GALWAY TO ATHLONE CASTLE NATIONAL CYCLEWAY SCHEME

Option Selection Report

Greenway

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Galway to Athlone CYCLEWAY

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1 EXECUTIVE SUMMARY

This document is the Option Selection Report (OSR) for the Galway to Athlone Castle Cycleway Project. The project is being developed in accordance with relevant TII standards including the Project Appraisal Guidelines (PAG) and Cost Management Manual (CMM). The Department of Public Expenditure and Reform (DPER) Public Spending Code and the Department for Transport, Tourism and Sport (DTTaS) Common Appraisal Framework have also been referred to. The project is a Major Scheme, which is currently at Phase 2 – Route Selection.

The vision for the project is to develop a world class cycle and walking trail, that is safe and accessible for all users, from Galway to Athlone, completing the Galway to Dublin route. A route is largely in place between Dublin and Athlone, with a new cycleway bridge under construction over the River Shannon in Athlone.

A series of project objectives were set, including the '5**S**' criteria set out in the Strategy for the Future Development of National and Regional Greenways, published by the Government of Ireland in 2018. The '5**S**' criteria outline that greenways should be **S**cenic, **S**ustainable, **S**trategic, **S**egregated with lots to **S**ee and do. The objectives were also framed in accordance with the headings of the Common Appraisal Framework.

During the Option Selection Process, a number of options were developed between Galway and Athlone. Eleven broad route corridor options were considered initially. These were reduced to five corridor options, by eliminating the six options which least met the project objectives.

The remaining five corridor options were subject to Public Consultation in early 2021. Project Liaison Officers (PLO's) met with a large amount of potentially affected landowners within these options.

These corridors were widely spaced, with corridors visiting different towns and villages across East Galway and South Roscommon. The corridors also sought to utilise state owned land, to as large a degree as possible, and included large lengths of land owned by Coillte, Bord na Móna, ESB and other state bodies. It was planned that the cycleway would follow existing infrastructure, such as disused railways, forest roads and flood defences as far as possible.

The corridors were then reassessed under the Project Objectives, which included detailed assessments of how each would function as a leisure cycleway, its likely attractiveness to domestic and international users, potential environmental impacts, costs, and other criteria.

Route Corridor Option 5 was selected as the Emerging Preferred Route Corridor, as it offers outstanding scenery and variety, all along its length, it offers most to see and do, and it utilises a considerable amount of state-owned land.

Route Corridor 5 includes a 55km length from Shannonbridge to Portumna that also contributes to enhancing North-South connectivity along the Shannon, a key strategic initiative of the Shannon Tourism Masterplan. It also potentially forms part of a future Shannon greenway from Limerick to Lanesborough.

It would enhance EuroVélo Route 1 (The Atlantic Coast Route) in Ireland, by bringing the section from Kinvara to Galway, currently signposted on-road, onto a segregated cycleway.

Route Corridor 5 also presents attractive shorter trips from Galway City, with potential destinations for a day or weekend trip including Rinville Park, Clarinbridge, Kinvara, and Coole Park.

A link to the cycleway from Ballinasloe would enhance Route Corridor Option 5 by connecting the cycleway to the largest town in East Galway with good accommodation for tourists, amenities, and public transport facilities. The link would be a strong amenity for the people of Ballinasloe and could be delivered on mostly existing infrastructure and public lands.

The Emerging Preferred Route Corridor shown in **Figure 1-1** is of varying width. It is narrow in places where the route within the corridor is more defined, for example where it may follow an existing path or railway. In other places the width of the corridor is broader where the most suitable route will be identified in the next stage of the project. This will require further engagement with landowners and other stakeholders.

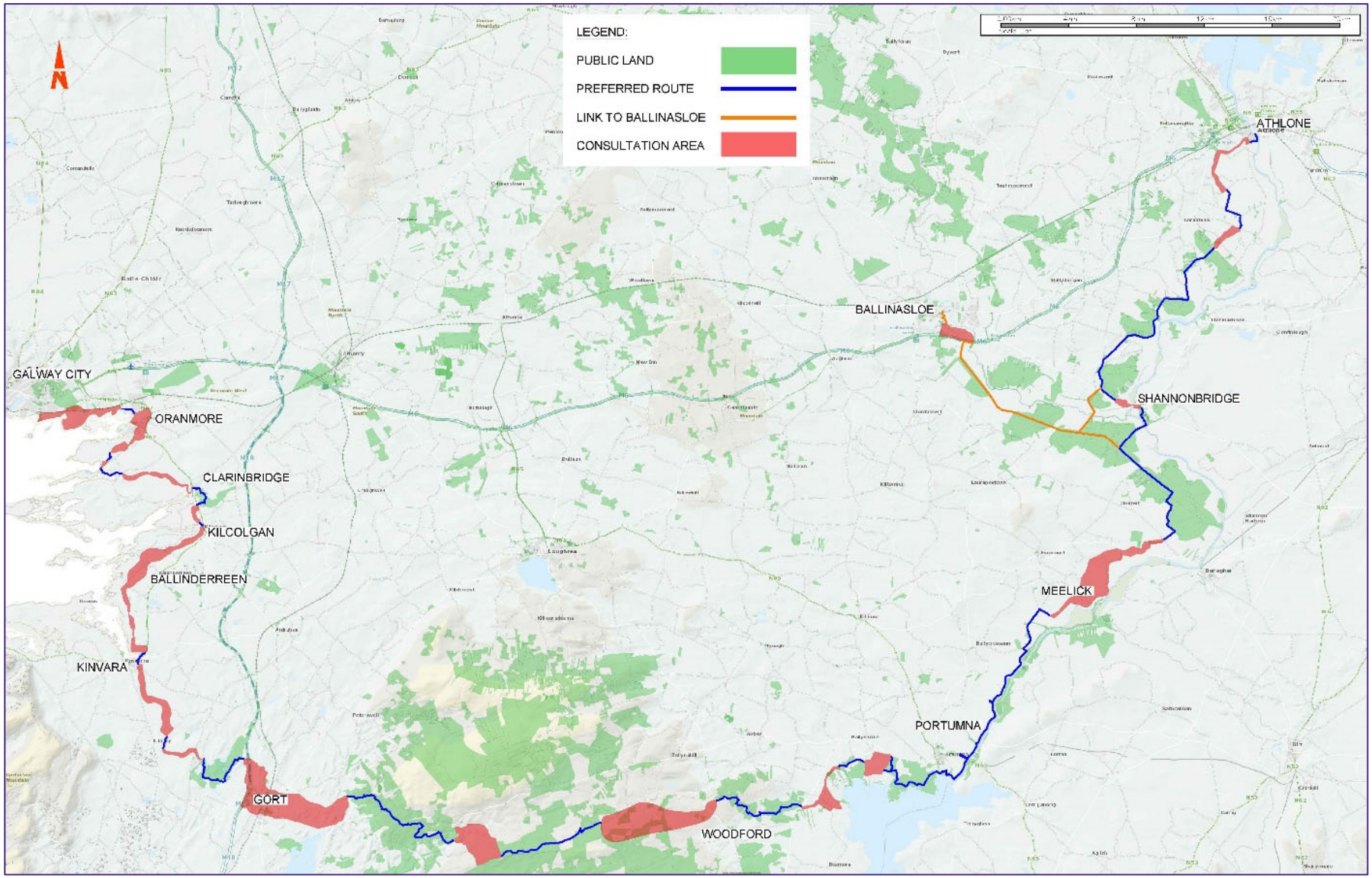


Figure 1-1: Emerging Preferred Route Corridor

2 INTRODUCTION AND DESCRIPTION

This document is the Option Selection Report for the Galway to Athlone Castle Cycleway Project. The project is being developed in accordance with relevant TII standards including the Project Appraisal Guidelines (PAG) and Cost Management Manual (CMM). The Department of Public Expenditure and Reform (DPER) Public Spending Code and the Department for Transport, Tourism and Sport (DTTaS) Common Appraisal Framework have also been referred to.

The project is a Major Scheme, which is currently at Phase 2 – Route Selection.

The purpose of this report is to identify the potential feasible Route Corridor Options for the cycleway, and to comparatively assess each option under a number of criteria. This assessment is informed by all the relevant information obtained during various studies and surveys undertaken by RPS as well as feedback received from the public consultations for the scheme. The report concludes with the identification of a Preferred Route Corridor Option for the scheme.

2.1 Project Vision

The vision for the project is to develop a world class cycleway, that is safe and accessible for all users, from Galway to Athlone, completing the Galway to Dublin route (**Figure 2-1**). It will be of a scale and with a unique character that will allow Ireland to tap into the growing international tourism market for cycling.

It will be scenic, sustainable, be a strategic link, with lots to see and do, be substantially segregated from motor traffic and welcome a wide variety of users. It will be developed in co-operation with local communities and offer real benefits to them.

It will be developed in accordance with a Code of Practice, produced in partnership with farming organisations.

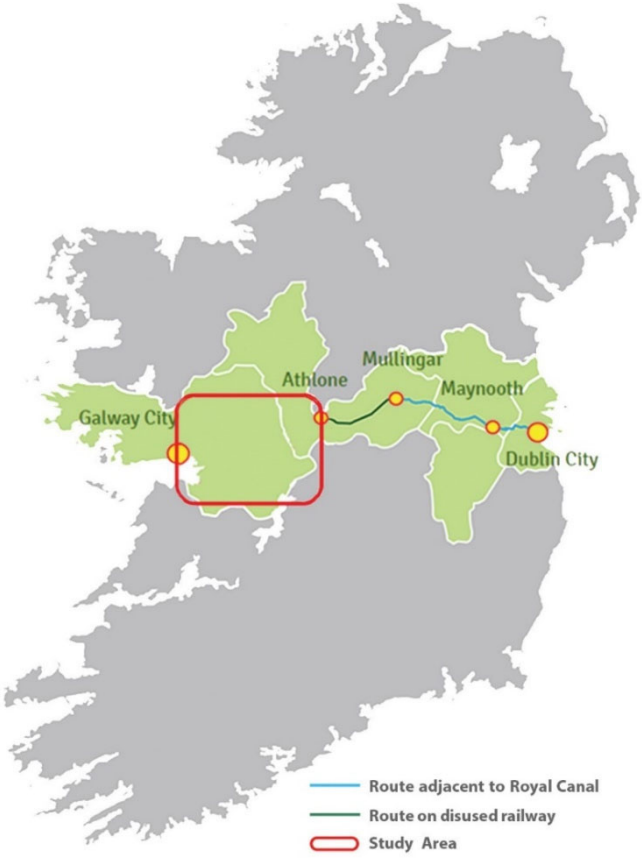


Figure 2-1: Galway to Dublin Cycleway Map

2.2 Overview of the Galway to Dublin Cycleway Project

The National Galway to Dublin Cycleway project commenced in 2013, when TII provided funding for the planning and design of the section between Galway and Maynooth. Westmeath County Council is the lead local authority working in partnership with Galway City, Galway, Roscommon, Meath, and Kildare local authorities.

The project is being taken forward in several sections. The development of the cycleway between Galway City centre and Ballyloughane is being undertaken by the NTA and Galway City Council as a separate project. The development of the Maynooth to Dublin city centre section is being undertaken by the NTA and Dublin and Kildare local authorities and is expected to be complete in 2024.

The section from Athlone Castle to Athlone Marina, which includes a new cycleway bridge across the River Shannon, is expected to be complete in 2023.

The 107km section between Athlone and Maynooth, which runs along an old railway line and beside the royal canal, opened to the public between 2014-2019.

The cycleway is expected to interact with and enhance other leisure and transport initiatives in the region, including but not limited to:

- EuroVélo Route 1 – Atlantic Coast Route, an on-road cycling route, shown in **Figure 2-2**
- The River Shannon tourism corridor

- Other potential greenway corridors to the north and south of the region
- Cycling and leisure projects in Galway City and Connemara
- The Beara Breifne way, a long-distance walking route

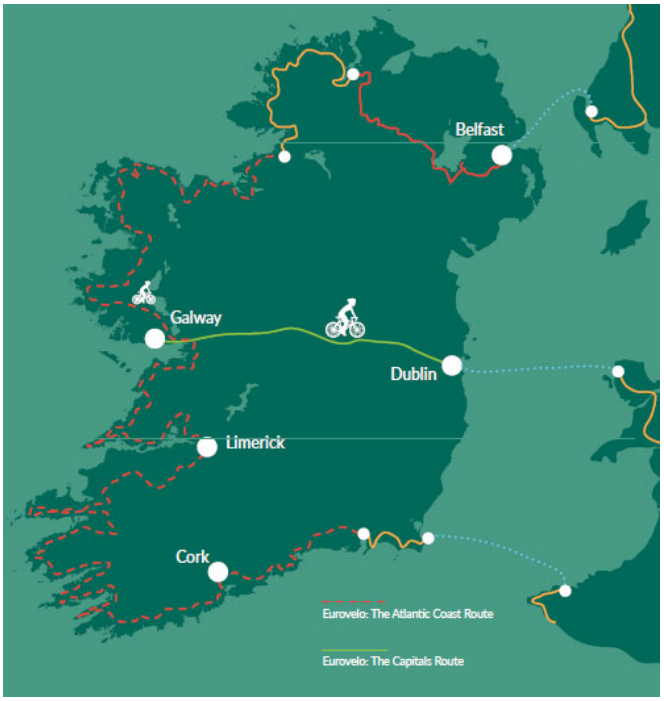


Figure 2-2: EuroVélo Cycle Route Network

(Extract from the Strategy for the future Development of National and Regional Greenways)

2.3 Scheme Development to Date

The Galway to Athlone section of the Galway to Dublin Cycleway extends from Ballyloughane, in Galway City to Athlone Castle. The development of this section of the cycleway was paused following the selection of an emerging preferred route corridor in October 2015, due to landowner concerns. Mainly the lack of public consultation and the proposed use of a Compulsory Purchase Order (CPO) to acquire lands.

The scheme recommenced in 2020, when RPS were appointed to develop a route for the cycleway. Dedicated Project Liaison Officers (PLO's) have been engaging with landowners throughout the route appraisal process and a number of wider public consultations have been held (as detailed in Section 7 below).

2.4 Purpose of Option Selection Report

This Option Selection Report represents the main deliverable for Phase 2 of the TII Project Management Guidelines (PMGs) and documents the Phase 2 processes undertaken for the scheme. The Phase 2 process comprises the identification of a Study Area, the identification of constraints within the Study Area, and consideration and assessment of various alternatives/options, such that an Emerging Preferred Option can be identified, and ultimately a Preferred Option selected before the project progresses to its subsequent design and planning phases. Information is presented in this report (and its accompanying volumes) to provide clarity on the decision-making process which has resulted in the selection of an Emerging Preferred Route Corridor for the Scheme. Insofar as possible, this report presents a non-technical summary of the detailed technical and scientific information collated as part of Phase 2.

The TII Project Appraisal Guidelines (PAG) sets out the requirements for the implementation of the first three stages of the option selection process. A summary of these stages is presented below, and the process is also illustrated in **Figure 2-3**.

Stage 1 – Preliminary Options Assessment

Stage 1 involves a preliminary assessment of the identified preliminary options for the scheme. This assessment results in a reduced number of options to be taken forward to the next stage of the appraisal process (Stage 2). Eleven routes were identified and assessed under the Stage 1 assessment. Details are provided in Section 9 of this report.

Stage 2 – Project Appraisal Matrix

Stage 2 involves a more detailed Multi-Criteria Analysis (MCA) of the shortlisted options under the six Common Appraisal Framework (CAF) criteria as defined within PAG Unit 7.0 Multi Criteria Analysis of Economy, Safety, Environment, Accessibility and Social Inclusion, Integration and Physical Activity. Details on the CAF are provided in **Section 3.4.** The Stage 2 assessment is summarised in **Section 11** of this report.

This assessment results in the identification of an Emerging Preferred Route Corridor to be taken forward to the next stage of the appraisal process (Stage 3). **Section 11.13** of this report provides a recommendation of an Emerging Preferred Route Corridor option.

Stage 3 – Preferred Option

Once the Emerging Preferred Route Corridor is identified, an assessment is then undertaken using the Project Appraisal Balance Sheet (PABS) in accordance with PAG Unit 8.0 in order to summarise the benefits and impacts associated with the option. Stage 3 is summarised in **Section 13** of this report.

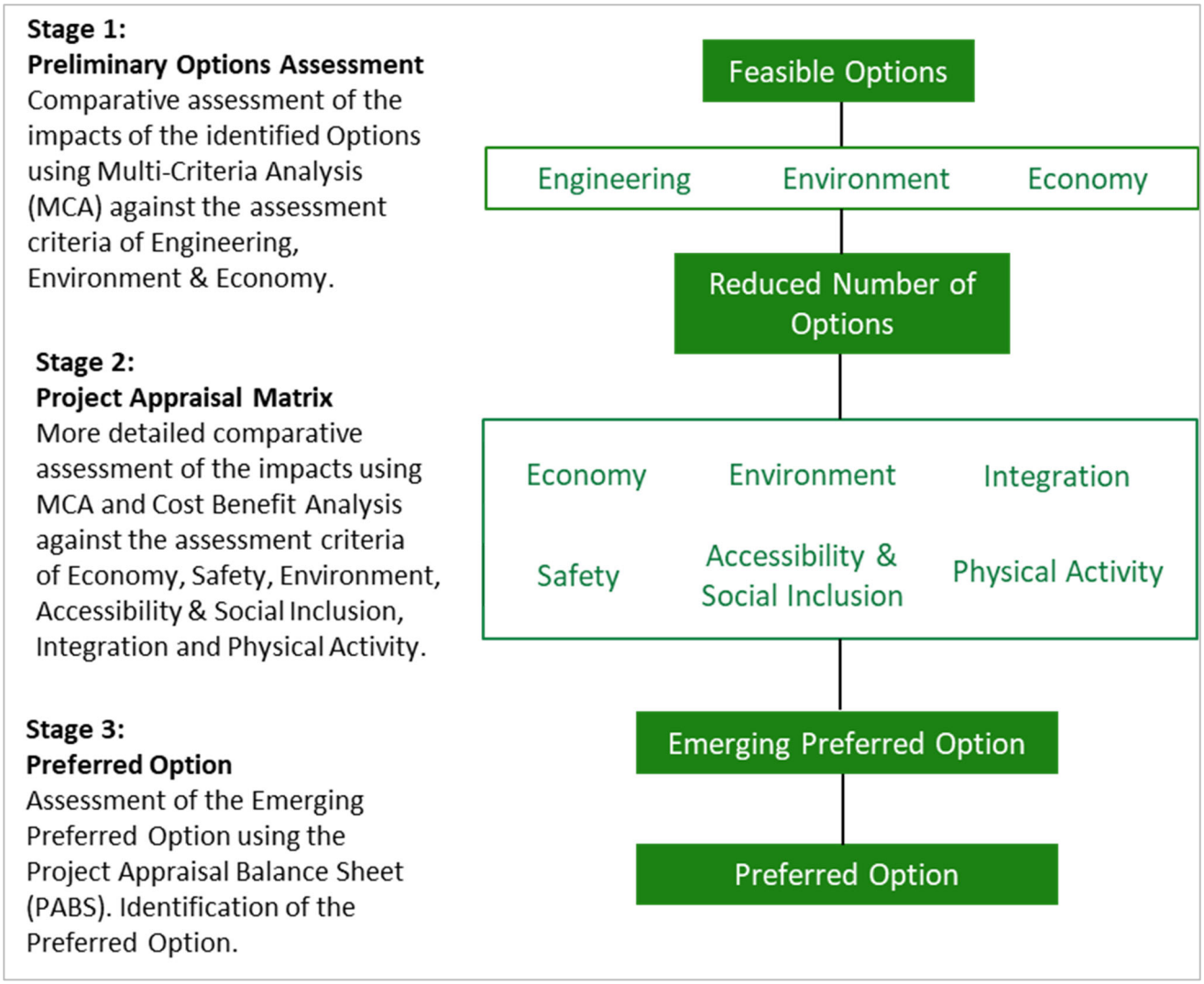


Figure 2-3: Stages 1 – 3 of the Option Selection Process (TII PAG)

3 PROJECT OBJECTIVES

Best appraisal practice involves setting scheme objectives to guide the development of the project through the different stages of the project appraisal process, including option identification, selection of a preferred option, and scheme design. Project objectives are a statement of what the project is intended to achieve. It is not necessarily the case that all objectives will have equal weight in making project decisions.

3.1 Evaluation against Scheme Objectives

Project objectives form the basis of the evaluation of the project when it is completed. For this purpose, objectives should be SMART - Specific, Measurable, Accurate, Realistic and Timely.

TII Project Appraisal Guidelines (PAG) recommend that the Business Case for each scheme should include an Evaluation Plan which sets out what is to be measured and when it is to be measured. This will be completed at a later stage of project development. At this stage, the project objectives have been prepared so that measurable performance indicators can be developed as part of that Evaluation Plan.

3.2 Forecasting Attainment of Scheme Objectives

The likely level of attainment of each objective will emerge over the course of the study and cannot accurately be specified in advance.

3.3 The 5 S's

The scheme will take cognisance of the '5**S**' criteria set out in the Strategy for the Future Development of National and Regional Greenways, published by the Government of Ireland in 2018, and referred to in future as the 'Greenway Strategy' (**Figure 3-1**).

The Greenway Strategy requires that greenways should be **S**cenic, **S**ustainable, **S**trategic, **S**egregated with lots to **S**ee and do.

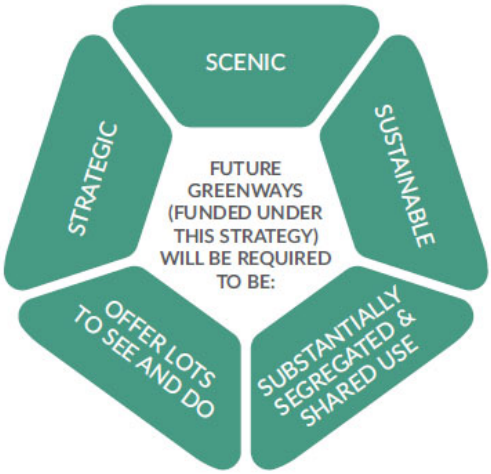


Figure 3-1: National Greenway Strategy Objectives

The following paragraphs discuss different aspects of the attractiveness of the cycleway, which will enable it to achieve its economic objectives.

3.3.1 Scenic

The Galway to Athlone corridor has many scenic locations that can provide the type of memorable experience cycling and walking tourists look for. While the study area is generally low lying, there are some elevated areas, that offer scenic views across the landscape. These elevated areas could be established as scenic focal points with the development of potential viewing platforms that add value to the greenway.

Away from specific viewpoints, the area is generally characterised by pleasant scenery of green rolling countryside and low intensity agricultural landscapes, forests and bogs. To the south of the study area, the Burren and the coastline along Galway Bay offer spectacular scenery.

It will be an objective in the planning of the Galway to Athlone Cycleway to bring the route through the more scenic areas where possible, while also providing a variety of landscapes for the user.

3.3.2 Sustainable

This greenway aims to provide opportunities for the development of local businesses and economies in the area. It will promote cycle tourism which is eco-friendlier and more sustainable than some other forms of tourism. An attraction in cycle tourism is the contribution to a reduction of carbon and transport emissions and promotion of healthy lifestyles.

It will be an objective in the planning of the Galway to Athlone Cycleway to ensure that construction and operation of the cycleway is consistent with the sustainability brand.

3.3.3 Strategic

This scheme will form part of a strategic network of greenways that connect main urban centres and important natural and cultural amenities. It will have links to other existing and future greenways, along with connections to existing cycling and walking infrastructure. It will connect to the existing Athlone to Maynooth Greenway to form part of a longer strategic route that will eventually connect Galway to Dublin and will facilitate the EuroVélo Capitals route. It will also connect to the EuroVélo Atlantic Route cycleway. This greenway developed from the west coast to east coast of Ireland will greatly enhance tourist activities for international and domestic visitors, delivering strategic opportunities for local economies.

It will be an objective in the planning of the Galway to Athlone Cycleway to link effectively to other tourist and transport facilities.

3.3.4 Lots to See and do

The Galway to Athlone area has a number of towns with good visitor facilities including restaurants, accommodation, and attractions. Connecting these facilities along with other existing attractions in more rural areas will ensure the greenway offers its users lots to see and do.

It will be an objective in the planning of the Galway to Athlone Cycleway to route through areas that are well served by existing facilities, while also considering that such facilities can develop organically following the establishment of the cycleway.

3.3.5 Segregated

Under the National Greenways Strategy, greenways must be substantially segregated from vehicular traffic. This requirement is key to providing a good quality of service that ensures greenway users have a safe and enjoyable experience. The provision of segregated facilities is key to attracting international cyclists to Ireland. It is also essential to compete with other international greenways that are established as premier cycle holiday destinations.

It will be an objective in the planning of the Galway to Athlone Cycleway to provide a fully segregated cycle route. However, it is recognised that it may be impractical to achieve full segregation over the entire route length, especially in urban areas. The EuroVélo guidance suggests that in urban areas, a designated “Cycle Street” where vehicular traffic flows are less than 500 vehicles per day, a 30kph speed limit applies (and is observed), and signage warns drivers to expect cyclists.

3.4 Common Appraisal Framework Criteria

The framing of scheme objectives has been undertaken in accordance with the guidance provided in the TII Project Appraisal Guidelines (PAG Unit 3.0: Project Brief). This recommends that scheme objectives are established under the criteria included in the Common Appraisal Framework, which are:

- Economy

- Safety
- Physical Activity
- Environment
- Accessibility & Social Inclusion and
- Integration

These criteria in the context of the cycleway are briefly discussed in **Sections 3.4.1** to **3.4.6.** The objectives that follow from the Greenway Strategy, as described above in **Section 3.3**, are presented again in this section, under the most appropriate heading, and shown in bold. The compiled project objectives are presented in **Section 3.4.7.**

3.4.1 Economy

The cycleway is intended to facilitate the EuroVélo Network of long-distance cycling routes and development of cycleways in Ireland. These networks aim to promote cycle tourism and act as economic drivers in local areas, by capitalising on the great tourism potential that these cycling networks can offer.

The value of cycle tourism in Europe is approximately €54bn per year, with longer-distance cycle tourists generally spending on average €353 each per trip and day trip cyclists spending €16 per day (Lumsdon et al., 2009). In Ireland, research on the Great Western Greenway in Mayo found that non-domestic tourists cycling the greenway spend on average €50.71/day and domestic tourists cycling the greenway spend on average €49.85/day (Deenihan et al 2013). The research estimated that domestic and non-domestic tourists created a profit for the local area of approximately €1,065,000 per year while visiting. Based on these figures, the research estimated a payback period of 6 years for the Great Western Greenway and concluded that “investing in cycling facilities in areas that cater not just for local usage, but also for tourists can be very worthwhile to the local economy”.

According to Fáilte Ireland figures from 2018, 450,000 visitors cycled while on holiday in Ireland, making it the second largest tourist activity after walking. It is projected that these figures will grow by 4% per annum to 2028.

The cycleway will have beneficial impacts as it will attract people to the area. This will have a ripple effect for tourism businesses including hotels, restaurants, shops, cafés, etc. In order to achieve these benefits, it is necessary to attract the prospective users to the cycleway in the first place. Meeting the Greenway Strategy objectives described in Section 3.3 above is fundamental to ensuring these users choose to visit the cycleway rather than the many other recreational opportunities elsewhere in Europe and beyond. It follows that many of the Greenway Strategy objectives can also be classed as economic objectives.

The ‘Economy’ objectives of the project are:

EC1 – To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.

International visitors increase spending in the Irish economy and therefore give an economic benefit, whereas spending by domestic visitors may be largely transferred from elsewhere in the economy.

This includes opportunities for Agri-Tourism within the area as a way of generating additional income within farming/rural communities.

Experience from the Waterford Greenway has shown that the presence of significant numbers of domestic and international visitors in an area can encourage the expansion of existing catering and other tourism-related businesses, and the start-up of new businesses at key nodes of the network.

Up to a point these new enterprises increase the quality of the tourist experience, leading to a “virtuous circle” of more visitors and more facilities.

The remaining objectives are about how this can be done in ways which contribute to the CAF criteria.

EC2 – To create local employment opportunities and wealth through new and expanded enterprises.

Route Corridor Options with more people living close to the route will be preferred under this objective, especially where the route can connect to significant employment or education locations.

EC3 – To deliver the cycleway in a cost-effective manner and deliver real value for money.

Cost effectiveness and value for money are closely related to the scheme costs and the numbers of users that are attracted to the scheme. Generally speaking, the cheaper the scheme and the greater the number of users, the greater the value for money. However, a cheaper scheme, that is less likely to attract visitors (say for example as it is less scenic), may not be optimum. There is a balance to be struck to maximise value for money and also to ensure that other scheme objectives are met.

EC4 – To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.

Congestion is a problem at the two ends of the scheme, in the urban areas of Athlone and Galway. Walking and cycling infrastructure can make a significant contribution to relieving congestion by attracting shorter journeys to more sustainable modes.

3.4.2 Safety

The 'Safety' objectives of the scheme are:

S1 – To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).

Segregation provides both improved safety and user experience, especially in the context of leisure cycling, by being separated from motorised traffic. Segregation also protects greenway users from collisions with motor vehicles.

A fully segregated cycling and walking route is the ideal, and a route that falls a long way short of this ideal is unlikely to be attractive. However, it is recognised that 100% segregation is likely to be impractical. The degree of segregation achieved will be documented in terms of route length.

S2 – To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.

Secure bike parking facilities and public lighting will be incorporated into the design across all routes. A sense of security can also be reduced by the isolation of the route, which may make users feel vulnerable, and also limits the opportunity for quick help in emergencies.

S3 – To provide a high level of operational safety on the cycleway through high quality design, construction, and maintenance.

The third safety objective looks at safety from other forms of mishap, including:

- Minimising risk of collisions between cyclists and pedestrians, by good design ensuring clear visibility
- Minimising risk of other accidents (falls down steep embankments, encounters with livestock etc) by good-quality fencing of the route where required.

3.4.3 Physical Activity

This project will encourage activities such as walking and cycling, which will improve the physical health and wellbeing of greenway users. Increasing levels of walking and cycling is widely regarded as beneficial because of the improvements in public health, as a result of the increased levels of physical activity.

The health of our population is a major focus for the Government. For example, the National Physical Activity Plan for Ireland – Get Ireland Active, states "physical inactivity is a demonstrated clear risk to health and wellbeing in Ireland".

The physical activity objectives are:

PA1 - To increase the number of commuters within the study area who walk or cycle to work or education.

Measurement of this effect will be through the Census question on usual mode of travel to work or education.

PA2 - To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.

Measurement of this effect will be through existing Fáilte Ireland surveys.

3.4.4 Environment

This project is to be designed to take into account the sensitivities of the natural, agricultural, and human environment. It is to be planned and constructed in compliance with the requirements of Irish and European law including, but not limited to, EU Directive 2014/52/EU. Walking and cycling generally have low levels of impact on the environment.

What the project aims to achieve under this heading is:

EN1 – To minimise impact to the natural environment, especially habitats in ecologically sensitive areas.

Measurement will focus on expert judgment of impacts on designated sites in proximity to the route.

This objective shifts the focus from the use made of the cycleway to the carbon emitted and other environmental impacts of its construction and maintenance, and how the project can be planned so as to minimise these impacts. Various methods of sustainability assessment for civil engineering projects are being developed, one of these will be used to assess the project at later stage in the scheme development.

EN2 – To minimise impact to cultural heritage sites.

Measurement will focus on expert judgment of impacts on designated sites in proximity to the route.

EN3 – To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.

This objective recognises the value of the cycleway not just as a way to get from Athlone to Galway, but also as a way to experience the natural environment and cultural heritage in the area. The cycleway will link natural and cultural amenities along the route, as well as creating linkages between these amenities and towns and villages along the route.

EN4 – To minimise land holding severance and utilise public land.

The scheme will aim to achieve this by favouring routes that use publicly owned land, and by designing the route to follow landowner boundaries where possible, including mitigation measures where appropriate. The issue of severance of private land has been flagged as a particular issue on which the project planning will focus.

EN5 – To reduce air and noise pollution by getting people to cycle or walk rather than drive.

This objective again refers to use of the cycleway by people living and working in the area as well as tourists. Both markets will be considered in the appraisal process. The cycleway will connect sites of interest for tourists and will offer the option to walk or cycle to and between these amenities rather than driving. Links to public transport at multiple locations along the cycleway may further increase opportunity for tourists to avoid trips by car. People living and working in the area may use the cycleway to access natural and cultural amenities and/or for travel to and from work and education.

EN6 – To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.

It is an objective to route the cycleway on public lands, utilising existing roads/pathways/tracks, where possible. This will reduce the need for extensive construction works, minimising impact to the environment, reducing materials required and reducing carbon emissions.

It is an objective in the planning of the Galway to Athlone Cycleway to ensure that construction and operation of the cycleway is consistent with the sustainability brand.

3.4.5 Accessibility and Social Inclusion

The scheme has potential to create positive benefits for accessibility and social inclusion within the area. The Galway to Athlone Cycleway will provide key linkages to various communities, giving access for vulnerable road users and locals alike.

The development of open spaces within the area will offer a sense of place and encourage inclusiveness by reducing vehicular dominance, which can disrupt communities along busy routes. Facilitating local amenities such as coffee shops, pubs, restaurants, and bike rental shops will promote community inclusion.

Barriers to accessibility and inclusivity, such as kissing gates and bollards with narrow spacing, will be avoided at design stage to ensure that cycleway users who use non-standard bikes (e.g., hand cycles, tricycles, cargo bikes) or who use mobility aids do not face access issues at any point along the route.

Accessibility can also be considered in the context of its usability to all users, for example remote terrain and steep climbs would be less attractive to less able or less experienced cyclists.

The Accessibility and Social Inclusion objectives are:

ASI1 - To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.

The success of the cycleway in achieving this objective will ultimately be measured by visitor surveys which will document the age range of users and the different lengths of cycleway that they use during their visit.

ASI2 - To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.

Similarly, surveys can identify facilities that did not exist prior to the cycleway and use of the facility by local people to access local centres.

3.4.6 Integration

Four types of integration are appraised to ensure that investment across the transportation portfolio is integrated towards achieving a common goal. These are:

- Transport Integration - the promotion of the integration of transport infrastructure and services by focusing on gaps in the existing network and improving opportunities for interchange between modes.
- Land Use Integration - the compatibility between adopted land use objectives and the proposed scheme
- Geographical Integration - Improving connectivity within Ireland and to other parts of the world
- Other Government Policy Integration - Regional Balance

The proposed scheme aims to contribute to Regional Balance by encouraging international tourists to the West and Midlands of Ireland.

It aims to contribute transport integration and integration between transport and land use, as outlined in the following integration objectives:

I1 - To link to other existing and proposed cycleways within the area.

The number of other cycleways which the Athlone to Galway Cycleway connects to will be documented.

I2 - To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.

This will be assessed by recording existing public transport facilities near to the route corridor options.

I3 - To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.

The number of other facilities which the cycleway connects to will be documented.

3.4.7 Compiled Project Objectives

The compiled project objectives are listed in **Table 3-1**, along with a narrative on specific aspects of greenway routing might rate against these objectives.

