is a total of 38km in length linking Manorhamilton and Enniskillen.

Another priority is the development of a greenway along the Ulster Canal. The Council has supported Waterways Ireland in tendering for consultants to carry out a Strategic Environmental Assessment for the Ulster Canal Greenway. Development of the Ulster Canal Greenway would contribute towards a long term vision of having a long distance strategic route through central Ulster, which will eventually achieve connectivity with Scotland (Eurovelo Route 1) via Lame.

A third priority is the development of the Clones to Enniskillen Greenway. As with the Ulster Canal, Fermanagh and Omagh District Council have worked in partnership with Waterways Ireland to include this stretch of greenway in the Strategic Environmental Assessment. This again, is a longer term vision for the area but one Fermanagh and Omagh District Council would like to see included at this stage.

5.3.8  **Lisburn and Castlereagh City Council**
The Council have suggested a number of proposals. The first would extend the Sustrans Route No.9 onwards from Sprucefield. Proposed cycle routes that might connect from Union Locks, Sprucefield to Maze Long Kesh and beyond.

The second proposal is a possible route onwards towards Moira and Portadown. It appears that there is a strip of land in public ownership along much of the M1 motorway, some paved and some not, which could provide an extension to the off road cycle network.

There is also potential to create a (Blue) Greenway route along the proposed route of the re-opened Lagan Navigation, which could be part of the larger route above or move in and out of it. This Blueway/Greenway has potential to link into Waterways Ireland’s overall strategy for the waterways for which they have responsibility (not just the Lagan).

The Council also referred to a Carryduff to Belfast greenway and would view this favourably in terms of inclusion in the Strategic Plan.

5.3.9  **Mid and East Antrim Borough Council**
The Council is keen to progress greenways within the Borough and asked the consultants to note that the Greenisland Master Plan (http://www.midandeastantrim.gov.uk/planning-development/economic-development/masterplans/greenisland) details the
Greenisland to Monkstown Greenway (http://nigreenways.com/2014/01/23/monkstown-greenisland-greenway/). There is also a possibility of the Ballymena to Cushendall Greenway (http://nigreenways.com/2015/09/07/glens-of-antrim-greenway/), although this needs progressed further and the Council are currently undertaking some feasibility work.

5.3.10 Mid Ulster District Council
Mid Ulster District Council is very interested in developing greenways based on the opportunities provided by canals and disused railways. Through the Blackwater Regional Partnership, Mid Ulster Council has assisted partner councils to submit an application to INTERREG for the development of a greenway along the Ulster Canal towpath from Smithborough to Middletown. Mid Ulster District Council would welcome opportunities to support continued development to extend the Ulster Canal Greenway to the village of Moy and consider links to other potential routes in the Blackwater and Clogher Valley areas.

5.3.11 Newry, Mourne and Down District Council
Newry, Mourne and Down District Council in conjunction with Louth County Council are developing the proposed Carlingford Lough Greenway project – specifically a ‘corridor’ stretching from Albert Basin in Newry City, County Down to Greenore Harbour, County Louth via the villages of Omeath and Carlingford.

The Greenway will form part of the proposed Great Eastern Greenway linking Dundalk to Belfast. Phase 1 of the project has funding secured – from Albert Basin to the weir on the Middlebank and contractor will complete this project in 2016 – 2017. The Council have also applied to INTERREG V for funding for phase 2.

5.4 Other Consultations
A series of other consultations was undertaken with interested parties, as identified by the client. These consultations followed the same process and those undertaken for the local councils.

5.4.1 DCAL
The former DCAL was supportive of the principle of greenways and noted a need to facilitate both commuter and leisure uses.

5.4.2 NIEA
NIEA sat on the Greenways strategic group coordinated by the former DRD which produced a draft report. They are supportive of the development of sustainable greenways and the many benefits they can provide, particularly:

- Access to enable local people and visitors to enjoy and appreciate the natural and historic environment;
- Reductions in air pollution;
- Safe, traffic free routes;
- Health and well-being;
- Helping realise the full value of our natural and historic environment to deliver long term prosperity.

5.4.3 Northern Ireland Environment Link
NIEL were very supportive of Plan but noted the following points to be considered:

- Plan should mention/reference synergies with long term water/flood defences.
- Plan should mention/reference NI climate change adoption plan.
- Plan should mention/reference ‘natural capital’ policy

5.4.4 Outdoor Recreation NI
The main points from Outdoor Recreation NI were that the greenway network is not just built for active travel purposes but should realise the importance of greenways in contributing to tourism, particularly in linking together high value scenic areas and in developing areas of high scenic value in their own right. They were particularly supportive of the development of iconic trails such as themed visitor routes and routes through AONBs.
They were aware that the funding for greenways is generally associated with active travel and ‘getting people out of cars’ but they noted that in reality the success of greenways in Ireland has been manifested in tourist related greenways – for example Achill to Westport. Cognisance of this should be included in the development of the strategic plan for greenways.

Outdoor Recreation NI also noted other issues with developing greenways, in particular access, where they felt that arrangements made via permissive access were difficult and were not sure how this could be addressed effectively unless land was vested along the proposed route.

They would also be very keen to ensure that when greenways are being developed consideration is also given to how they are linked to communities along the way through the provision of community trails and community trail networks. In rural areas this will obviously be more difficult – but they would see this as a priority.

5.4.5 Public Health Agency
The PHA warmly welcomed the Bicycle Strategy and its commitment to supporting more people to travel actively, and is therefore also supportive of its plan to develop a network of greenways.

Although the PHA does not have a remit for infrastructure developments such as greenways, they fund a number of programmes which promote walking and cycling, for example:

- Schools – an Active School Travel programme commissioned jointly by PHA and DfI, targeting 60 schools each year which encourages and supports more children to walk and cycle to school.
- Workplaces – a workplace active travel programme with staff from PHA, Belfast City Council, Belfast Health and Social Care Trust, BSO and the Health and Social Care Board.
- Communities – a programme is due to be commissioned, targeting 12 disadvantaged areas in Belfast.
- 10,000 Steps campaign is due to be introduced this year, encouraging people to walk 10,000 steps every day.

Providing traffic-free routes such as greenways is beneficial in increasing rates of walking and cycling. Existing routes such as the Comber Greenway and the Connswater Community Greenway (currently under construction) are showing that people will be more physically active if they have access to pleasant, safe, well-maintained space.

Greenways can also foster connectivity between communities and reduce isolation. Access to green space has also been proven to improve emotional health and wellbeing, another reason that PHA would be keen to see more greenways developed.

The PHA has been working closely with DfI on a range of active travel initiatives, and looks forward to exploring, alongside local councils, the potential for developing a network of greenways.

5.4.6 Tourism NI
Tourism NI has welcomed the Bicycle Strategy and noted that the strategic plan should be aspirational and include more than just greenways on abandoned railway lines. Iconic routes, designed according to visitors’ needs have the potential to create economic return for rural areas. The benefits of traffic free greenways aimed at visitors has been well documented e.g. Great Western Greenway, Way of the Roses.

