

Galway Dublin Greenway

Oranmore to Ballinasloe Corridor Selection Report Volume A



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Executive Summary

Executive Summary

Introduction

Under the direction of the Minister for Transport, Tourism & Sport, the National Roads Authority (NRA) has been tasked with the delivery of the first long-distance off-road cycle-route in Ireland between Galway and Maynooth. Upon completion, this project will deliver a substantial component of the first cross-country national greenway from Galway to Dublin.

The overall vision for the project is to

“Develop a world class traffic free trail from Dublin to Galway which is of a scale and singularity that will allow Ireland to tap in to the growing tourism market for cycling”

This corridor selection report concentrates on the Oranmore to Ballinasloe section of the route and chooses a preferred corridor within which the final route will be developed.

Greenway

A greenway is an entirely traffic-free route designed exclusively for the use of pedestrian and cyclists. The character of the route is generally low-key in terms of its impact on the overall landscape of an area and its environmental effects. The Galway-Dublin Greenway will consist of a narrow pathway (generally 3m in width) that will meander across the terrain avoiding houses and farmyards. The greenway will follow the natural topography with few earthworks for cuttings and embankments unlike a road or a railway which have demanding geometric design constraints.

The route planning of the greenway will seek to follow in so far as possible field boundaries and land-holding boundaries to avoid disturbance to farming activity. Since the geometry of the facility is very flexible it should be possible to minimise disturbance to farming activity through consultation with landowners. Depending on the nature of the agricultural activity in the field being crossed, the greenway may or may not be fenced along each side. If required, standard timber post and wire fencing will be provided or alternative forms of fencing as appropriate to individual circumstances.



Photo 1.1: Example of the Great Western Greenway in Mayo, unfenced across a sheep grazing field, and with animal grid at the entry point.

The greenway will be constructed as a 3m wide path made from a bituminous surface to provide a high quality finish for cyclists, overlaying a granular sub-base and capping (gravel) layer where necessary. The total construction thickness will range from 20cm on stiff ground up to 500cm on soft ground. Construction of the greenway will involve removal of the topsoil layer to a depth of typically 15cm and build-up of the gravel thickness to a level of up to 35cm above surrounding ground level. The excavated topsoil will then be placed on the sides of the greenway to provide a 1m wide verge and slope back down to ground level. The overall width of the earthworks will therefore be approximately 5m to 7m.

In some cases where the ground level is sloping laterally across the corridor, some small amount of further earthworks will be required to provide a level area for the pavement and associated small cut and fill slopes to the side. Thus the overall footprint could increase to perhaps 10m wide. Drainage of the greenway will simply be over the edge onto the adjoining ground where the rainwater will infiltrate as in the original greenfield situation. In some places where necessary a shallow drainage ditch may be provided to prevent surface water from flowing over the greenway from the surrounding ground.

Constraints and Opportunities

Within this study area, constraints and opportunities which may affect the development of a route are identified. These constraints relate to both the natural and built environments and serve to inform the selection of a number of potential corridors within which the final route alignment will be selected.

The natural environment includes the topography of the study area, which, in this case is relatively flat and therefore does not pose much of a constraint for the proposed greenway. From results of a Fáilte Ireland survey on cycling tourism (2013), it was noted that landscape was one of the most important features of a greenway; hence the landscape of the study area was examined and rated. Natural features which were mapped and reviewed included bogs, forests, rivers and streams, as well as potential flood areas. While rivers can be a tranquil route to follow, the possibility of flooding would reduce the attractiveness and availability of the route, hence this is an important constraint in choosing the preferred route.

The ecological constraints within the study area have been identified and mapped. The study area has a large number of important ecological sites and receptors including Rahasane Turlough and River Suck Callows. While these features can be an opportunity to see interesting features and wildlife, they also pose a constraint in terms of protection orders and their sensitivity to disturbance.

The built environment was also examined, which includes Architectural and Cultural Heritage, and Archaeology. The design of the greenway will need to carefully consider the balance between the attraction of a site of conservation as an amenity, while minimising the impact on such a site so as to cause negative impact or degradation.