Table 3-1: Compiled Project Objectives

	Reference	Project Objectives	Strong	Moderate	Weak
Economy	EC1	To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.	Very attractive and scenic areas with lots to see and do.	Attractive areas with some things to see and do.	Less attractive areas with very little to see and do.
	EC2	To create local employment opportunities and wealth through new and expanded enterprises.	Large influx of tourists to the area expected.	Some influx of tourists to the area expected.	Little influx of tourists to the area expected.
	EC3	To deliver the cycleway in a cost-effective manner and deliver real value for money.	Good value for money based on the length of the route and benefits to be gained.	Some value for money based on the length of the route and benefits to be gained.	Poor value for money based on the length of the route and benefits to be gained.
	EC4	To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.	Areas close to large urban centres.	Rural areas with some towns and villages.	Very remote rural areas with low population densities.
Safety	S1	To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).	Areas substantially away from the existing transport network.	Areas adjacent to existing railways and quiet local roads.	Areas adjacent to busy transport routes.
	S2	To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed).	Areas with low risk of anti-social behaviour.	Areas with some risk of anti-social behaviour.	Areas with a high risk of anti-social behaviour.
	S3	To provide a high level of operational safety on the cycleway through high quality design, construction, and maintenance.	Areas substantially away from the existing transport network.	Areas adjacent to existing quiet, urban, or low speed transport routes.	Areas adjacent to busy high-speed transport routes.
Physical Activity	PA1	To increase the number of commuters within the study area who walk or cycle to work or education.	Areas close to large urban centres.	Rural areas with some towns and villages.	Very remote rural areas with low population densities.
	PA2	To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.	Areas close to large urban centres.	Rural areas with some towns and villages.	Very remote rural areas with low population densities.
Environment	EN1	To minimise impact to the natural environment, especially habitats in ecologically sensitive areas.	Areas that do not contain any European or other Designated sites.	Areas with European or other Designated sites where some minor disturbance may potentially occur.	Areas with European or other Designated sites where disturbance will occur.
	EN2	To minimise impact to cultural heritage sites.	Areas that do not contain any	Areas with European or other Designated sites where some	Areas with European or other Designated sites

Reference		Project Objectives	Strong	Moderate	Weak
			European or other Designated sites.	minor disturbance may potentially occur.	where disturbance will occur.
	EN3	To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.	Very attractive and scenic areas with lots to see and do.	Attractive areas with some things to see and do.	Less attractive areas with very little to see and do.
	EN4	To minimise land holding severance and utilise public land.	Areas with a significant amount of public land or parallel to existing transport routes.	Urban centres or areas with a mixture of public and private land.	Rural areas with little to no public land.
	EN5	To reduce air and noise pollution by getting people to cycle or walk rather than drive.	Areas close to large urban centres.	Rural areas with some towns and villages.	Very remote rural areas with low population densities.
	EN6	To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.	Areas with existing tracks and trails available to the cycleway.	Populated areas with some or no existing tracks and trails available to the cycleway.	Remote rural areas with no existing tracks and trails available to the cycleway.
Accessibility & Social Inclusion	AS1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.	Accessible areas with relatively flat gradients and suitable lengths between destinations.	Partially accessible areas with challenging gradients and lengths between destinations.	Remote areas with difficult gradients and lengths between destinations.
	AS2	To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.	Areas close to large towns and villages with good facilities.	Areas close to small towns and villages with some facilities.	Very remote rural areas with little to no facilities.
Integration	I1	To link to other existing and proposed cycleways within the area.	Areas with lots of existing or future cycleways planned.	Areas with some existing or future cycleways planned.	Areas with no existing or future planned cycleways.
	I2	To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.	Areas with good connections to public transport.	Areas with some connections to public transport.	Areas with little to no connections to public transport
	I3	To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.	Areas with good tourist activities and attractions.	Areas with some tourist activities and attractions.	Areas with little or no tourist activities and attractions.

4 IDENTIFICATION OF NEED

The development of greenways and cycleways has become increasingly popular on the island of Ireland in recent years with a significant number of projects having been developed, driven primarily by local interests.

Tourism policy now recognises the importance of investing in the visitor experience in order to continue to grow tourism including investment in facilities for visitor activities such as greenways and other outdoor recreational activities.

Greenways not only provide opportunities for active travel and recreation in the localities along their routes, they can also provide economic, social, environmental and health benefits.

In 2013, market research consultants were commissioned by Fáilte Ireland to undertake a Target Cycling Market Survey in Germany, Britain, Netherlands and France. The objectives were to:

- Understand the scale of potential for cycling holidays in Ireland by overseas visitors,
- Investigate the key requirements of the target market for cycling holidays, and
- Understand the characteristics of the target cycling market.

The research identified a core potential market of 19.5 million people with the largest segment from Germany. The key requirements of the target market both internationally and domestically were that the cycleway would run through scenic landscapes, offer traffic free cycling and offer a high standard of safety.

More than 15,000 online surveys were taken with a representative sample of respondents from the targeted markets. Also, since this market research was conducted in 2013, it was noted that there has been a significant increase of oversea visitors engaged in walking and cycling activities whilst on holiday in Ireland. According to Fáilte Ireland tourist participation in walking and cycling activities has risen to 2.43 million people in 2018, representing a significant rise from figures recorded in 2013. These figures provide valuable information to support the need for the scheme.

Results from Fáilte Ireland research indicate that there is a growing market for a Galway to Athlone (Dublin) Cycleway, and that a demand has been established. This section highlights how the existing infrastructure currently in place facilitates such a need.

4.1 Policy Context

This scheme is well supported by policies at all levels. Tourism is strongly emphasised as a source for economic development in the region. Internationally there is now an ever-growing need to support more sustainable forms of transport and tourism, that contribute to the reduction of emissions and combat climate change.

Policy makers in Ireland and Europe are providing strong support towards cycle tourism. The policies and plans outlined above aim to:

- Increase the popularity of cycling in Ireland,
- Contribute to a healthier society through increased physical activity,
- Provide substantially segregated off road cycling experiences linking places of interest,
- Improve infrastructure for recreational cycling through greater capital funding into the tourism sector,
- Use existing or disused suitable infrastructure and public lands, where possible in the development of greenways,
- Consult in a proactive manner with landowners to maximise their support for, and goodwill towards the proposed greenway,
- Provide opportunities for the development of local businesses and economies through an increase in active tourism, particularly in rural Ireland, and
- Establish Ireland as a premier destination for recreational tourism globally, while contributing towards the EuroVélo network of long-distance transnational cycling routes.

The policy context and need for the scheme is set out in more detail in **Section 4** of the **Strategic Assessment Report** in **Volume E1.**

4.2 Scheme Specific Need

The Target Cycling Market survey conducted by Fáilte Ireland shows that there is significant demand for cycle tourism in Ireland, including from international tourists. These tourists desire cycleway routes through attractive landscapes that have substantial off-road segregation with lots to see and do. This tourism market nationally and internationally has the potential to generate significant revenue.

While the primary need for the route is a tourist amenity and income generation for those along the route, the scheme can also facilitate some commuter cyclists as it connects a number of urban centres. A safe and segregated cycleway close to employment centres, schools and colleges would be very attractive to those who wish to cycle to work and students.

The region between Galway and Athlone is predominantly rural, with limited local employment opportunities and tourist enterprises. A large new tourism product, such as a cycleway, presents a good opportunity to increase local employment opportunities within the rural communities of the region.

There is clear evidence that there is a market for the Galway to Athlone Cycleway and that there is a need for the scheme.

5 CONSIDERATION OF ALTERNATIVES

5.1 Introduction

This section describes the various alternative options that have been considered for the provision of a cycleway between Galway and Athlone.

5.2 Do-nothing Option

This option comprises of no further development of a cycle route between Galway and Athlone. In this scenario, it would be expected that there would be very limited growth on the cycle tourism market in East Galway and South Roscommon. Any natural increase in demand for leisure cycling would be constrained and restricted to usage of current roads. It would not be possible to develop the Galway to Dublin corridor as a leisure cycling product. This option is not examined any further in this report as it fails completely to meet the project objectives.

5.3 Do Minimum Option

This option would consist of the selection of a route along existing roads, with route signposting and upgrades to the roads where necessary. These upgrades could include widening or addition of designated cycle lanes.

There are a high number of particular options that would be available, given the large road network between Galway and Athlone.

This option was designated the management option in the Stage 1 assessment (Section 9). It did not progress due to the lesser user experience of cycling immediately next to a road, compared with other alternatives. To achieve segregation, which is a key project objective, it would likely be necessary to perform significant widening of the roads. This option is not examined any further in this report.

Use of existing roads, and widening where desirable, forms parts of the Route Corridor Options to greater or lesser extents. However, it is not considered as a desirable solution over the entire project length.

5.4 Do Something Option – Feasible Route Corridor Options

Route Corridor Options, comprising corridors where a substantially segregated and primarily new build cycleway could be delivered, have been developed and assessed under Stage 1 as follows:

- **Candidate Cycleway Option 1 – Northern Route Corridor:** The Northern Route Corridor travels in the direction of the River Shannon, along the disused railway in adjacent Bord Na Móna bogs before crossing the River Suck and using the Old Canal to Ballinasloe. The route continues to Mountbellew through Ahascragh or along the River Suck by using existing bog roads and disused rail lines in the ownership of Bord Na Móna. The route then continues to Tuam or Abbeyknockmoy before using a portion of the Western Rail Corridor to reach Athenry and continue to Galway.
- **Candidate Cycleway Option 2 – BAMM (Ballinasloe, Athenry, Monivea, Mountbellew) Route Corridor:** The BAMM Route Corridor travels in the direction of the River Shannon, along the disused railway in adjacent Bord Na Móna bogs before crossing the River Suck and using the Old Canal to Ballinasloe. The route then continues to Mountbellew through Ahascragh or along the River Suck by using existing bog roads and disused rail lines in the ownership of Bord Na Móna. The route then continues through Monivea before using a portion of the Western Rail Corridor to reach Athenry and continue to Galway.
- **Candidate Cycleway Option 3 – Central 2 Route Corridor:** The Central 2 Route Corridor travels in the direction of the River Shannon, mainly by using the disused railway in adjacent Bord Na Móna bogs before crossing the River Suck and using the Old Canal to Ballinasloe. The route then continues to Aughrim, Woodlawn and Monivea, before using a portion of the Western Rail Corridor to reach Athenry and continue to Galway.

- **Candidate Cycleway Option 4 – Rail Route Corridor:** The Rail Route Corridor travels parallel to the outside of the active Galway to Athlone rail line boundary through Ballinasloe and Athenry, with potential spurs at Aughrim, Kilconnell and Woodlawn along the route.
- **Candidate Cycleway Option 5 – Central Route Corridor:** The Central Route Corridor travels in the direction of the River Shannon, mainly by using the disused railway in adjacent Bord Na Móna bogs before crossing the River Suck and using the Old Canal to Ballinasloe. The route then continues to the area around Aughrim, Kilconnell, New Inn and Athenry before reaching Galway City. This route also has the option to parallel the existing rail line for sections, similar to the Rail Route Corridor Option.
- **Candidate Cycleway Option 6 – M6 Route Corridor:** The M6 Route proposes to parallel the existing M6 Motorway from Athlone to Galway by using existing access roads where possible and space available within the Motorway boundary.
- **Candidate Cycleway Option 7 – ALP (Athenry-Loughrea-Portumna) Route Corridor:** The ALP Route Corridor travels in the direction of the River Shannon, mainly by using the disused railways in adjacent Bord Na Móna bogs and flood embankments in the ownership of ESB, to Portumna. The route then crosses the Slieve Aughty's to Loughrea before reaching Athenry and continuing to Galway City.
- **Candidate Cycleway Option 8 – Preferred Route Corridor (2014):** The Previous Preferred Route Corridor developed in 2015 travels in the direction of the River Shannon, adjacent to Bord Na Móna bogs before crossing the River Suck and using the Old Canal to Ballinasloe. The route then continues through Aughrim, Kilreekill, Loughrea, Craughwell, Clarinbridge and Oranmore before reaching Galway City.
- **Candidate Cycleway Option 9 – R446 Route Corridor:** This Route Corridor travels parallel to the R446 (Old N6) from Galway to Athlone through Ballinasloe, Aughrim, Kilreekill, Loughrea, Craughwell, and Oranmore using the existing hard shoulder or space available adjacent to the regional road.
- **Candidate Cycleway Option 10 – Southern Route Corridor:** The Southern Route Corridor travels in the direction of the River Shannon, mainly by using the disused railway in adjacent Bord Na Móna bogs and the flood embankments in the ownership of ESB, to Portumna. The route then crosses Slieve Aughty to Gort before reaching Kinvara and continuing up along Galway Bay to reach the city.
- **Candidate Cycleway Option 11 – Management Option:** This option would consist of the selection of a route along existing roads, with route signposting and upgrades to the roads where necessary. These upgrades could include widening or addition of designated cycle lanes.

The **Stage 1 Corridor Assessment Report** is provided in **Volume C.**

The Route Corridor Options recommended to progress onto Stage 2 assessment were as follows:

- Candidate Option No. 2 – BAMM Route Corridor
- Candidate Option No. 4 – Rail Route Corridor
- Candidate Option No. 5 – Central Route Corridor
- Candidate Option No. 7 – ALP Route Corridor
- Candidate Option No. 10 – Southern Route Corridor

The Stage 1 assessment process is described in detail in **Section 9** and the Stage 2 appraisal process is described in detail in **Section 11.**

6 DEMAND ANALYSIS

The demand analysis is set out in the **Strategic Assessment Report (Volume E1)** and summarised below.

In 2013, market research consultants were commissioned by Fáilte Ireland to undertake a Target Cycling Market Survey in Germany, Britain, Netherlands, France and Ireland. The objectives were to:

- Understand the scale of potential for cycling holidays in Ireland by overseas visitors,
- Investigate the key requirements of the target market for cycling holidays, and
- Understand the characteristics of the target cycling market.

More than 15,000 online surveys were taken with representative samples from each country. The survey targeted a maximum core potential of 19.5 million foreign tourists over three years. In addition, a domestic market of 721,000 over three years was identified.

This data was used in the Galway to Dublin Greenway Business Case (client NRA, October 2013) document in order to estimate the total economic benefits of the scheme and compare these to the scheme costs to determine value for money. The economic benefits were determined by estimating the total number of visitors per year and multiplying this by the average visitor spend.

Of the 19.5 million potential foreign visitors, it is estimated that 571,000 have a high level of interest in cycling on holiday in Ireland. It was then assumed, based on survey responses, that 50% could effectively be targeted by marketing of Ireland as a cycling destination and that 12.5% of those will make a trip on the Galway to Dublin route. This gives total estimated annual number of foreign tourist users of approximately 35,600.

In the 2013 Galway to Dublin Greenway Business Case a similar calculation to determine the number of domestic users was not undertaken. The spend by domestic users was not considered to be a benefit (as they would spend this amount of money whether or not they used the scheme). The surveys carried out identified that 196,000 potential domestic users have a high level of interest in cycling on holiday in Ireland. If we apply the same assumptions above, then the total estimated annual number of domestic visitors is about 12,200. In addition, significant numbers of domestic users will be local, using sections of the route for leisure/commute reasons and these were not captured in the market surveys.

Surveys on the Waterford Greenway in 2017 showed that over 250,000 trips were made on the greenway in the period March to December 2017, immediately after its opening. These overall user figures were sustained throughout 2018 and 2019, though there is no breakdown of domestic versus overseas users for these years. However, only 2% of users came from outside the Republic of Ireland. 68% of people from outside Waterford said that the greenway was the sole reason for their trip to Waterford.

Failte Ireland has reported a threefold increase in cycle tourism from 2009 to 2018 and projected an annual growth rate of 4% to 2028. They also report that 361,000 overseas tourists engaged in cycling in Ireland in 2019 (**Figure 6-1**).

In general, cycle tourism in Europe is showing an upward trend since 2013, as reported by Allgemeiner Deutscher Fahrrad Club (ADFC Bicycle Travel Analysis 2020) and reported by the European Cycling Federation as shown in **Figure 6-2**, and also similar surveys in France and Hungary.

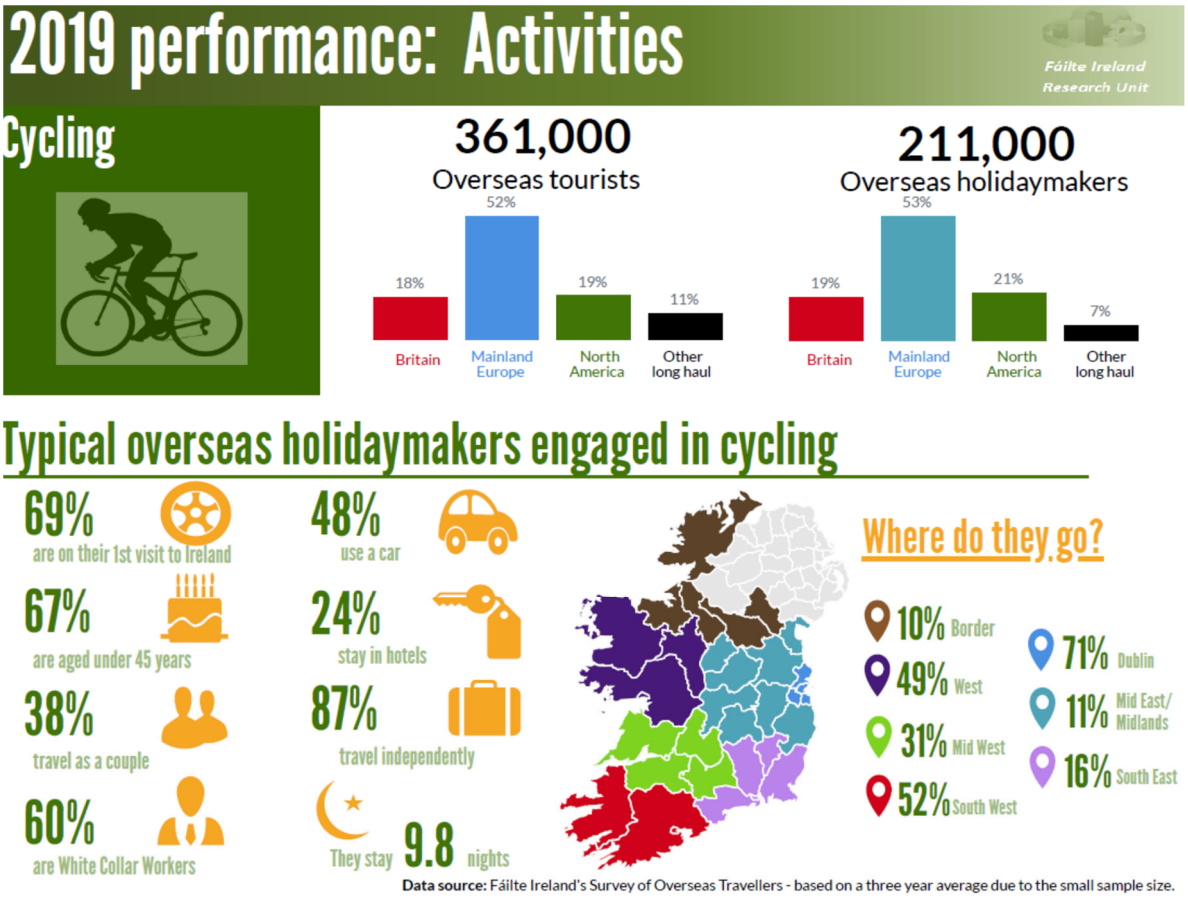


Figure 6-1: Cycling Tourism Performance (Failte Ireland, 2019)

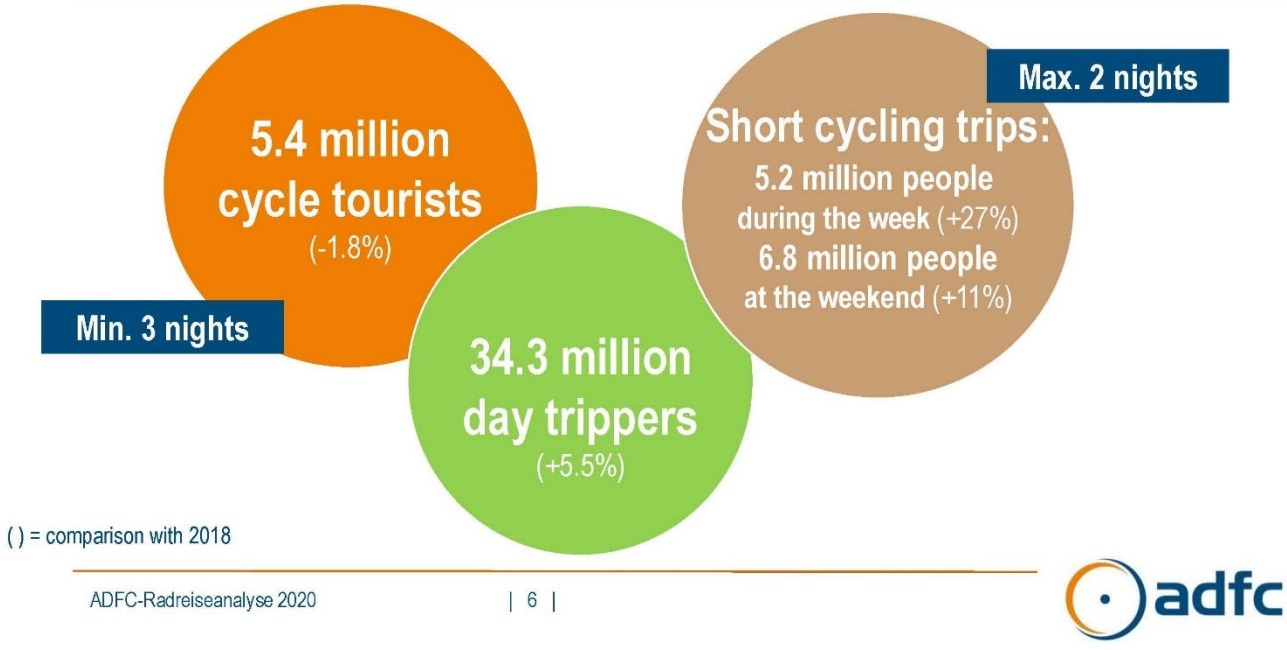


Figure 6-2: Trends in Cycle Tourism Germany 2018-2019 (ADFC Radreiseanalyse 2020)

The Old Rail Trail Greenway at the Whitegates counter in Athlone recorded a daily flow of over 900 users (cyclists and walkers) in 2019 with an annual usage of over 330,000 greenway users. This includes both leisure and commuter walkers/cyclists. The Old Rail Trail Greenway recorded approximately 80,000 greenway users annually outside of Mullingar, in a rural area. It is likely that a significantly higher number use the facility in the immediate environs of Mullingar.

Overseas holiday makers engaging in cycling activities in Ireland grew by 50% from 2013 (241,000) to 2019 (361,000) (Fáilte Ireland).

The Galway to Athlone Cycleway will also attract local recreational users and non-recreational users. There is potential for significant commuting use, particularly near Galway City. The cycleway will also provide an attractive alternative to car use for short trips around towns and villages, especially for children and young adults.

The scheme area has a population of approximately 100,000, not including Galway City and Athlone. There are several large towns within the scheme area, as shown in **Figure 6-3** below. There are also some sparsely populated areas. The population within easy reach of the cycleway will vary depending on the route chosen. However, all routes serve the two major population centres, i.e., Galway City and Athlone.

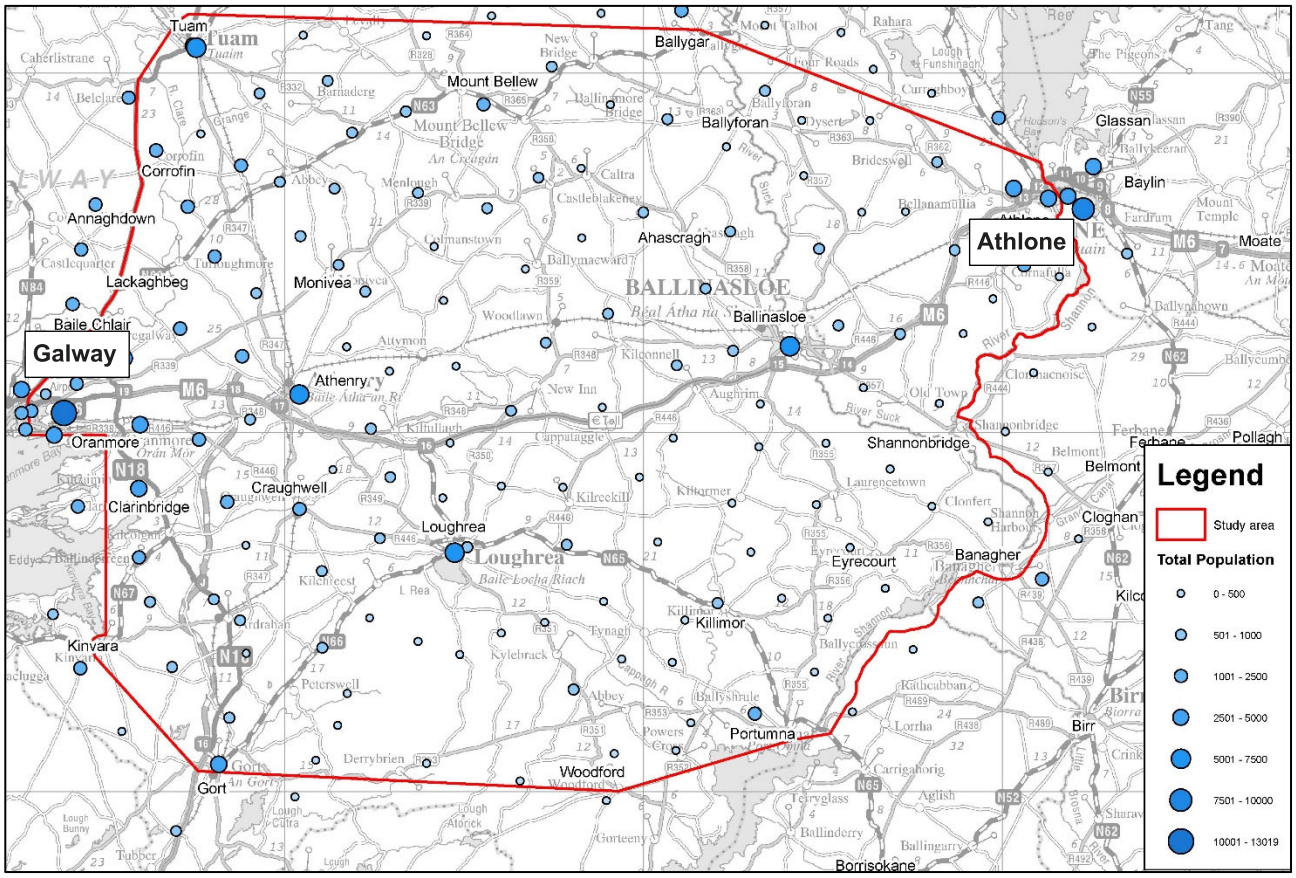


Figure 6-3: Population Density in Scheme Area

7 NON-STATUTORY PUBLIC CONSULTATIONS

7.1 Introduction

This section describes the Public Consultations held for the Galway to Athlone Castle National Cycleway and summarises the responses received.

The responses have been considered during the Route Corridor Option development stage of the project. The consultation process is being conducted in accordance with the Greenway Strategy, and TII Project Management Guidelines.

The strategy outlines four stages of public consultations to inform and discuss a project with the public before submission to An Bord Pleanála. The stages are as follows:

18. The Study Area Public Consultation,
19. Route Corridor Options Public Consultation,
20. Preferred Route Corridor Public Consultation, and
21. Preferred Route Consultations with Individual Landowners.

The public consultations provided opportunities for the public and landowners to highlight issues of concern or special interest which can be considered.

7.2 Public Consultation No. 1 – Study Area and Constraints

The first Public Consultation for the Galway to Athlone Castle Cycleway project was held in August 2020, at 5 locations within the scheme area. This consultation was conducted in both person and virtually, as it took place in between Covid 19 lockdowns.

The purpose of the consultation was to present the Study Area to the public and invite them to give their opinions on the cycleway.

The consultation was very well attended with a total 524 people attending the events. Members of the project team were present to discuss the project with the public. There was a strong interest in the project expressed at the events, with very good engagement and many informative discussions held during the events.

The project team emphasised that the project was starting again from a ‘clean slate’, with no routes proposed at this point. It was also emphasised that there would be strong consultation with landowners throughout the project development and that a key project aim would be to progress the project in collaboration with affected landowners.

Following the consultations, a large number of submissions were received. Most were individual submissions, with submissions also received from community groups and businesses.

Most respondents were in support of a cycleway through the Study Area. Many were opposed to a route through private lands and would only support a route through public lands or on-road facilities. Submissions were received from across the Study Area.

There were a number of key issues that were raised in the submissions received. These included:

- The benefits that a cycleway would bring to rural communities and towns,
- A desire from many people to have the cycleway in their locality, especially the towns and villages,
- Concern about the use of privately owned land for the project, especially working farms,
- Impacts of a cycleway on farming activities, though severance, loss of land and reduced security, and
- The potential use of Compulsory Purchase Orders.

The majority of respondents recognised the need for the cycleway. They felt it would increase tourism in the area, benefit the local economy, and provide recreational and health benefits. Many respondents gave comments in relation to a route or part of a possible route.

Comments on attractions, locations, facilities, and constraints were mainly in relation to local businesses that could facilitate cycleway users and key locations of heritage and attractions that would benefit the user.

Scenery was also highlighted as an important feature to the cycleway. The constraints highlighted were generally in relation to agriculture and protected and conservation areas.

Further details of Public Consultation No. 1 are provided in **Volume G.**

7.3 Public Consultation No. 2 – Route Corridor Options

The second period of focused public consultation was held over five weeks from 25th January 2021 until 1st March 2021. This report sets out the manner in which the consultation was promoted and undertaken and summarises the feedback received.

In-person public consultation events were not possible due to COVID-19 health restrictions. As an alternative, the project team provided online virtual consultation platforms, along with virtual meetings and telephone engagement.

The purpose of the second consultation was to present the five corridor options that were identified and to gather feedback on these to inform the project team in proceeding to the next stage of the project, i.e., selecting a preferred route corridor.

Route corridor options for the cycleway were developed to utilise state-owned lands where possible and to connect these by exploring possible routes with private landowners / farmers.

There was a strong response to the second public consultation with over 11,000 submissions received, 95% of which were very supportive of the cycleway. Community groups, local organisations, businesses, and individuals alike welcomed the project and stated their support for the cycleway to be routed alongside their towns and villages. This included many local communities/organisations establishing social media pages and campaign groups to support the project and promote particular route corridor options.

It was clear from the sentiments expressed in submissions received and meetings with the project team that this cycleway will be a welcome local amenity that will regenerate the consultation area, regardless of which route corridor option is progressed.

The following themes emerged in submissions:

- Communications and Consultation,
- Community and Rural Development,
- Connectivity and Accessibility,
- Operation and Maintenance,
- Environment including Bogs, Flora and Fauna, Flooding, Wildlife and Woodlands,
- Health and Wellbeing,
- History and Heritage,
- Landowner Considerations including land acquisition, severance, insurance, future buildings, and landowner consultation,
- Landscape and Scenery,
- Local Business, Economy and Jobs,
- Privacy,
- Safety and Security,
- Tourism,
- Walkways.

Further details of Public Consultation No. 2, and the responses received are provided in **Volume G.**

7.4 Public Consultation No. 3 – Emerging Preferred Route Corridor

The third period of focused public consultation was held from 8th December 2021 until the 31st January 2022 and was subsequently extended to the 28th February 2022. Due to public health guidance in relation to

Covid-19, Public Consultation No.3 was held on the online virtual consultation platform. This section sets out the manner in which the consultation was promoted and undertaken, and summarises the feedback received.

The purpose of the third consultation was to present the Emerging Preferred Route Corridor and to gather feedback which would inform the project team in developing a Preferred Route within the corridor.

There was a strong response to the third public consultation with circa 360 responses. The submissions received covered a range of different interests and can be summarised as follows:

- More than 32% supported the Emerging Preferred Route Corridor,
- 30% of respondents requested links from the cycleway to other towns, mainly Athenry,
- 20% were opposed to it or had concerns in relation to some part of the project, and
- Over 17% of submissions were neutral or the respondent gave little to no comment.

There was good engagement from landowners during the consultation. Many landowners had concerns regarding the cycleway project such as threat of compulsory purchase orders, severance of holdings, disruption to farming activities, anti-social behaviour, environmental impacts, and the lack of communication from the project team.

The following themes emerged in the submissions:

- Accessibility,
- Attractions and Historical Features,
- Compulsory Purchase Orders,
- Consultation Efforts,
- Environment,
- Farming Impacts,
- Health, Wellbeing and Economy,
- Link to Athenry and Loughrea, and
- Privacy and Security.

Further details of Public Consultation No. 3 and the responses received are provided in the Consultation Report in **Volume G.**

7.5 Consultation with Statutory Bodies

Several key stakeholders to the project were identified and contacted in writing to inform them of the proposed Galway to Athlone Cycleway. These stakeholders were invited to submit any observations or comments. **Table 7-1** lists the stakeholders where a response was received.

Table 7-1: Stakeholder Consultation

Stakeholder	Theme / Comments
Bord na Móna	Very supportive of the project with very large tracts of bog land in the Study Area. From 2020, an accelerated 'Exit from Peat' is planned to involve an extensive Bord na Móna bog rehabilitation programme, which will present additional lands for consideration in this scheme. Existing light industrial railway tracks were highlighted across these lands to present an opportunity to accommodate potential cycleway routes which avoid crossing intact bogs.
Coillte TEO	Welcomes the development of the cycleway and would support the use of Coillte Forest estates for the cycleway where appropriate.
Cycling Ireland	Very supportive of the cycleway and looking forward to updates.
Department of Rural and Community Development	Welcomes development of the cycleway. Potential to increase cycling infrastructure in the area with positive local impact. Possible inclusion of existing Trails in East Galway and Roscommon.
European Cyclist Federation	Pleased with the development as level of cycling is increasing across Europe. Guidance on route itinerates and rules for certified EuroVélo Routes were provided.

Stakeholder	Theme / Comments
	Highlighted that at least one point of access to public transport should be provided along route.
Fáilte Ireland	Very supportive of the project and are liaising with the project team to identify key attractions and sites of interest for cycleway users within the Study Area. Provided specific feedback on each of the Route Corridor Options at Public Consultation No. 2
Iarnród Éireann	Supportive of cycling schemes in Ireland. IE stated that no surplus land was available within the railway corridor. Raised safety concerns in relation to crossings and fencing.
Irish Farmers Association	Submission supporting rights of farmers potentially impacted by the project. Recognises the importance of cycleway projects but opposes the use of CPO. Use of state-owned land to be maximised and routes suggested by farmers should be considered. No farms should be divided by the cycleway. Meaningful consultation with farmers should be prioritised in groups rather than individually unless requested.
Sport Ireland Outdoors	Have a keen interest in cycleway projects and have been involved in the Galway to Dublin Cycleway. Encourages outdoor activities promoting physical and mental wellbeing which can be supported by a well-designed cycleway and will also benefit tourism and economy. Important to focus on a traffic free cycleway as this will attract maximum domestic and oversea users as seen from other projects. The consultation process is vital part to gain support from the local communities.
Office of Public Works (OPW)	Welcomes the cycleway in general. Concerns over routing through Coole park due to flooding and other issues.
Waterways Ireland	Welcomes the cycleway in general and highlighted the benefits of linking other waterways-based experiences and plans.
National Parks & Wildlife Service (NPWS)	NPWS highlighted a number of ecological concerns and ecological opportunities. Specific discussions were held in relation to the Shannon Callows Special Area of Conservation and Special Protection Area (SAC/SPA), and the potential for impacts to these and other specific sites. NPWS also raised concerns on the use of Coole Park due to flooding issues and other practicalities.
Electricity Supply Board (ESB)	Discussion have been held with ESB in relation to the use of the ESB lands between Meelick and Portumna, on the banks of the Shannon. ESB are willing to facilitate this once practical issues can be resolved satisfactorily.

7.6 Consultation With Landowners

In April 2021, the project team sent a letter and landowner leaflet, by post, to over 8,500 landowners outlining the process for engagement with them. Landowners were identified via folio numbers within the study area available from the Property Registration Authority of Ireland (www.prai.ie).

Project Liaison Officers (PLOs) from Galway, Roscommon and Westmeath County Councils were available to liaise and engage with affected farmers and landowners on any matters relating to the proposed Greenway. From 4th May 2021 onwards, once public health guidance permitted, the PLOs visited farmers and landowners in the Consultation Areas to explore possible corridor options and talk through any issues or concerns. From May 2021 to December 2021 the project team made / received over 550 telephone calls and carried out over 650 face to-face meetings with landowners across all five Route Corridor Options.

In December 2021, all landowners within the Emerging Preferred Route Corridor were issued a letter and project brochure by post (Residents who were unlikely to have their properties effected by the Cycleway were not contacted at this stage.)

After the Emerging Preferred Route Corridor was announced in December 2021, Project Liaison Officers have been available to meet with potentially impacted landowners and are working with them to identify a preferred route within the corridor.

8 CONSTRAINTS STUDY

The Constraints and Opportunities Report is included in **Volume B**. The following sections provide a synopsis of the study.

8.1 Introduction

The Constraints and Opportunities Report presents the various anthropogenic and environmental constraints that are within the Study Area. The findings of this report will form a crucial part of the option selection process covered in Phase 2 under the TII Project Management Guidelines (PMG).

The scope of the Constraints and Opportunities Report was to identify and map the nature and extent of potential constraints that exist within the Study Area of the project. The purpose of completing this exercise was to identify where such constraints may impact upon the development of the proposed cycleway and in so doing inform both the stakeholder consultation and Phase 2 Option Selection process. The environmental factors assessed in this Constraints Study were as follows:

- Population and human health,
- Biodiversity with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive,
- Land, soil, water, air, and climate, and
- Material assets, cultural heritage, and landscape.

The Constraint Study incorporated mapping of the identified constraints across the study area of the project to inform decision making on feasible Cycleway Route Corridor Options.