TourismNI have made reference to the international appeal of cycling here. Visitors may seek experiences ranging from hiring a bike for a few hours as part of their overall trip, to a cycle tourist who may come for a short break and use cycling as their main mode of transport.

From a tourism perspective they thought that:

- In terms of needs, visitors mainly enjoy circular routes, which start and finish in the same place rather than linear trails.
- Beauty of scenery is our major strength and, in their view, the most important feature of a good cycle route. Most of those who have cycled in NI consider the scenery to be superior than other cycling destinations. The planning of future greenways, and tourist focused routes should take this into account.
- Routes should be themed – e.g. Game of Thrones trail – i.e. a route that allows accessibility by bicycle to a number of sites e.g. Dark Hedges, Ballintoy, Dunluce Castle;
- Tourists like going to A – A i.e. routes that start and finish in same place are preferable including trail-heading;
- If themed routes cannot be developed they need to be linked to points of interest and/or tourist attractions; and
- Views and vistas along routes were important, but needed to be supported by infrastructure such as accommodation, toilets, cafes, etc. to provide a high quality seamless visitor experience.

Also suggested was a themed Carlingford Lough Route – connecting Carlingford to Newry and Warrenpoint – this could be part of a Mourne Themed route and potentially Enniskillen, Kesh, Irvingston, Beleek, Lough Erne route (around Lower Lough Erne).

5.4.7 Waterways Ireland

Waterways Ireland (WI) is a North-South Implementation Body with seven waterways under its navigation authority remit across the island of Ireland. In the Northern Region, it is navigation authority for the Lower Bann (Toome to Coleraine), the Erne System (County Fermanagh) and the cross-border Shannon - Erne Waterway (Fermanagh, Cavan, Leitrim). The body also was given responsibility for taking forward work on developing the Ulster Canal from the Erne System.

Waterways Ireland is actively working on the development of Blueways (which include walking and cycling activities) across the network of waterways. A new Blueway on the cross-border Shannon – Erne Waterway will be launched later this year.

WI has worked collaboratively with local authorities and stakeholder agencies and groups in the development of walking and cycling trails along its waterways and would be supportive of the appropriate development of greenways in waterway corridors. WI is keen to increase the numbers of visitors to the waterways and the greenway product should complement the experiences already offered on and along the waterways. WI has developed recreational trails along its waterways in key locations using in-house technical, environmental, engineering expertise and construction teams.

A strategic network would deliver connectivity across the island and support existing tourism and recreational offerings along the waterways and in urban and rural communities. It would also facilitate the development of secondary routes in local settings. Therefore Waterways Ireland would appear to support the development of a Strategic Plan for Greenways.

A manifestation of these aspirations is the Ulster Canal Greenway Project: In June 2015 WI was directed to lead local authorities and stakeholders in taking forward the development of a greenway from Castle Saunderson, Co. Cavan to Charlemont, Co. Armagh along the disused Ulster Canal. The partners that are working together with WI on this vision are Armagh City Banbridge and Craigavon BC, Monaghan CC, Fermanagh and Omagh DC, Cavan CC, East Border Region Ltd and Blackwater Regional Partnership. For the purposes of a bid to INTERREG V a section from Smithborough to Middletown was selected to be developed as a greenway.

5.4.8 Conclusion

The consultation with stakeholders has demonstrated a broad support for the development of a greenway network and shown how it can deliver outcomes to benefit a wide range of government priorities. We believe that active travel is the key benefit as it has the greatest potential to deliver volumes of users all year round, building healthy activity into everyday life, improving accessibility, reducing congestion and improving air quality. However, we also believe that it is important not to lose sight of the important leisure and recreational aspect which also delivers strong health and wellbeing benefits for local people and the potential to improve the tourism aspect with additional benefits for the local economy. The development of greenways should reflect this and strive to deliver in all of these areas.
6 Route Assessment

6.1 Introduction
This section of the report identifies the various routes and assesses them against the study objectives in order to provide the Strategic Plan for Greenways. The network, has been split into the primary network and the secondary network. The secondary network serves as feeders to the primary network.

Before examining the network and associated scoring, the assessment methodology is further detailed.

Information gleaned from the team's own knowledge and research as well as that provided by the various councils and other consultees was collated on to maps and plans. In addition the ‘NI Greenways’ network map was overlaid onto a map of population densities effectively highlighting the largest areas of population. This allowed an initial look at how the network related to the population centres providing the basis of a network. Then the network was further infilled to provide an overall initial network that could be assessed using the methodology in this section. In order to help with the assessment process the routes were broken down into more manageable sections and these were considered in more detail.

6.2 Assessment Methodology
The assessment methodology has been developed to determine the ‘relative benefit’ of each of the routes considered in the Strategic Plan for Greenways.

The methodology is linked to the vision and objectives identified in earlier sections, in addition to other criteria such as estimated costs. The assessment methodology has been used as a comparator between the routes included for assessment and the constituent parts of the assessment criteria are now considered in further detail. No weightings have been applied to the following criteria.

6.2.1 Contribution to Network
The first criteria relates to how this route or section of route will contribute to an overall network including cross border connections and the EuroVelo1 Route. In terms of the NCN, if part of the existing NCN can be improved or a comparable route replaced by the new greenway this will score more highly, with a higher score (between 1 and 5) indicating that the route or section of route has a positive impact.

6.2.2 Schools, Work, Retail, Leisure, Places of Interest
All of the above act as transportation generators and the bicycle is a mode of transportation that can serve these. It is a broad indicator, as these destinations include schools, workplaces, retail and leisure opportunities as well as places of residences, villages, towns and cities.

Cognisance was also taken of places of interest, but at a strategic level. These are defined as the key signature projects including:
- Titanic Belfast;
- Giants Causeway/Antrim and Causeway Coast Area;
- The Walled City of Derry;
- Christian Heritage/St Patricks (Armagh and Downpatrick); and
- Mournes Area

A higher score (1-5) would indicate a more positive contribution from the route or section of route.

6.2.3 Ground Conditions, Topography etc.
The proposed greenway routes have been assessed by reviewing readily available information such as OSNI digital terrain maps, NIGS surface geology maps, Rivers Agency River Centre line, NIEA GIS mapping (ASSI, SAC, etc) and Transport NI Road Centre line data. These factors will either impact positively or constrain the proposed sections and have been scored by
assessing the cumulative impact that the factor has on the route i.e. very positive, positive, neutral, negative or very negative impact.

6.2.4 Health and Communities
This criterion examines the contribution to active travel social interaction. Again, use has been made of the TRACC accessibility analysis to examine population data, to help facilitate assessment of this criterion. Routes/sections of routes passing through higher populated areas or routes/sections of route connected higher populated areas will score higher (0-5) than those not passing those areas with greater populations.

6.2.5 Business
The development of greenways has led to the creation and expansion of business in the environs of the greenway. This includes both those cycling for leisure and cycling tourism and, to a degree, commuters. For the purposes of this assessment tourism is seen as a good indicator of how business could be developed. Where greenways bring tourists to areas, visitors help create and expand businesses. They spend on accommodation, food and drink and gifts. This facilitates business opportunities in, for example, B&B’s cafes, shops and cycle hire.