The existing road and rail network was reviewed, as well as public transport availability. Finally the towns, villages and amenities were reviewed to assess the facilities offered to potential users of the greenway. It is important that the facility offers opportunities to stop for a break, something to eat and drink at regular intervals. In this way it will appeal to a wider spectrum of walkers and cyclists, young and old, experienced and inexperienced.

Corridor Options and Assessment

This process identified seven potential route corridors between Oranmore and Ballinasloe. Assessment criteria were developed to provide a qualitative assessment of the suitability of each of these seven corridors. The criteria are as follows:

1. Landscape and Visual (Attractions and Potential Impacts)
2. Flora & Fauna (Attractions and Potential Impacts)
3. Cultural Heritage and Visitor Attractions (Attractions and Potential Impacts)
4. Connectivity and Accessibility to local amenities

5. User Safety
6. Cost
7. Physical Constraints
8. Material Assets, Human Beings.

A range of scoring of between -3 and +3 was developed to quantify each of the corridors on the eight criteria with a score of -3 representing a highly negative effect on that criterion and +3 being highly positive.

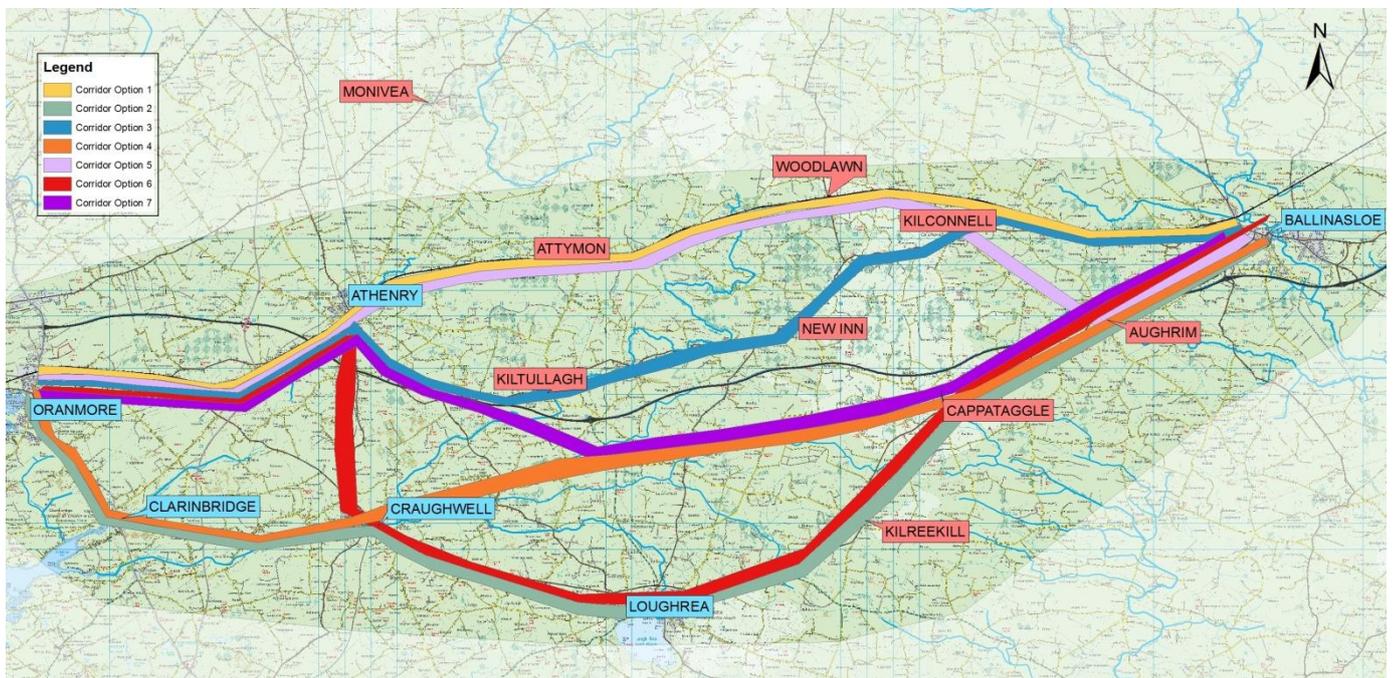


Figure ES1: Corridor Options between Oranmore and Ballinasloe

This assessment process showed that of the seven proposed corridors, Corridor Option 2 is the most positive in terms of the degree to which it meets the assessment criteria. Corridor Option 2 scored strongly against the landscape and visual, cultural heritage and visitor attractions, connectivity and accessibility of local amenities criteria. A summary assessment matrix which shows the score which each of the seven corridors received against the selection criteria is provided within the report (Section 4.5). An additional corridor north of Corridor Option 1 was also assessed and this is set out in the Appendix.

This report recommends that the preferred corridor between Oranmore and Ballinasloe is Corridor Option 2 (Oranmore, Clarinbridge, Craughwell, Loughrea, Kilreekil, Aughrim, Ballinasloe). The exact routing within this corridor will be subject to further consultation and assessment.

Landowners are encouraged to share their feedback on the proposed scheme. Through sharing this feedback it should be possible to weave a route which respects field boundaries and minimises any potential impacts on existing land holdings. Contact details for feedback are as follows:

Galway Dublin Greenway
Galway Project Office
Galway County Council
Corporate House
Ballybrit Business Park
Co Galway
Tel: 091 – 509594
www.galwaytodublincycleway.ie

Introduction

1 Introduction

1.1 Background