8.2 Study Area

The geographical Study Area for examination was large enough to include all reasonable Route Corridor Options for consideration between Galway and Athlone. The area in question, shown in **Figure 8-1,** should not be exceeded without compromising the directness and length of the route. This is based on the maximum desired scale of the cycleway, identified through international market research, and the desire to connect to larger towns at reasonable intervals.

The area extends from the west side of Ballyloughane Strand in Galway City along the coastline of Galway Bay to the natural boundary of the River Shannon in Athlone. The most southern extremity extends to Lough Derg and Coole Park to capture available amenities and recreational facilities offered in Gort and Portumna. The most northern point then extends as far as Tuam for consideration.

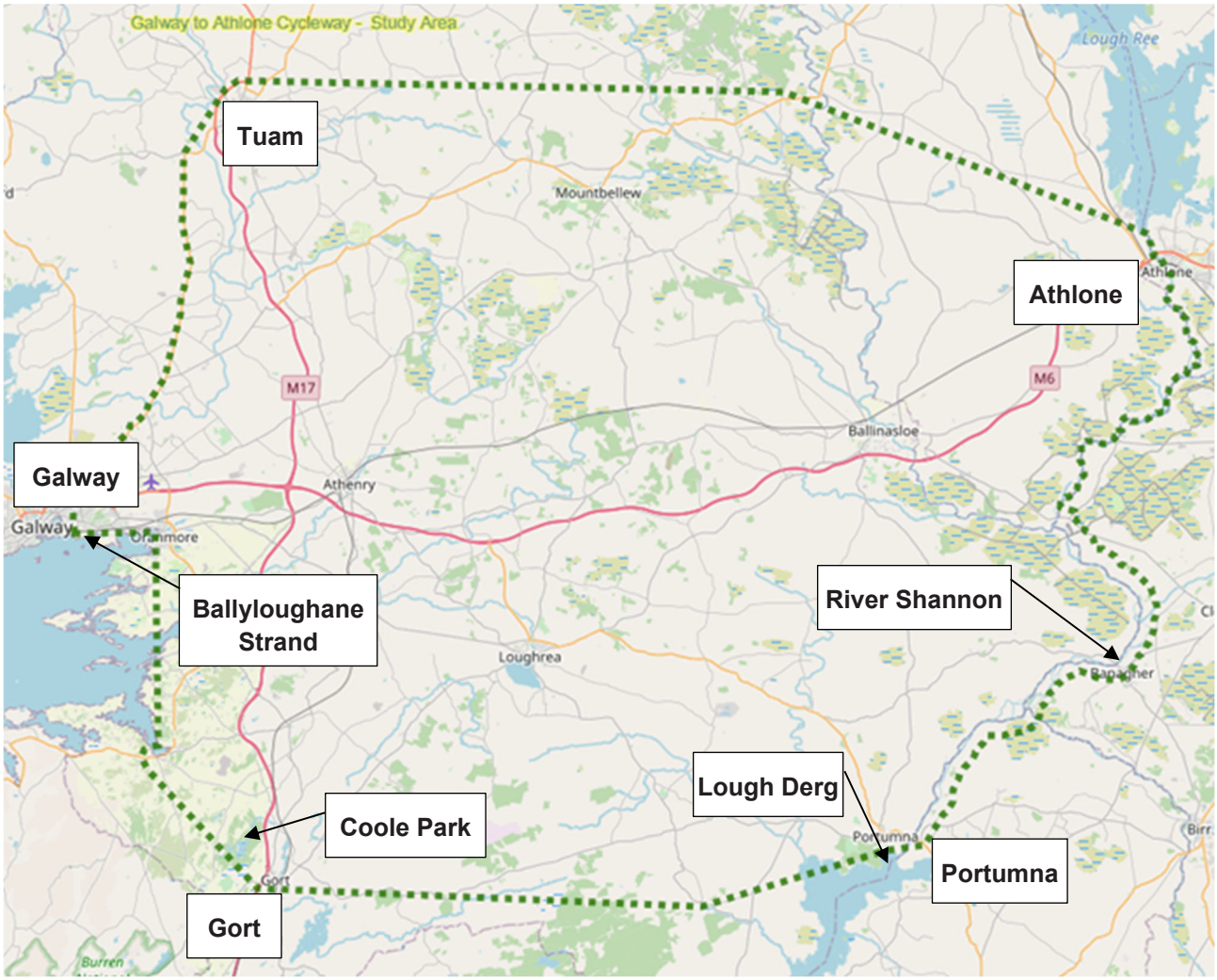


Figure 8-1: Study Area

8.3 Constraints Study Findings

The Constraints Study assessed constraints in line with the following environmental factors:

- Population and Human Health,
- Biodiversity,
- Land and Soils,
- Water,
- Air and Climate,
- Material Assets – Utilities,
- Material Assets – Agriculture,
- Cultural Heritage including archaeology, architecture, and culture,
- Landscape, and
- External Constraints not included above.

The study incorporated mapping of the identified constraints across the Study Area of the project to inform decision making on feasible cycleway Route Corridor Options. The options should, where possible, avoid constraints. The Constraints Study also informed the requirement for any additional surveys or targeted investigations.

The constraints identified were divided into three principal categories:

- Natural constraints (naturally occurring landscapes and features)
- Artificial constraints (forming part of the built environment) and
- External parameters (design standards, policy, procedural and legal issues)

The Constraints Study comprised a desktop study and windshield surveys, which included the review of various documentation, including mapping. The available mapping for the scheme consisted of Ordnance Survey Ireland (OSI), Discovery Series, and aerial photography which provided information on the physical features of the Study Area. A Geographic Information System (GIS) was used to map and present the available data within the Study Area. Additionally, a number of datasets such as the National Parks and Wildlife Service (NPWS) ecological database, the Geological Survey Ireland database, and the Office of Public Works (OPW) flood mapping databases were utilised.

Some of the constraints identified included:

- **Flooding:** the cycleway route could traverse identified flood prone areas and could impact existing hydrological and hydraulic regimes. If possible, the route will avoid flood prone areas, but a balance will have to be achieved in terms of securing the most scenic route and avoiding these areas.
- **Boglands:** boglands within the Study Area are designated sites which are a form of constraint to the scheme as the bogs must remain intact. However, existing light industrial railways and bog roads of significance offer opportunities to diversify the landscape of the cycleway corridor without interfering with the sensitive ecosystem.
- **Material Assets Agriculture:** a good understanding of the farming practices and profiles in the study area was developed. The various farming practices in the study area each have unique aspects that can potentially be impacted and will require careful consideration.
- **Cultural heritage:** the study area was found to contain a rich historic environment of archaeological and built heritage sites. This includes a wide variety of monuments and structures covering all periods of settlement from the Mesolithic right down to the modern day. The vast number of Cultural Heritage sites (9185 No. in total) throughout the CSA shows a wide pattern of distribution, particularly with regard to archaeological monuments, which make up 88.1% of the overall dataset.

9 STAGE 1 ASSESSMENT

9.1 Introduction

Eleven candidate route corridor options were developed. They were developed using feedback from the first public consultation, the project objectives, and from identifying the constraints and opportunities within the study area. These were assessed at a high level against the Project Objectives, and the strongest five route corridor options were brought forward to the Stage 2 assessment and Public Consultation No. 2. The Stage 1 assessment is described in more detail in **Volume C** and summarised in this section.

9.2 What Does a Good Cycleway Look Like?

9.2.1 Functionality, Length, and Practicalities

The Target Cycling Market survey conducted by Fáilte Ireland indicates that the length of the cycleway is very important in attracting international cycling tourists. Cyclists will typically wish to partake in a weeklong holiday. The minimum length required for a cycle route to be marketable internationally is 200 km. However, a route length of approximately 300km is desirable to allow a 5-day trip. This is consistent with the requirements for certification of routes under the EuroVélo Certification Standard. The route from Dublin to Athlone is approximately 140 km in length. The candidate options for Galway to Athlone range from 75 to 190km in length. This would give an overall length from Galway to Dublin of 255 to 320km.

In the development of options, a relatively direct route from Galway to Athlone is normally preferred unless there is a compelling reason to do otherwise. Some routes are longer than others in order to link with significant attractions, scenic areas and to utilise public land. The candidate options developed also aim to have reasonable distances between towns and places of interest. This will ensure that both short and long trips can be catered for on daily sections (usually between 30-90 km). They route through some areas that are well served by existing facilities, while also considering that new facilities can also develop organically following the establishment of the cycleway.

Each daily section of the options aims to have at least basic or average standard accommodation (hotels, B&B's, home stays, camping, etc.). The options also include towns with good visitor facilities including shops, restaurants, pubs and attractions. Connecting these facilities along with other attractions in more rural areas will ensure the cycleway offers its users lots to see and do.

The Fáilte Ireland Market research in 2013 asked key overseas markets what makes a good cycling experience. The results are shown in **Figure 9-1** and have been used in the development of candidate options.

» What makes a good Cycling Tourism Trail?

- In order to dig deeper respondents were also asked think of their ideal cycling route, and to indicate their preference between each pair of route attributes as indicated below[2].

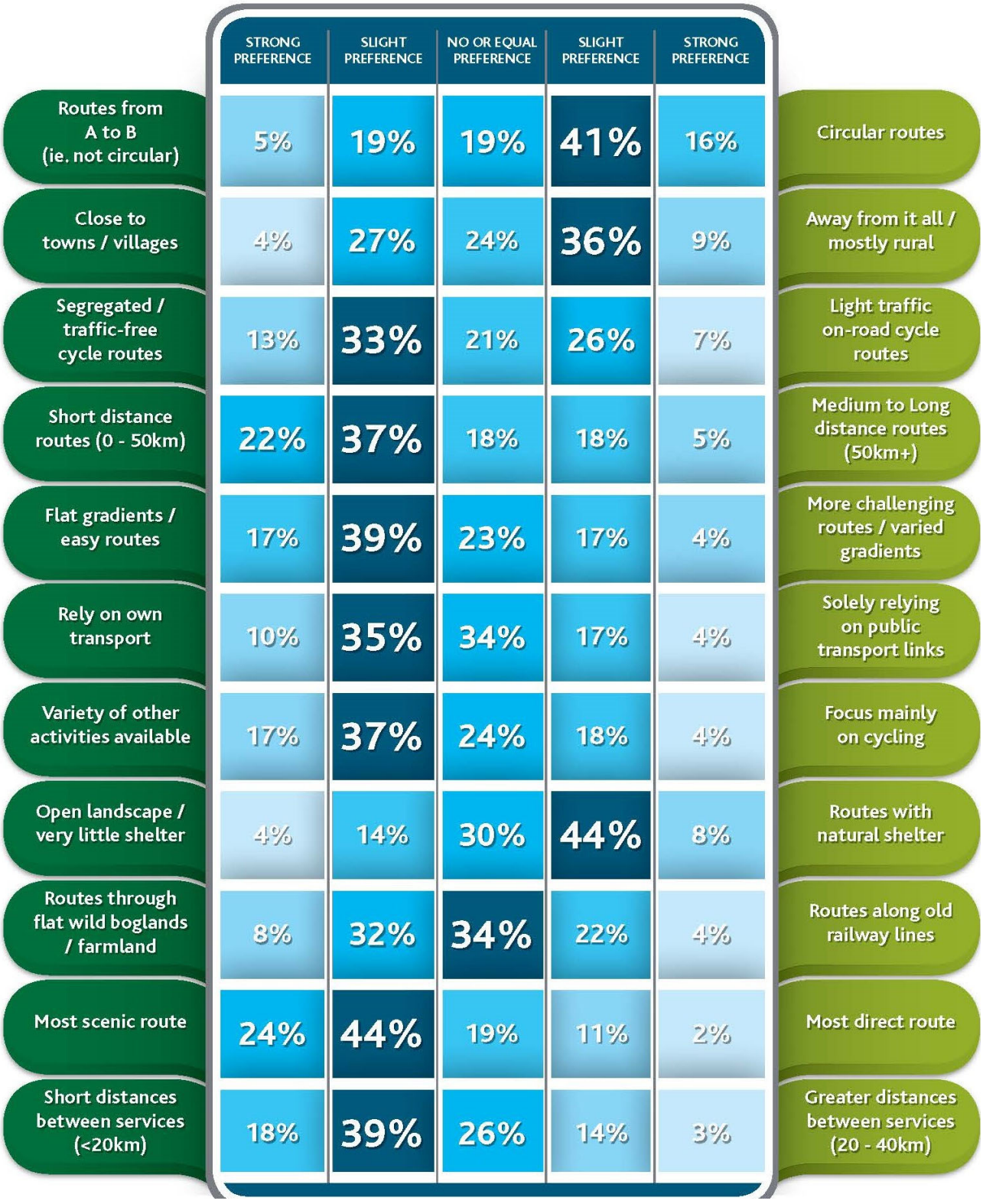


Figure 9-1: Fáilte Ireland Cycling Market Survey (2013)

9.2.2 Destinations / Attractions

The Galway to Athlone area contains a rich cultural landscape offering a variety of destinations and attractions. These were identified using information from Fáilte Ireland, tourism websites, local knowledge of the area, the National Inventory of Architectural Heritage, and the Sites and Monuments Records.

Fáilte Ireland have developed a number of regional tourism brands in the area, which present three distinct tourist offerings: Ireland's Ancient East, Ireland's Hidden Heartland, and the Wild Atlantic Way. Their rural hinterland is characterised by attractive if unspectacular scenery, generally small farmsteads, dispersed rural dwellings and historic market towns. This is balanced by sections of superb and unique scenery in the Burren and along Galway Bay to the south of the study area.

Other initiatives in the area include the development of Portumna Vision 2030, led by Galway County Council, which presents a vision for Portumna to become Ireland's Outdoor Recreation Centre that delivers compelling and motivational experiences that sustain a year-round tourism destination.

The candidate options developed aim to link places of interest and promote recreation in areas that have beautiful scenery with plenty to see and do. Fáilte Ireland's research also indicates that visitors cycling while on holidays want their cycling routes to be scenic and have lots of other things to see and do. The options also include towns or villages with good visitor facilities, including restaurants, accommodation, and attractions.

Attractions of significant interest served by the candidate options include the Battle of Aughrim Site, Oranmore Castle, Clonfert Cathedral, Dunguaire Castle, Mountbellew Forest Park, Monivea Forest Trails, Athenry Castle, Lough Rea, Coole Park, Portumna Castle, Lough Derg, Athlone Castle and the River Shannon. The Shannon system is the principal water body in the area and is seen as a core tourism and recreational asset.

9.2.3 Scenery

The area between Galway and Athlone has many scenic locations that can provide the type of memorable experience cycling and walking tourists look for. While the area is generally low lying, there are some elevated areas, that offer scenic views across the landscape. These locations among some others could be established as scenic focal points with the development of potential viewing platforms that add value to the cycleway.

Aside from specific viewpoints, the area is characterised by pleasant if unspectacular scenery of green rolling countryside and agricultural landscapes. The scheme area does however include parts of the Burren and coastal areas along Galway Bay which offer unique and spectacular scenery. The candidate options propose to route through the more scenic areas where possible, while also providing a variety of landscape experiences for the user.

Landscape areas of medium to very high value include the Shannon system along the eastern boundary, the River Suck, the Slieve Aughty Mountains, Lough Rea, Coole Park, the Burren and the region around Galway Bay, as shown on **Figure 9-2**. The centre and north of the study area in County Galway are rated as having low landscape value, although there are some notable views and focal points such as Athenry and the forest park in Monivea (shown in **Volume D5**).

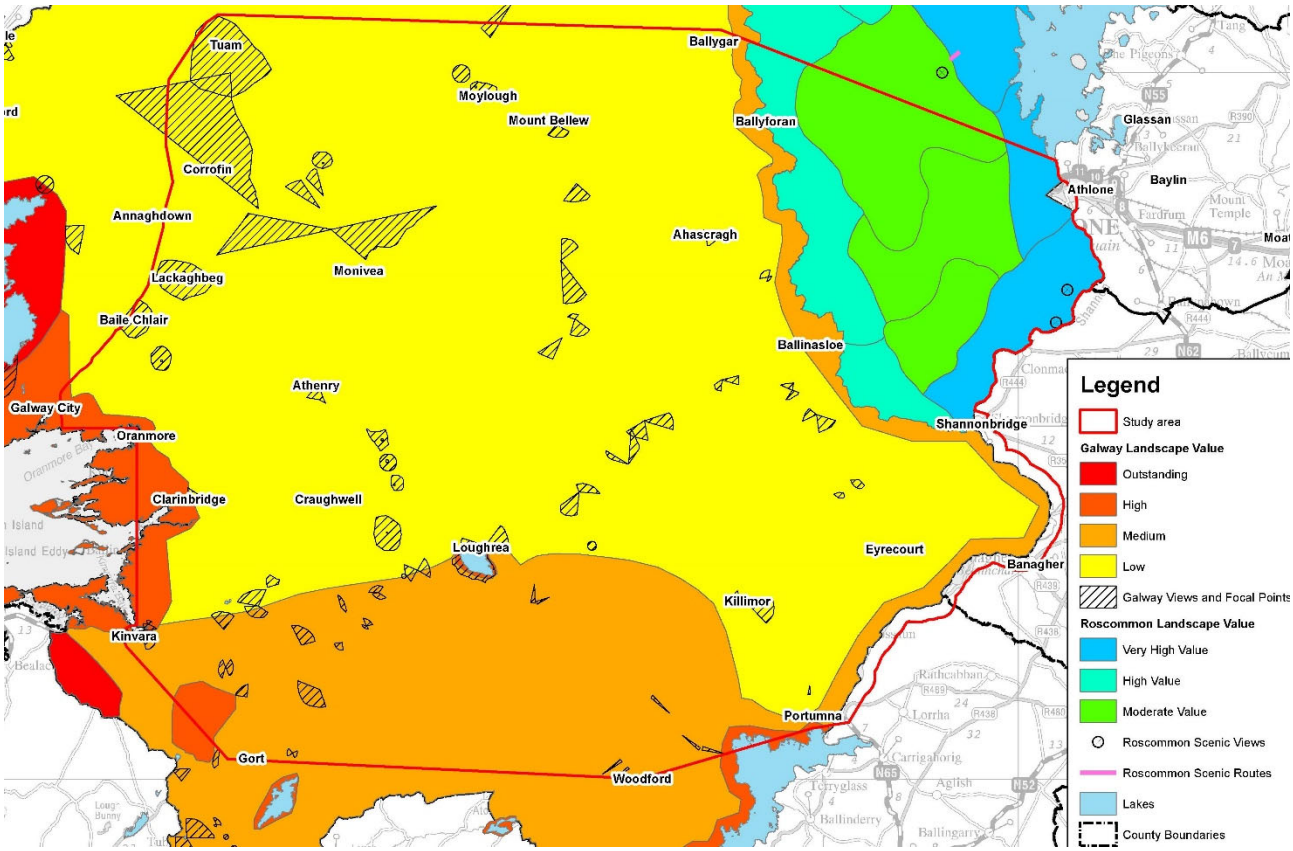


Figure 9-2: Landscape Value Map (Galway and Roscommon County Development Plans)

9.3 Preliminary Route Corridor Options

The proposed route corridor options comprise four different categories that can include a Mini Study Area, Public Route, Public Corridor and Rail Corridor. Areas of Public Land identified for the cycleway are shown in a green shade for reference on each candidate option.

Mini Study Areas are mostly private land used to link public corridors and routes. These are areas where the project team wishes to engage with landowners to explore Route Corridor Options.

Public Corridors are proposed in areas where there is an abundance of state-owned land. It is planned to explore routes through these lands in consultation with the public landowners to develop a route through the area. Such corridors include Coillte land in the Slieve Aughty Mountains and the Bord na Móna lands.

Public Routes use existing infrastructure such as railways, tracks, and trails within state ownership. These routes also use small narrow public land plots to help create a continuous public land route.

Rail Corridors are routes that parallel rail lines. These routes are proposed along the active Galway to Athlone railway and the disused Western Rail Corridor from Tuam to Athenry. Iarnród Éireann have advised that there are currently no surplus lands in the ownership of Iarnród Éireann available to the cycleway.

9.4 Public Land

The candidate options prioritise use of public lands in line with the Government's Greenway Strategy (2018). *'The preferred model for future greenways is to use lands already in the undisputed ownership or control of the State, either through Government Agencies, Government Departments or Local Authorities.'*

The State lands within the study area were identified using landownership data obtained from the Property Registration Authority (PRAI). This data was collated and mapped as shown in **Figure 9-3** to highlight publicly owned lands. The main bodies that own public land in the area include Bord Na Móna, Coillte, Iarnród Éireann and the ESB.

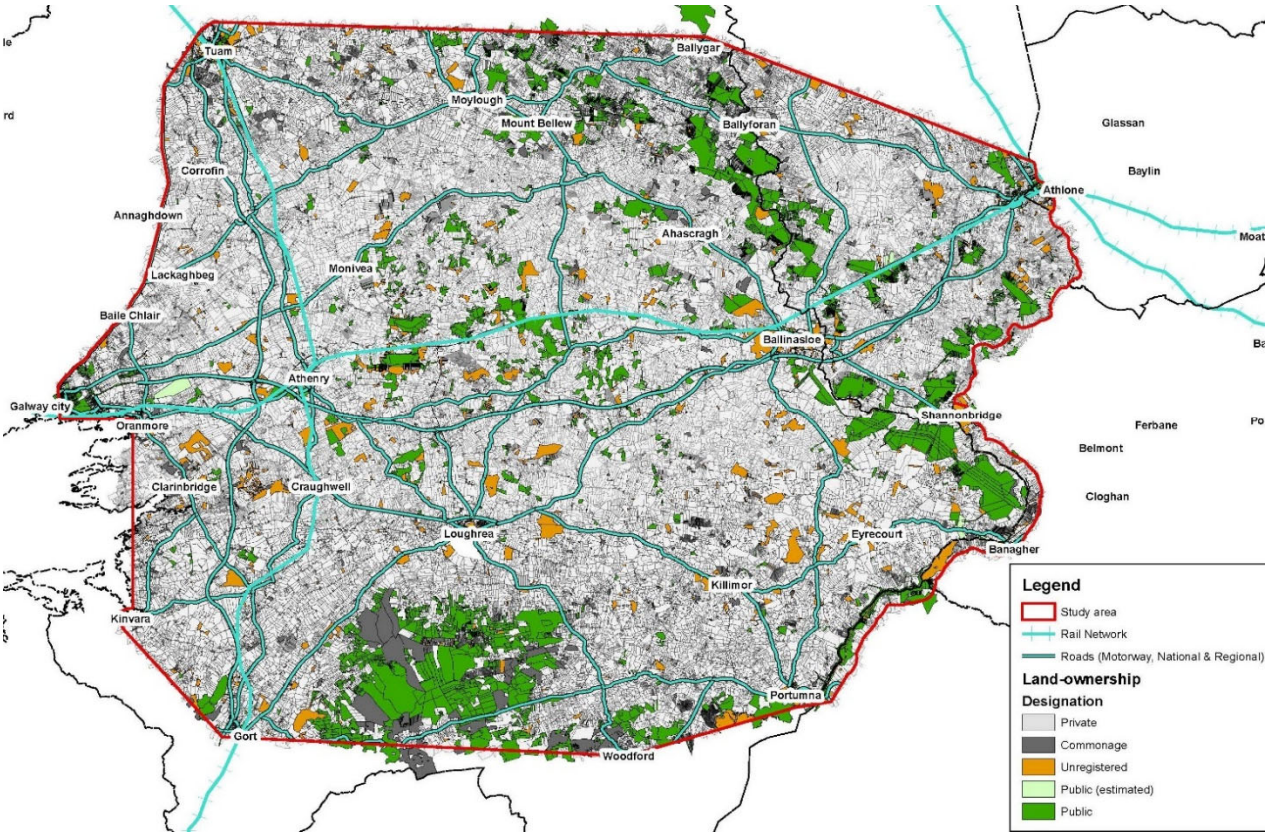


Figure 9-3: Public Land Map

9.5 Land Use (Farms, Bogs, and Forests)

The most common land use between Galway and Athlone is agricultural farmland. Impacts on farmlands such as dairy, poultry, drystock and tillage is to be minimised, and avoided where possible, with routes through public lands, bogs and forests preferred.

Some bog lands in the study area are protected sites. It is desirable to minimise impacts on intact bogs. Light industrial railways and bog roads offer opportunities to avoid productive farmland. Bord Na Móna is very supportive of the cycleway using existing railways as they undergo an accelerated 'Exit from Peat' and bog rehabilitation program. The candidate options aim to use these disused railways and bog roads where feasible.

Forestry within the Route Corridor Options is mostly associated with the state organisation Coillte who welcome the development of the cycleway through their estates. There are also private forestry plots which offer similar opportunities for the development of an attractive cycleway corridor with reduced impacts on farming activities. The candidate options aim to use forest areas that contain existing tracks and trails as much as possible.

9.6 Environment

The European sites and other designated sites within the study area are a significant constraint on the proposed cycleway. There are 50 European sites and 62 designated sites within the study area. There are also four nature reserves and four Ramsar sites within the study area. The candidate options pass through Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Natural Heritage Areas (NHA) such as the River Shannon Callows, River Suck Callows, Slieve Aughty Mountains, Lough Rea, Coole-Garyland and Galway Bay. In addition to the habitats and species protected under designated sites, there are numerous records for rare and protected species. The designated sites in the scheme area are shown in **Figure 9-4.**

Options through designated sites and other features of ecological interest have been considered due to their attractive ecological features and high scenic value. Routes through these sites use existing infrastructure

where possible to minimise potential impacts and avoid sites where there is no existing infrastructure in place. Options that potentially impact on designated sites are likely to require an Appropriate Assessment. If it cannot be demonstrated that the route will not adversely affect the integrity of the site, then the route cannot be developed, unless exceptional circumstances apply.

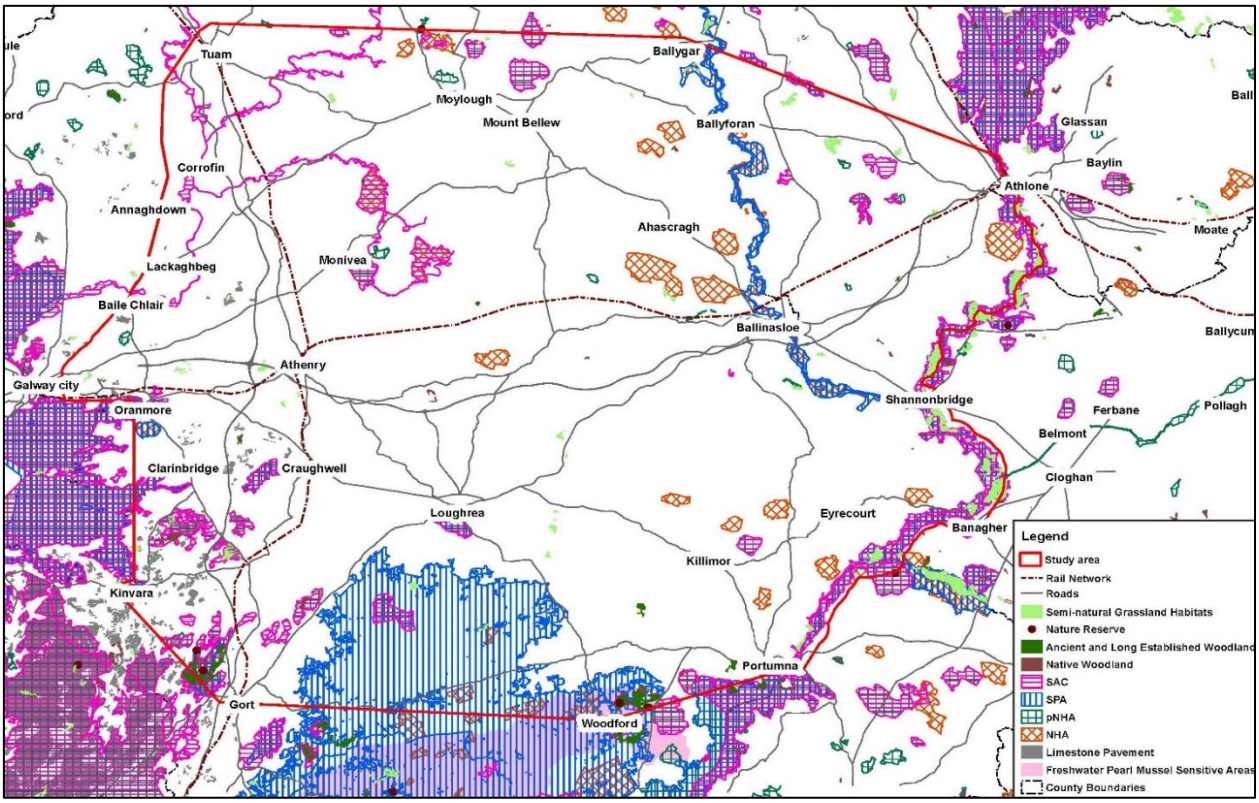


Figure 9-4: Location of Designated Sites in Scheme Area

9.7 Archaeology, Architecture, & Cultural Heritage

The study area contains a rich historic environment of archaeological and built heritage sites. This includes a wide variety of monuments and structures covering all periods of settlement from the Mesolithic right down to the modern day. The vast number of Cultural Heritage sites shows a wide pattern of distribution, particularly with regard to archaeological monuments. The architectural heritage sites of interest show clear clustering within and around towns and villages.

Although having a denser rural distribution that the architectural heritage sites, the archaeological monuments too are often found in clusters in the towns, such as Athlone, Ballinasloe, Loughrea, Athenry and Tuam. A few patches of low density of archaeological monuments are visible around the Slieve Aughty Mountains and to the east of Ballinasloe.

In terms of location and distribution, the majority of National Monuments are located to the south of the M6 Motorway and north of the Slieve Aughty Mountains. There are notable small clusters of National Monuments at a small number of locations, such as Portumna, Athenry, Loughrea, Aughrim and near Kilcolgan.

The distribution of multiple designation sites is quite wide, however, there are lower densities to the east of Tuam and immediately west and southwest of Athlone and around the Slieve Aughty Mountains. As with the National Monuments, notable clusters are discernible. With the exception of Tuam, the clusters are located mainly in the southern half of the study area, including around Ballinasloe, Eyrecourt, Portumna, Loughrea, Athenry and Oranmore.

9.8 Other

The cycleway will interact with existing infrastructure. Interactions with the existing rail and road network will provide good accessibility for the cycleway but need careful consideration particularly where crossing the M6, M17 or M18 Motorways and active rail lines.

The network of waterbodies in the study area offers natural severance lines while allowing visitors to experience the natural environment. While this offers an opportunity, there are constraints associated with flooding. The Shannon Callows acts as a floodplain, which can cover an extensive width of up to 2km. Other rivers in the area also tend to flood when the floodplain extends up tributaries of the River Shannon.

Each candidate route crosses either the River Shannon and/or Suck. Some proposed options use the existing Bord Na Móna rail bridges in the vicinity of Shannonbridge. Other minor river crossing points may use existing bridges where possible. While some level of infrequent flooding on the cycleway may be acceptable, it will have to from frequent flooding.

9.9 Candidate Route Corridor Options

Candidate Route Corridor options are briefly described in **Section 5.4** above. All the options start from Athlone Castle and travel west to Galway City. The candidate route corridor options are as follows:

- Candidate Cycleway Option 1 – Northern Route Corridor
- Candidate Cycleway Option 2 – BAMM (Ballinasloe, Athenry, Monivea, Mountbellew) Route Corridor
- Candidate Cycleway Option 3 – Central 2 Route Corridor
- Candidate Cycleway Option 4 – Rail Route Corridor
- Candidate Cycleway Option 5 – Central Route Corridor
- Candidate Cycleway Option 6 – M6 Route Corridor
- Candidate Cycleway Option 7 – ALP (Athenry-Loughrea-Portumna) Route Corridor
- Candidate Cycleway Option 8 – Preferred Route Corridor (2014)
- Candidate Cycleway Option 9 – R446 Route Corridor
- Candidate Cycleway Option 10 – Southern Route Corridor
- Candidate Cycleway Option 11 – Management Option

9.10 Stage 1 Assessment

The assessment matrix for the candidate options was developed in accordance with the project objectives, and is shown in **Volume C**. The matrix assessed each section of a candidate route to give a “Good”, “Moderate” or “Weak” grade against the project objectives. The grading system in the matrix is colour coded Green, Orange and Red respectively for each grade.

9.11 Stage 1 Recommendation

Following the assessment of each candidate cycleway option, the grading results were reviewed to determine which options best meet the project objectives.

The options recommended to progress onto the next Route Corridor Option Public Consultation for further consideration are listed below:

- Candidate Option No. 2 – BAMM Route Corridor
- Candidate Option No. 4 – Rail Route Corridor
- Candidate Option No. 5 – Central Route Corridor
- Candidate Option No. 7 – ALP Route Corridor
- Candidate Option No. 10 – Southern Route Corridor

The Candidate Cycleway Options above are to be further assessed prior to and following the next Public Consultation to determine the Preferred Route Corridor Option.

The reasoning behind options that have not progressed beyond this assessment are summarised below:

- **Candidate Option No. 1 (Northern Route Corridor)** did not progress, as the Mountbellew to Tuam section is quite similar to Ballinasloe to Mountbellew in terms of landscape, without adding any major attractions. There are no clear advantages of progressing from Mountbellew to Tuam or Abbeyknockmoy, versus going via Monivea. It would add approximately 15km to the route, without adding any significant variety on scenery, or major attractions. While Tuam would provide options for accommodation, food and sightseeing, the alternative northern route through Monivea is adequately served in this regard.
- **Candidate Option No. 3 (Central 2 Route Corridor)** through the centre of the study area was better served by Option No. 5 (Central Route) which connects to both Kilconnell and New Inn. Sections of this option on public land may still be considered as variants to other routes, especially between Aughrim and Attymon.
- **Candidate Option No. 6 (M6 Route Corridor)** did not progress due to visual, noise and air impacts for a route adjacent to the Motorway. There are also no real attractions directly beside the Motorway that cannot be served by the Central Route which does not have these disadvantages. This takes away from the atmosphere and experience of a rural cycleway. While it could be acceptable to parallel a motorway for short lengths, it is considered that a long route by a motorway will not be very attractive to leisure cyclists and be particularly unattractive to overseas visitors.
- **Candidate Option No. 8 (Preferred Route Corridor 2014)** offers very little public land on the corridor from Ballinasloe to Oranmore. The route therefore does not meet a key goal of the 'Greenway Strategy' (2018), 'The preferred model for future greenways is to use lands already in the undisputed ownership or control of the State, either through Government Agencies, Government Departments or Local Authorities.' The main attractions on the route are available on alternative routes with more public land, and comparable scenery. There is no reason to progress this route considering the stronger alternatives that have now become available within the study area.
- **Candidate Option No. 9 (R446 Route Corridor)** did not progress due to the poor user experience of cycling immediately next to a busy wide road with fast moving traffic. It is unlikely to attract overseas tourists, especially considering competition in Ireland and elsewhere. It is less likely to attract Irish leisure cyclists, other than very experienced 'racing' enthusiasts. It might be viable as a commuter route, but this can be progressed independently as a separate active travel project.
- **Candidate Option No. 11 (Management Option)** did not progress due to the lesser user experience of cycling immediately next to road. To achieve full segregation, which is a key project objective, it would be likely to be necessary to perform significant widening of the roads.

10 DEVELOPMENT OF ROUTE CORRIDOR OPTIONS PRIOR TO STAGE 2 ASSESSMENT

10.1 Introduction

As concluded from the Stage 1 assessment process five Route Corridor Options progressed to the Stage 2 Project Appraisal. These are shown in **Figure 10-1**. These were relabelled Route Corridor Options No. 1 to No. 5 and were the subject of Public Consultation No. 2.