A higher score (in the range 1-5) shows that the route or section of route would help facilitate business in more positive ways.

6.2.6 Environment
The environment criteria relates to a reduction in vehicle emissions, noise and congestion. This ostensibly relates to modal shift and the transfer opportunities from motorised vehicles to walking and cycling. The likelihood is that routes entering the larger urban areas are more likely to have commuter trips that can potentially transfer, therefore this criterion has been scored on this basis i.e. if good opportunity for modal transfer to bike/walk then scores highly in range 1-5.

6.2.7 Culture/Tourism
This assessment looks at how a greenway will attract visitors to an area. A new route for example could open up an area to more tourists. There may be places of interest that are only accessible by motorised transport and the new route or section of route allows these to be accessed by foot or bicycle. The scoring will also reflect the routes location with respect to the strategic tourist locations identified in 6.2.2.

6.2.8 Costs
Costs have been estimated on a ‘broad brush’ scale, for the purposes of this assessment and commensurate with a study of this nature. The costs are to be used as comparators and therefore have been split into the following criteria:

L: Low cost (<£50k/km)
M: Medium cost (£50k/km to £150k/km)
H: High cost (£150k/km to £200k/km)
VH: Very High (>£200k/km)

6.3 Primary Network Assessment – see Appendix D

6.3.1 Belfast to Craigavon
This section scored 29 – the highest in the assessment. This section scores highly because it contributes significantly to the network (both EuroVelo Route 1 and the NCN) and lies along the highly populated Lagan Valley for a high proportion of the route as well as Lurgan and Portadown in west.

The section includes parts of the Lagan Navigation and Ulster Canal which will promote leisure and tourism activities and it further extends the Lagan and Lough Neagh Cycle Way, opening up further opportunities for commuting.
6.3.2 Dungannon to Coleraine
This section scored 24 and allows connection to the ‘North Coast’ one of the signature tourist areas, allowing access to some of the province’s main tourist attractions e.g. Giants Causeway. This section also facilitates connections between a number of provincial nodes including Cookstown, Moneymore, Magherafelt, Maghera, Kilrea and Garvagh. It also facilitates access to the Sperrins, another area that attract tourists.

6.3.3 Belfast to Larne
This section scored 26. It contributes to the network being part of EuroVelo Route 1 and following the alignment of the NCN as far as Newtownabbey. The section passes through some of the more densely populated areas and termination point at Larne allows onward extension to Scotland (by ferry).

6.3.4 Belfast to Newtownards
This section scored 26. This section of the plan utilises the existing NCN (Comber Greenway) but extends it into Comber town and on to Newtownards. This opens the section up to a wider commuter corridor so scores in Environment and Health reflect this.

6.3.5 Craigavon to Enniskillen
This section scored 25. It scored highest in terms of business, culture, tourism and health criteria. It connects to Fermanagh lakes and onwards to the west coast of Ireland. It scores less well on other criteria due to the lower population densities along this section.

6.3.6 Craigavon to Newry
This section scored 25. The route uses most of the existing NCN along the Newry Canal so costs are low. The route extension out of Newry allows onwards connections to Co. Louth.

6.3.7 Craigavon to Derry~Londonderry
This section scored 24. This section provides a connection to our second city but importantly connects some provincial nodes along the way (Dungannon, Omagh, Newtownstewart and Strabane). Derry~Londonderry (as the Walled City) is one of signature tourism locations. The route is on EuroVelo Route 1 and has also onward connections to Co Donegal via Strabane and Derry~Londonderry.

6.4 Secondary Network Assessment – see Appendix E

6.4.1 Belfast to Bangor
This section scored 22. This section utilises, in part, the North Down Coastal Path, but connects the route between existing infrastructure in Belfast and Holywood. This opens up a wider commuter corridor and also opens up tourism opportunities.

6.4.2 Derry~Londonderry to Coleraine
This section scored 22. As part of the secondary network it connects two parts of the primary network (Derry~Londonderry and Coleraine) linking two key signature tourism areas (Walled City and Causeway Coast), but generally scores were spread across all criteria.

6.4.3 Belfast to Carryduff
This section scored 21. The main constituents of the scores were the contributions to Environment, Health and Linkages as the section of the network would lie on a potential new commuter corridor into Belfast for people who wish to travel by bicycle.

6.4.4 Ballymena to Cushendall
This section scored 22. One of the higher scores amongst the secondary routes this reflects the positive contributions to criteria such as Culture/Tourism and Business, as well as Health and Communities.
6.4.5 Macfin to Ballycastle via Ballymoney
This section scored 22. One of the higher scores amongst the secondary routes this reflects the positive contributions to criteria such as Culture/Tourism and Business, as well as Health and Communities.

6.4.6 Coleraine to the Giants Causeway via Portrush and Bushmills
This section scored 22, and reflected high scoring contributions from Networks and Culture/Tourism.

6.4.7 Belfast to Carrickfergus
This section scored 21. This section utilities parts of the Loughshore cycle-way and extends the section of greenway to Carrickfergus opening up further commuter opportunities in addition to leisure uses and these are reflected in their scores.

6.4.8 Bangor to Newtownards Loop
This section scored 19. This connection on the secondary network links the primary network to Newtownards to Bangor via Donaghadee and also back onto the North Down Coastal path. The scoring reflects the positive contribution the route is likely to have on tourism and health.

6.4.9 Comber to Newcastle and Ardglass via Downpatrick
This section scored 21. The section would act as a further extension of the Comber Greenway and connect to key tourist destinations such as Downpatrick (St Patricks Trail) and Newcastle (the Mourne Mountains). Therefore the scores reflect the main impacts of Culture/Tourism and associated Business.

6.4.10 Omagh to Enniskillen
This section scored 20. The main contributions to this score came from contribution to the Network, Business and Culture/Tourism, but generally scores were spread across all criteria.

6.4.11 Trillick/Ballinamallard (Bundoran Junction) to Belleek
This section scored 20. The main contributions to this score were associated with its contribution to network and culture/tourism. It also provides onward connections to Donegal at Belleek.

6.4.12 Mossley to Carrickfergus via Greenisland
This section scored 20, with a generally even spread of scores across all criteria.

6.4.13 Ballyclare (Doagh) to Draperstown via Antrim & Magherafelt
This section scored 18. The section would connect the primary route network from Larne to the main north – south primary route at Magherafelt, therefore it scores are relatively high in terms of Linkages and Tourism.

6.4.14 Ballyclare to Ballymena
This section scored 18. It provides a connection to Ballymena from the primary network thereby connecting Larne to Belfast. It also provides an onward connection to the secondary route between Ballymena and Cushendall, so Linkages and Tourism were two of the higher scoring criteria.

6.4.15 Caledon to Maguiresbridge via Clogher Valley
This section scored 17, with low-middle range scores for all criteria.

6.4.16 Armagh to Newry via Markethill
This section scored 15. The overall score was particularly reflective of a low score on Technical criteria as well as low scores on most of the other criteria assessed.

6.4.17 Banbridge to Newcastle (including connection to Scarva)
This section scored 14. The relatively low score reflected by the impacts on Network, Linkages and Technical criteria.