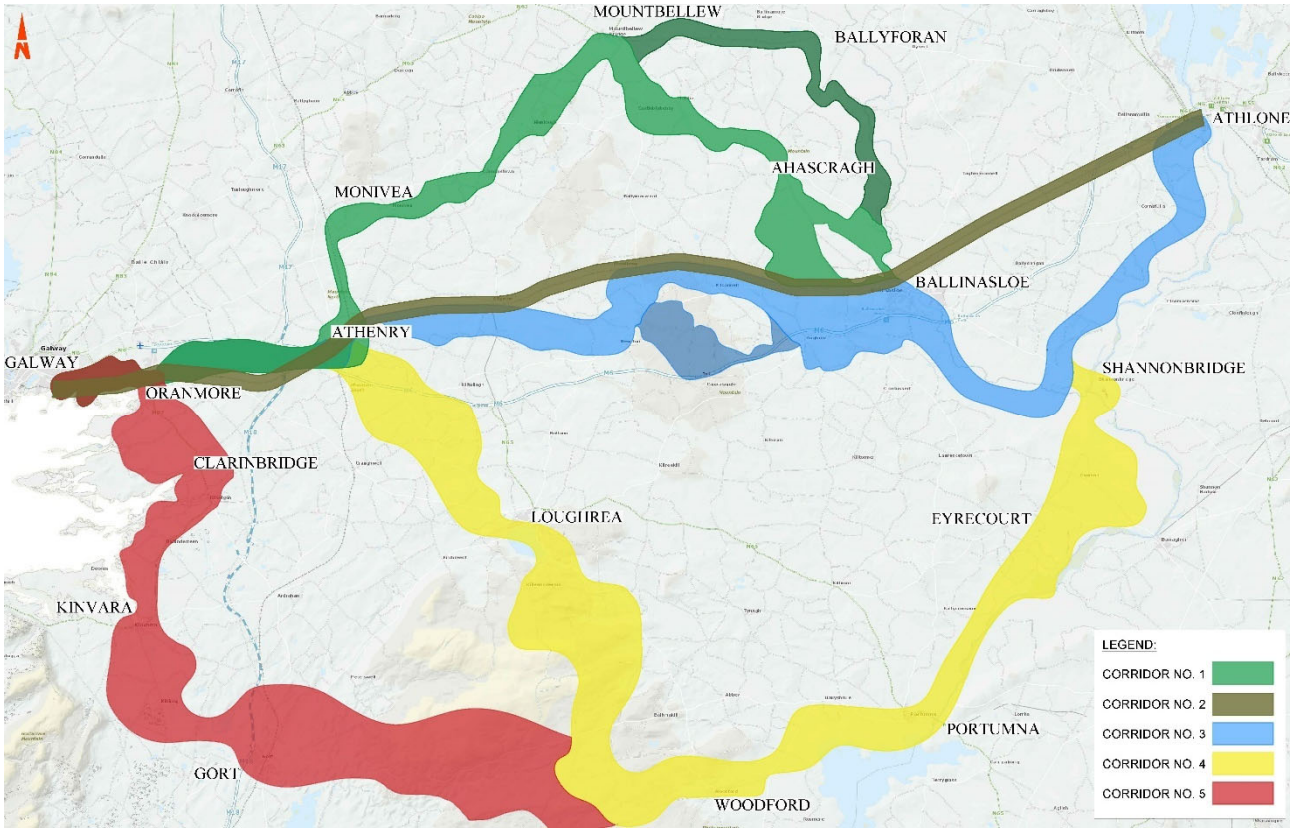


Figure 10-1: 5 Route Corridor Options Progressed to the Stage 2 Project Appraisal

10.2 Public Consultation No. 2 and Landowner Engagement

Details of Public Consultation No. 2 (PC2) and the responses received are detailed in Section 7.

Following PC2, a further newsletter was circulated to all addresses in the Consultation areas in April 2021.

Six Project Liaison Officers (PLOs) from Galway County Council, Roscommon County Council and RPS. were appointed to the project. The PLOs carried out the following tasks following PC2:

- Dealing with public and landowner calls during PC2. This included a high volume of telephone calls and individual and group virtual meetings.
- Once in-person meetings became possible following the relaxation of CV19 restrictions, the PLOs met face to face with many landowners and established their general thoughts on the possibility of a cycleway through their land.
- In April 2021, letters were posted out to all landowners within the five route corridors which could be potentially impacted on the development of the Athlone to Galway Cycleway. In these letters the landowners were given 3 options (written, email or phone call) to give their opinion on the project and if they wanted to speak to a member of the PLO team.

- The PLO team carried out call backs to the landowners who wanted to talk to a member of the team on any concerns or questions they may have on the project. Many questions asked could be answered over the phone, but some landowners wanted to meet face to face on the ground with a PLO.
- Once the Covid-19 restrictions allowed for small outdoor meeting to take place, the PLO team went out on the ground and carried out meetings with landowners and answered whatever questions that arose.
- The PLOs initially followed up communications from landowners, and then proactively sought out details of adjoining landowners. As the PLO team would not have numbers for every landowner in each route corridor the majority of contact details were obtained from the initial meetings carried out on the ground with their neighbours. Once the landowner was happy to pass on the contact details of their neighbour, the PLOs then contacted these people and meetings were arranged.
- The PLOs also liaised with community group leaders and elected representatives to do this.
- Based on the early work by the PLOs, candidate routes through the Consultation Areas were explored, based on traversing through land where a landowner was positively disposed towards the project, avoiding areas where the landowner was negatively disposed, and following farm boundaries as far as they could be established at the time.

Between May 2021 and October 2021, over 1,200 meetings and calls were undertaken.

10.3 Candidate Route Corridor Options for Comparative Purposes

For each Route Corridor Option corridor, a route was selected though the various consultation areas and state lands for the purpose of comparison. This route is not necessarily a ‘final’ route through the area but is seen as a credible one that would allow for better comparison of the Route Corridor Options.

The comparative routes were split into various component types, and the various lengths of each type in each corridor established. This is illustrated in **Figure 10-2**. More than one component may be on privately owned farmland. For total cycleway distance on farmland refer to **Figure 11-1**.

The cycleway typologies along each Route Corridor Option are shown on the corridor maps in **Volume D1.**

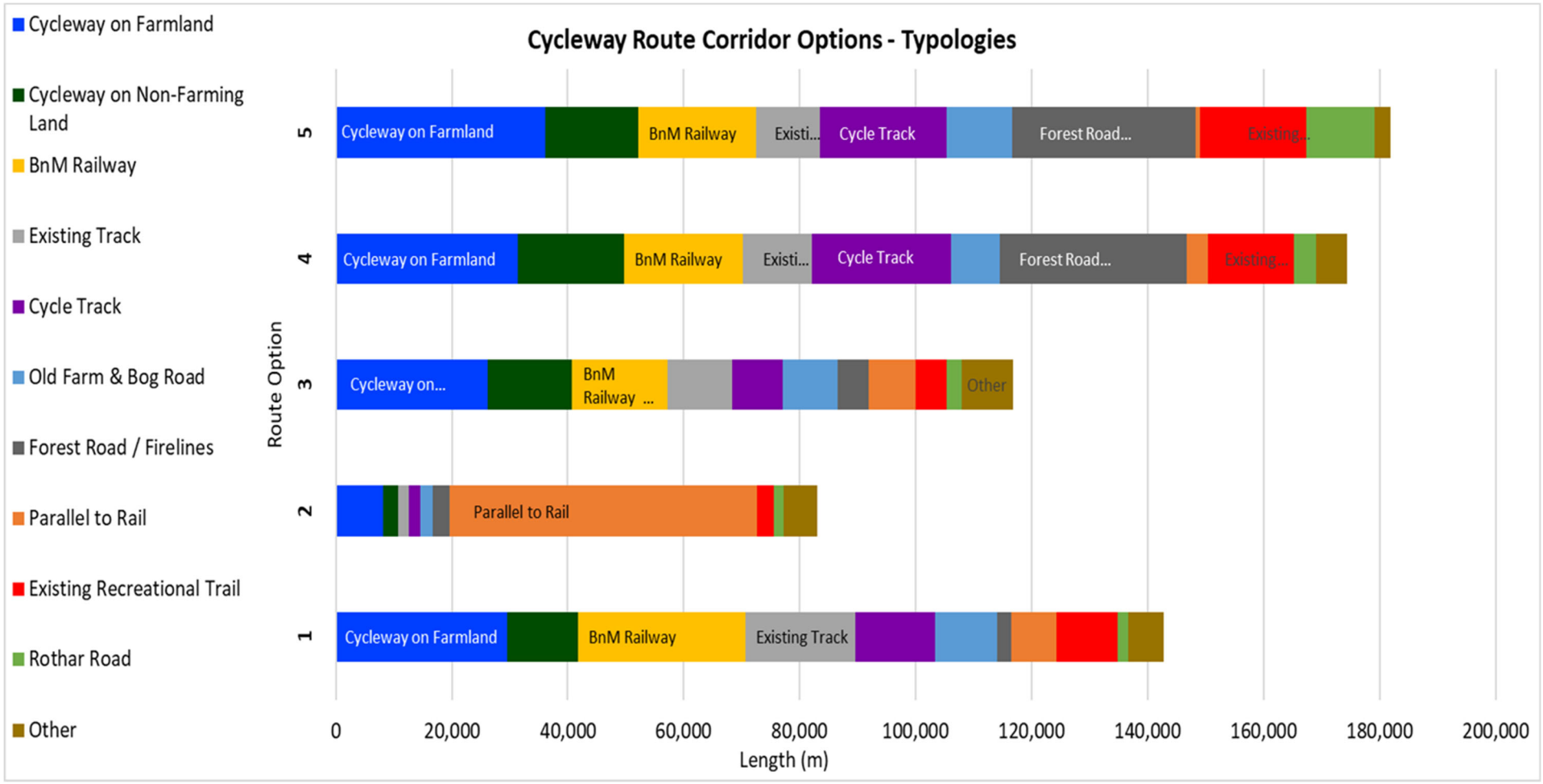


Figure 10-2: Cycleway Route Corridor Options Typologies

10.4 'Lots to See and Do'

The amenity quality of any route depends on the experiences available to users along the way. This quality is described in the Greenway Strategy as 'Lots to See and Do'.

An objective under the strategy is for greenways to be:

…linking places of interest, recreation, and leisure in areas with beautiful scenery of different types with plenty to see and do…

This is a mixture of sights to see, and leisure activities to undertake. The principal attractions along each of the Route Corridor Options are mapped on the drawings in **Volume D.**

For Option Selection purposes, the emphasis is placed on large, well-established amenities, and attractions that are routinely open to the public, particularly those in state ownership. Amenities that are complementary of outdoor activities and that have a strong cultural heritage aspect are considered particularly strong.

There are many smaller amenities along each Route Corridor Option, and it would be expected that further ones would develop once the cycleway is in operation.

The relative strength of various attractions was gauged from a number of sources.

A review of the Trip Advisor website, where visitors leave reviews of attractions and amenities showed that the strongest attractions were ones with strong visual appeal, a historic or cultural aspect, good facilities and the potential for active engagement. The strongest attractions in East Galway/South Roscommon were castles, such as Athlone, Athenry, Portumna and Dunguaire, and parks such as Coole Park and visitor centre, and Portumna Forest Park. While this is not a scientific assessment, it presents a picture of the tourism offering in East Galway.

Discussions have also been held with Failte Ireland and the Galway County Council Tourism Officer to establish the main attractions.

Table 10-1 below shows the 20 strongest attractions based on a review of the Trip Advisor site. The strongest attractions along each Route Corridor Option are shown on the corridor maps in **Volume D1**.

Table 10-1: Top rated attractions on Trip Advisor in Athlone/East Galway/South Roscommon 2022

Attraction Rating			
1.	Wild Atlantic Way	11.	Shannon Banks Nature Walks Athlone
2.	Glendeer Pet Farm	12.	Ballyglunin Railway Station
3.	Athlone Castle Visitor Centre	13.	Rinville Park
4.	Bay Sports	14.	The Irish Workhouse Centre Portumna
5.	Old Rail Trail	15.	Drum Heritage Centre
6.	Burren Nature Sanctuary & Cafe	16.	Lough Derg
7.	Dunguaire Castle	17.	Coole-Garyland Nature Reserve
8.	River Shannon	18.	Athenry Castle
9.	Kinvara Harbour	19.	St. Brendan's Clonfert Cathedral
10.	St. Brendan's Cathedral Loughrea	20.	Athenry Heritage Centre

11 STAGE 2 PROJECT APPRAISAL

11.1 Cycleway Functionality and Attractiveness

The objectives of the Greenway Strategy which underpins the project specific objectives of this project are to deliver:

1. *A strategic greenway network of national and regional routes, with a number of high-capacity flagship routes that can be extended and/or link with local greenways and other cycling and walking infrastructure,*
2. *Greenways of scale and appropriate standard that **have significant potential to deliver an increase in activity tourism to Ireland** and are **regularly used by overseas visitors, domestic visitors and locals thereby contributing to a healthier society** through increased physical activity,*
3. *Greenways that provide a **substantially segregated** off-road experience linking **places of interest, recreation, and leisure** in areas with **beautiful scenery of different types** with **plenty to see and do,***
4. *Greenways that provide opportunities for the development of local businesses and economies, and*
5. *Greenways that are developed with all relevant stakeholders in line with an agreed code of practice.*

The Galway to Athlone cycleway will be a 'flagship route' and is required to deliver an 'increase in activity tourism to Ireland' and to 'link places of interest, recreation and leisure in areas with beautiful scenery of different types with plenty to see and do'.

The success of the cycleway will depend to a very large degree on how successful it is in delivering on these objectives. There are many other project objectives, but these must always be considered in the context of delivering the main objectives.

The economic benefits of the project will to a large degree stem from tourism uses, and in particular overseas tourists.

- The project is not an active travel project, though it will be beneficial if it can also deliver active travel benefits, without compromising the main objectives.
- It is desirable to minimise the costs associated with delivering the scheme, but there is little benefit to delivering a low-cost scheme that does not deliver on the main objectives.
- It is desirable to minimise impacts to the natural environment, but the route does need to seek out beautiful scenery and places of interest, which are often more sensitive to impacts. If the routing was to give sensitive areas a wide berth, it would risk not delivering on the main objective.
- It would be desirable to deliver a cycleway that would never flood. However, much of the most attractive scenery is associated with rivers, lakes, and the coast.
- It would be desirable to have a route that is 100% segregated and remote from busy roads. However, many attractions and facilities are located in towns and villages, and it is also desirable to make these visible and accessible to an appropriate degree.
- The attractiveness of each route corridor comes from a mix of beautiful scenery, lots to see and do, practicalities such as accommodation and services, and integration with other tourism facilities. These are examined in detail in the following sections. However, an overview of each route corridor option is provided in **Sections 11.1.1** to **11.1.5** below, along with a narrative on its overall attractiveness and quality.

Volume D5 includes a montage of the scenery and attractions for each Route Corridor Option.

11.1.1 Route Corridor Option 1 – Overall User Experience Assessment

11.1.1.1 Quality and Variety of Scenery

Route Corridor Option 1 offers a comparatively low quality and variety of scenery, compared to other available options. It is predominantly pasture and boglands, with relatively flat topography and less potential for iconic or special views.

11.1.1.2 Lots to See and Do

Route 1 offers a moderate and frequent array of attractions and amenities. Some key attractions are listed as follows:

- Athenry Medieval Town
- Monivea Demesne and Village
- Mountbellew Forest Park
- Ballinasloe Town
- Shannonbridge bridge and fortifications

These are strongly tied to the cultural and natural heritage of the region. Some attractions are state owned operated, and very well established over many years. There is a particular strength in historic sites, with Athenry medieval town being a particularly attractive and accessible site.

11.1.1.3 Practicality

Route Corridor Option1 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Athenry, Monivea, Mountbellew and Ballinasloe. The terrain is generally flat, and not challenging for leisure cycling. Practically, it would be accessible to a wide variety of users.

The section from Mountbellew to Ballinasloe (via Ballyforan) is somewhat isolated, with limited facilities along this approximately 30km section, other than at Ballyforan village. The option to go via Caltra and Ahascragh would be less isolated.

From the point of view of a user traversing the full length, this itinerary would likely involve an overnight in Mountbellew and/or Ballinasloe. This Route Corridor Option could be seen as a 3-day trip, with 2 overnights, but the distance and layout would make a 2-day trip most likely.

11.1.2 Route Corridor Option 2 – Overall User Experience Assessment

11.1.2.1 Quality and Variety of Scenery

Route Corridor Option 2 offers a comparatively low quality and variety of scenery, compared to other available options. It is predominantly pasture and boglands, with relatively flay topography and less potential for iconic or special views. The scenic value of the route is reduced by the consistent presence of an active railway immediately adjacent to the route, with a visually intrusive steel palisade fence. Where the railway is on embankment, it will block the view from the cycleway in one direction.

11.1.2.2 Lots to See and Do

Route 2 offers a moderate and less frequent array of attractions and amenities. Some key attractions are listed below:

- Athenry Medieval Town
- Woodlawn House and Woods
- Ballinasloe Town

These are strongly tied to the cultural and natural heritage of the region. Athenry medieval town is a particularly attractive and accessible site.

11.1.2.3 Practicality

Route Corridor Option 2 is the shortest Route Corridor Option. The terrain is generally flat, and not challenging for leisure cycling. Practically, it would be accessible to a wide variety of users.

From the point of view of a user traversing the full length, this itinerary would likely involve an overnight in Ballinasloe. This Route Corridor Option would be easily traversed in 2 days, or possibly a single day for some users.

11.1.3 Route Corridor Option 3 – Overall User Experience Assessment

11.1.3.1 Quality and Variety of Scenery

Route Corridor Option 3 offers a comparatively low quality and variety of scenery, compared to other available options. It is predominantly pasture and boglands, with relatively flat topography and less potential for iconic or special views.

11.1.3.2 Lots to See and Do

Route 3 offers a moderate and frequent array of attractions and amenities. Some key attractions are listed as follows:

- Athenry Medieval Town
- Woodlawn House and Woods
- Kilconnell Abbey
- Battle of Aughrim site and interpretative centre
- Ballinasloe Town
- Shannonbridge bridge and fortifications

These are strongly tied to the cultural and natural heritage of the region. Some attractions are state owned operated, and very well established over many years. There is a particular strength in historic sites.

11.1.3.3 Practicality

Route Corridor Option 3 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Athenry and Ballinasloe, as well as Kilconnell or Kiltullagh. The terrain is generally flat, and not challenging for leisure cycling. Practically, it would be accessible to a wide variety of users.

From the point of view of a user traversing the full length, this itinerary is shorter in comparison to other Route Corridor Options. It would most likely involve an overnight in Ballinasloe. This Route Corridor Option's distance and layout would make a 2-day trip most likely.

Route Corridor Option 3 presents limited shorter trips from Galway City, with only Athenry as a strong destination.

11.1.4 Route Corridor Option 4 – Overall User Experience Assessment

11.1.4.1 Quality and Variety of Scenery

Route Corridor 4 offers good landscape value and variety, especially east and south of Loughrea. It offers a series of distinct settings, ranging from forested hills in the Slieve Aughty Mountains, to pastoral landscapes west of Loughrea, the River Shannon Callows and Lough Derg, and the peatland landscapes of the Bórd na Mona bogs further east.

11.1.4.2 Lots to See and Do

Route 4 offers a strong and frequent array of attractions and amenities. These are strongly tied to the landscape and cultural and natural heritage of the region and include a number of the most visited attractions in East Galway as a whole. Many of the attractions are state owned and operated, and very well established over many years, and include:

- Athenry Medieval town

- Dunsandle Castle and Woods
- Loughrea Town and Lake
- Slieve Aughty Centre
- Slieve Aughty Mountains
- Rosturra Woods and Nature Reserve
- Portumna Castle and Forest Park
- Meelick Pier and Church
- Clonfert Cathedral
- Shannonbridge bridge and Fortifications

11.1.4.3 Practicality

Route Corridor Option 4 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Athenry, Loughrea, Woodford, Portumna and Ballinasloe. The terrain is generally flat outside the Slieve Aughty Mountains, and not challenging for leisure cycling. In the Slieve Aughty Mountains, between Loughrea and Portumna, there are some more challenging gradients. Approximate gradients of 5-6% are present at two locations, over a distance of approximately 1.5km. These gradients may be challenging for some users, particularly less strong cyclists such as children and older people. However, they represent a very small fraction of the overall route, and the route still offers many shorter and more accessible day or weekend trips.

For cyclists covering the entire Galway to Athlone section, (or the full Galway to Dublin route), this degree of gradient would not be problematic. It can be expected that a cyclist embarking on a weeklong trip, covering up to 300km, would be able to deal with such short inclines.

From the point of view of a user traversing the full length, this itinerary lends itself well to a 3-day trip, with overnights in Loughrea and Portumna. These are both comparatively large towns in the region, and offer plenty to do in the evening, so would be attractive stops.

The section from Loughrea to Woodford is approximately 40km. This is a comparatively long section in woodland without direct services. However, there are opportunities to mitigate this, through development of facilities in Kilnadeema or signing towards Kylebrack. Ideally, a rest stop with meals available would-be available midway through the section, which is close to Kylebrack.

Route Corridor Option 4 also presents attractive shorter trips from Galway City, with potential destinations for a day or weekend trip including Athenry and Loughrea.

11.1.5 Route Corridor Option 5 – Overall User Experience Assessment

11.1.5.1 Quality and Variety of Scenery

Route Corridor 5 offers outstanding landscape value and variety, all along its length. It offers a series of distinct settings, ranging from the coast of Galway Bay with views of the Burren from Oranmore to Kinvara, the Burren lowlands around Gort, the forested hills in the Slieve Aughty Mountains, the River Shannon Callows and Lough Derg, and the peatland landscapes of the Bord na Móna bogs further east.

It transverses areas of high landscape quality and the topography allows for regular high quality views.

11.1.5.2 Lots to See and Do

Route Corridor 5 offers a very strong and frequent array of attractions and amenities. Some key attractions are listed below. These are strongly tied to the landscape and cultural and natural heritage of the region and include a significant number of the most visited attractions in East Galway as a whole. Many attractions are state owned and operated, and very well established over many years, including:

- Rinville Park
- Kilcornan Park

- Drumacoo Church
- Tarrea Pier
- Kinvara and Dunguaire Castle
- Coole Park
- Slieve Aughty Mountains
- Rosturra Woods and Nature Reserve
- Portumna Castle and Forest Park
- Meelick Pier and Church
- Clonfert Cathedral
- Shannonbridge Bridge and Fortifications

11.1.5.3 Practicality

Route Corridor Option 5 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Kinvara, Gort, Woodford, Portumna and Ballinasloe. The terrain is generally flat outside the Slieve Aughty Mountains, and not challenging for leisure cycling. In the Slieve Aughty Mountains, between Gort and Portumna, there are some more challenging gradients. Approximate gradients of 4-5% are present at two locations, over a distance of approximately 2km. These gradients would be challenging for some users, particularly less strong cyclists such as children and older people. However, they represent a very small fraction of the overall route, and the route still offers many shorter and more accessible day or weekend trips.

For cyclists covering the entire Galway to Athlone section, (or the full Galway to Dublin route), this degree of gradient would not be problematic. It can be expected that a cyclist embarking on a weeklong trip, covering up to 300km, would be able to deal with such short inclines.

From the point of view of a user traversing the full length, this itinerary lends itself well to a 3-day trip, with overnights in Kinvara or Gort and Portumna. These are comparatively large towns in the region, and offer plenty to do in the evening, so would be attractive stops.

The section from Gort to Woodford is approximately 35km. This is a comparatively long section in woodland without direct services. However, there are opportunities to mitigate this, through development of facilities in trailheads along the way, possibly near Derrybrien.

Route Corridor Option 5 also presents attractive shorter trips from Galway City, with potential destinations for a day or weekend trip including Rinville Park, Clarinbridge, Kinvara and Coole Park.

11.2 Use of State-Owned Land

A key goal of the National Greenway Strategy is to use State owned land, as described below:

The preferred model for future greenways is to use lands already in the undisputed ownership or control of the State, either through Government Agencies, Government Departments or Local Authorities.

The broad land category for the candidate routes in the Route Corridor Options are shown in **Figure 11-1.**

It can be seen that the amount of private agricultural land required for each Route Corridor Option is between 32km and 47km. The longer Route Corridor Options, 4 and 5, use significantly more state-owned land, and Route Corridor Option 4 has the highest proportion of state-owned land, at 56%. Route Corridor Option 5 is also just over 50% on state land. Route Corridor Options 2 and 3 use least private land.

Route Corridor 2 is measured on the basis that no Iarnród Éireann land would be available, in accordance with their submission. It is also measured on the basis that the rail corridor is used only from Ballinasloe to Galway, and that where state owned land is present adjoining the railway, it is used to the greatest degree, for example at Woodlawn and Attymon. However, it is clearly not the case that the railway corridor represents a way to progress from Galway to Athlone wholly on state owned land.

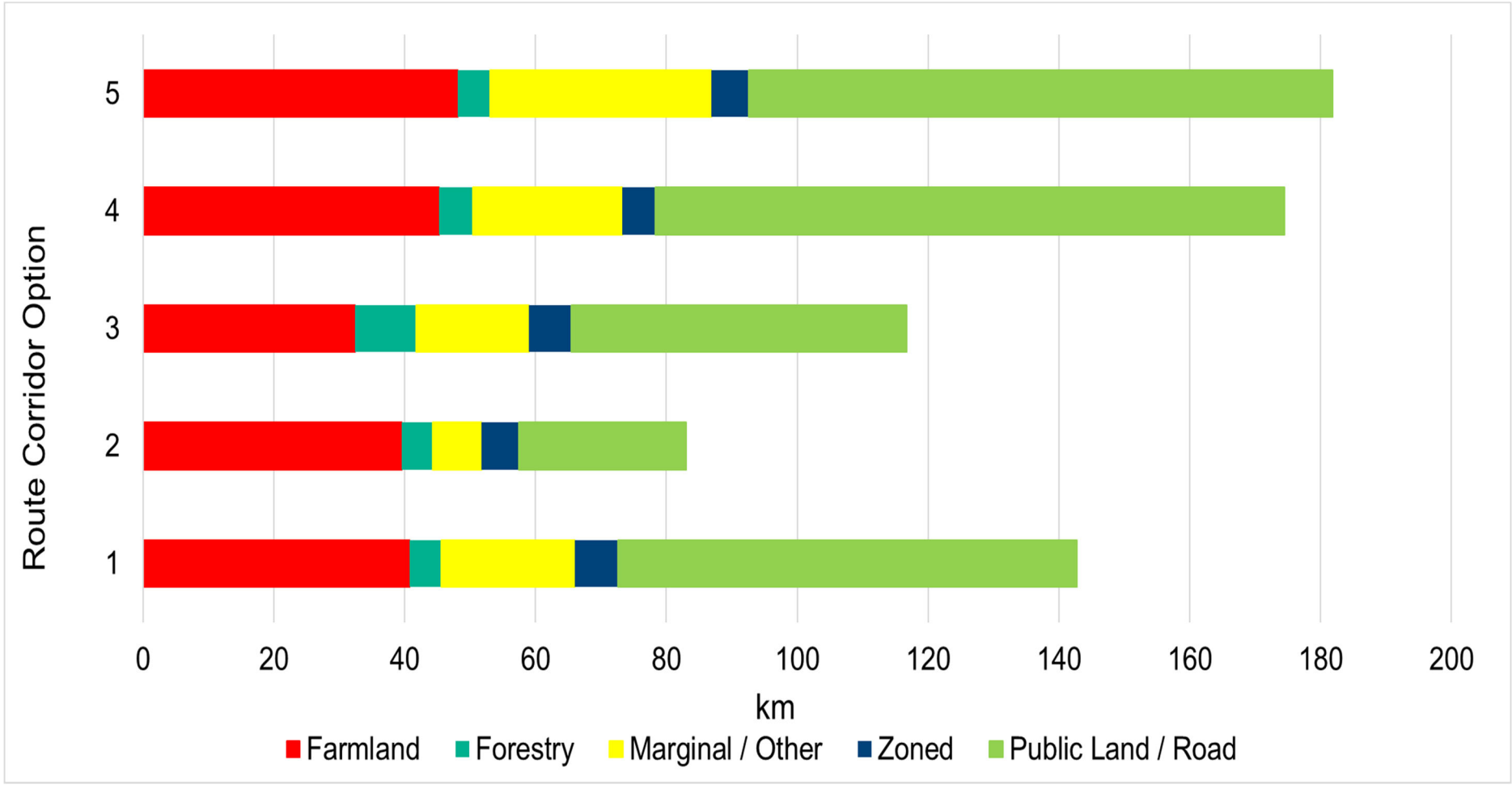


Figure 11-1: Land Categories for the Route Corridor Options

11.3 Galway to Oranmore Section

The route element Galway to Oranmore is common to all Route Corridor Options. This section is addressed separately in **Section 12.**

11.4 Athlone to Shannonbridge Section

The route element Athlone Castle to Shannonbridge is common to all Route Corridor Options, other than Route Corridor Option 2 (rail route). While the section of Route Corridor Option 2 between Athlone and Ballinasloe could be used as an element within Route Corridor Options 1 and 3, it was decided to appraise Route Corridor Options 1 and 3 using the corridor from Ballinasloe to Shannonbridge to Athlone.

It is considered that the availability of the Bord na Móna railway line, which is state owned and very suitable for repurposing as a cycleway, along with the availability of the Bord na Móna bridges over the rivers Suck and Shannon was an overwhelmingly strong benefit for this route. The Bord na Móna railway connects directly to the tow path of the Grand Canal, which presents a strong link directly to the centre of Ballinasloe at the marina. While not all the canal remnants are in public ownership, this route still presents a compelling proposition for a cycleway route from Athlone to Ballinasloe.

The alternative rail route, between Athlone and Ballinasloe would require the use of private land over the majority of its length and require a new major river bridge over the River Suck. It also suffers from the disadvantage of having a working railway, and associated security fencing adjoining the cycleway. It was decided that this Route Corridor Option should only be considered if any significant difficulties arose with the alternative using the Bord na Móna railway. This proved not to be the case during the assessment process.

The analysis of the Route Corridor Options 1,3,4 and 5 compares them over the section Oranmore to Shannonbridge only.

11.5 Athlone Castle West Section

Two distinct options were assessed for leaving Athlone, travelling west.

These are shown in Drawing OS0007 in **Volume D1.**

From Athlone Castle to the canal, the only reasonable option was travelling along the bank of the Shannon, and then utilising the newly constructed flood defences as far as the canal. The flood defences were engineered in order to accommodate a cycleway. This presents a compelling route as it features iconic views of the Shannon and utilises existing state-maintained infrastructure. Any other route from the castle would involve travelling though more urban streets, which is clearly a less attractive solution, when a more attractive option is available.

The option travelling along the railway was not chosen as it presents a much more urban and much less attractive environment and user experience than utilising the flood defences, which present a rural landscape, looking toward the Shannon.

11.6 Economy

The economic objectives of the project are:

EC1 - To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.

EC2 - To create local employment opportunities and wealth through new and expanded enterprises.

EC3 - To deliver the cycleway in a cost-effective manner and deliver real value for money.

EC4 - To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.

The performance of each route corridor option against the economic objectives is described in the following sections.

The estimated costs of each Route Corridor Option are set out in **Table 11-1,** these estimates do not include TII programme risk or inflation.

Options 2 and 3 have the lowest predicted cost, with Options 4 and 5 having the highest. This reflects the varying lengths of the corridors. The option comparison estimates are shown in **Volume E2.**

Table 11-1: Option Comparison Estimates

Section	Route 1	Route 2	Route 3	Route 4	Route 5
Main Construction Contract	€79.4m	€73.3m	€69.7m	€98.8m	€96.3m
Land and Property Costs	€13m	€10.8m	€10.6m	€13.5m	€15.8m
Planning and Design	€4.2m	€3.9m	€3.7m	€5.2m	€5.1m
Archaeology	€2.8m	€2.6m	€2.5m	€3.5m	€3.4m
Advance Works and Other Contracts	€2.1m	€1.9m	€1.8m	€2.6m	€2.5m
Main Contract Supervision	€3.5m	€3.2m	€3.1m	€4.4m	€4.2m
Total Costs (excluding Inflation and Project Risk)	**€105m**	**€95.7m**	**€91.4m**	**€128m**	**€127.3m**

11.6.1 Route Corridor Option 1 – Economy

11.6.1.1 Cost Estimate

The estimated costs of Route Corridor Option 1 are as set out in **Table 11-1** above.

11.6.1.2 Economic Benefit

Route Corridor Option 1 can deliver safe and segregated cycling. It is comparatively weak in relation to scenery and provides comparatively little to see and do along the route. While it would complete the Galway to Dublin Route, creating a coast-to-coast cycleway, this section would not be attractive by international standards, and, in comparison to other available Route Corridor Options, would do less to increase the economic contribution of tourism to the Irish economy.

11.6.2 Route Corridor Option 2 – Economy

11.6.2.1 Cost Estimate

The estimated costs of Route Corridor Option 2 are as set out in **Table 11-1**.

11.6.2.2 Economic Benefit

Route Corridor Option 2 can deliver safe and segregated cycling. It is comparatively weak in relation to scenery and provides comparatively little to see and do along the route. Its location immediately adjacent to a live railway line further reduces the attractiveness of the Route Corridor Option.

While it would complete the Galway to Dublin Route, creating a coast-to-coast cycleway, this section would not be attractive by international standards, and, in comparison to other available Route Corridor Options, would do less to increase the economic contribution of tourism to the Irish economy.

Although it would be the least expensive route to develop, it is not considered to represent good value for money, in comparison to other Route Corridor Options.

11.6.3 Route Corridor Option 3 – Economy

11.6.3.1 Cost Estimate

The estimated costs of Route Corridor Option 3 are as set out in **Table 11-1**.

11.6.3.2 Economic Benefit

Route Corridor Option 3 can deliver safe and segregated cycling. It is comparatively weak in relation to scenery and provides comparatively little to see and do along the route.

While it would complete the Galway to Dublin Route, creating a coast-to-coast cycleway, this section would not be attractive by international standards, and, in comparison to other available Route Corridor Options, would do less to increase the economic contribution of tourism to the Irish economy.

Although it would be the a less expensive route to develop than some other Route Corridor Options, it is not considered to represent good value for money, in comparison to other Route Corridor Options.

11.6.4 Route Corridor Option 4 – Economy

11.6.4.1 Cost Estimate

The estimated costs of Route Corridor Option 4 are as set out in **Table 11-1**.

11.6.4.2 Economic Benefit

Route Corridor Option 4 can deliver safe and segregated cycling. Strategically, it comprises of an eastern section, from Athlone to Portumna along the Shannon, which strongly enhances the Shannon Tourism offering. It is comparatively strong in relation to scenery and provides much to see and do along the route.

The option would complete the Galway to Dublin Route, creating a coast-to-coast cycleway, and would be attractive by international standards.

However, in comparison to other Route Corridor Option 5, would do less to increase the economic contribution of tourism to the Irish economy.

11.6.5 Route Corridor Option 5 – Economy

11.6.5.1 Cost Estimate

The estimated costs of Route Corridor Option 5 are as set out in **Table 11-1.**

11.6.5.2 Economic Benefit

Route Corridor Option 5 can deliver safe and segregated cycling. It is very strong in relation to scenery and provides much to see and do along the route. It would complete the Galway to Dublin Route, creating a coast-to-coast cycleway.

Route Corridor Option 5 would be attractive by international standards. Strategically, it comprises of an eastern section, from Athlone to Portumna along the Shannon, which strongly enhances the Shannon Tourism offering. The western section from Kinvara to Galway aligns with the Wild Atlantic Way theme and brand, providing for safe segregated cycling along the edge of Galway Bay, while being on the doorstep of the Burren. These are linked by a third strong and distinct offering, the remote woodlands of the Slieve Aughties while also adding a strong, established, and accessible cultural experience at Coole Park. It also provides a strong day or weekend cycling experience out of Galway City.

These three sections greatly enhance the offering of the Galway to Dublin cycleway. It is envisaged that this coast-to-coast route will be an iconic cycleway, of international appeal. The sections between Dublin and Athlone, along the canal and disused railway line, while offering very pleasant and safe cycling, with a good selection of things to see and do, is unspectacular. It follows that the section from Athlone to Galway should seek to take every opportunity available to boost the international appeal of the route as a whole.

At a regional level, Route Corridor Option 5 connects a series of state-owned parks and amenity areas, enhancing their accessibility to both local users and domestic tourists. It provides a strong day or weekend coastal cycling experience out of Galway City, as an alternative to Connemara.

Although it would be a more expensive route to develop than the other Route Corridor Options, it is considered to represent good value for money, in comparison to other Route Corridor Options.

11.7 Safety

The safety objectives of the scheme are:

S1 - To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).

S2 - To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.

S3 - To provide a high level of operational safety on the cycleway through high quality design, construction and maintenance.

11.7.1 Segregated from Motorised Traffic

The first safety objective relates to collisions with motor vehicles. Segregation provides both improved safety and user experience, especially in the context of leisure cycling, by being separated from motorised traffic.

A fully segregated cycling and walking route is the ideal, and a route that falls a long way short of this ideal is unlikely to be attractive. However, it is recognised that 100% segregation is likely to be impractical. The degree of segregation achieved will be documented in terms of route length.

11.7.2 Sense of Security

The second safety objective relates to providing the cycleway user with a sense of security. Secure bike parking facilities and public lighting will be incorporated into the design across all routes. A sense of security can also be reduced by the isolation of the route, which may make users feel vulnerable, and also limits the opportunity for quick help in emergencies (for example, cyclists might call in to local residents for help, shelter, or a phone).

Route Corridor Option 1 includes a number of significant isolated stretches of cycleway, namely from Shannonbridge to M6 at Ballinasloe/River Suck and from Ballinasloe to Mountbellew. Route Corridor Option 2 contains no significantly isolated areas. The railway would be separated from cycleway by a palisade fence, so the risk of conflict with trains is considered non-existent. Route Corridor Option 3 contains no extensive isolated areas. Route Corridor Options 4 and 5 includes a number of significant isolated stretches of cycleway. These include from Meelick to Portumna along the ESB flood embankment (15km, both Routes 4 and 5), Woodford to Loughrea/Kilnadeema (40km, Route 4) and Woodford to Gort/Kilbeacanty (35km, Route 5).

11.7.3 Operational Safety through Design

The third safety objective looks at safety from other forms of mishap, including:

- Minimising risk of collisions between cyclists and pedestrians, by good design ensuring clear visibility.
- Minimising risk of other accidents (falls down steep embankments, encounters with livestock etc) by good-quality fencing of the route where required.

11.7.4 Safety Assessment for Route Corridor Options

For assessing the Route Corridor Options, safety is measured by counting the number of roadway crossings and the length/percentage of the route that is not fully segregated, along with an assessment of where the isolation of the route may be perceived as a safety issue.

It is assumed that for national road crossings, the crossing will be grade separated, except in urban areas, so these are not counted in the context of safety.

The number of crossings on the candidate routes in each Route Corridor Option are listed in **Table 11.2**, along with the length that is not fully segregated.

Table 11-2: Road Crossings and Segregation

Route Corridor Option	Local Road Crossings	Regional Road Crossings	National Road Crossings (excl Motorways)	Length/percentage without full segregation
1	37	9	0	14km / 10%
2	31	6	0	4km / 5%
3	30	9	0	15km / 13%
4	47	9	2	11km / 6%
5	46	9	4	14 km / 8%

11.8 Physical Activity

This project will encourage activities such as walking and cycling, which will improve the physical health and wellbeing of greenway users. Increasing the levels of walking and cycling are widely regarded as beneficial because of the improvements in public health, as a result of the increased levels of physical activity.

According to the Health Service Executive (HSE), regular physical activity is key to getting healthy and staying healthy. Working lives are growing more likely to be inactive as technology advances and use of motorised forms of transport increases. Physical activity has significant health benefits which helps to prevent cardiovascular diseases, cancer, and diabetes.

The physical activity objectives are:

PA1 - To increase the number of commuters within the study area who walk or cycle to work or education.

The cycleway is primarily a leisure facility, but it is expected that there will be a certain number of users that will use it for commuting and other non-leisure trips. This is an important side benefit.

Most use for non-leisure purposes is expected to be concentrated around Galway City and Athlone, and the larger towns such as Oranmore, Athenry, Loughrea, Gort, Mountbellew, Portumna and Ballinasloe, where there are centres of employment and education.

The degree of non-leisure use is expected to be proportional to the population within a relatively short distance of the cycleway. The population living within certain distance band of the Route Corridor Options is shown in **Figure 11-2**. Much of these population figures are in Galway City and Athlone, and the larger towns. The areas between these are generally sparsely populated. Route Corridor Options 1 and 4 have the largest adjacent populations, but the spread across all Route Corridor Options is generally 10%. Route Corridor Options 1 and 4 therefore provide slightly more opportunities for non-leisure use. Route Corridor Options through Athenry (1,2,3 and 4) also enhance the possibility of cycle commuting between Athenry and Oranmore/East Galway City (Ballybrit and Parkmore). However, the distance is at the extreme end of common cycle commuting distances.

It is considered that Route Corridor Options 1,2,3 and 4, better meet objective PA1, compared to Route Corridor Option 5.

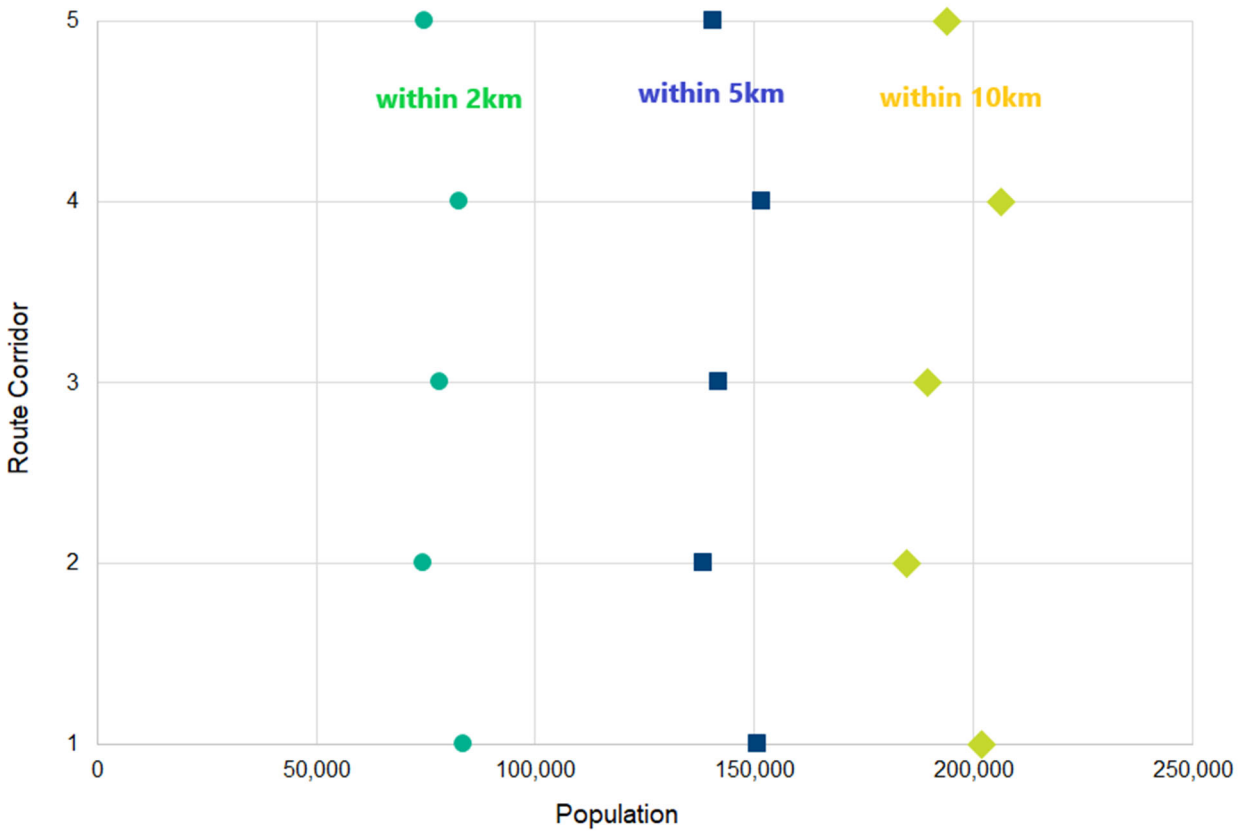


Figure 11-2: Population within certain distances of each Route Corridor Option

PA2 - To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.

The degree to which the Cycleway Route Corridor Options will encourage physical activity amongst people in Ireland is considered to be dependent on a number of factors as follows:

- The number of people living in close proximity to the Route Corridor Option. More people living close by will result in more local users.
- The quality of the amenity offering, in terms of scenery and things to see and do. A cycleway that is attractive in this way will attract more users and make active leisure more attractive compared to the alternatives.
- The accessibility and safety of the cycleway. A cycleway that is perceived to be safe, and is accessible, for example having a good surface and manageable gradients, will be more successful in attracting people, especially users that might have otherwise not chosen active leisure activities.

All Route Corridor Options can be developed to have a high standard of safety and accessibility. Routes 4 and 5 have some challenging gradients in the Slieve Aughty Mountains. These mountains also present long distances through remote areas with few services. These sections will be less attractive to less adventurous users compared to less remote and flatter sections.

However, Route Corridor Options 4 and 5 are longer than the others, and have generally similar, or longer lengths of less challenging terrain. The more challenging sections are essentially an additional section, that is somewhat optional for users that are not travelling the entire Galway to Athlone, or Galway to Dublin route.

It is considered that the key differentiator between the Route Corridor Options, in the context of encouraging physical activity for people living in Ireland, is the quality of the amenity offering. An attractive route, with lots to see and do, will have more users, particularly from within Ireland.

It is considered that Route Corridor Options 4 and 5, on the whole, better meet objective PA2, compared to Route Corridor Options 1, 2 and 3.

11.9 Environment

This project is to be designed to consider the sensitivities of the natural, agricultural, and human environment. It is to be planned and constructed in compliance with the requirements of Irish and European law including, but not limited to, EU Directive 2014/52/EU. Walking and cycling generally have low levels of impact on the environment, there is potential for impacts to sensitive sites during the construction and operation of the cycleway.

The project objectives are:

EN1 - To minimise impact to the natural environment, especially habitat in ecologically sensitive areas.

EN2 - To minimise impact to cultural heritage sites.

EN3 - To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.

EN4 - To minimise land holding severance and utilise public land.

EN5 - To reduce air and noise pollution by getting people to cycle or walk rather than drive.

EN6 - To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.

Measurement will focus on expert judgment of impacts on sensitive sites in proximity to the route.

It is considered that people will be most encouraged to visit and appreciate the countryside, the natural environment, and the cultural landscape if the Route Corridor Option selected offers an attractive means to do so. This is achieved by routing the cycleway to visit strong environmental and heritage attractions, as well as attractive scenery. It is also very desirable to visit features that offer a ready means to explore these features, such as existing leisure facilities, visitor centres, and the like.

The scheme will aim to give preference to routes that use publicly owned land, designing the route to follow landowner boundaries where possible and including mitigation measures where appropriate.

Preference shall also be given to routes that traverse smaller amounts of private agricultural farmland. Potential impacts to forestry and bog lands are considered less severe.

EN5 pertains to the use of the cycleway by people living and working in the area, rather than by tourists. Route Corridor Options with more people living close to the route will be preferred under this objective, especially where the route can connect to significant employment or education locations.

11.9.1 All Corridors

11.9.1.1 Air Quality and Climate

None of the Route Corridor Options appear likely to cause any significant negative air quality impacts.

Some air quality improvements may be expected due to the substitution of cycling for driving as a leisure activity, and as a means of visiting leisure sites. However, it is not considered that there is any significant distinction to be made between the Route Corridor Options in the context of air quality.

The TII Carbon Assessment Tool Version 2.1 has been used to evaluate the lifetime carbon footprint of each corridor option, **Table 11-3.** This tool allows for the carbon footprint of road and light rail projects to be calculated as required by the Environmental Impact Assessment (EIA) Directive 2014/52/EU.

For Phase 2 Option Selection limited data is available for the tool and there is no statutory requirement for analysis, but the tool can be used to assist with option selection.

Table 11-3: Carbon Assessment

Section	Route 1	Route 2	Route 3	Route 4	Route 5
Carbon Emissions (Tonnes C02e)	16,534	12,526	14,576	22,156	22,011

11.9.1.2 Noise

Operational Noise

Cycleways are intended to be used by pedestrians and cyclists only.

Some vehicular use will be necessary for maintenance and management, but these are expected to be at a level that is insignificant on the context of negative noise impacts.

Operational noise will not be considered further in the Option Selection process.

Construction Noise

The construction of the cycleway may give rise to potential noise impacts.

Construction of a cycleway path generally requires minor level of construction operations. More intense construction operations may be required, for example, at structures. It is not considered that the noise impacts will be significantly different on differing Route Corridor Options.

Construction noise will not be considered further in the option selection process.

11.9.1.3 Soils/Geology/Hydrogeology

The proposed cycleway will generally be approximately 8m wide and follow existing topography quite closely. In the context of Option Selection, the influence of the soils and geology can be broken down into technical and environmental aspects, as described below.

Technical

It is technically advantageous to avoid peatlands, which present construction challenges due to the compressible nature of the peat. This is mitigated to a large degree where the cycleway can follow the line of an existing bog road or railway tracks.

Technically, glacial till presents an ideal cycleway foundation.

Overall, it is possible to construct a cycleway on any soil, and the geotechnical challenges are less important than other competing constraints. For example, while it is technically straightforward to construct a cycleway across a pasture underlain by glacial till, it is not beneficial from an agricultural perspective.

Cycleways in boglands, especially those owned by Bord na Móna, and where it is possible to utilise a disused railway, are technically more difficult but present significant advantages in the context of using public land and reducing impacts to agriculture.

Environmental

Peatlands are more environmentally sensitive than for example, improved grasslands. However, this sensitivity is greatly reduced when the cycleway can follow existing infrastructure such as disused railways or bog roads.

Where a cycleway is constructed on a peatland, it is proposed that no peat excavation will take place. Rather, the cycleway would be ‘floated’ on the peat, by placing a separation geotextile over the peat surface, to minimise movement to the surface and placing the cycleway on this. This results in some settlement of the cycleway, and possibly a somewhat undulating surface but this is considered acceptable for a rural cycleway.

In the context of the Option Selection, the additional costs associated with peatland construction are to be accounted for in the cost estimates. Impacts to sensitive habitats are accounted for under terrestrial ecology. In the context of soils and geology, a slight preference should be given to routes that avoid peatlands.

Construction of a cycleway over karstic areas is considered to be low risk, considering that no significant cuttings are likely, and that it will usually be possible to avoid direct impacts on specific features, such as sinkholes or risings.

Longer routes are likely to require more construction materials, such as crushed rock, bituminous materials, and concrete.

A cycleway is not considered to be a risk to any geological heritage feature once it is sensitively designed. There is potential for cycleway routes through interesting geological landscapes, such as peatland or exposed limestone and karst, to significantly enhance the visibility and appreciation of these heritage

aspects. For the Galway to Athlone Cycleway, the karstic areas in the western side of the scheme area and the peatlands of the midlands have the potential to be part of the story and experience of traversing the route.

Overall, geology is not considered to be a significant differentiator between any of the route corridor options.

11.9.1.4 Hydrology and Flooding

The OPW flood maps website (www.floodmaps.ie) show numerous flood prone areas within the subject study area (see **Figure 11-3**). The low-lying floodplains of the Rivers, Clare, Suck and Shannon experienced severe flooding in December 1954, winter 1999/2000, November 2009 and winter 2015/2016.

Flood prone areas are a constraint to the development of the cycleway. However, it is not considered necessary to avoid these areas completely. Where flood depths are modest, it can be possible to raise the level of the cycleway above the flood level once this is engineered to avoid negative impacts elsewhere in the flood plain. It is also possible to elevate the cycleway on a structure, such as a raised deck, supported on stilts above the flood level.

The frequency and duration of flooding is also relevant. Flooding is most likely in the winter months when usage of the cycleway would be expected to be lower, and it may be appropriate to tolerate occasional flooding at these times, if the locating the cycleway in the floodplain presents other advantages, and especially if a suitable diversion is available. However, for a National Cycleway such as the Galway to Athlone scheme, it would be desirable to minimise the risk of flooding causing significant disruption to the use of the cycleway.

The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009) considers that outdoor sports and recreation can be considered even in areas with a high probability of flooding, as set out in the following extract:

Zone A - High probability of flooding. Most types of development would be considered inappropriate in this zone. Development in this zone should be avoided and/or only considered in exceptional circumstances, such as in city and town centres, or in the case of essential infrastructure that cannot be located elsewhere, and where the Justification Test has been applied.

Only water-compatible development, such as docks and marinas, dockside activities that require a waterside location, amenity open space, outdoor sports, and recreation, would be considered appropriate in this zone.

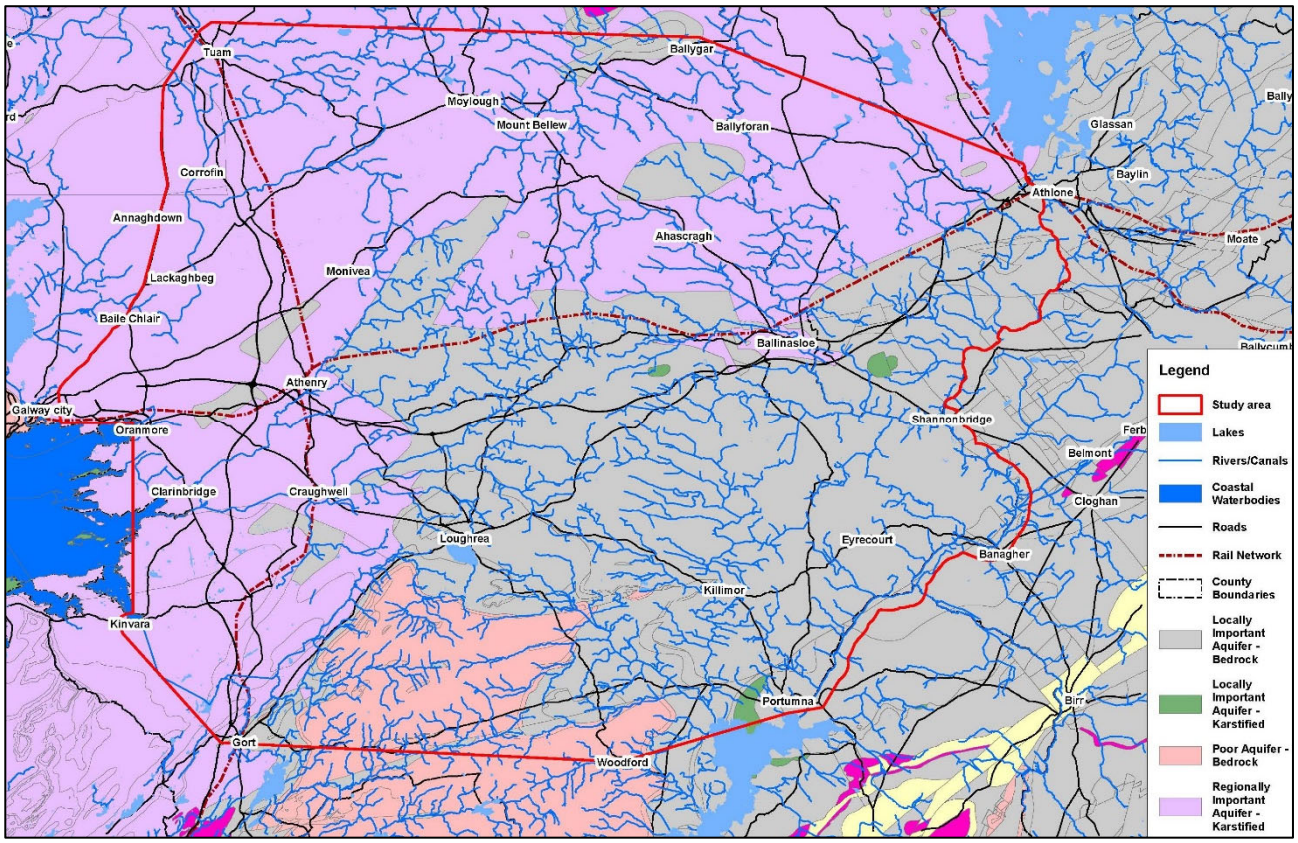


Figure 11-3: Study Area Waterbodies

In 2018 under the National Catchment Flood Risk Assessment and Management (CFRAM) study, a detailed flood study was completed in these areas and a set of flood maps were prepared for all areas predicted to be flooded at some point during the flood events with a number of selected Annual Exceedance Probabilities (AEPs). These probabilities may also be expressed as a percentage likelihood of the event occurring in any given year. Three flood extents were typically shown on these flood extent maps – Low Probability (0.1% AEP), Medium Probability (1% AEP fluvial or 0.5% AEP Coastal), and, where appropriate, High Probability (10% AEP). Flood maps were developed for the current scenario, and also for two potential future scenarios, the Mid-Range Future Scenario (MRFS) and the High-End Future Scenario (HEFS), considering the potential impacts of climate change and other possible future changes.

The CFRAM study predicted flood extents within the study area for the current scenario for the above mentioned AEPs. Flood maps for the future scenarios are included in Appendix E of the Constraints Study. It can be seen from these maps that floodplains associated with the Rivers Suck and Shannon are liable to flooding within the subject study area, along with other smaller rivers. Groundwater flooding also occurs particularly around Gort and more locally around Athenry.

11.9.1.4.1 Assessment of Route Corridor Options

All Route Corridor Options traverse flood prone areas to some degree, as would be expected on a linear project of this length.

Route Corridor Options 1, 2 and 3 present comparatively fewer flooding challenges. These would appear to be mitigable relatively easily.

Route Corridor Options 4 and 5 both utilise the west bank of the Shannon between Meelick and Portumna. This track is liable to flooding in winter during particularly wet years. Long distance users of the cycleway would need to divert onto the local road network in these situations. While this is not desirable, it is considered acceptable due to the fact that this would occur relatively infrequently. It would occur during weather events and conditions that would make it less likely that less experienced cyclists are using the route.

Route Corridor Option 5 traverses the trails within Coole Park, where significant groundwater flooding occurs. This is not desirable but is expected to be mitigated in the medium term by the South Galway Flood Relief scheme, and appropriate engineering of the route. Where the flooding is extremely deep, in some cases 4m+, it may not be possible to raise the track. Consideration will be given to a structure in these situations, likely to be a type of floating boardwalk, that can rise and fall with changing water levels.

11.9.1.5 Public Appreciation of Natural Environment

It is considered that people will be most encouraged to visit and appreciate the countryside, the natural environment, and the cultural landscape if the Route Corridor Option selected offers an attractive means to do so. This is achieved by routing the cycleway to visit strong environmental and heritage attractions, as well as attractive scenery. It is also very desirable to visit features that offer a ready means to explore these features, such as existing leisure facilities, visitor centres, and the like.

The scenic and cultural heritage aspects of the Route Corridor Options are addressed separately in **Sections 11.9.2** to **11.9.6** below.

The natural environment aspects of the Route Corridor Options are addressed in the context of the individual Route Corridor Options below. However, in that section the natural environment is generally being examined in the context of potential damage or negative impacts. In this section, the benefits of bringing the routes through or close to attractive elements of the natural environment are addressed. These benefits arise when the natural environment becomes part of the ‘lots to see and do’ part of the greenway objectives. Cycle tourists as well and domestic users will be drawn to beautiful natural sites, especially where there is the opportunity to see, experience and learn about the environment, and in particular the elements that are rare, and therefore novel.

The Route Corridor Options present a varied degree of natural landscapes. Some particular areas represent the environment and biodiversity as a key attraction, and a positive aspect to the Route Corridor Option, from a human experience point of view. In some cases, the story of the human interaction with the landscape is also part of the narrative.

The special environmental features associated with the Route Corridor Options are shown in **Table 11-4**.

Table 11-4: Special Environmental Features within Route Corridor Options

Route Corridor Option	Special Environment Element	Attractions	Rank
1.	Monivea/Lough Tee/Killaclogher Bogs	Bogland Flora and Fauna	Medium
	River Suck Callows	Ornithology	
2.	Ballinasloe Esker	Flora	Low
	River Suck Callows (minor)	Ornithology	
3.	Ballinasloe Esker	Flora	Medium
	River Suck Callows (minor)	Ornithology	
	Attymon bog landscape	Bog Flora and Fauna	
4.	Lough Rea	Pristine Lake	High
	Slieve Aughty/Portumna Bogs	Bog Flora and Fauna	
	Slieve Aughty Heathland	Bog Flora and Fauna and Ornithology	
	River Shannon Callows	Ornithology	
	Lough Derg	Wetlands and Ornithology	
	Bog landscape around Shannonbridge	Bogland Flora and Fauna	
5.	Slieve Aughty/Portumna Bogs	Bog Flora and Fauna	Very High
	Slieve Aughty Heathland	Bog Flora and Fauna and Ornithology	
	River Shannon Callows	Ornithology	
	Bog landscape around Shannonbridge	Bogland Flora and Fauna	
	Karst and Turlough Landscape at Gort	Karst Geology and Flora	
	The Burren	Karst Geology and Flora	

11.9.2 Route Corridor Option 1 – Environment

11.9.2.1 Ecology

Route 1 heads south-westward from the western side of the River Shannon at Athlone, crosses the River Suck to the southeast of Ballinasloe, travels northwest through Ballinasloe and covers an area of north County Galway that includes Ahascragh, Caltra, Castleblakeney and Mountbellew. From here it turns south-westward, traversing the lands south of the M6 between Athenry and Oranmore before arriving at Merlin Park at the east of Galway City.

The study area for Route 1 crosses three SAC boundaries including the Galway Bay Complex SAC which is crossed by all five route corridors from Oranmore to Ballyloughane beach. The route is adjacent to the Lough Corrib SAC boundary and crosses the SAC at one point over an existing bridge. The route is also in close proximity to the River Shannon Callows SAC between Shannonbridge and Athlone. The proximity of all three of these SACs to the proposed route gives a rating of most potential concern for direct impacts to the hydrological and hydrogeological regime.

The study area for this route crosses three SPA's including the River Suck Callows SPA which is crossed by all five route corridors at various locations, the Inner Galway Bay SPA which is crossed by all five route corridors from Oranmore to Ballyloughane beach and the Middle Shannon Callows SPA. The proximity of all three of these SPAs to the proposed route gives a rating of most potential concern for direct impacts to the Special Conservation Interest (SCI) species.

The study area for this route intersects with six NHA's boundaries while the route crosses on mostly existing tracks or bridge on four of these NHA's including Carrickynaghtan Bog NHA, Suck River Callows NHA, Crit Island West NHA and Annaghbeg Bog NHA. The route at Castle Ffrench East Bog NHA and Killure Bog NHA are proposed on the boundary of the designated site.

The proposed route at the majority of the above locations is confined to existing roads and tracks or, are at a considerable distance from the boundary of the designated site. They do however have the potential to have a direct and indirect impact on the designated sites. Field surveying and local re-routing for avoidance at design stage and mitigation measures at construction stage can eliminate any potential impacts. The proposal for any new tracks will be assessed individually to ensure there are no significant impacts to qualifying interests of the designated sites. It may be necessary to re-route locally.

The proposed route passes on existing tracks in close proximity (less than 150m) from the boundary of the Monivea Bog SAC. Should these tracks require upgrade, appropriate mitigation measures will be provided.

11.9.2.2 Landscape Assessment

The majority of Route Corridor Option 1 between Oranmore to where it merges with the other routes near Shannonbridge passes through landscapes considered of low value by the LCAG. Only the easternmost section that is located near the River Shannon passes through an area classified as of moderate landscape value.

Route Corridor Option 1 passes through 12 different landscape entities as sown in **Figure 11-4.** 78% of the route passes through pasture and peat bogs. Along the entirety of the Route Corridor Option 1, there are 105 changes between landscape classes.

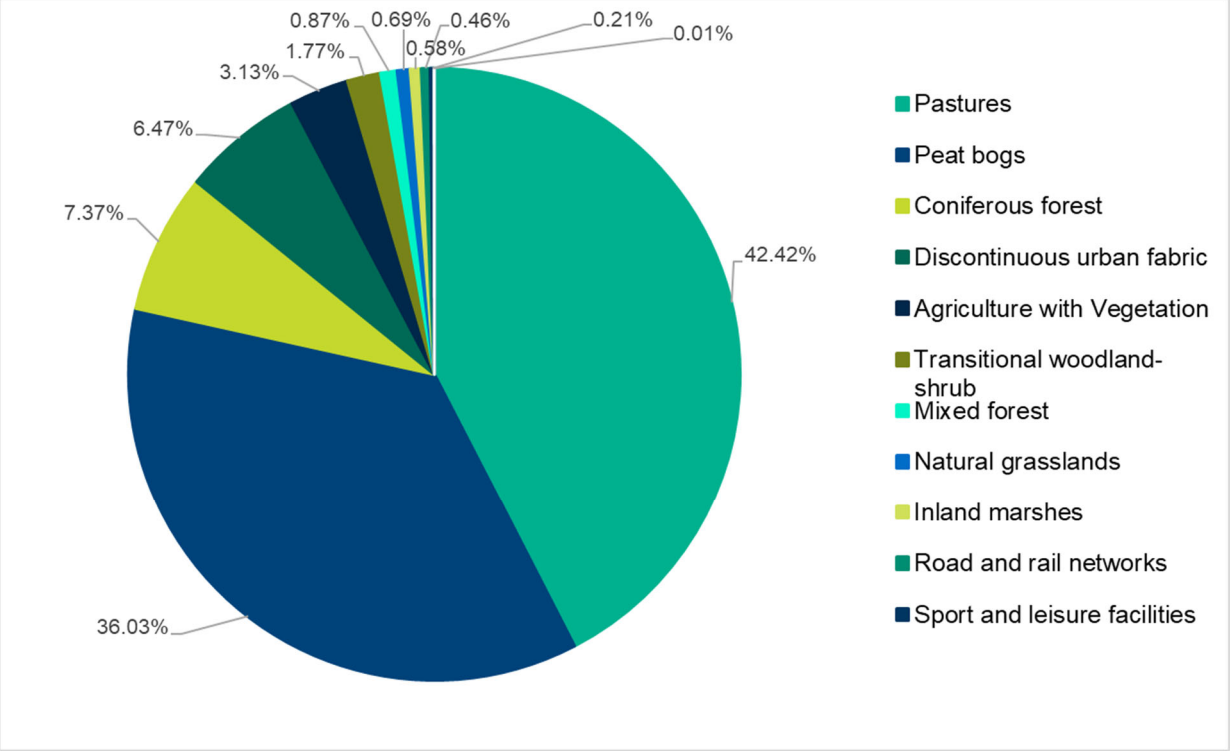


Figure 11-4: Landscape Variety – Route Corridor Option 1

Overall, the scenic value and appeal of this Route Corridor Option is comparatively weak.

11.9.2.3 Cultural Heritage and Public Appreciation

Route 1 moves south-westward from the western side of the River Shannon at Athlone, crosses the River Suck to the southeast of Ballinasloe, travels northwest-ward through Ballinasloe and covers an area of north County Galway that includes Ahascragh, Caltra, Castleblakeney and Mountbellew. From here it turns south-

westward, traversing the lands south of the M6 between Athenry and Oranmore before arriving at Merlin Park at the east of Galway City.

This route covers a wide range of rural landscapes, as well as some urban and sub-urban landscapes. There is a moderate number of cultural heritage sites recorded within the study polygons associated with this route - 430 in total. These include 243 sites recorded in the Sites and Monuments Record (SMR) and Record of Monuments and Places (RMP), 160 No. National Inventory of Architectural Heritage (NIAH) sites, 170 No. and Record of Protected Structures (RPS) and no National Monuments, though there are some close to the route, particularly around Athlone. A total of 126 of the cultural heritage sites covered by this route are multi-designation sites.

Although there is a moderate number of cultural heritage sites within the areas covered by this route, local adjustments in the alignment and other measures may be employed to mitigate potential direct and indirect impacts of a negative nature on cultural heritage.

Overall, this route contains a desirable admixture of cultural heritage sites that would provide a positive cultural contribution to the proposed cycleway. The Cultural Heritage sites along Route Corridor Option 1 are shown on the corridor map in **Volume D4.**

11.9.2.4 Material Assets – Agricultural

Route Corridor Option 1 traverses a predominantly agricultural area. Average farm sizes are generally typical of the east Galway area. Farming intensity is comparatively high in the area to the west and north of Athenry, as far as Mountbellew, and less intense elsewhere. There are significant areas of bog and forest, especially east of Mountbellew. Plans of average farm size, farming intensity, dairy farming intensity, and Corine data are provided in **Volume D2.**

Table 11-5 below shows the total public and private land in the candidate cycleway corridor and a breakdown of the lengths on various private land types, the remaining length is zoned/company owned.

Table 11-5: Material Assets – Agriculture, Route Corridor Option 1

Total		Breakdown of Private Lands			
Public Land (Km)	Private Land (Km)	Farmland (Km)	No. of Farms	Private Forestry (Km)	Other (Km)
70	73	41	115	5	27

11.9.2.5 Material Assets – Non-Agricultural

There are no apparent potential significant negative impacts to any Non-agricultural Material Assets.

The cycleway could pass close to the Army firing range at Oranmore, and the site of the proposed Data Centre at Athenry. However, it is expected that the route could be sited and engineered such that the operation of sites is not impacted.

Between Athenry and Monivea, the route is sited adjacent to the Athenry/Tuam railway. The cycleway can be sited next to the railway, at a suitable separation such that any railway operations in the future are not compromised.

11.9.2.6 Hydrology and Flooding

Route Corridor Option 1 travels along the River Suck valley, or the Bunowen/Ahascragh River. These rivers are subject to seasonal flooding. The route along the Suck traverses a large flood prone area north of Ballinasloe. The cycleway would be built immediately adjoining the existing R358 road through the flood plain.

In Ballinasloe itself, the route would travel along the Suck through the town. Flood defence works are planned along the Suck in this area, and it would be expected that the cycleway could be designed in conjunction with the flood relief works. In very extreme events, Ballinasloe does suffer from flooding on streets. The area around the harbour is flood prone, and the cycleway in this area would flood in extreme events, along with the adjoining roads.

South of Ballinasloe, the route travels along the tow path of the grand canal through the flood plain. This tow path is elevated and is not flood prone.

In Ahascragh, the route utilises existing flood defences to traverse the flood prone areas. In undefended areas, the route would need to be offset from the river to avoid frequent flooding. This appears practicable in this case.

At Athenry, the route is close to the Clarin river, and would need to be engineered to prevent frequent flooding. This could entail either raising the cycleway on embankment, or an elevated deck.

In the context of the length of the route, it is not considered especially problematic in terms of flooding, and reasonable mitigation appears to be available. Mitigation could include raising the cycleway such that it is higher than the flood levels or moving it slightly such that it is outside the flood prone areas. A mixture of both measures would be most likely.

11.9.3 Route Corridor Option 2 – Environment

11.9.3.1 Ecology

This is the shortest and the most direct of the five proposed routes and its study area covers the least area.

The study area for Route 2 crosses one SAC boundary, namely the Galway Bay Complex SAC which is crossed by all five route corridors from Oranmore to Ballyloughane beach. The proximity of this SAC to the proposed route gives a rating of most potential concern for direct impacts to the hydrological and hydrogeological regime.

The study area for this route crosses two SPA's including the Inner Galway Bay SPA and the River Suck Callows SPA which are both crossed by all Route Corridor Options. The proximity of these SPAs to the proposed route gives a rating of most potential concern for direct impacts to the SCI species.

The study area for this route intersects with one NHA boundary, the Suck River Callows NHA, which is also crossed by all Route Corridor Options at various locations. The crossing for this Route Corridor Option is adjacent to the existing rail line crossing over the River Suck east of Ballinasloe. A new bridge would be required through the site.

Elsewhere, the proposed route at all above locations are confined to existing roads and tracks or, are at a considerable distance from the boundary. They do however have the potential to have a slight to limited direct and indirect impact on the designated sites. Field surveying and local re-routing for avoidance at design stage and mitigation measures at construction stage can eliminate any potential impacts.

11.9.3.2 Landscape Assessment

The landscape along Route Corridor Option 2 is broadly similar to that encountered along Route Corridor Option 3, which is described in **Section 11.9.4.2**. However, the experience and views of the landscape are compromised by the presence of the railway line immediately adjacent, and in particular the need for high security fencing between the cycleway and railway.

11.9.3.3 Cultural Heritage and Public Appreciation

Route 2 follows the line of the railway line between Athlone and Galway, passing through Ballinasloe, Woodlawn, Attymon, Athenry and Oranmore on the way. The landscape covered by this route is slightly less varied than Route 1 and considerably less varied than Routes 4 and 5. This is the shortest and the most direct of the five proposed routes and its associated polygon covers the least area. Consequently, this route includes the smallest number of cultural heritage sites, 176 in total. These include 103 sites recorded in the SMR/RMP, 67 NIAH sites, 58 RPS and no National Monuments, though there are some close to the route, particularly around Athlone and Athenry. A total of 50 of the cultural heritage sites covered by this route are multi-designation sites. Many of the architectural heritage sites recorded in the NIAH and RPS are associated with railway infrastructure along the route.

Although there is a low number of cultural heritage sites within the areas covered by this route, many of these are associated with railway infrastructure and will not be directly impacted by the proposals. In addition, local adjustments in the alignment and other measures may be employed to mitigate potential direct and indirect impacts of a negative nature on cultural heritage.