6.4.18 Ballymena to Killea
This potential section to the secondary network scored 14, reflecting low scores across all criteria.
6.4.19 Lisburn to Banbridge
This section scored 13. The assessment was mainly contributed to by low scores in the Technical, Linkage and Cost criteria.
## Guidance on Engineering Standards

### 7.1 Document Review
A document review of available guidance documents was undertaken taking account of draft documents which are being prepared in order to recommend the most applicable guidance on standards for the construction of greenways. The documents that have been reviewed are included in Table 2.

<table>
<thead>
<tr>
<th>DESIGN GUIDE:</th>
<th>APPLICABLE ELEMENTS OF GUIDANCE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustrans Design Manual, Handbook for cycle-friendly design, April 2014</td>
<td>Design of traffic free routes</td>
</tr>
<tr>
<td></td>
<td>Path Construction</td>
</tr>
<tr>
<td></td>
<td>Crossing in general and rural setting</td>
</tr>
<tr>
<td>Cycling Infrastructure Design, LTN 2/08, DfT 2008</td>
<td>Signage</td>
</tr>
<tr>
<td></td>
<td>Off Road Cycle Routes</td>
</tr>
<tr>
<td></td>
<td>Street Lighting</td>
</tr>
<tr>
<td></td>
<td>General context especially when in proximity of carriageway</td>
</tr>
<tr>
<td>Guidelines for Providing for Journeys on Foot, CIHT 2000</td>
<td>Land Use Planning</td>
</tr>
<tr>
<td>Shared Use Routes for Pedestrians and Cyclists, LTN 1/12, DfT 2012</td>
<td>Site Assessment</td>
</tr>
<tr>
<td></td>
<td>General Conditions</td>
</tr>
<tr>
<td></td>
<td>Hierarchy of Provision</td>
</tr>
<tr>
<td>Inclusive Mobility: A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure, DfT 2002</td>
<td>Integration with LTPs</td>
</tr>
<tr>
<td></td>
<td>Design in conjunction with disabled access</td>
</tr>
<tr>
<td></td>
<td>Design for road works</td>
</tr>
<tr>
<td>Cycling England: Design Checklist, 2010</td>
<td>Checklist</td>
</tr>
<tr>
<td></td>
<td>English Context</td>
</tr>
<tr>
<td>Infrastructure Toolkit for Cycling Towns, Cycling England, 2009</td>
<td>Guidance on ALSs, Contraflows and Toucan Crossings</td>
</tr>
<tr>
<td></td>
<td>Geometric Design</td>
</tr>
<tr>
<td>Design Guidance, Active Travel (Wales) Act 2013</td>
<td>Welsh Context</td>
</tr>
<tr>
<td></td>
<td>Geometric Design</td>
</tr>
<tr>
<td>National Cycle Manual, National Transport Authority, 2011</td>
<td>Rol Context</td>
</tr>
<tr>
<td></td>
<td>Signage</td>
</tr>
</tbody>
</table>

The review included the following design guide parameters and in most cases a desirable and minimum figure was quoted:

- Gradient
  - Longitudinal
  - Cross fall
- Greenway width
  - Primary route
  - Access Link
The documents reviewed gave specific guidance on traffic free and greenway design. In several cases it recognised that user numbers would influence the width of the pathway. For example in rural areas a 3.0m wide pathway was seen to be adequate with a 2.5m wide access link. In an urban environment including the urban fringe or where user numbers were greater the guidance generally recommended a 4.0m wide pathway. An appropriate width of path is important in respect of minimising conflicts between different types of user.

A good example that illustrates the different geometric design considerations (shown below) is reproduced from the Sustrans Handbook for Cycle-friendly design. Although this refers to a traffic free route as being used to provide a link and short cut away from the road, the same guidance is applicable to complete sections of greenway especially where it will be in close proximity to population centres and user numbers will increase. The width calculator tool used by the National Cycle Manual Design Guide is also very useful to consider the required cycle lane width, albeit this is more influenced by the requirements of an urban cycleway (https://www.cyclemanual.ie/manual/thebasics/width/) it would be applicable in certain sections which will be alongside existing or proposed roads.

It is important to stress that where physical constraints exist, a relaxation from the guidance should be considered if safety is not compromised. An example would be if an existing bridge abutment or similar built heritage structure required the path to be less than 2m for a short distance and a possible engineering solution would attract significant costs then this would be acceptable. Similarly, if a section included a hill that was greater than 1:20 for more than 10m and to create a cutting or divert around it would change the landscape character, incur further costs or add significant distance to the route then this would also be acceptable.

Risks to pathway users from the design guides reviewed are summarised in Table 3 below and possible mitigation measures are included:

<table>
<thead>
<tr>
<th>Element</th>
<th>Risk</th>
<th>Mitigation Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathway directly adjacent to road with vehicle speeds greater than 40mph</td>
<td>Risk of vehicles veering towards path or pathway users falling onto the road</td>
<td>Increase width by 0.5m, insure kerb (as a minimum) or other physical restraint provides separation</td>
</tr>
<tr>
<td>Constriction</td>
<td>Collision with other path users or boundary edge constraints</td>
<td>Signage as a minimum and clear sight lines</td>
</tr>
<tr>
<td>Water or level difference</td>
<td>Injury from fall or drowning</td>
<td>Barrier (1.4m high)</td>
</tr>
<tr>
<td>Road crossing</td>
<td>Collision with traffic</td>
<td>Adequate sight lines, local diversion, traffic lights or grade separation (latter two options will incur costs)</td>
</tr>
</tbody>
</table>

Table 3 - Typical Risk Assessment for Physical Constraints
From review of the different design guides the recommended geometric design requirements are summarised in Table 4.

Through our experience of Greenway design AECOM and Sustrans have also realised that Greenways may also need to facilitate other forms of transport such as farm machinery in certain sections in order to make the route viable. The greenway construction in these cases would necessitate a concrete pavement to be designed in order to be durable enough to meet the design life given these larger vehicle loads and more aggressive turning forces. Cross sections of typical bound (bitmac), tar & chip and unbound construction are shown in the sections overleaf which are extracted from Figures 5.2, 5.3 and 5.3 of this Sustrans document - The Design and Construction of ‘Traffic Free’ Sections.
### Table 4 - Recommended Greenway Design Parameters

<table>
<thead>
<tr>
<th>DESIGN ELEMENT</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>WIDTH</td>
<td></td>
</tr>
<tr>
<td>Desirable</td>
<td>3.5 - 4.0m *</td>
</tr>
<tr>
<td>Minimum</td>
<td>3.0m</td>
</tr>
<tr>
<td>Cycleway only adjacent to 40mph road</td>
<td>2.5m</td>
</tr>
<tr>
<td>Access Link</td>
<td>2.5m</td>
</tr>
<tr>
<td>Gradient (Crossfall)</td>
<td></td>
</tr>
<tr>
<td>Crossfall Desirable</td>
<td>2%</td>
</tr>
<tr>
<td>Crossfall Maximum</td>
<td>2.50%</td>
</tr>
<tr>
<td>Gradient (Longitudinal)</td>
<td></td>
</tr>
<tr>
<td>Max (short)</td>
<td>8%</td>
</tr>
<tr>
<td>Max (20m)</td>
<td>5%</td>
</tr>
<tr>
<td>Preferred (min)</td>
<td>1%</td>
</tr>
<tr>
<td>Clearance</td>
<td></td>
</tr>
<tr>
<td>Desirable</td>
<td>2.7m</td>
</tr>
<tr>
<td>Absolute Min</td>
<td>2.1m</td>
</tr>
<tr>
<td><strong>Barrier Height</strong></td>
<td><strong>1.4m</strong></td>
</tr>
<tr>
<td>Radius</td>
<td></td>
</tr>
<tr>
<td>Commuter</td>
<td>25m</td>
</tr>
<tr>
<td>Local access</td>
<td>15m</td>
</tr>
</tbody>
</table>

*Dependant on cyclist and pedestrian numbers the width may need to be increased
Section 1 – Bitmac Path Construction of Soft Soils

Section 2 – Detail of Path Construction On Firm Ground
Section 3 – Limestone Dust Path Construction of Soft Ground
8 Strategic Plan and Actions

8.1 Introduction
This section collates the outputs from the previous section on assessment to form the Strategic Plan for Greenways. It also prioritises routes in terms of implementation but this relates to the primary network only. This prioritisation process is based on our knowledge at this point. This sets out the preferred approach but would not preclude Councils advance funding particular sections or sections of routes.

The Plan has identified an initial set of routes that should be explored to develop a primary greenway network from which a secondary greenway network could progressively extend. The primary routes will provide long distance connectivity and secondary routes will serve as feeders.

8.2 The Primary Network
The primary network has been developed to include a number of east west and north south spines. In general these include the main areas of population as well as the major tourist attractions. The east-west spine connects into and helps facilitate EuroVelo Route 1 (between Larne and Craigavon) and continues through to Enniskillen and then Belcoo connecting into Co. Cavan. The north-south spine, via two spurs, connects Derry/Londonderry (and Co. Donegal) and the Causeway Coast to Newry and onwards south via another cross border route.

In terms of priority it is seen that the facilitation of a traffic free EuroVelo Route 1 is an important priority.

This has been reinforced via consultations where Lisburn and Castlereagh City Council, Armagh, Banbridge and Craigavon Borough Council, Fermanagh and Omagh Council and Waterways Ireland have already undertaken feasibility studies into greenways along this spine.

The Primary Network associated with the Strategic Plan for Greenways is illustrated in Figure 6.

8.3 The Secondary Network
The secondary network would follow on from and feed into the primary network. The secondary routes will serve as feeders and could progressively be extended as funding permits. However, the secondary network has some excellent routes e.g. Ballymoney to Ballycastle, and Councils may decide to bring forward these sections on their own.

The complete network for the Strategic Plan for Greenways, including both the primary and secondary elements is included in Figure 7.

8.4 Action Plan
8.4.1 Introduction
The purpose of the Strategic Plan for Greenways is to develop a network that allows people to travel to places, locally, regionally and internationally by walking and cycling.

This will provide opportunities for people to cycle to work, school and other places. It will also provide opportunities to cycle for leisure helping develop the local cycle and walking visitor economy.

The following sections set out the proposed networks for Greenways including an indicative order and costs. In addition this section of the report highlights potential funding sources.
8.4.2 Proposed Network and Indicative Order of Costs

The proposed network for Greenways is shown in Figure 7.

<table>
<thead>
<tr>
<th>Primary Route Section</th>
<th>Route length (km)</th>
<th>Estimated Cost £k</th>
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<tr>
<td>Belfast to Craigavon</td>
<td>38.7</td>
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<td>Craigavon to Enniskillen</td>
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<td>Belfast to Lame</td>
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<td>Craigavon to Derry-Londonderry</td>
<td>114.9</td>
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<td>Dungannon to Coleraine</td>
<td>96.5</td>
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<tr>
<td>Belfast to Newtownards</td>
<td>18.7</td>
<td>£1,870</td>
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<tr>
<td><strong>Sub Total</strong></td>
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<table>
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<th>Secondary Route Section</th>
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<tr>
<td>Belfast to Carrickfergus</td>
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<tr>
<td>Bangor to Newtownards Loop</td>
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<td>Belfast to Carryduff</td>
<td>8.9</td>
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<td>Comber to Newcastle and Ardglass via Downpatrick</td>
<td>54.6</td>
<td>£8,190</td>
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<td>Lisburn to Banbridge</td>
<td>22.5</td>
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<td>36.2</td>
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<td>Ballymena to Cushendall</td>
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<td>25</td>
<td>£3,750</td>
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<td>Mactin to Ballycastle via Ballymoney</td>
<td>29.5</td>
<td>£4,425</td>
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<tr>
<td>Coleraine to Giants Causeway via Portrush and Bushmills</td>
<td>23.5</td>
<td>£3,525</td>
</tr>
<tr>
<td>Derry-Londonderry to Coleraine</td>
<td>53.7</td>
<td>£8,055</td>
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<tr>
<td>Armagh to Newry via Markethill</td>
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<td>Caledon to Maguieresbridge via Clogher Valley</td>
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<td>Omagh to Enniskillen</td>
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<td>Trillick/Ballinamallord (Bundoran Junction) to Beleek</td>
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<tr>
<td>Limavady Junction to Dungiven</td>
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<td>Mrosley to Carrickfergus via Greenisland</td>
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<td><strong>Sub Total</strong></td>
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<td><strong>Total</strong></td>
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| Table 5 - Indicative Order of Costs of Greenways Network |

The costs for each of the sections of routes have been estimated but it should be noted it is difficult to provide estimates of costs for the construction of Greenways over such a wide network.
A review of a number of constructed Greenway scheme costs was used to develop an indicative cost yardstick based on four costs bandings; less than £50k/km, £50k-150k/km, £150k-£200k/km and greater than £200k/km. The financial reasons that have driven these previous projects costs have been reviewed and translated to the proposed routes that are envisaged to be similar in nature. For example routes that are largely completed such as Belfast to Larne or Belfast to Newtownards score highly.

8.5 Potential Funding Sources

It is the Department’s intention that local councils will bring forward the schemes included in the Strategic Plan. To this end there will be a number of sources of funding. Given the likely impact of the proposed Greenway networks on a wide range of government priorities, (as set out in sections 2 and 3 of this report) there will be scope to lever funding from a number of sources e.g., tourism, health, sustainability, economic regeneration, etc.

The former Minister for Regional Development announced a small grants programme for the development of greenway projects in March 2016. This competitive scheme is aimed at providing support for councils to work up projects that will contribute to a step change in greenway provision. Further work on a capital grant scheme is being considered by the Department for Infrastructure to assist in the delivery of strategic schemes.

The small grants programme is a three stage competition. In Stage 1, Councils will be invited to express interest in the programme with a brief outline of the project or projects they would like to develop. Up to eight of these projects will be selected for Stage 2 and will be provided with a small grant of up to £8,000 to enable them to develop concept design options, a feasibility study and a business case. Up to four of the Stage 2 projects will be selected for Stage 3. These will be provided with a small grant of up to £25,000 to develop their designs in more detail and to provide a fully worked up project bid for assessment.