This is the least diverse in terms of landscape and cultural heritage, however by following the railway line and staying with areas previously disturbed by the construction of the line, there is much less chance of negative impacts of both recorded and unrecorded cultural heritage. In addition, this route travels through urban areas with desirable built heritage, such as Athlone and Ballinasloe (and the demesne landscape of Garbally). Through railway stations at Woodlawn and Attymon, travellers are within very short distances of National Monuments like Kilconnell Friary, close to the battlefield landscape of Aughrim and into the unique medieval town of Athenry. The Cultural Heritage sites along Route Corridor Option 2 are shown on the corridor map in **Volume D4.**

11.9.3.4 Material Assets – Agricultural

Route Corridor Option 2 traverses a predominantly agricultural area. Average farm sizes are generally typical of the east Galway area. Farming intensity is comparatively high in the area to the west of Athenry, and less intense elsewhere. There are significant areas of bog and forest adjoining the railway, especially between Athenry and Woodlawn. The railway line is a strong severance line for farm units in the area, having been built in mid nineteenth century. Plans of average farm size, farming intensity, dairy farming intensity, and Corine data are provided in **Volume D2.**

Table 11-6 shows the total public and private land in the candidate cycleway corridor and a breakdown of the lengths on various private land types, the remaining length is zoned/company owned.

Table 11-6: Material Assets – Agriculture, Route Corridor Option 2

Total		Breakdown of Private Lands			
Public Land (Km)	Private Land (Km)	Farmland (Km)	No. of Farms	Private Forestry (Km)	Other (Km)
26	57	40	134	5	13

11.9.3.5 Material Assets – Non-Agricultural

Route Corridor Option 2 would be offset from the existing rail line sufficiently that its current and planned operations would not be compromised.

No significant non-agricultural material asset impacts are expected.

11.9.3.6 Hydrology and Flooding

Route Corridor Option 2 follows the Galway Athlone railway line. The area adjacent to the line floods regularly between Oranmore and Athenry. However, the line itself does not flood regularly.

Between Kilconnell and Ballinasloe, there are short sections of flood prone land, but again the line does not flood regularly.

In these areas, it may be necessary to raise the cycleway on an embankment to reduce the risk of flooding during operation.

Where the railway crosses the River Suck, there is a more extensive floodplain. Here it would be necessary to raise the cycleway on embankment, probably matching the railway embankment as it crosses the flood plain.

11.9.4 Route Corridor Option 3 – Environment

11.9.4.1 Ecology

The study area for Route 3 crosses two SAC boundaries including the Galway Bay Complex SAC which is crossed by all five route corridors from Oranmore to Ballyloughane beach. The route is also in close proximity to the River Shannon Callows SAC between Shannonbridge and Athlone. The proximity of these SACs to the proposed route gives a rating of most potential concern for direct impacts to the hydrological and hydrogeological regime.

The study area for this route crosses three SPA's including the River Suck Callows SPA which is crossed by all five route corridors at various locations, the Inner Galway Bay SPA which is crossed by all five route corridors from Oranmore to Ballyloughane beach and the Middle Shannon Callows SPA. The proximity of all three of these SPAs to the proposed route gives a rating of most potential concern for direct impacts to the SCI species.

The study area for this route crosses on existing tracks or bridge on three NHA's including Carrickynaghtan Bog NHA, the Suck River Callows NHA and Raford River Bog NHA.

The proposed route at all above locations are confined to existing roads and tracks or, are at a considerable distance from the boundary. They do however have the potential to have a slight to limited direct and indirect impact on the designated sites. Field surveying and local re-routing for avoidance at design stage and mitigation measures at construction stage can eliminate any potential impacts.

11.9.4.2 Landscape Assessment

This route will mainly be located in landscape of low value until it nears the River Shannon. The section of route within this corridor is classified as being of moderate landscape value.

Route Corridor Option 3 passes through 11 different landscape entities as shown in **Figure 11-5.** 79% of the route passes through pasture and peat bogs.

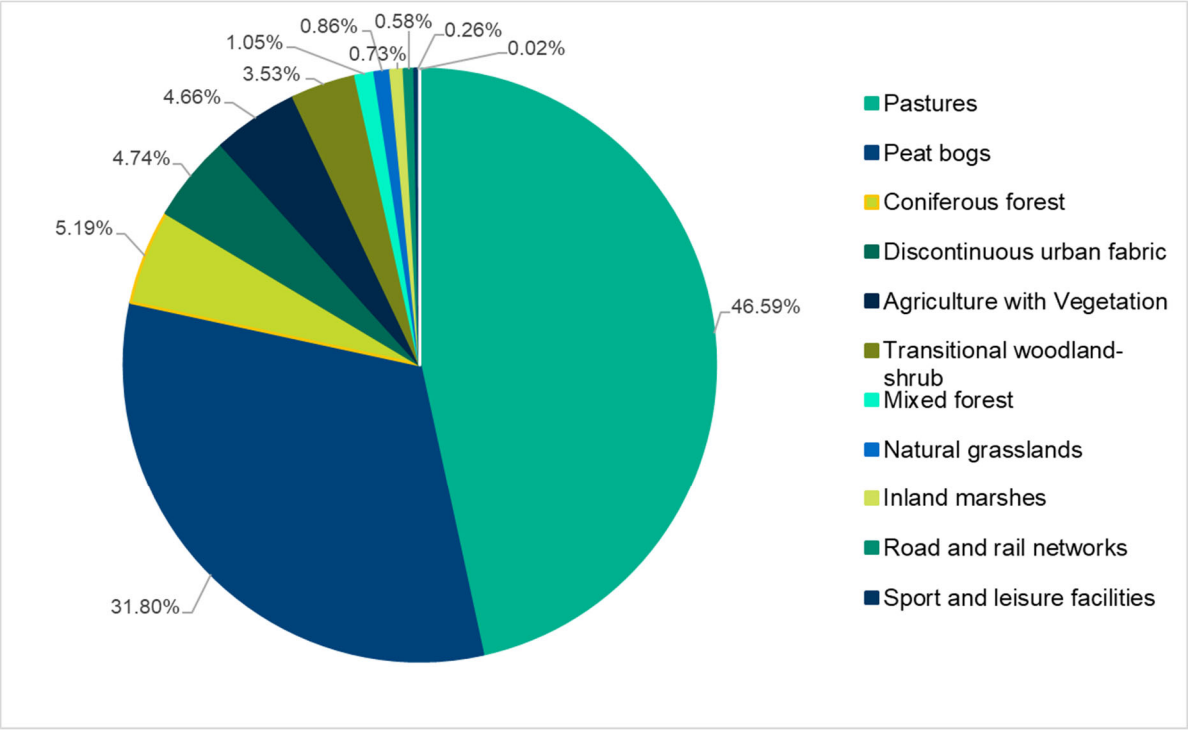


Figure 11-5: Landscape Variety – Route Corridor Option 3

Overall, the scenic value and appeal of this Route Corridor Option is comparatively weak.

11.9.4.3 Cultural Heritage and Public Appreciation

Route 3 follows the same alignment as Route 1 between Athlone and Ballinasloe, after which it moves in a westerly direction towards Galway, covering a large swathe of the landscape between the Athlone to Galway railway line and the M6 Motorway. As well as the towns and villages traversed by Route 2, the Consultation Corridor for Route 3 covers the Battle of Aughrim site, Kilconnell Friary, and the villages of New Inn and Ballyfa. This route is similar in trajectory to Route 2 but encompasses a wider landscape and consequently many more cultural heritage sites (717 in total).

These include 540 sites recorded in the SMR/RMP, 159 NIAH sites, 154 RPS and 7 National Monuments. A total of 118 of the cultural heritage sites covered by this route are multi-designation sites. It must be noted

that the higher numbers of cultural heritage sites on this route reflects the wider areas covered by the polygons rather than any increase in density.

Overall, this route covers a wide area, including more-or-less all of the cultural heritage recorded in Route 2. There is consequently a higher potential for negative impact on cultural heritage, but as noted above, local diversions and careful routing, along with robust mitigation measures can avoid many of the negative impacts and mitigate the remaining impacts. The Cultural Heritage sites along Route Corridor Option 3 are shown on the corridor map in **Volume D4.**

11.9.4.4 Material Assets – Agricultural

Route Corridor Option 3 traverses a predominantly agricultural area. Average farm sizes are generally typical of the east Galway area. Farming intensity is comparatively high in the area to the West of Athenry, and less intense elsewhere. There are significant areas of bog and forest in the corridor especially between Athenry and Kilconnell. Plans of average farm size, farming intensity, dairy farming intensity, and Corine data are provided in **Volume D2.**

Table 11-7 shows the total public and private land in the candidate cycleway corridor and a breakdown of the lengths on various private land types, the remaining length is zoned/company owned.

Table 11-7: Material Assets – Agriculture, Route Corridor Option 3

Total		Breakdown of Private Lands			
Public Land (Km)	Private Land (Km)	Farmland (Km)	No. of Farms	Private Forestry (Km)	Other (Km)
51	65	32	89	9	24

11.9.4.5 Material Assets – Non-Agricultural

No significant non-agricultural material asset impacts are expected once the route is developed appropriately.

11.9.4.6 Hydrology and Flooding

In Ballinasloe, the route would travel along the River Suck through the town. Flood defence works are planned along the Suck in this area, and it would be expected that the cycleway could be designed in conjunction with the flood relief works. In very extreme events, Ballinasloe does suffer from flooding on streets. The area around the harbour is flood prone, and the cycleway in this area would flood in extreme events, along with the adjoining roads.

South of Ballinasloe, the route travels along the tow path of the grand canal through the floodplain. This tow path is elevated and is not flood prone.

Between Kilconnell and Aughrim, the stream flowing east towards the Deer Park River floods in the forested area. The routing in this area would need to account for this, by routing around the flooded area or engineering the cycleway appropriately.

Between Woodlawn and Attymon, the Raford/Dooyertha river floods, though not over a wide floodplain.

The routing in this area would need to account for this, by routing around the flooded area or engineering the cycleway appropriately.

In the context of the length of the route, it is not considered especially problematic in terms of flooding, and reasonable mitigation appears to be available. Mitigation could include raising the cycleway such that it is higher than the flood levels or moving it slightly such that it is outside the flood prone areas. A mixture of both measures would be most likely.

11.9.5 Route Corridor Option 4 – Environment

11.9.5.1 Ecology

Route 4 takes the same alignment as Route 1 southward from Athlone almost to the River Suck. From there the route turns east, crossing the River Shannon into Shannonbridge and then back again via an industrial railway bridge a few kilometres southeast of Shannon Bridge. From here, the route skirts the western bank of the River Shannon, through Meelick and into Portumna. From Portumna in a westerly direction the route passes the northern shore of Lough Derg before travelling northwest-ward through Woodford, Loughrea and into Athenry.

The study area for Route 4 crosses nine SAC boundaries including the Galway Bay Complex SAC which is crossed by all five route corridors from Oranmore to Ballyloughane beach. The route is also in close proximity or through the Barroughter Bog SAC and Cloonmoylan Bog SAC near Portumna, Derrycrag Wood Nature Reserve SAC near Woodford, Lough Derg, North-east Shore SAC near Portumna, Lough Rea SAC in Loughrea, Pollnaknockaun Wood Nature Reserve SAC near Woodford, River Shannon Callows SAC between Athlone and Portumna and Rosturra Wood SAC near Woodford. The proximity of these SACs to the proposed route gives a rating of most potential concern for direct impacts to the hydrological and hydrogeological regime.

The study area for this route crosses six SPA's including the River Suck Callows SPA which is crossed by all five route corridors at various locations. This route crosses the Inner Galway Bay SPA which is crossed by all five route corridors from Oranmore to Ballyloughane beach. The proximity of all six of these SPAs to the proposed route gives a rating of most potential concern for direct impacts to the SCI species.

The route is also close to the River Shannon Callows SAC and the Middle Shannon Callows SPA will also require further field work to determine the options at this location. Should it be necessary, due to habitat or bird survey outcomes, local re-routing at specific locations will be considered. The proposed route at this location is confined to the existing Hymany Way walking track. The route does however have the potential to have a direct and indirect impact on the qualifying interests of the River Shannon Callows SAC. Field surveying and local re-routing for avoidance at design stage and mitigation measures at construction stage can potentially eliminate any impacts.

Winter bird surveys were undertaken (January 2021) which informed the findings of the initial scoping report. Should mitigation or screening be required, these can be carried out at design stage. In cases of sensitive locations, local re-routing can place the cycleway on the opposite side of the drain away from the SPA boundary. However, it is not fully clear at this stage in the design process that potential significant impacts to the SPA and/or SAC can be avoided. Should it be necessary to route the cycleway outside the designated sites along the Callows, this would likely be technically feasible, though some of the main benefits associated with following the existing trail would be lost. These would include the use of the public land, and the scenic value of the route would be diminished.

Careful consideration is also required on the shores of Lough Rea SAC/SPA in Loughrea. The proposed route is planned on the existing road for 1.3km to the east of the designated site and adjacent to a playground and tennis courts for 1km to the north of the designated site. The space at these locations is limited and mitigation may be required.

This route also crosses the Slieve Aughty Mountains SPA mostly on existing forestry access roads, fire lines or public roads. In doing so the routes avoid the foraging or nesting habitat for the SCI species. Further survey work will be carried out to determine if mitigation measures, compensation areas or local re-routing will be required at detailed design stage. Construction of any such route would also adhere to bird nesting and breeding season restrictions.

Additional surveying, design and mitigation will be required in areas where the route is traversing or directly impacting a designated site. This includes for the existing track routes in Lough Derg, North-east Shore SAC, Lough Derg (Shannon) SPA, Rosturra Wood SAC and Pollnaknockaun Wood Nature Reserve SAC where the track may need to be upgraded.

The study area for this route intersects with five NHA's boundaries while the route crosses on existing tracks or bridge on two of these NHA's including Carrickynaghtan Bog NHA and the Suck River Callows NHA. The route at Slieve Aughty Bog NHA, Meeneen Bog NHA and Kilnaborris Bog NHA are proposed on the boundary of the designated sites.

The proposed route at the majority of the above locations is confined to existing roads/pathways/tracks at a considerable distance from the boundary. They do however have the potential to have a direct and indirect impact on the designated sites. Field surveying and local re-routing for avoidance at design stage and mitigation measures at construction stage can potentially eliminate any impacts.

11.9.5.2 Landscape Assessment

Approximately one quarter of the length of Route Corridor Option 4 from Oranmore onwards passes through a low value landscape until it reaches Loughrea Lake. Here it skirts around Loughrea Lake which is classed as a landscape of high value before continuing southwards in a moderate value landscape for another quarter of its length until Portumna. Lough Derg, just to the south of Portumna, is also categorised as a high value landscape, which this route will pass close or adjacent to. After the environs of Portumna the route passes adjacent to the River Shannon, a moderate value landscape, except for a short section of low value landscape just to the south of Shannonbridge.

This Route Corridor Option takes in 16 different landscape entities as shown in **Figure 11-6** and the two most common ones, pasture and peat bogs make up 58% of the landscape of the route.

This Route Corridor Option will experience 128 changes in landscape classifications.

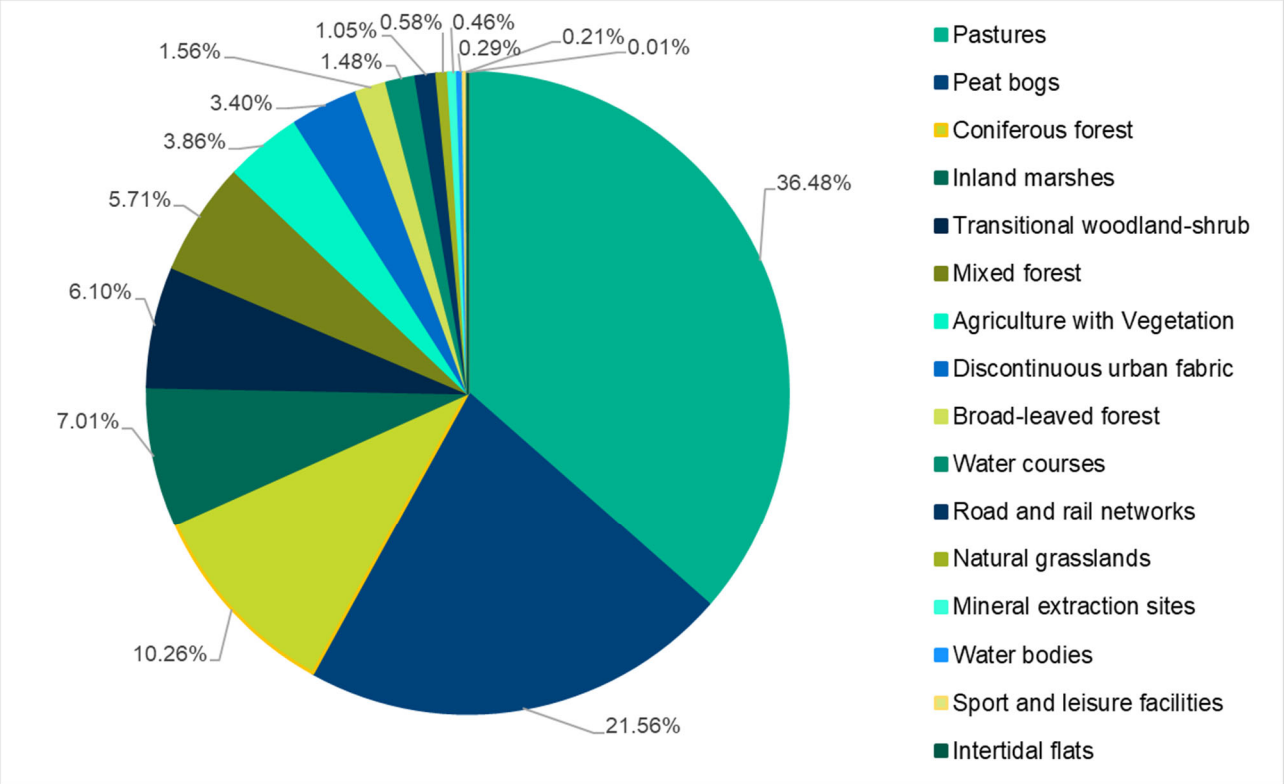


Figure 11-6: Landscape Variety – Route Corridor Option 4

Overall, the scenic value and appeal of this Route Corridor Option is comparatively good, with a variety of landscape types.

11.9.5.3 Cultural Heritage and Public Appreciation

Route 4 takes the same alignment as Route 1 southward from Athlone almost to the River Suck. From there the route turns east, crossing the River Shannon into Shannonbridge and then back again via an industrial railway bridge a few kilometres southeast of Shannon Bridge. From here, the route skirts the western bank of the River Shannon, through Meelick and into Portumna, which contains a strong built environment that includes Portumna Castle and its associated demesne landscape and features. From Portumna in a westerly direction the route includes the pleasantness of the northern shore of Lough Derg before travelling northwest-ward through Woodford, Loughrea and into Athenry.

This route encompasses a much more varied route to the previous three, including a long swathe of the Shannon and the lacustrine area around Portumna and Loughrea. There is also a more varied cultural landscape that includes features on the eastern side of the Shannon. From Shannonbridge there is easy access to Clonmacnoise, one of Irelands most important and best-known ecclesiastical sites, which receives between 155,000 and 170,000 visitors per annum (Irish Times 2019).

A total of 732 cultural heritage sites are covered by this route, including 575 sites recorded in the SMR/RMP, 146 NIAH sites, 142 RPS and 2 National Monuments. A total of 112 of the cultural heritage sites covered by this route are multi-designation sites.

This route covered a longer route that the previous three and consequently contains a greater number of cultural heritage sites. It covers a more diverse natural and cultural landscape, which for a visitor attraction point of view could be considered positive. The Cultural Heritage sites along Route Corridor Option 4 are shown on the corridor map in **Volume D4.**

11.9.5.4 Material Assets – Agricultural

Route Corridor Option 4 traverses a predominantly agricultural area. Average farm sizes are generally typical of the east Galway area, with farms generally larger between Portumna and Shannonbridge, and the intensity of agriculture is also higher here. There are significant areas of bog and forest in the corridor especially between forestry in the Slieve Aughty Mountains south of Loughrea, and extensive boglands around Shannonbridge. Plans of average farm size, farming intensity, dairy farming intensity, and Corine data are provided in **Volume D2.**

Table 11-8 shows the total public and private land in the candidate cycleway corridor and a breakdown of the lengths on various private land types, the remaining length is zoned/company owned.

Table 11-8: Material Assets – Agriculture, Route Corridor Option 4

Total		Breakdown of Private Lands			
Public Land (Km)	Private Land (Km)	Farmland (Km)	No. of Farms	Private Forestry (Km)	Other (Km)
96	78	45	112	5	28

11.9.5.5 Material Assets – Non-Agricultural

The cycleway would run immediately adjacent to existing flood defence embankment on the Shannon between Meelick and Portumna. It is not considered that the development of a cycleway would negatively impact these defences once it is appropriately engineered.

11.9.5.6 Hydrology and Flooding

River Shannon at Meelick to Portumna

Between Meelick and Portumna, the land to the west of the river is protected by a low flood defence embankment, typically 1 to 2m high, for a length of approximately 10km. The embankment, and surrounding lands are owned and maintained by the ESB.

An access track runs behind the embankment in places, to allow the ESB to access pumping stations, with a back drain behind, as shown in **Figure 11-7**. The stoned road is absent over much of the defence. Instead, a level grassed area is present between the back drain and the embankment.

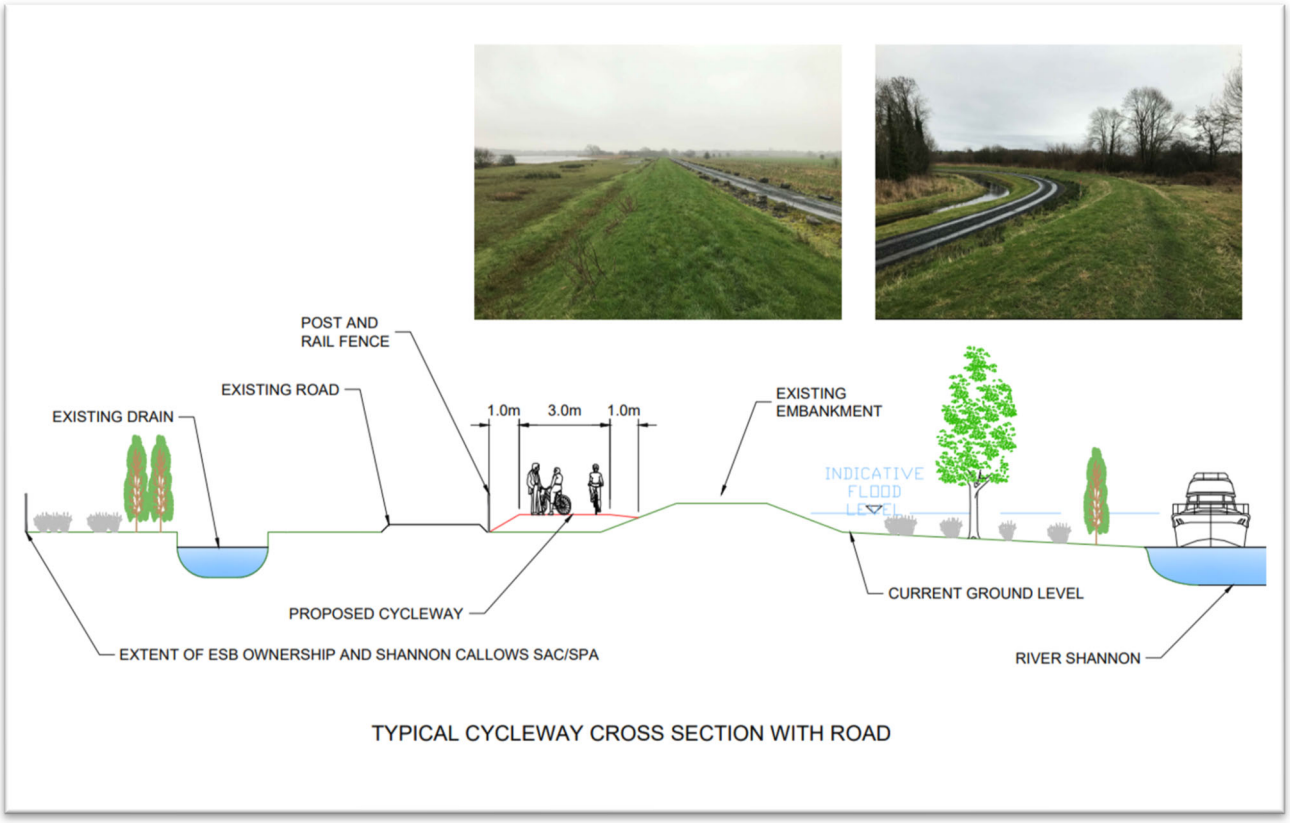


Figure 11-7: Access Roads at Shannon Callows

The embankment was designed and installed to retain flood waters and protect the town of Portumna in the 1920's. Major flood events in 2009 and 2014 resulted in a breach of the embankment. Flood waters remained for a number of weeks in the surrounded lands. There is anecdotal evidence of a flood in March 2020 which flooded land near Meelick.

There are no written records of the number of flood events, or the time taken for flood waters to recede, but it can be assumed the cycleway adjacent to the embankment would be unusable for a number of weeks in extremely wet years, such as 2009 and 2014.

The embankment and pumping stations are inspected daily.

In 2018 under the National Catchment Flood Risk Assessment and Management (CFRAM) study, a detailed flood study was completed in this area and a set of flood maps were prepared for all areas predicted to be flooded at some point during the flood events with a number of selected Annual Exceedance Probabilities (AEPs). These probabilities may also be expressed as odds of the event occurring in any given year. Three flood extents were typically shown on these flood extent maps – Low probability (0.1% AEP), Medium Probability (1% AEP fluvial or 0.5% AEP Coastal), and, where appropriate, High probability (10% AEP). Flood maps were developed for the current scenario, and also for two potential future scenarios, the Mid-Range Future Scenario (MRFS) and the High-End Future Scenario (HEFS), considering the potential impacts of climate change and other possible future changes.

In the context of the Portumna Meelick section, as it is a single point-to-point path, in the event that any section experiences flooding, then the entire section would be unusable, and cyclists would have to divert via a public road. In practice this would be via the R355 and local roads at Tiernascragh.

The potential impacts of flooding to the cycleway in this area are summarised below:

In the modelled 'Current Scenario', for a 10% AEP event:

- Flooding occurs immediately north of Portumna, and at the Fahy River. The Fahy River flood is not as a result of the flood embankment overtopping, but the Fahy River itself bursting its banks, based on discussions with ESB.

- The flooding north of Portumna is planned to be mitigated by the installation of a flood gate at the entrance to Connaught Harbour. Aerial pictures of the flooding in this area in the 2020 floods show the stoned path behind the flood defence being passable (see **Figure 11-8).**

Figure 11-8: Flooding at Portumna (2020)

- At Meelick, Big Island and Friars Island are completely flooded. In the modelled 'Mid-Range Scenario', for a 10% AEP event (see **Figure 11.9)**.
- Flooding occurs immediately north of Portumna, and at the Fahy River, and extensively in between.
- This suggests that the cycleway may be closed for a duration every few years, in very wet winters.

However, it should be borne in mind that these flood events also have the effect of causing flooding in Portumna itself, and in Meelick. For example, the N65 in Portumna would also be flooded, and Meelick Weir and Victoria Island and lock would be inaccessible. Even if the cycleway were operational at these times, the combination of very poor winter weather and the disturbance to the general area suggests that demand for recreational cycling would be low, especially amongst the less able cyclists for whom an on-road diversion would be challenging or off-putting. Flooding is somewhat integral to visiting attractions along the Shannon and Suck in winter.

Figure 11-9: Ballymacegan Island to Meelick- Mid Range Future - AEP 10% (Flood Map www.floodinfo.ie)

Cappagh and Kilcrow Rivers at Lough Derg

Route Corridor Option 4 would cross these rivers immediately north of their entrance to Lough Derg. The route would be along an existing access track to an ESB pumping station, associated with embankments here. A short section of this track is predicted to flood in the current scenario 0.1% AEP. This flood appears to be mitigable, if required, by raising the access road somewhat in the area.

Loughrea Lake

Some areas along the shore of Loughrea lake are prone to flooding. The existing walkways at Corry's field have flooded in extreme weather in the past. However, this is not considered especially problematic once the cycleway is engineered to withstand being submerged without damage. It may also be possible to raise the cycleway here to avoid flooding in most situations.

Dooyertha River

The Dooyertha and Eiscir rivers, between Athenry and Loughrea floods regularly. When crossing the flood plain it would be necessary to account for the flood prone nature of the area and provide adequate conveyance. The degree of engineering needed would depend on the precise crossing point chosen. However, this flooding is not considered a major constraint.

The flooding situation at the Shannon Callows and elsewhere is a significant aspect of the route design in the area. While it is undesirable to have a cycleway in a flood prone area, this must be balanced against the flood risk and the amenity and scenic value that is available.

11.9.6 Route Corridor Option 5 – Environment

11.9.6.1 Ecology

Route 5 takes a similar alignment to Route 4 from Athlone through Portumna as far as Derrybrien at the southern foothills of the Slieve Aughty Mountains. It moves west into Gort, then northward through Kinvarra, Kilcolgan, Clarinbridge and on to Oranmore and Galway.

The study area for Route 5 crosses 15 no. SAC boundaries including the Galway Bay Complex SAC which is crossed by all five route corridors from Oranmore to Ballyloughane beach. The route is also in close proximity or through the Barroughter Bog SAC and Cloonmoylan Bog SAC near Portumna, Caherglassaun Turlough SAC west of Gort, Carrowbaun, Newhall and Ballylee Turloughs SAC north of Gort, Coole-Garryland Complex SAC west of Gort, Derrycrag Wood Nature Reserve SAC near Woodford, East Burren Complex SAC west of Gort, Kiltartan Cave (Coole) SAC northwest of Gort, Lough Coy SAC northeast of Gort, Lough Derg, North East Shore SAC near Portumna, Lough Fingall Complex SAC near Ballinderreen, Pollnaknockaun Wood Nature Reserve SAC near Woodford, River Shannon Callows SAC between Athlone and Portumna and Rosturra Wood SAC near Woodford. The proximity of the majority of these SACs to the proposed route gives a rating of most potential concern for direct impacts to the hydrological and hydrogeological regime. Some SACs (Carrowbaun, Newhall and Ballylee Turloughs SAC, Kiltartan Cave (Coole) SAC and Lough Coy SAC) have been given a rating of intermediate concern for direct and indirect impacts due to the distance of the proposed route from the SAC boundary.

The study area for this route crosses seven SPA's including the River Suck Callows SPA which is crossed by all five route corridors at various locations. This route crosses the Inner Galway Bay SPA which is crossed by all five route corridors from Oranmore to Ballyloughane beach. The proximity of all seven of these SPAs to the proposed route gives a rating of most potential concern for direct impacts to the SCI species.

The route is also close to the River Shannon Callows SAC and the Middle Shannon Callows SPA will also require further field work to determine the options at this location. Should it be necessary, due to habitat or bird survey outcomes, the local re-routing at specific locations will be considered. The proposed route at this location is confined to the existing Hymany Way walking track. The route does however have the potential to have a direct and indirect impact on the qualifying interests of the SAC. Field surveying and local re-routing for avoidance at design stage and mitigation measures at construction stage can potentially eliminate any impacts.

Further winter bird surveys are currently taking place. These will inform the findings of the initial scoping report carried out. Should mitigation or screening be required these can be carried out at design stage. In cases of sensitive locations, local re-routing can place the cycleway on the opposite side of the drain away from the SPA boundary. However, it is not fully clear at this stage in the design process that potential significant impacts to the SPA and/or SAC can be avoided.

This route also crosses the Slieve Aughty Mountains SPA mostly on existing forestry access roads, fire lines or public roads. In doing so the routes avoid the foraging or nesting habitat for the SCI species. Further survey work will be carried out to determine if mitigation measures, compensation areas or local re-routing will be required at detailed design stage. Construction of any such route would also adhere to bird nesting and breeding season.

Additional surveying, design and mitigation will be required in areas where the route is traversing or directly impacting a designated site. This includes for the proposed route through Caherglassaun Turlough SAC where the route is through the turlough on existing track for the majority with the remaining 225m length is new track along a hedgerow. Similarly, the route through Coole-Garryland Complex SAC / SPA is on existing tracks which may require upgrade.

Additional surveying, design and mitigation will be required for the existing track routes in Lough Derg, North-east Shore SAC, Lough Derg (Shannon) SPA, Rosturra Wood SAC and Pollnaknockaun Wood Nature Reserve SAC where the track may need to be upgraded.

This route travels on the existing main road in close proximity (less than 100m) to the Lough Fingall Complex SAC boundary and approximately 200m to the Cregganna Marsh SPA. Should any local re-routing of the cycleway in these areas be required it will be necessary to route away from the SAC / SPA boundary.

The study area for this route intersects with six NHA's boundaries while the route crosses on existing tracks or bridge on two of these NHA's including Carrickynaghtan Bog NHA and the Suck River Callows NHA. The route at Slieve Aughty Bog NHA, Meeneen Bog NHA, Kilnaborris Bog NHA and Cregganna Marsh NHA are proposed on or near the boundaries of the designated sites.

The proposed route at the majority of the above locations is confined to existing roads/pathways/tracks or are at a considerable distance from the boundary. They do however have the potential to have a direct and indirect impact on the designated sites. Field surveying and local re-routing for avoidance at design stage and mitigation measures at construction stage can potentially eliminate any impacts.

11.9.6.2 Landscape Assessment

The wide areas of the Option 5 Route Corridor pass straddle the boundary of high and low landscape areas until Kinvara, with the majority of this section falling within the high value area. From Kinvara the landscape the route passes through is mostly considered of moderate value until Coole Park, except where it passes close to the karst landscape of the Burren, which is considered of very high value. Within Coole Park the route passes through a high value landscape before returning to a landscape of moderate value east of Coole Park. The route remains in this landscape of moderate value until it nears Lough Derg. The section from Portumna onwards is described in **Section 11.9.5.2** Route Corridor Option 4 above.

This Route Corridor Option takes in 16 different landscape entities as shown in **Figure 11-10** and the two most common ones, pasture and peat bogs make up 58% of the landscape of the route.

At 285 changes in landscape classifications, Route Corridor Option 5 will have the greatest local variety of all the Route Corridor Options.

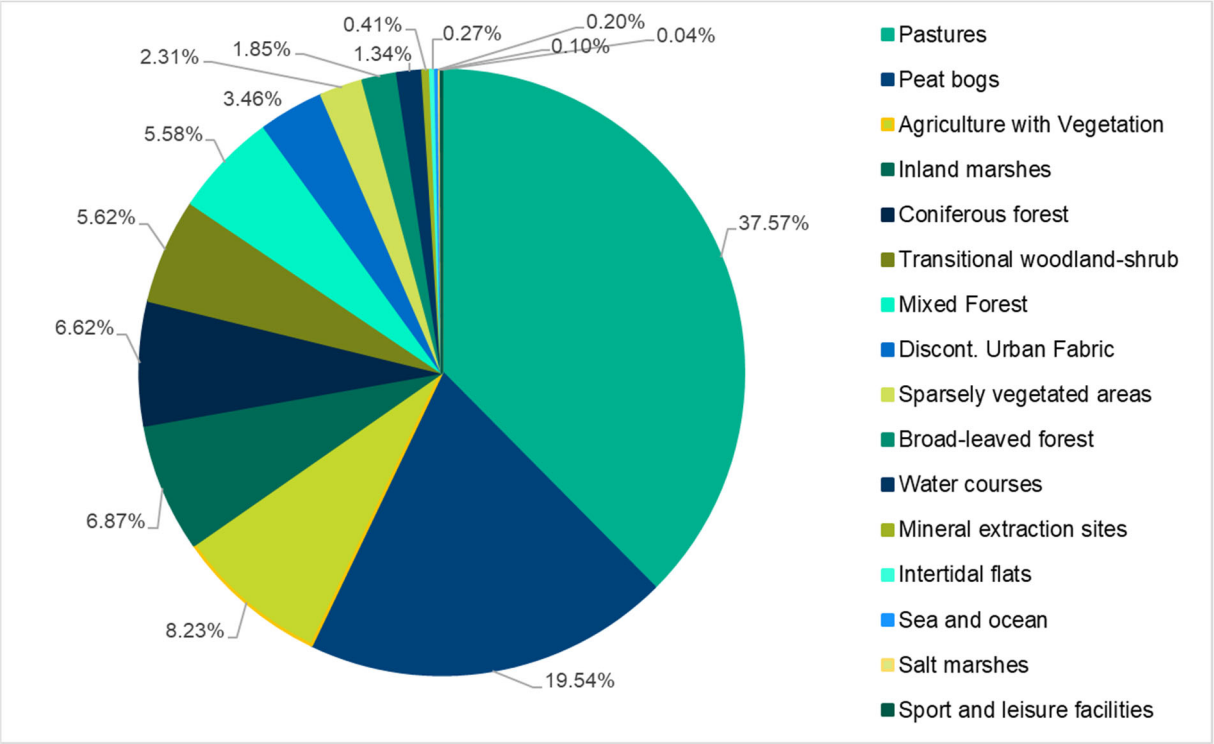


Figure 11-10: Landscape Variety – Route Corridor Option 5

Overall, the scenic value and appeal of this Route Corridor Option is very good, with a variety of landscape types and some areas of high scenic value.