At the interregional and European level, the new INTERREG V Programme for 2014-2020 is one of 60 programmes across the European Union designed to promote greater levels of cross-border co-operation. One of the Programme’s key priority areas is Sustainable Transport, with the development of cross-border greenways being a theme. The aim of the theme is to develop 80km of new cross-border greenways that will primarily encourage modal shift away from the private car to walking and cycling.
9 Summary and Conclusions

This Strategic Plan for Greenways will provide a framework for the development of a comprehensive strategic greenway network. As such this report has set out the context, benefits and need for a comprehensive greenway network.

The development of an extensive greenway network can bring many benefits not just in response to transportation needs but also in respect of environmental, social and physical wellbeing and economic needs. These benefits are integrated with various policy documents including the previous Programme for Government (2011-2015) and in the current development of the Programme for Government 2016 – 21. It is clear that a strategic greenway network can help deliver against many of the Programme for Government outcomes. In addition, there are several other strategy and policy documents that support the development of greenways. These include the Regional Development Strategy and ensuring a Sustainable Transport Future, A New Approach to Regional Transportation. In addition, policy documents relating to the areas of health (the DHSSPS Strategic Framework for Public Health 'Making Life Better') are facilitated through the provision of a strategic greenway plan as well as growing a sustainable economy. In additional Local Councils are drawing up their community and development plans which will address providing green spaces for everyone to access and enjoy.

The Review of Public Administration created eleven new councils in April 2015 and new roles and responsibilities devolved to Councils included planning. All Councils were included in the consultation along with other designated consultees. This has helped facilitate the strategic vision for greenways and the production of this Strategic Plan.

The strategic plan has envisaged the following greenway network.

Primary Network
- An east west spine between Larne and Belcoo (the section between Larne and Craigavon would follow EuroVelo Route 1).
- A North West route between Craigavon and Derry-Londonderry (following EuroVelo Route 1).
- A North Coast route between Dungannon and Coleraine.
- A Southern route from Craigavon to Newry.
- Spur off Euro Velo Route 1 from Belfast to Newtownards via Comber.
- Onward international connections at Larne, Derry-Londonderry, Strabane, Belcoo and Newry

The primary network is approximately 450 kilometres in length and estimated to cost approximately £61 million

Secondary Network
The secondary network would comprise the following:-
- Belfast to Bangor
- Belfast to Carrickfergus
- Bangor to Newtownards Loop
- Belfast to Carryduff
- Comber to Newcastle and Ardglass via Downpatrick
- Lisburn to Banbridge
- Banbridge to Newcastle (including connection to Scarva)
- Ballyclare (Doagh) to Draperstown via Antrim & Magherafelt
- Ballyclare to Ballymena
- Ballymena to Cushendall
- Ballymena to Kilrea
- Macfin to Ballycastle via Ballymoney
- Coleraine to Giant’s Causeway via Portrush and Bushmills
- Derry-Londonderry to Coleraine
- Armagh to Newry via Markethill
- Caledon to Maguiresbridge via Clogher Valley
- Omagh to Enniskillen
- Trillick/Ballina Mallard (Bundoran Junction) to Beleek
- Limavady Junction to Dungiven
- Mossley to Carrickfergus via Greenisland

The secondary network is approximately 600 kilometres in length and estimated to cost approximately £88 million
Figures
Figure 1 – EuroVelo Routes
Figure 2 – Existing On and Off Road National Cycle Network
Figure 3 – Map of Kingfisher Trail
Figure 4 – Map of Belfast Local Routes
Figure 5 – Map of Derry~Londonderry Local Routes
Figure 6 – Proposed Primary Greenway Route Network
Figure 7 –Proposed Primary and Secondary Greenway Route Network
Appendices
Appendix A – Examples of Best Practice
Case Study: The Comber Greenway

Since it opened in 2008, the Comber Greenway has become one of Northern Ireland’s most popular walking and cycling routes. Following the line of a former railway, the route goes from Comber to East Belfast, passing through tranquil countryside with views of Stormont and the Belfast Hills. In 2012, it was extended from East Belfast into the newly redeveloped Titanic Quarter, providing a traffic-free link to the city centre.

Key Stakeholders

- Belfast City Council
- Belfast Harbour Commission
- Translink
- DRD Roads Service
- Dept for Social Development
- East Belfast Partnership

The Impact on Modal Shift

- 245,422 estimated trips were made on the route in 2012
- 24% of people use the route to commute to work
- 60% of people could have used a car for their journey but chose not to
- 86% of people said the route helped them increase their level of activity

Next Steps

The focus of the future development of the Comber Greenway is the creation of walking and cycling routes within its neighbouring communities offering safe access to local facilities – shops, workplaces, play areas and health services as well as linking to the Comber Greenway for access to facilities further afield. Providing people with the support they need to gain the confidence to walk and cycle will open up the full benefit of the Comber Greenway to communities. Creating links to the Connswater Community Greenway will create an enviable greenway network within East Belfast.
The Great Western Greenway

Co Mayo, Republic of Ireland

Excerpt from Failte Ireland’s Economic Impact Case Study Oct 2011

The world-class Great Western Greenway is a 42km traffic-free cycling and walking facility. It primarily follows the line of the famous Newport/Mulranny Railway, which opened in 1937. Its development has been made possible by agreement of local landowners who have given permissive access to users to pass through their lands. This route offers gentle gradients and some of the most idyllic scenery in the West of Ireland. The route forms part of the National Cycle Network, and it is the longest off-road cycling experience in the country.

The first 14km stage of the Greenway opened in 2010, while the extension opened on 18 June 2011, lengthening the route to 42km, all off-road.

The foundation stone for the construction of the Great Western Greenway was laid in March 2007 with the publication by Fáilte Ireland of the Sustrans report “A strategy for the development of Cycle Tourism”. The report identified Galway, Clifden, Westport and Achill in the West of Ireland as hub towns and suggested the development of a series of cycle loops from each of the hubs one of which should be family-friendly, while the other hubs should be linked via cycle-friendly routes or, where possible, via greenways.

Key Stakeholders Involved

- Fáilte Ireland, Department of Transport, Department of Rural Affair (as Funders)
- Mayo County Council (secured access, led on route design/development/match funding)
- Local landowners (gave permissive access)

Awards Won

The Great Western Greenway is one of the real success stories for adventure tourism in Ireland. In January 2012 the Mayo greenway won the overall award as the best public project at the Local authority member’s association (LAMA) awards. In February 2012, the Mayo greenway won the public sector category at the Irish Times innovation awards presented in the Royal Hospital in Dublin.
Economic Impact

The Fitzpatrick’s report commissioned by Fáilte Ireland on the economic impact of the Greenway notes:

“Estimates derived from the study suggest that all direct expenditure associated with the Greenway would contribute to a projected €7.2m in spend in the local economy over a full year in 2011.

This expenditure includes:

- Nearly €940,000 in expenditure by local residents, made up of 34,400 “visits” to or “uses” of the Greenway, at an average spend of €27.31 per visit or use.
- Over €3.5m in expenditure by domestic visitors, made up of 14,800 domestic visitors spending an average of €49.85 a day with an average length of stay of 4.8 days.
- Nearly €2.8m in expenditure by overseas visitors, made up of 8,000 overseas visitors spending an average of €50.71 per day with an average length of stay of 6.8 days.
- Contribution to a projected local economic impact of about €6.3m, which consists of nearly €2.8m in spend by overseas visitors over €3.5 in spend by domestic visitors.
- Contribution to a projected national economic impact of nearly €2.8m, which consists of the spend by overseas.

Next Steps

- Support the formation and development of community and trade groupings that add value to the Greenway experience for visitors e.g. Gourmet Greenway, Artists Greenway etc.
- Become an active member of the EEWA Direction (EU Greenway Association) and apply best international practice to the Greenway.
- Support the expansion of the Mayo Greenway to incorporate the Connemara Greenway and expand the route from Galway to Clifden, Westport, Achill, Belmullet and on to Ballina.
- Pursue current research that supports the development of a Great Western Blueway along the coast of Mayo to mimic the existing Greenway project.
Case Study: Waterside Greenway

Derry~Londonderry, Northern Ireland

Derry City Council was keen to improve the city’s public realm and create high quality places and spaces for residents. Part of their regeneration plan focused on enhancing access to the natural environment. Together with Sustrans and other funders such as the DRD, DSD and NIEA a network of off-road greenways was created along the River Foyle. Known as the Waterside Greenway, the new path links to existing routes to form a circuit along and across the east and west banks of the river. It also provides access to the waterfront from Waterside for the first time in living memory.

The first phase from the Peace Bridge into St Columb’s Park was opened in June of 2012. The second and third phases extending the route to the Foyle Bridge and creating opportunities for future access into Gransha and beyond were opened in December 2013 and March 2014 respectively.

Key Stakeholders Involved

- Derry City Council as lead partner
- Sustrans as main project sponsor via Connect2 funding (Big Lottery)
- DRD, DSD and NIEA as match funders
**Health and Other Benefits**

The project has helped to enhance the quality of life of the city's residents by providing better access to a beautiful green space in a busy urban environment. It has unlocked the previously unexploited potential of the river for leisure use and created an attractive area that people from all over the city can enjoy together. Previously disconnected communities can now access the Peace Bridge that was designed to reconnect the east and west of the city.

Based on Route User Intercept Surveys from one site along the Waterside Greenway collected June/July 2012. Subsequent iterations and final reporting in 2015 have estimated a 3:1 benefit cost ratio of the scheme.

**Next Steps**

- Develop further extensions of the Greenway north to Strathfoyle (and beyond) and south to Waterside station
- Enhance biodiversity along the route
- Improve marketing, branding and user experience of the Greenway such as interpretation panels, artwork and promotional material
- Develop and promote business opportunities along the Greenway (Velo Cafés, hire, walking/cycling tours, etc)
Case Study: Way of the Roses

The Challenge Way of the Roses cycle route opened on September 11th 2010, coinciding with the 15th anniversary of the National Cycle Network and has quickly become one of the UK’s most popular cycle routes. The route is almost entirely on quiet country lanes and runs through The Forest of Bowland, Yorkshire Dales National Park and the Yorkshire Wolds before reaching the North Sea at Bridlington.

The Way of the Roses is an excellent coast to coast route in the UK. This 170 miles route travels entirely within the counties of Lancashire and Yorkshire, crossing the Yorkshire Dales in the north of England, passing through the historic cities of Lancaster and York and scenic towns and villages. It is a combination of long-distance cycle routes and is based on minor roads, disused railway lines and specially constructed cycle paths.

Key Stakeholders Involved

The route was developed by Sustrans and part of the National Cycle Network (NCN Route 69) in partnership with various Local Authorities, Lancaster City Council, Cyclists Touring Club, Bridlington Renaissance Partnership and Welcome to Yorkshire amongst others.

Economic and Other Benefits

- The Way of the Roses carries 130,000 ‘leisure’ cycle trips where the users spend money on local goods and services in 2012
- 8,000 of those users are cycling the full length of the route
- The route generates approximately £3 million for the local economy in 2012
- Over 60 full time equivalent jobs are created by cyclist spend