11.9.6.3 Cultural Heritage and Public Appreciation

Route 5 takes a similar alignment to Route 4 from Athlone through Portumna as far as Derrybrien at the southern foothills of the Slieve Aughty Mountains. It moves west into Gort, then northward through Kinvarra, Kilcolgan, Clarinbridge and on to Oranmore and Galway.

Of the five Route Corridor Options this is the longest and consequently has the greatest number of recorded cultural heritage sites. This route also covers the most diverse set of landscapes and singularly including the karst landscape of southwest Galway and the seascapes of Galway Bay. This route provides access to the Slieve Aughty Mountains and a wide swathe of the cultural landscape of South County Galway, as well as the seascapes and maritime cultural landscape of south and east Galway Bay. In addition, this route connects with Coole Park, which is a literary highlight of County Galway.

A total of 794 cultural heritage sites are covered by this route. These include 607 sites recorded in the SMR/RMP, 192 NIAH sites, 167 RPS and 12 National Monuments. A total of 143 of the cultural heritage sites covered by this route are multi-designation sites.

As mentioned above, careful designing and local re-routing and other measures can mitigate potential significant negative effects. This route provides an admixture of the most diverse natural environments available within the study area. As the longest route, it also contains the largest number of cultural heritage sites, thus providing desirable assortment of cultural heritage sites for the proposed cycleway. However, unlike the other four routes, this one does not include Athenry, a medieval gem in Connaught. This is a negative on an overwhelmingly positive Route Corridor Option. The Cultural Heritage sites along Route Corridor Option 5 are shown on the corridor map in **Volume D4.**

11.9.6.4 Material Assets – Agricultural

Route Corridor Option 5 traverses a predominantly agricultural area, but with significant tracts of bog and commercial forestry. Average farm sizes are generally typical of the east Galway area, with farms generally larger between Portumna and Shannonbridge, and the intensity of agriculture is also higher here. There are significant areas of bog and forest in the corridor especially between forestry in the Slieve Aughty Mountains

between Gort and Portumna, and extensive boglands around Shannonbridge. Plans of average farm size, farming intensity, dairy farming intensity, and Corine data are provided in **Volume D2**.

Table 11-9 shows the total public and private land in the candidate cycleway corridor and a breakdown of the lengths on various private land types, the remaining length is zoned/company owned.

Table 11-9: Material Assets – Agriculture, Route Corridor Option 5

Total		Breakdown of Private Lands			
Public Land (Km)	Private Land (Km)	Farmland (Km)	No. of Farms	Private Forestry (Km)	Other (Km)
89	93	48	124	5	40

11.9.6.5 Material Assets – Non-Agricultural

The cycleway would run immediately adjacent to existing flood defence embankment on the Shannon between Meelick and Portumna. It is not considered that the development of a cycleway would negatively impact these defences once it is appropriately engineered.

11.9.6.6 Hydrology and Flooding

Shannon at Meelick to Portumna

See Route Corridor Option 4 above.

Cappagh and Kilcrow Rivers at Lough Derg

See Route Corridor Option 4 above.

Gort River

The Gort River floods to a limited extent.

Gort Groundwater flooding

There are extensive areas of groundwater flooding to the north and west of Gort. Route Corridor Option potentially travels through Coole Park on the existing trail network. Parts of these flood regularly due to rising groundwater in winter.

The groundwater flooding around Gort is the subject of an ongoing South Galway Flood Relief Scheme (FRS) since 2021. (https://southgalwayfrs.ie).

Route Corridor Option 5 traverse areas subject to groundwater flooding in a number of locations in, particular some the trails in Coole Park, which would form part of Route Corridor Option 5 flood. The South Galway FRS is expected to reduce flood levels in the area significantly. A reduction in peak level of approximately 2m is envisaged at Coole. The impact of flooding on the cycleway may be further mitigated by raising the existing access tracks slightly as necessary, or providing a different type of cycleway, such as a raised deck or floating track should raising the road be impractical.

Significant flooding also occurs at Caherglassaun Turlough. The South Galway FRS is expected to reduce flood levels in the area significantly. A reduction in peak level of up to 2m is envisaged. Should it not prove possible to traverse some of the flood prone area, either through an embankment or other engineering measures, the cycleway could be relocated outside the flood prone area.

Extracts from the South Galway FRS feasibility study are included in **Appendix F5.**

The flooding situation at the Shannon Callows, at Coole Park and elsewhere is a significant aspect of the route design in the area. While it is undesirable to have a cycleway in a flood prone area, this must be balanced against the high amenity and scenic value that is available in these specific locations.

11.10 Accessibility and Social Inclusion

The scheme has potential to create positive benefits for accessibility and social inclusion within the area. The Galway to Athlone Cycleway will provide key linkages to various communities, giving access for vulnerable road users and locals alike.

The development of open spaces within the area will offer a sense of place and encourage inclusiveness by reducing vehicular dominance, which can disrupt communities along busy routes. Facilitating local amenities such as coffee shops, pubs, restaurants, and bike rental shops will promote community inclusion.

Accessibility in the context of public and private transport to the route is addressed separately under the Integration objectives.

There are two Accessibility and Social Inclusion objectives, as follows:

ASI1 - To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances

ASI2 - To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.

Sections 11.10.1 to **11.10.5** summarise each route corridor option's performance in relation to ASI1. **Section 11.10.6** addresses ASI2.

11.10.1 Route Corridor Option 1 - Accessibility and Social Inclusion

Route Corridor Option 1 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Athenry, Monivea, Mountbellew and Ballinasloe. The terrain is generally flat, and not challenging for leisure cycling. Practically, it would be accessible to a wide variety of users.

The section from Mountbellew to Ballinasloe (via Ballyforan) is somewhat isolated, with limited facilities along this approximately 30km section, other than at Ballyforan village. The option to go via Caltra and Ahascragh would be less isolated.

From the point of view of a user traversing the full length, this itinerary would likely involve an overnight in Mountbellew and/or Ballinasloe. This Route Corridor Option could be seen as a 3-day trip, with 2 overnights, but the distance and layout would make a 2-day trip most likely, see **Figure 11-11.**

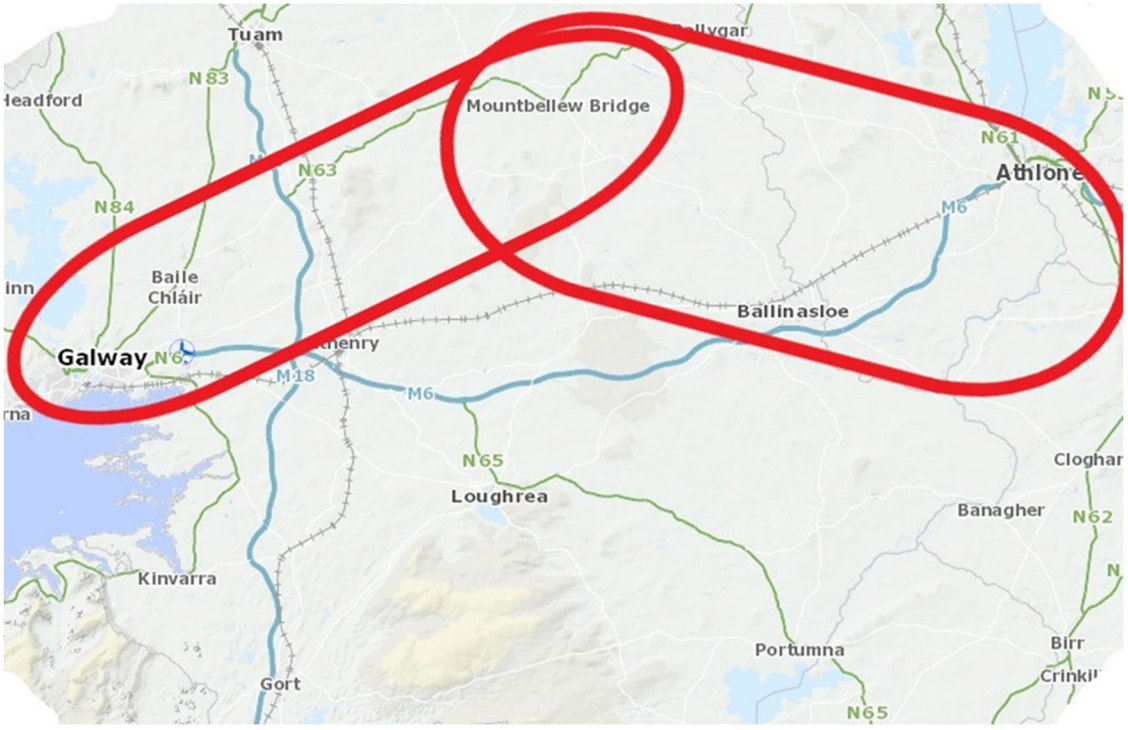


Figure 11-11: Route Corridor Option 1 Likely 2-day Itinerary (each day's section outlined in red)

11.10.2 Route Corridor Option 2 - Accessibility and Social Inclusion

Route Corridor Option 2 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Athenry and Ballinasloe, as well as Kilconnell, and the train stations at Attymon or Woodlawn if

desired. The terrain is generally flat, and not challenging for leisure cycling. Practically, it would be accessible to a wide variety of users.

From the point of view of a user traversing the full length, this itinerary is short in comparison to other Route Corridor Options. It would most likely involve an overnight in Ballinasloe. This Route Corridor Option's distance and layout would make a 2-day trip most likely see **Figure 11-12.**

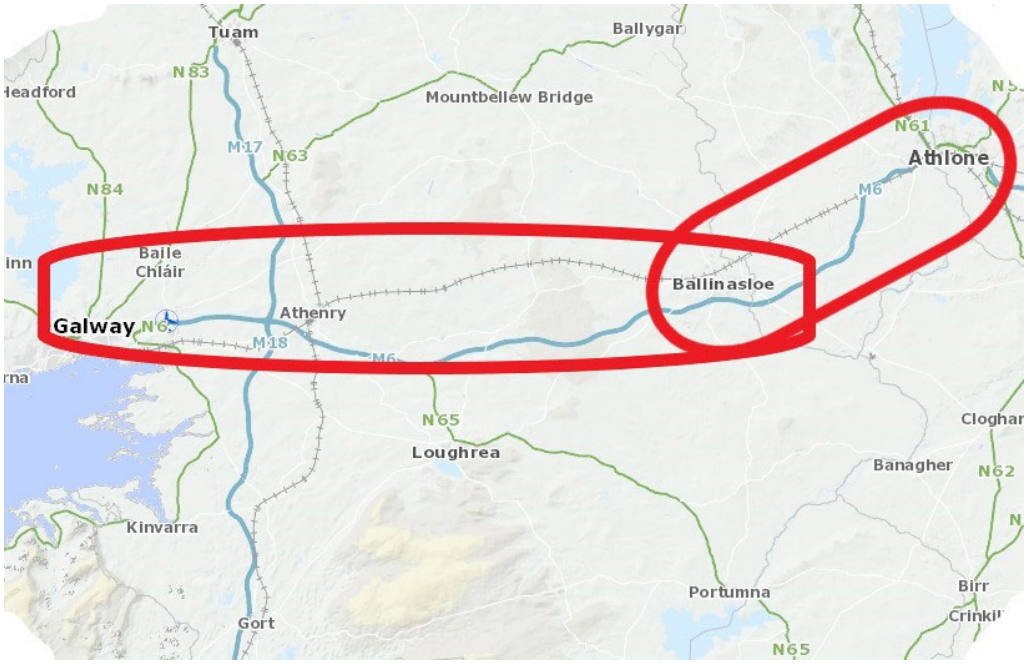


Figure 11-12: Route Corridor Option 2 Likely 2-day Itinerary (each day's section outlined in red)

11.10.3 Route Corridor Option 3 - Accessibility and Social Inclusion

Route Corridor Option 3 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Athenry, Kilconnell and Ballinasloe. The terrain is generally flat, and not challenging for leisure cycling. Practically, it would be accessible to a wide variety of users.

From the point of view of a user traversing the full length, this itinerary is short in comparison to other Route Corridor Options. It would most likely involve an overnight in Ballinasloe. This Route Corridor Option's distance and layout would make a 2-day trip most likely (see **Figure 11-13**).

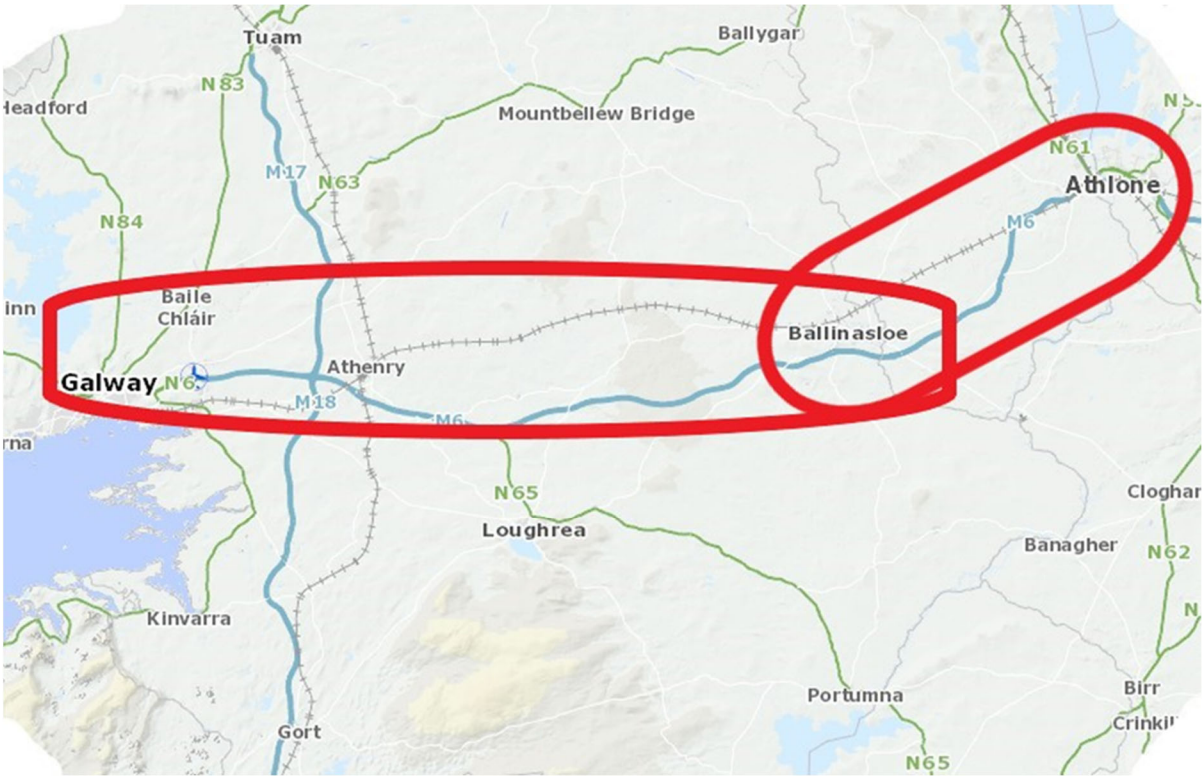


Figure 11-13: Route Corridor Option 3 Likely 2-day Itinerary (each day's section outlined in red)

11.10.4 Route Corridor Option 4 - Accessibility and Social Inclusion

Route Corridor Option 4 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Athenry, Loughrea, Woodford, Portumna and Ballinasloe. The terrain is generally flat outside the Slieve Aughty Mountains, and not challenging for leisure cycling. In the Slieve Aughty Mountains, between Loughrea and Portumna, there are some more challenging gradients. Approximate gradients of 5-6% are present at two locations, over a distance of approximately 1.5km. These gradients would be challenging for some users, particularly less strong cyclists such as children and older people. However, they represent a very small fraction of the overall route, and the route still offers many shorter and more accessible day or weekend trips.

For cyclists covering the entire Galway to Athlone section, (or the full Galway to Dublin route), this degree of gradient would not be problematic. It can be expected that a cyclist embarking on a week-long trip, covering up to 300km, would be able to deal with such short inclines.

From the point of view of a user traversing the full length, this itinerary lends itself well to a 3-day trip, with overnights in Loughrea and Portumna (see **Figure 11-14**). These are both comparatively large towns in the region, and offer plenty to do in the evening, so would be attractive stops.

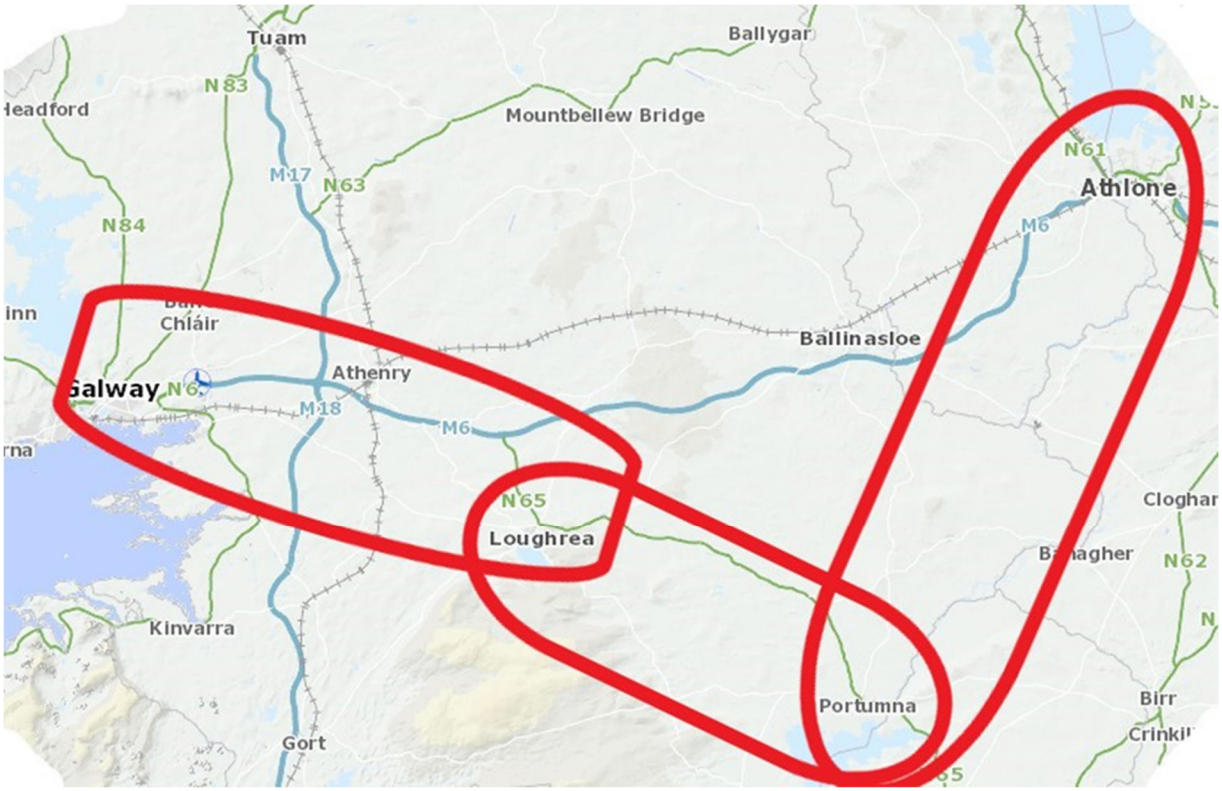


Figure 11-14: Route Corridor Option 4 Likely 3-day itinerary (each day's section outlined in red)

11.10.5 Route Corridor Option 5 - Accessibility and Social Inclusion

Route Corridor Option 5 facilitates a good variety of trip lengths, with good start and end points for shorter trips at Kinvara, Gort, Woodford, Portumna and Ballinasloe. The terrain is generally flat outside the Slieve Aughty Mountains, and not challenging for leisure cycling. In the Slieve Aughty Mountains, between Gort and Portumna, there are some more challenging gradients. Approximate gradients of 4-5% are present at two locations, over a distance of approximately 2km. These gradients would be challenging for some users, particularly less strong cyclists such as children and older people. However, they represent a very small fraction of the overall route, and the route still offers many shorter and more accessible day or weekend trips.

For cyclists covering the entire Galway to Athlone section, (or the full Galway to Dublin route), this degree of gradient would not be problematic. It can be expected that a cyclist embarking on a week-long trip, covering up to 300km, would be able to deal with such short inclines.

From the point of view of a user traversing the full length, this itinerary lends itself well to a 3-day trip, with overnights in Kinvara or Gort and Portumna (see **Figure 11-15)**. These are both comparatively large towns in the region, and offer plenty to do in the evening, so would be attractive stops.

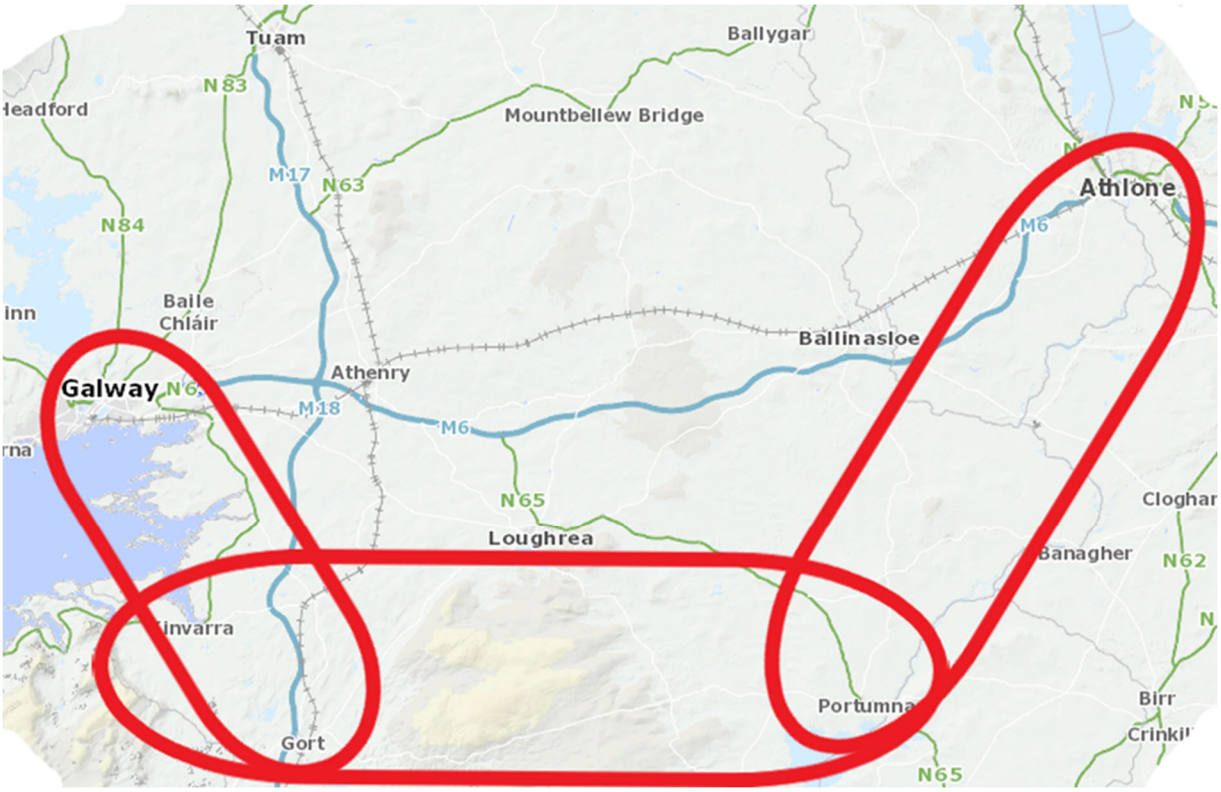


Figure 11-15: Route Corridor Option 5 Likely 3-day Itinerary (each day's section outlined in red)

11.10.6 Enhancing Amenities and Providing Linkages

ASI2 - To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.

The Route Corridor Options have the potential to enhance existing amenities as follows in **Table 11-10**.

Table 11-10: Potential Enhanced Local Amenities

Route Corridor Option	Enhanced Existing Amenities	New Linkages
1.	Apple Amenity Trail Athenry Castle and Medieval Town Monivea Demesne Mountbellew Forest Park Ballinasloe Marina	Athenry to Monivea Demesne
2.	Athenry Castle Ballinasloe Marina	Athenry to Attymon Bog walks
3.	Apple Amenity Trail Athenry Caste and Medieval Town Attymon Bog Walk Kilconnell Abbey Battle of Aughrim Site and Interpretive centre Ballinasloe Marina Royal canal banks and towpaths	Athenry to Attymon Bog walks
4.	Apple Amenity Trail Athenry Castle and Medieval Town Loughrea to Long Point recreation area Loughrea lake promenade Portumna Forest Park, Castle and Workhouse Portumna marina and boating facilities	Athenry/Loughrea to Dunsandle woods
5.	Rinville Park and Pier, and proposed GAA centre Kilcornan Woods, Clarinbridge, and Clarinbridge GAA Tarrea Pier Coole Park Portumna Forest Park, Castle and Workhouse Portumna Marina and boating facilities	Oranmore to Rinville Coole Park to Gort Portumna harbours to Portumna forest park

11.11 Integration

PAG 7.0 notes that

"Four types of integration are appraised to ensure that investment across the transportation portfolio is integrated towards achieving a common goal, these are…

Transport Integration - the promotion of the integration of transport infrastructure and services by focusing on gaps in the existing network and improving opportunities for interchange between modes.

Land Use Integration - the compatibility between adopted land use objectives and the proposed scheme

Geographical Integration - Improving connectivity within Ireland and to other parts of the world

Other Government Policy Integration: Regional Balance".

The proposed scheme aims to contribute to Regional Balance by encouraging international tourists to the West and Midlands of Ireland.

It aims to contribute transport integration and integration between transport and land use, as outlined in the following integration objectives:

I1 - To link to other existing and proposed cycleways within the area.

There are a number of existing or proposed cycleways/greenways in the region at various stages of planning or being aspirational only.

These existing or proposed cycleway/greenways are illustrated in **Figure 11-16** along with the Route Corridor Options for the Galway to Athlone cycleway.

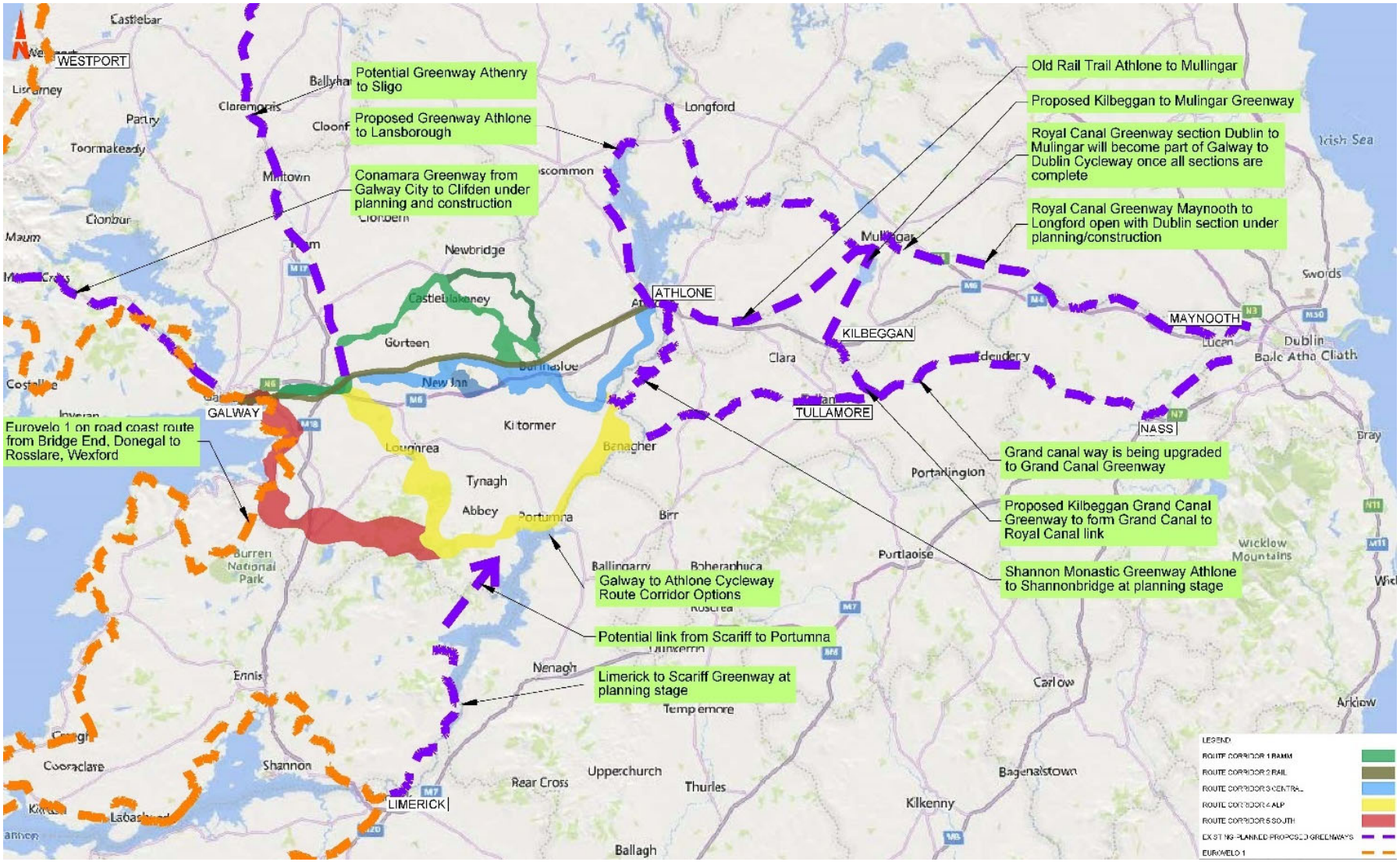


Figure 11-16: Existing and Planned/Proposed Greenways/Cycleways in Central Ireland

These routes include:

EuroVélo Route 1 (EV1) is a coastal cycleway route shown in **Figure 11-17**, extending from Rosslare to Belfast, via the West Coast. It includes the Waterford Greenway, Limerick (Listowel to Rathkeale) Greenway and the Great Western Greenway in Mayo. Outside of these dedicated off-road greenways, it is signposted on-road route, generally following minor and secondary roads.

In Galway, it extends from the Burren, near Kinvara, through Oranmore and into Galway City. This route has signposted along minor roads since Summer 2021.

Figure 11-17: EuroVélo Route 1 in Ireland

Old Rail Trail

The old rail trail is an off-road greenway, extending from Athlone to Mullingar, using the route and line of the Midland and Great Western Railway, which became disused in the 1980s. It is a component of the Galway to Dublin Cycleway.

The Old Rail trail has been extended to the River Shannon in Athlone in 2021, by the opening of the Whitegates to Marina greenway in Athlone. The Garrycastle to Whitegates section opened in 2018.

This will connect to the new cycleway bridge across the Shannon in Athlone, which is currently under construction and due for completion in 2023. These elements will also form part of the Galway to Dublin Cycleway, along with the Galway to Athlone cycleway, which will commence at Athlone Castle.

Royal Canal Greenway

The Royal Canal Greenway is 130km of level towpath. From Maynooth, it follows the 200-year-old canal through Enfield and Mullingar to Cloondara in Longford. The section from Maynooth to Mullingar forms part of the Galway Dublin Cycleway.

Athenry Milltown Greenway

The rail line between Athenry and Milltown in north Galway is currently disused. There is potential for it to be developed into a greenway, should it not be planned to reopen the railway in the medium to long term.

The Grand Canal Greenway

The Grand Canal Way is an historic walking trail which traverses Leinster from Ringsend in Dublin City to the River Shannon at Shannon Harbour in County Offaly. The route is punctuated by canal locks, lock houses and industrial architecture from bygone days. The route was re-purposed as the Grand Canal Greenway. This greenway follows the canal towpath.

Shannon Monastic Greenway

This proposed greenway would link Athlone and Shannon Harbour via Shannonbridge. It is currently at pre planning stage. It would connect to the Old Rail Trail at Athlone.

Kilbeggan to Mullingar Greenway

The greenway will aim to link the Grand Canal (Kilbeggan Branch) Greenway at Kilbeggan, Co. Westmeath the Old Rail Trail at Mullingar, via Lough Ennell. It is currently at pre-planning stage. It would connect to the Old Rail Trail.

Athlone to Lanesborough Greenway

This proposed greenway would extend from the new cycleway bridge across the Shannon in Athlone to Ballyleague/Lanesborough at the northern tip of Lough Ree. It is currently at the pre-planning stage.

Limerick to Scariff Greenway

This 40 km greenway is planned to begin in Limerick City Centre, travelling along the Park Canal before arriving at the Black Bridge, Plassey. From here, the route moves along the Errina Canal to Clonlara, and the Ardnacrusha Headrace. From Lough Derg, the greenway will pass through Killaloe before reaching Scariff Harbour on Lough Derg. Waterways Ireland commenced the design of the greenway in 2021.

The potential linkages to the Galway Athlone Cycleway are described in **Table 11-11**.

Table 11-11: Potential Linkages to the Galway Athlone Cycleway

Route Corridor Option	Link to Existing Cycleways	Link to Proposed Cycleway
1.	Links to Euro Velo 1 (Atlantic Route) at Oranmore, and the Old Rail Trail at Athlone	Potential connection to Athenry-Milltown greenway, at Athenry Incorporates proposed Ballyforan greenway along BnM railway
2.	Links to Euro Velo 1 (Atlantic Route) at Oranmore, and the Old Rail Trail at Athlone	Potential connection to Athenry-Milltown greenway, at Athenry
3.	Links to Euro Velo 1 (Atlantic Route) at Oranmore, and the Old Rail Trail at Athlone	Potential connection to Athenry-Milltown greenway, at Athenry
4.	Links to Euro Velo 1 (Atlantic Route) at Oranmore, and the Old Rail Trail at Athlone	Potential connection to Athenry-Milltown greenway, at Athenry
5.	Links to Euro Velo 1 (Atlantic Route) at Oranmore, and the Old Rail Trail at Athlone	Potential to form part of a Shannon greenway, linking to Scariff and Athlone

Route 5 connects Kinvara to Oranmore, as does EV1. If Route Corridor Option 5 progressed, it is very likely that EV1 would relocate to utilise this high-quality segregated cycleway, in the same way that it does at Westport/Mulranny, Limerick (Listowel to Abbeyfeale) and Waterford/Dungarvan.

This would significantly enhance the quality of this part of EV1.

I2 - To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.

Public transport links to each Route Corridor Option are summarised in **Table 11-12**.

Table 11-12: Public Transport Linkages

Route Corridor Option	Bus	Rail	Boat
1.	City Link, Bus Eireann, and other private bus companies provide services	Oranmore, Athenry, Ballinasloe, Athlone	No passenger services, but strong link to cruising at Shannonbridge
2.	City Link, Bus Eireann, and other private bus companies provide services	Oranmore, Athenry, Attymon Woodlawn, Ballinasloe, Athlone	No passenger services, but strong link to cruising at Shannonbridge
3.	City Link, Bus Eireann, and other private bus companies provide services	Oranmore, Athenry, Attymon Woodlawn, Ballinasloe, Athlone	No passenger services, but strong link to cruising at Shannonbridge
4.	City Link, Bus Eireann, and other private bus companies provide services	Oranmore, Gort, Athlone	No passenger services, but strong link to cruising at Portumna
5.	City Link, Bus Eireann, and other private bus companies provide services. Limited Bus services at Portumna	Oranmore, Gort, Athlone	No passenger services, but link to cruising at Portumna

I3 - To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.

Historic Cultural and Heritage Sites are described in the Cultural Heritage report (**Volume F2**) and summarised in **Section 11.9** above. The most important sites include Athenry Medieval Town, Portumna Castle and Coole Park.

The River Shannon is a major tourism corridor running North South through the centre of the country. The Shannon Region is the subject of the Tourism Masterplan for the Shannon 2020-2030, published in 2021.

It supports the development of the Galway to Athlone Cycleway, and also the enhancement of North South linkages along the Shannon, to improve the integration of the region as a tourism site.

Waterway activities are concentrated along the Shannon, with harbours at Athlone, Shannonbridge, Meelick and Portumna, and along the River Suck at Ballinasloe.

Ocean based activities are available on Galway Bay, especially at Kinvara, Tarrea and Rinville.

The main connections are summarised in **Table 11-13.**

Beara Breifne Way Route (Waymarked Walking Trail)

The existing Beara Breifne Way stretches from Dursey Island in Co Cork to Blacklion in Co Cavan. It runs for over 700km and traverses the counties of Cork, Kerry, Limerick, Tipperary, Offaly, Galway, Roscommon, Sligo, Leitrim, and Cavan.

The Beara Breifne Way is made up of 12 existing National Waymarked Trails or long-distance walking routes and sections of trail that link these. The Beara Breifne Way runs through the experience brand region of Ireland's Hidden Heartlands and is a signature visitor experience in this destination.

The Beara Breifne Way Cycle Trail, currently in development, primarily uses minor roads close to the walking trail with some short sections on the Beara Breifne Way walking route.

Routes 4/5 follow the Hymany Way, one of the elements of the BBW, along the banks of the Shannon between Meelick and Portumna. Here the trail is located along a flood defence embankment owned by the ESB.

This section is about 12 km in length. Of this, for approximately 4km, a private gravel road is in place, currently used for access to the ESB pumping stations along the flood defence

Routes 4 and 5 would strengthen the Beara Breifne Way by greatly improving the walking trail between these points, which is currently under review for upgrade, and would align with the stated objective of creating a Beara Breifne Way cycle trail in the future.

Table 11-13: Connections to Significant Attractions

Route Corridor Option	Major Tourist Attractions and Amenities	Significant Cultural Heritage Sites	Integration with other Tourism Initiatives
1.	Athenry Medieval town	Athenry Medieval town	River Shannon Hidden Heartlands
2.	Athenry Medieval town	Athenry Medieval town	Hidden Heartlands
3.	Athenry Medieval town	Athenry Medieval town Battle of Aughrim Site	River Shannon Hidden Heartlands
4.	Athenry Medieval town	Athenry Medieval town	Beara Breifne Way River Shannon Hidden Heartlands
5. 6.	DunGuaire Castle and Kinvara Coole Park Portumna Castle and Forest Park The Burren Galway Bay	DunGuaire Castle Coole Park Portumna Castle and Workhouse	Wild Atlantic Way Hidden Heartlands Beara Breifne Way River Shannon

11.12 Project Appraisal Matrix (Multi-Criteria Analysis)

The Route Corridor Options have been assessed against meeting the Project Objectives (**Section 3**).

The Project Objectives are listed under the headings Economy, Safety, Physical Activity, Environment, Accessibility and Social Inclusion and Integration as per the Common Appraisal Framework from the TII Project Appraisal Guidelines. The Compiled Project Objectives (**Table 3-1**) are grounded in the 5**S**'s of the Greenway Strategy requiring that greenways should be **S**cenic, **S**ustainable, **S**trategic, **S**egregated with lots to **S**ee and do. The core objective of the scheme is Objective EC1.

The Stage 2 Project Appraisal comprised a comparative Multi-Criteria Analysis (MCA) of the potential impacts of the Route Corridor Options and examined their relative strengths in achieving the Project Objectives under the above headings in accordance with the TII *PAG Unit 7.0 Multi-Criteria Analysis.*

Each Route Corridor Option was broken into smaller elements to assist in the analysis and awarded a score reflecting its performance against each of the Project Objectives, based on the standard TII 7-point scale, presented in **Table 11-14**. This approach was used to demonstrate the various strengths and weaknesses of each of the Route Corridor Options consistently in relation to the Project Objectives.

Table 11-14: TII 7-Point Scale for Multi-Criteria Analysis

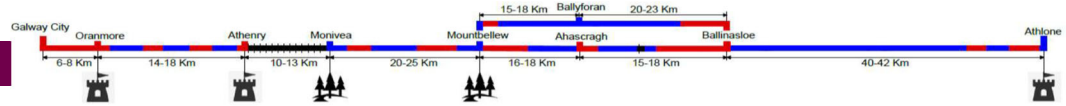
Multi-Criteria Analysis Scale	
Major or Highly Positive	7
Moderately Positive	6
Minor or Slightly Positive	5
Not Significant or Neutral	4
Minor or Slightly Negative	3
Moderately Negative	2
Major or Highly Negative	1
Unviable in this context	0

The Multi-Criteria Analysis (MCA) of the five route corridor options is provided in **Table 11-15** to **Table 11-21** and in **Volume H.**

Specific MCAs were also carried out on the following sections:

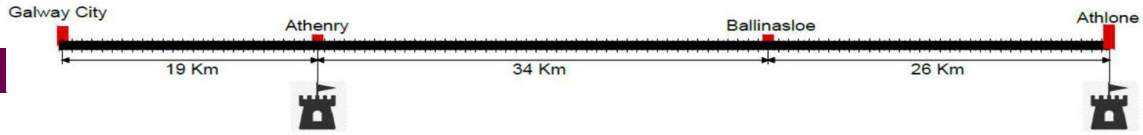
- MCA for Route Corridor Options 1,2,3,4 and 5 between Oranmore and Shannonbridge
- MCA for Route Corridor Options between Ballinasloe and Athlone
- MCA for Route Corridor Options at Athlone

Table 11-15: MCA Route Option 1 BAMM



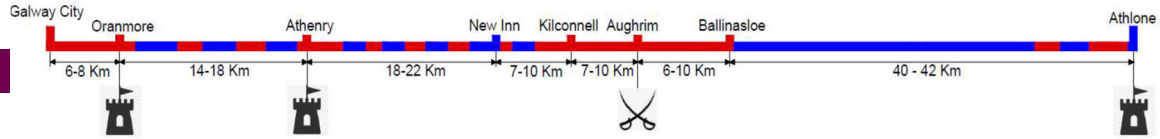
	Ref	Galway to Athlone Castle National Cycleway Project Objectives	Candidate Cycleway Option No. 1 BAMM Route Assessment						
ECONOMY	EC1	To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.	7	5	5	5	5 5	5 5	7
	EC2	To create local employment opportunities and wealth through new and expanded enterprises.	7	5	5	5	5 5	5 5	7
	EC3	To deliver the cycleway in a cost-effective manner and deliver real value for money.	7	6	6	6	6 6	6 6	6
	EC4	To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.	7	7	5	5	5 5	5 5	6
SAFETY	S1	To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).	6	7	7	7	7 7	7 7	7
	S2	To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.	7	6	7	7	6 6	6 6	7
	S3	To provide a high level of operational safety on the cycleway through high quality design, construction and maintenance.	7	7	7	7	6 6	6 6	7
PHYSICAL ACTIVITY	PA1	To increase the number of commuters within the study area who walk or cycle to work or education.	7	7	5	5	6 6	6 6	6
	PA2	To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.	7	6	5	5	6 6	6 6	7
ENVIRONMENT	EN1	To minimise impact to the natural environment, especially habitat in ecologically sensitive areas.	3	7	7	6	3 6	6 6	3
	EN2	To minimise impact to cultural heritage sites.	6	7	3	3	5 6	5 6	3
	EN3	To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.	7	6	6	6	6 6	6 6	7
	EN4	To minimise land holding severance and utilise public land.	5	7	7	6	6 6	6 6	7
	EN5	To reduce air and noise pollution by getting people to cycle or walk rather than drive.	7	7	5	5	6 6	6 6	6
	EN6	To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.	7	6	6	6	6 6	6 6	7
ACCESSIBILITY & SOCIAL INCLUSION	ASI1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.	7	7	7	7	6 6	6 6	7
	ASI2	To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.	7	6	6	6	6 6	6 6	7
INTEGRATION	I1	To link to other existing and proposed cycleways within the area.	7	6	6	5	5 5	5 5	7
	I2	To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.	7	7	7	5	6 6	6 6	7
	I3	To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.	7	6	6	5	5 5	5 5	6

Table 11-16: MCA Route Option 2 Rail Route



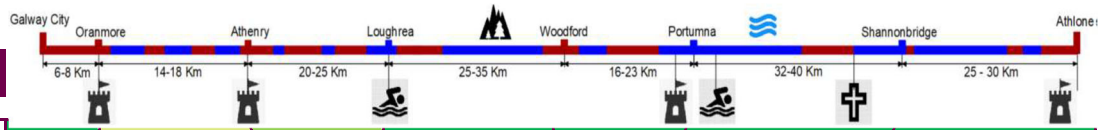
	Ref	Galway to Athlone Castle National Cycleway Project Objectives	Candidate Cycleway Option No. 2 Railway Route Assessment		
ECONOMY	EC1	To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.	5	5	5
	EC2	To create local employment opportunities and wealth through new and expanded enterprises.	5	5	5
	EC3	To deliver the cycleway in a cost-effective manner and deliver real value for money.	6	5	6
	EC4	To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.	7	6	6
SAFETY	S1	To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).	7	7	7
	S2	To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.	7	7	7
	S3	To provide a high level of operational safety on the cycleway through high quality design, construction and maintenance.	7	7	7
PHYSICAL ACTIVITY	PA1	To increase the number of commuters within the study area who walk or cycle to work or education.	7	5	6
	PA2	To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities	6	6	6
ENVIRONMENT	EN1	To minimise impact to the natural environment, especially habitat in ecologically sensitive areas.	7	7	7
	EN2	To minimise impact to cultural heritage sites.	7	7	5
	EN3	To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.	5	5	5
	EN4	To minimise land holding severance and utilise public land.	6	6	6
	EN5	To reduce air and noise pollution by getting people to cycle or walk rather than drive.	7	5	6
	EN6	To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.	6	6	6
ACCESSIBILITY & SOCIAL INCLUSION	ASI1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.	7	7	7
	ASI2	To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.	6	5	6
INTEGRATION	I1	To link to other existing and proposed cycleways within the area.	6	5	6
	I2	To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.	7	7	7
	I3	To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.	7	5	6

Table 11-17: MCA Route Option 3 Central Route



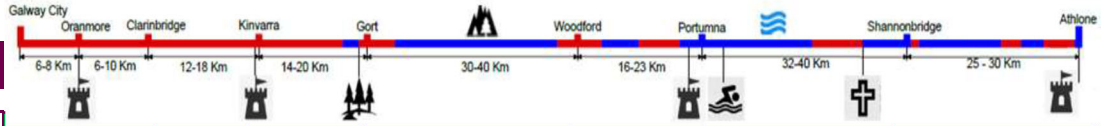
	Ref	Galway to Athlone Castle National Cycleway Project Objectives	Candidate Cycleway Option No. 3 Central Route Assessment						
ECONOMY	EC1	To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.	7	5	5	5	5	5	7
	EC2	To create local employment opportunities and wealth through new and expanded enterprises.	7	5	5	5	5	5	7
	EC3	To deliver the cycleway in a cost-effective manner and deliver real value for money.	7	6	5	5	5	5	6
	EC4	To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.	7	7	6	6	6	6	6
SAFETY	S1	To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).	6	7	7	7	7	7	7
	S2	To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.	7	6	6	6	6	6	7
	S3	To provide a high level of operational safety on the cycleway through high quality design, construction and maintenance.	7	7	7	7	7	7	7
PHYSICAL ACTIVITY	PA1	To increase the number of commuters within the study area who walk or cycle to work or education.	7	7	5	5	5	5	6
	PA2	To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.	7	6	6	6	6	6	7
ENVIRONMENT	EN1	To minimise impact to the natural environment, especially habitat in ecologically sensitive areas.	3	7	7	7	7	7	3
	EN2	To minimise impact to cultural heritage sites.	6	7	6	3	6	3	3
	EN3	To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.	7	6	5	5	5	5	7
	EN4	To minimise land holding severance and utilise public land.	5	7	6	6	6	6	7
	EN5	To reduce air and noise pollution by getting people to cycle or walk rather than drive.	7	7	5	5	5	5	6
	EN6	To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.	7	6	6	6	6	6	7
ACCESSIBILITY & SOCIAL INCLUSION	ASI1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.	7	7	7	7	7	7	7
	ASI2	To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.	7	6	5	5	5	5	7
INTEGRATION	I1	To link to other existing and proposed cycleways within the area.	7	6	5	5	5	5	7
	I2	To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.	7	7	7	5	5	7	7
	I3	To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.	7	6	5	5	6	5	6

Table 11-18: MCA Route Option 4 ALP Route



	Ref	Galway to Athlone Castle National Cycleway Project Objectives	Candidate Cycleway Option No. 4 ALP Route Assessment						
ECONOMY	EC1	To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.	7	5	6	7	7	7	7
	EC2	To create local employment opportunities and wealth through new and expanded enterprises.	7	5	6	7	7	7	7
	EC3	To deliver the cycleway in a cost-effective manner and deliver real value for money.	7	6	6	7	7	7	7
	EC4	To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.	7	7	6	5	5	5	6
SAFETY	S1	To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).	6	7	7	7	7	7	7
	S2	To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.	7	5	5	5	5	5	7
	S3	To provide a high level of operational safety on the cycleway through high quality design, construction and maintenance.	7	7	7	7	7	7	7
PHYSICAL ACTIVITY	PA1	To increase the number of commuters within the study area who walk or cycle to work or education.	7	7	5	5	5	5	6
	PA2	To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.	7	6	6	7	7	7	7
ENVIRONMENT	EN1	To minimise impact to the natural environment, especially habitat in ecologically sensitive areas.	3	7	7	3	3	2	3
	EN2	To minimise impact to cultural heritage sites.	6	7	7	3	3	7	6
	EN3	To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.	7	6	6	7	7	7	7
	EN4	To minimise land holding severance and utilise public land.	4	7	6	7	7	7	7
	EN5	To reduce air and noise pollution by getting people to cycle or walk rather than drive.	7	7	5	5	5	5	6
	EN6	To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.	7	6	6	7	7	6	7
ACCESSIBILITY & SOCIAL INCLUSION	ASI1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.	7	7	7	3	7	7	7
	ASI2	To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.	7	6	6	7	7	7	7
INTEGRATION	I1	To link to other existing and proposed cycleways within the area.	7	6	4	4	7	7	7
	I2	To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.	7	7	7	7	3	5	7
	I3	To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.	7	6	5	6	6	7	6

Table 11-19: MCA Route Option 5 Southern Route



	Ref	Candidate Cycleway Option No. 5 Southern Route Assessment Galway to Athlone Castle National Cycleway Project Objectives							
ECONOMY	EC1	To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.	7	7	7	7	7	7	7	7
	EC2	To create local employment opportunities and wealth through new and expanded enterprises.	7	7	7	7	7	7	7	7
	EC3	To deliver the cycleway in a cost-effective manner and deliver real value for money.	7	7	7	7	7	7	7	7
	EC4	To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.	7	7	7	6	5	5	5	6
SAFETY	S1	To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).	6	7	7	7	7	7	7	7
	S2	To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.	7	5	5	5	5	5	5	7
	S3	To provide a high level of operational safety on the cycleway through high quality design, construction and maintenance.	7	7	7	7	7	7	7	7
PHYSICAL ACTIVITY	PA1	To increase the number of commuters within the study area who walk or cycle to work or education.	7	7	7	6	5	5	5	6
	PA2	To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.	7	7	7	7	7	7	7	7
ENVIRONMENT	EN1	To minimise impact to the natural environment, especially habitat in ecologically sensitive areas.	3	3	3	3	3	3	2	3
	EN2	To minimise impact to cultural heritage sites.	6	7	3	7	5	3	7	6
	EN3	To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.	7	7	7	7	7	7	7	7
	EN4	To minimise land holding severance and utilise public land.	5	5	5	5	7	7	7	7
	EN5	To reduce air and noise pollution by getting people to cycle or walk rather than drive.	7	7	7	6	5	5	5	6
	EN6	To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.	7	5	5	5	7	7	6	7
ACCESSIBILITY & SOCIAL INCLUSION	ASI1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.	7	7	7	7	3	7	7	7
	ASI2	To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.	7	7	7	7	7	7	7	7
INTEGRATION	I1	To link to other existing and proposed cycleways within the area.	7	7	7	7	4	7	7	7
	I2	To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.	7	7	7	7	7	3	5	7
	I3	To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.	7	7	7	7	6	6	7	6

Table 11-20: MCA Ballinasloe to Athlone

		Candidate Cycleway Option Ballinasloe to Athlone		
	Ref	Galway to Athlone Castle National Cycleway Project Objectives	Railway Route	Bord na Móna Route Corridor
ECONOMY	EC1	To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.	5	7
	EC2	To create local employment opportunities and wealth through new and expanded enterprises.	5	7
	EC3	To deliver the cycleway in a cost-effective manner and deliver real value for money.		
	EC4	To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.	7	6
SAFETY	S1	To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).	7	7
	S2	To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.	7	7
	S3	To provide a high level of operational safety on the cycleway through high quality design, construction and maintenance.	7	7
PHYSICAL ACTIVITY	PA1	To increase the number of commuters within the study area who walk or cycle to work or education.	6	6
	PA2	To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.	6	7
ENVIRONMENT	EN1	To minimise impact to the natural environment, especially habitat in ecologically sensitive areas.	7	6
	EN2	To minimise impact to cultural heritage sites.	6	7
	EN3	To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.	5	7
	EN4	To minimise land holding severance and utilise public land.	6	7
	EN5	To reduce air and noise pollution by getting people to cycle or walk rather than drive.	7	7
	EN6	To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.	6	7
ACCESSIBILITY & SOCIAL INCLUSION	ASI1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.	6	6
	ASI2	To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.	6	7
INTEGRATION	I1	To link to other existing and proposed cycleways within the area.	6	7
	I2	To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.	7	7
	I3	To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.	5	7

Table 11-21: MCA Athlone Routes

		Candidate Cycleway Option Athlone Routes		
	Ref	Galway to Athlone Castle National Cycleway Project Objectives	Flood Defence Route	Batteries Route
ECONOMY	EC1	To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards.	6	2
	EC2	To create local employment opportunities and wealth through new and expanded enterprises.	6	2
	EC3	To deliver the cycleway in a cost-effective manner and deliver real value for money.	5	4
	EC4	To encourage modal change to non-motorised travel modes, thereby reducing congestion and delivering travel time savings.	4	4
SAFETY	S1	To provide a walking and cycling route that is segregated from motorised traffic (recognising that it may be impractical to achieve full segregation over the entire route length, especially in more urban areas).	6	6
	S2	To provide a sense of security for cycleway users, e.g., through provision of secure bike parking facilities and public lighting (where needed) or reducing isolation along the route.	7	7
	S3	To provide a high level of operational safety on the cycleway through high quality design, construction and maintenance.	7	7
PHYSICAL ACTIVITY	PA1	To increase the number of commuters within the study area who walk or cycle to work or education.	5	6
	PA2	To increase the number of people in Ireland who choose to take part in physically active outdoor recreation and leisure activities.	7	5
ENVIRONMENT	EN1	To minimise impact to the natural environment, especially habitat in ecologically sensitive areas.	7	7
	EN2	To minimise impact to cultural heritage sites.	7	6
	EN3	To increase public appreciation of the natural environment and cultural heritage, by encouraging people to experience the countryside.	7	4
	EN4	To minimise land holding severance and utilise public land.	7	7
	EN5	To reduce air and noise pollution by getting people to cycle or walk rather than drive.	7	5
	EN6	To ensure that planning, construction, and operation of the cycleway is carried out in a sustainable manner.	7	7
ACCESSIBILITY & SOCIAL INCLUSION	ASI1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.	7	7
	ASI2	To benefit local communities through enhancing existing amenities and providing new linkages to adjacent town and village centres.	4	4
INTEGRATION	I1	To link to other existing and proposed cycleways within the area.	4	4
	I2	To be accessible to users arriving by public transport, including bus, rail, and existing or proposed passenger boat services.	4	4
	I3	To connect to other tourist activities or attractions within the area, such as historic and cultural heritage sites, waterway activities and the Wild Atlantic Way.	4	4

11.13 Emerging Preferred Route Corridor Option

The Multi-Criteria Analysis shows that Route Corridor Option 5 is the only option to attain a score of 7 (Major or Highly Positive) for all areas of the core objective of the scheme of EC1 (*EC1: To increase the economic contribution of tourism to the Irish economy, by increasing the numbers of international visitors to the area and delivering a cycleway that is attractive by international standards*). Route Corridor Option 5 also attains more Major or Highly Positive scores in other Project Objectives when compared to the other four Route Corridor Options. Route Corridor Option 5 is therefore considered to best deliver the Project Objectives.

Route Corridor Option 5 bests meets the 5**S**'s criteria as set out in Greenway Strategy, published by the Government of Ireland in 2018. requiring that greenways should be **S**cenic, **S**ustainable, **S**trategic, **S**egregated with lots to **S**ee and do.

- Route Corridor Option 5 offers outstanding scenery and variety, along its length. It offers a series of distinct settings, ranging from the coast of Galway Bay with views of the Burren from Oranmore to Kinvara, the Burren lowlands around Gort, the forested hills in the Slieve Aughty Mountains, the River Shannon Callows, Lough Derg, and the peatland landscapes of the Bord na Móna bogs. It transverses areas of high landscape quality, and the topography allows for regular high-quality views.
- It offers most to see and do, with many highly rated attractions along the length of the route, including parks and nature reserves and offers a strong cultural heritage experience.
- It utilises a significant amount of state-owned land, principally owned by Coillte, Bord na Móna, and ESB.
- It provides a convenient 3-day cycling itinerary between Galway and Athlone, compared to some other options that offer only a 2-day itinerary.
- Route Corridor Option 5 includes a 55km length from Shannonbridge to Portumna that also contributes to enhancing North-South connectivity along the Shannon, a key strategic initiative of the Shannon Tourism Masterplan. It also potentially forms part of a future Shannon Greenway from Limerick to Lanesborough.
- Route Corridor Option 5 would enhance EuroVélo Route 1 (The Atlantic Coast Route) in Ireland, by bringing the section from Kinvara to Galway, currently signposted on-road, onto a segregated cycleway.
- Route Corridor Option 5 would upgrade the Beara Breifne way, a 'transformational signature product of scale' in Ireland's Hidden Heartlands, as identified in the Shannon Tourism Masterplan.
- Route Corridor Option 5 presents attractive shorter trips from Galway City, with potential destinations for a day or weekend trip including Rinville Park, Clarinbridge, Kinvara, and Coole Park.
- Route Corridor Option 5 in general has strong local support, with the exception of a number of specific locations.

There are a number of challenges associated with delivering a cycleway within Route Corridor Option 5, which have been discussed in previous sections of the report (land ownership, flooding, environmental designations etc.). These challenges are considered to be manageable, and the risks associated with them can be minimised during the preliminary design process. The strengths of Route Corridor Option 5 in the key metrics of the 5 **S**'s Greenway Strategy of '**S**cenic', 'Lots to **S**ee and Do' and '**S**trategic' are such that it emerges as the preferred corridor.

Although Route Corridor Option 5 does not currently serve Ballinasloe, it is possible to connect Ballinasloe to Route Corridor Option 5 at Shannonbridge, using the tow paths of the Grand Canal and Bord na Móna infrastructure in the main. This link would be very worthwhile and would greatly enhance Route Corridor Option 5.

A link to Ballinasloe would make the amenities in the town more available to users of the cycleway, especially tourist accommodation. It would also link the cycleway to public transport facilities in Ballinasloe, including the Galway Dublin railway and the regional bus services.

The link can be provided relatively easily, using existing infrastructure, such as Bord na Móna rail line, canal towpaths and motorway access tracks, and the vast majority of the route is in state ownership. For the remainder of the link, there has been very positive engagement with landowners.

The link would also serve as a strong amenity for the population living in Ballinasloe. It essentially builds on the existing canal paths, which are already used for recreational purposes.

For these reasons, it is considered that there is a compelling case to include the link to Ballinasloe as a part of the Galway to Athlone Cycleway planning and construction process, rather than developing it at a future date outside of this process.

11.14 Conclusion

Following the Stage 2 Project Appraisal, Route Corridor Option 5 has been selected as the Emerging Preferred Route Corridor. A strategic link connecting Ballinasloe to the cycleway will be added to Route Corridor Option 5 as it enhances the Emerging Preferred Route Corridor by connecting the cycleway to the largest town in East Galway with good accommodation for tourists, amenities, and public transport facilities.

Route Corridor Option 5 bests meets the 5**S**'s criteria as set out in Greenway Strategy, published by the Government of Ireland in 2018. requiring that greenways should be **S**cenic, **S**ustainable, **S**trategic, **S**egregated with lots to **S**ee and do.

The Emerging Preferred Route Corridor has been selected as it offers a highly scenic route from Galway to Athlone with a wide variety of landscape, with lots to see and do on the way, utilises state-owned lands, is strategic and offers up to a 3-day cycling experience.

12 BALLYLOUGHANE ROAD TO ORANMORE

12.1 Background and Context

The section of the Galway to Athlone Cycleway between Ballyloughane Road and Oranmore is approximately 6km in length.

It is considered separately from the eastern section of the route from Oranmore to Athlone for the following reasons:

- There is not as wide a scope for various corridor options as between Oranmore and Athlone
- The cycleway would also be expected to function as an amenity for local people, rather than tourists, due to its location within and adjacent to the urban area of Galway.

12.2 Constraints

The route corridor is constrained at a very high level by Galway Bay, and the Galway Bay Complex SAC to the South.

Considering the function of the cycleway as an amenity, rather than an active travel facility, and also considering the importance of scenery for such an amenity, it is immediately apparent that it is preferable to locate the cycleway generally along the coast, rather than within the urban and semi-urban areas of Renmore/Lurgan Park, Doughuisce, and Roscam.

The coastline from Ballyloughane offers spectacular and iconic views across Galway Bay to the Clare Hills.

It is desirable to maintain these iconic views as far as possible for the route to Oranmore.

The route options for this section are shown in **Figure 12-1** and in **Drawing OS0009** Galway to Oranmore, in **Volume D1.**

Figure 12-1: Route Options between Galway and Oranmore

12.2.1 Section A – Ballyloughane to Murrough

Ballyloughane beach and promenade is the natural terminus of the cycleway, rather than elsewhere along Ballyloughane Road.

It features a beach, uninterrupted views across Galway Bay to the Clare Hills, and features a large area of land owned by Galway City Council, currently used for car parking, and open grassland with a network of walking trails. It is an established and pleasant amenity.

The trail network at Ballyloughane extends somewhat eastwards towards Murrough House and lands which are owned by Galway Mayo Institute of Technology.

The Galway Bay SAC extends to the railway line east of Murrough. It is possible to cross the railway line to avoid encroaching on the SAC. Galway City Council propose to provide a new bridge is provided to replace the existing level crossing at Murrough. This is in order to access the lands to the south and is set out in the Draft Murrough Area Plan (not yet published).

12.2.2 Section B – Murrough to Rosshill/Doughuisce

Between Murrough marked on **Figure 12-1** as 1 and a location marked 3 on the coast road there are four potential options north of the railway line and two potential options south of the railway.

North of the railway: from point 1 there are four possible options. (Options B1 to B4):

Option B1: Stay adjacent to the road from the rail crossing at point 1 and connect with the Busconnects project along the R338. The cycleway would then go south adjacent to the south side of the Coast Road.

This route has the following advantages and disadvantages:

Advantages

Would benefit commuters from Oranmore to connect to Busconnects route.

Disadvantages

A less scenic option than going through the Uncleen and Aunteen Woods.

A significant length of the cycleway would be directly adjacent the busy coast road, and in a semi urban environment.

Option B2: Pass through Merlin (Uncleen Woods and Aunteen Woods) and then cross the railway along the Coast Road, as per option B1.

The woods are in the ownership of Galway City Council, and there are existing stoned paths through the woods that could be upgraded to form part of the cycleway.

- **Advantages**

  Uses publicly owned land to a large degree

  Provides for an attractive woodland environment for the cycleway when in the woods

- **Disadvantages**

  The woods are quite small, and currently used for recreational walking. Introducing a cycleway may alter the amenity of the woods.

  A significant length of the cycleway would be directly adjacent the busy coast road, and in a semi-urban environment.

Option B3: Cross under the railway at point 2, and into the former Rosshill Golf Club lands, and then parallel the railway.

- **Advantages**

  Little severance of private lands

- **Disadvantages**

  Cycleway would be on road for a short distance, until the Rosshill road junction.

Proposed development on the former Rosshill Golf Club lands.

Option B4: Pass through the former Rosshill Golf course lands, and then through agricultural land to Point (3).

- **Advantages**

  Fully off-road and segregated

- **Disadvantages**

  Cycleway would severe a farm immediately to the west of Point (3).

  Proposed development on the former Rosshill Golf Club lands.

South of the railway: from point 1 at Murrough.

South of the railway there are two possible options.

Option B5: Stay parallel to the railway through the SAC and onto the former Rosshill Golf Club lands and take options B3 or B4 eastwards.

- **Advantages**

  Avoid two railway crossings

  More attractive scenery than north of the rail line

- **Disadvantages**

  Cycleway would have to cross an SAC for a short distance

  Proposed development on the former Rosshill Golf Club lands

Option B6: Travel around the coast, south of Rosshill village.

- **Advantages**

  Fully off road and segregated

  Very attractive scenery and proximity to the coastline

- **Disadvantages**

  Cycleway would have to cross an SAC for a short distance

  Route would travel very close to private houses

  Significant severance of farmland would occur

  The cycleway would need to be set back from the coast somewhat to avoid flooding and intrusion into Galway Bay SAC

  There would be potential impacts to Roscam Abbey and Round tower, should the route hug the coast tightly

12.2.3 Section C – Rosshill/Doughuisce to Oranmore

For this section, the key scenic objective is to maintain the user's views of the seascape of Galway Bay. This would be compromised by routing the cycleway to the north of the railway line.

The land between the railway and the Coast Road is either currently developed and built up, with one off houses, or is scheduled for low density development in accordance with the Garraun Area Plan.

It is not desirable to route the cycleway through land that is planned for future residential development, as this would result in views being blocked, and potential traffic conflicts with future access roads. It follows that it is more desirable to route the cycleway to the south side of the Coast Road. This maintains the coastal views and does not require crossings and recrossing of the Coast Road.

The cycleway could be developed on the south of the Coast Road either as a cycle lane, with some degree of physical separation from traffic, such as a barrier or fence, or it could be set back off the road completely.

It is desirable to set the cycleway back as far as is possible from the coast road, while minimising intrusion into the roadside properties. During preliminary design, the possibilities of taking the cycleway offline and to the south of the houses will be explored.

In some areas, the coast road is elevated, and it may be possible to set the cycleway at a lower level to achieve a good degree of visual and aural screening.

The causeway, which carries the Coast Road across the tidal flats at Oranmore station is a significant constraint. It may not be possible to widen this causeway for ecological reasons, and it may be necessary to bring the cycleway adjacent to the coast road at this point, should this be the case. Other options that can be explored include a cantilevered boardwalk on the south side of the causeway, or a bridge spanning across the tidal flats.

Consideration should be given to reducing the speed limit on the coast road once the cycleway is in place.

13 STAGE 3 PREFERRED OPTION

13.1 Emerging Preferred Route Corridor

Route Corridor Option 5 has been selected as the Emerging Preferred Route Corridor based on the Multi-Criteria Analysis (MCA) of the potential impacts of the Route Corridor Options and their relative strengths in achieving the Project Objectives in accordance with the TII *PAG Unit 7.0 Multi-Criteria Analysis.* The preferred corridor also incorporates a link connecting Ballinasloe to the cycleway near Shannonbridge, utilising mostly public lands.

The third period of focused public consultation was held from 8th December 2021 until the 31st January 2022 and was subsequently extended to the 28th February 2022. Public Consultation No.3 is summarised in **Section 7.4** and the full consultation report is given in **Volume G**.

Route Corridor 5 bests meets the 5**S**'s criteria as set out in Greenway Strategy, published by the Government of Ireland in 2018. requiring that greenways should be **S**cenic, **S**ustainable, **S**trategic, **S**egregated with lots to **S**ee and do.

The Emerging Preferred Route Corridor has been selected as it offers a highly scenic route from Galway to Athlone, with lots to see and do on the way. It travels through a wide variety of landscapes, from the edge of Galway Bay, the Burren Lowlands, the Slieve Aughty Mountains, the River Shannon and the midlands bogs, and will be attractive to domestic and international users.

It visits Ballyloughane Beach, Oranmore, Rinville, Clarinbridge, Kilcolgan, Kinvara, Coole Park, Gort, Woodford, Portumna, Meelick, Clonfert, Ballinasloe, Shannonbridge and Athlone Castle, linking places of interest, established tourism centres, public parks, and outdoor spaces.

The route corridor is narrow in places where the route within the corridor is more defined, for example where it may follow an existing path or railway. In other places the width of the corridor is broader where the most suitable route will be identified in the next stage of the project. This will require further engagement with landowners and other stakeholders.

13.2 Project Appraisal Balance Sheet

The Project Appraisal Balance Sheet is provided in **Volume H.**

14 OPTION SELECTION CONCLUSION

This Option Selection Report concludes that the Emerging Preferred Route Corridor for the Galway to Athlone Castle National Cycleway Scheme is Route Corridor Option 5, with a strategic link connecting Ballinasloe to the cycleway.

The Emerging Preferred Route Corridor is shown in **Figure 14-1** and detailed further in **Volume D7.**

It is recommended that this preferred corridor be advanced to the next project phase (Phase 3) where it will be further developed in preparation of a planning application.

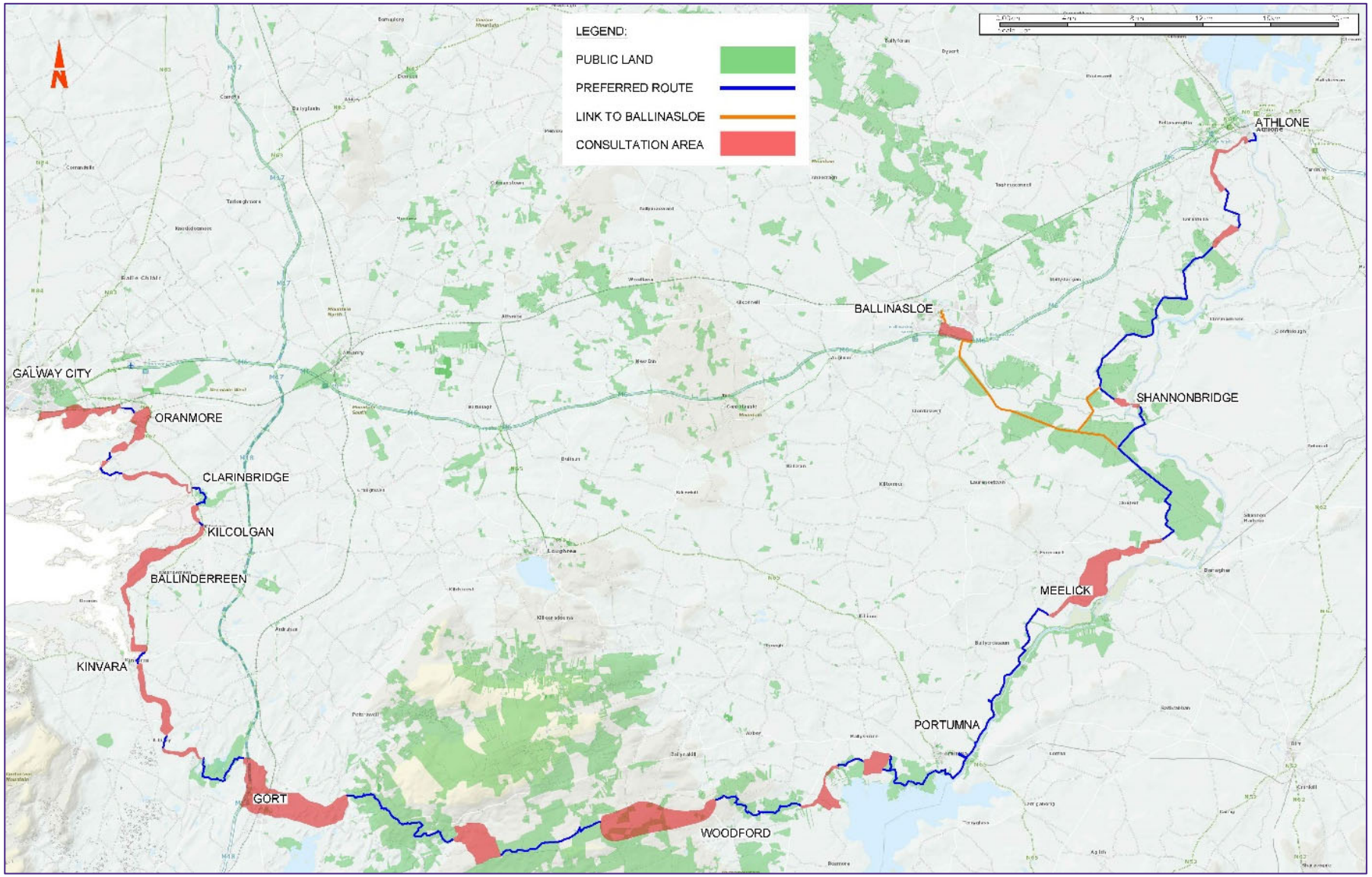


Figure 14-1: Emerging Preferred Route Corridor