| Estimated economic impact of cyclists on the complete Way of the Roses route 2012 |
|-----------------|-----------------|-----------------|-----------------|-----------------|
|                  | Local-based     | End-to-end      | Other tourists  | Total           |
| Number of users  | 111,285         | 7,004 – 8,763   | 11,907          | 130,196 – 131,955 |
| Average spend per head | £13.80             | £141.97 - £148.03 | £36.49          |
| Total spend      | £1,535,194       | £994,417 - £1,297,331 | £434,470       | £2,964,081 - £3,266,995 |
| FTE direct jobs supported | 21.9               | 14.0 – 18.4     | 6.2             | 42.1 – 46.5     |
| Total FTE jobs supported | 30.5               | 19.5 – 25.7     | 8.6             | 58.6 – 64.8     |
Appendix B – List of Consultees
<table>
<thead>
<tr>
<th>Contact</th>
<th>Council</th>
<th>Address</th>
<th>Contact Details</th>
<th>Telephone Number</th>
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</thead>
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<tr>
<td>Anne Doherty</td>
<td>Belfast City Council</td>
<td>Belfast City Hall&lt;br&gt;Belfast&lt;br&gt;BT1 5GS</td>
<td><a href="mailto:anne.doherty@BelfastCity.gov.uk">anne.doherty@BelfastCity.gov.uk</a></td>
<td>028 9032 0202</td>
</tr>
<tr>
<td>Reggie Hillen</td>
<td>Antrim and Newtownabbey Borough Council</td>
<td>Antrim Civic Centre&lt;br&gt;50 Stiles Way&lt;br&gt;Antrim&lt;br&gt;BT41 2UB</td>
<td><a href="mailto:Reggie.hillen@antrimandnewtownabbey.gov.uk">Reggie.hillen@antrimandnewtownabbey.gov.uk</a></td>
<td>028 9446 3113</td>
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<tr>
<td>Stephen Reid</td>
<td>Ards and North Down Borough Council</td>
<td>Chief Executive&lt;br&gt;Town Hall&lt;br&gt;The Castle&lt;br&gt;Bangor&lt;br&gt;BT20 4BT</td>
<td><a href="mailto:Stephen.reid@ardsandnorthdown.gov.uk">Stephen.reid@ardsandnorthdown.gov.uk</a></td>
<td>0300 013 3333</td>
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<tr>
<td>Suzanne Lutton</td>
<td>Lisburn and Castlereagh City Council</td>
<td>Island Civic Centre&lt;br&gt;Lagan Valley Island&lt;br&gt;The Island&lt;br&gt;Lisburn&lt;br&gt;BT27 4RL</td>
<td><a href="mailto:Suzanne.Lutton@lisburncastlereagh.gov.uk">Suzanne.Lutton@lisburncastlereagh.gov.uk</a></td>
<td>028 9250 9250</td>
</tr>
<tr>
<td>Catherine Murphy</td>
<td>Newry, Mourne and Down District Council</td>
<td>District Council Offices&lt;br&gt;O'Hagan House&lt;br&gt;Monaghan Row&lt;br&gt;Newry&lt;br&gt;BT35 8DJ</td>
<td><a href="mailto:catherine.murphy@newryandmourne.gov.uk">catherine.murphy@newryandmourne.gov.uk</a></td>
<td>0300 013 2233</td>
</tr>
<tr>
<td>Colin Kennedy</td>
<td>Derry City and Strabane District Council</td>
<td>Council offices&lt;br&gt;98 Strand Road&lt;br&gt;Derry&lt;br&gt;BT48 7NN</td>
<td><a href="mailto:Colin.kennedy@derrycityandstrabandistrict.com">Colin.kennedy@derrycityandstrabandistrict.com</a></td>
<td>028 7125 3253</td>
</tr>
<tr>
<td>Richard Baker</td>
<td>Causeway Coast and Glens Borough Council</td>
<td>Corporate Director of Leisure and Development&lt;br&gt;Causeway Coast and Glens Borough Council&lt;br&gt;Cloonavin&lt;br&gt;66 Portstewart Road&lt;br&gt;Coleraine&lt;br&gt;BT52 1EY</td>
<td><a href="mailto:Richard.Baker@causewaycoastandglens.gov.uk">Richard.Baker@causewaycoastandglens.gov.uk</a></td>
<td>028 7034 7034</td>
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<tr>
<td>Anthony Tohill</td>
<td>Mid Ulster District Council</td>
<td>Dungannon Office Circular Road Dungannon BT71 6DT</td>
<td><a href="mailto:Chief.Executive@midulstercouncil.org">Chief.Executive@midulstercouncil.org</a></td>
<td>0300 013 2132</td>
</tr>
<tr>
<td>Mike Reardon</td>
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<td><a href="mailto:info@armaghabanbridgecraigavon.gov.uk">info@armaghabanbridgecraigavon.gov.uk</a></td>
<td>0300 0300 900</td>
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<tr>
<td>Tara Love</td>
<td></td>
<td></td>
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<tr>
<td>Stephen Daye</td>
<td>Mid and East Antrim Borough Council</td>
<td>Head of Service for Parks and Open Spaces, The Braid 1-29 Bridge Street Ballymena BT43 5EJ</td>
<td><a href="mailto:stephen.daye@midandeastantrim.gov.uk">stephen.daye@midandeastantrim.gov.uk</a></td>
<td>0300 124 5000</td>
</tr>
<tr>
<td>Robert Gibson</td>
<td>Fermanagh and Omagh District Council</td>
<td>The Townhall 2 Townhall Street Enniskillen Co. Fermanagh BT74 7BA</td>
<td><a href="mailto:info@fermanaghomagh.com">info@fermanaghomagh.com</a></td>
<td>0300 303 1777</td>
</tr>
<tr>
<td>Nuala Roache</td>
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<td>028 9025 8825</td>
</tr>
<tr>
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<td>028 9056 9621</td>
</tr>
<tr>
<td>Sheena Dickson</td>
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<td>028 9044 1680</td>
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<tbody>
<tr>
<td>Caroline Bloomfield</td>
<td>PHA</td>
<td>12-22 Linenhall Street Belfast BT2 8BS</td>
<td><a href="mailto:caroline.bloomfield@hscni.net">caroline.bloomfield@hscni.net</a></td>
<td>028 9032 1313</td>
</tr>
<tr>
<td>Caro-Lynne Ferris</td>
<td>Outdoor Recreation NI</td>
<td>The Stableyard Barnetts Demesne Malone Road Belfast County Antrim BT9 5PB</td>
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<td>028 90 303933</td>
</tr>
<tr>
<td>Joe Gillespie</td>
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</tr>
<tr>
<td>Dr Stephen McCabe</td>
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<td>028 9094 2159</td>
</tr>
</tbody>
</table>
Appendix C – Former Extent of Ireland Railway Network (North)
Appendix D – Assessment Summary of Primary Network
## Strategic Plan for Greenways in Northern Ireland

### Scoring of Route Sections against Assessment Criteria

#### PRIMARY NETWORK

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Contribution to Network</th>
<th>Linkages</th>
<th>Technical</th>
<th>Business</th>
<th>Culture/Tourism</th>
<th>Health and Communities</th>
<th>Environment</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description of criterion</td>
<td>Part of EuroVelo 1 / NCN and walking/cycling etc.</td>
<td>Connects to Schools, work, retail, leisure</td>
<td>Ground conditions, topography, crossings required</td>
<td>To improve investment/job creation</td>
<td>To attract visitors to the area</td>
<td>To promote active travel and social interaction</td>
<td>Reduction in vehicle emissions, noise and congestion</td>
<td>Estimated cost of route or section</td>
</tr>
<tr>
<td>How it is scored</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>Permanent Score</td>
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</table>

<table>
<thead>
<tr>
<th>Route Section</th>
<th>Scoring Range</th>
<th>1-5</th>
<th>1-5</th>
<th>1-3</th>
<th>1-5</th>
<th>1-5</th>
<th>1-5</th>
<th>1-5</th>
<th>1-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Belfast to Craigavon</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>2 Craigavon to Enniskillen</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>3 Belfast to Larne</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>4 Craigavon to Newry</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>5 Craigavon to Derry~Londonderry</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>24</td>
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<tr>
<td>6 Dungannon to Coleraine</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>7 Belfast to Newtownards</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<td>4</td>
<td>3</td>
<td>26</td>
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</tbody>
</table>

Appendix D - Primary Network.xls 20/07/2016
Appendix E – Assessment Summary of Secondary Network
## Scoring of Route Sections against Assessment Criteria

### SECONDARY NETWORK

<table>
<thead>
<tr>
<th>Route Section</th>
<th>Description of criterion</th>
<th>Contribution to Network</th>
<th>Linkages</th>
<th>Technical</th>
<th>Business</th>
<th>Culture/Tourism</th>
<th>Health and Communities</th>
<th>Environment</th>
<th>Cost</th>
<th>Estimated cost of route or section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Belfast to Bangor</td>
<td>Part of EuroVelo 1 / NCN and walking/cycling etc.</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>Ground conditions, topography, crossings required</td>
<td>To improve investment/job creation</td>
<td>To attract visitors to the area</td>
<td>To promote active travel and social interaction</td>
<td>Reduction in vehicle emissions, noise and congestion</td>
<td>1 = Very High (&gt;£200k/km)</td>
<td>2 = High Cost + £150k/km - £200k/km</td>
</tr>
<tr>
<td>2 Belfast to Carrickfergus</td>
<td>Connects to Schools, work, retail, leisure</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>Substantial, moderate, minor (1, 2 or 3)</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1-5 - positive impact on increasing scale</td>
<td>1 = Very High (&gt;£200k/km)</td>
<td>2 = High Cost + £150k/km - £200k/km</td>
</tr>
</tbody>
</table>

### Appendix E - Secondary Network.xls 20/07/2016