Under direction from the Minister for Transport, Tourism & Sport, the National Roads Authority (NRA) has been tasked with the delivery of a long-distance greenway between Galway and Maynooth. Upon completion, this project will deliver a substantial component of the first cross-country national greenway from Galway to Dublin. The concept of the greenway is to be similar in character to the Great Western Greenway in Mayo. It is anticipated that the greenway will have significant potential to be marketed internationally and attract new tourists who may want to walk or cycle across Ireland.

The NRA has commissioned Roughan & O'Donovan-AECOM to progress the preliminary design and statutory process for this proposed off-road cycle corridor between Galway and Maynooth. This corridor selection report concentrates on the County Galway section of the route between Oranmore and Ballinasloe.

1.2 Policy

1.2.1 DTTAS Policy Statement 2014

In May 2014 the Minister for Transport, Tourism and Sport issued the vision, policy and objectives of the Galway to Dublin Greenway:

Vision

Develop a segregated cycle and walking trail of international standard, extending from Dublin City to Galway which is of a scale that will allow Ireland to harness the potential of an identified growing tourism market for cycling. This corridor will form part of an interconnected national cycle network of high quality, traffic free, inter urban corridors, which will establish Ireland as a quality international tourism destination for a broad range of associated recreational activities and pursuits.

Policy

To provide a segregated, substantially off-road cycle route from Dublin City to Clifden via Galway City, utilising where possible existing and approved routes and disused railway line corridors and to require regional and local authorities to incorporate appropriate policies to facilitate the implementation of this cycle route. The development of the route shall be subject to the requirements of Habitats and Environmental Impact Assessment Directives. Where State lands are not available, land will be acquired in order to secure the use of the infrastructure for future years, thereby securing the State's investment.

Objectives

- *Establish a cycleway route connecting Dublin to Clifden via Galway City which is segregated from vehicular traffic and is safe, attractive and comfortable.*
- *Maximise the value of existing infrastructure including canal towpaths, disused railway lines and state owned lands*
- *Secure permanent access to the entire route through land acquisition if necessary.*
- *Develop a tourism experience that caters for a broad range of users in key tourism markets.*
- *Route to be designed and built to international best practice and in accordance with adopted standards*
- *Maximise the value of existing and proposed investment in key tourism destinations*
- *Facilitate regular access to visitor attractions and services along the route.*
- *Facilitate connections with public transport hubs which will provide access to the route from bus and rail.*

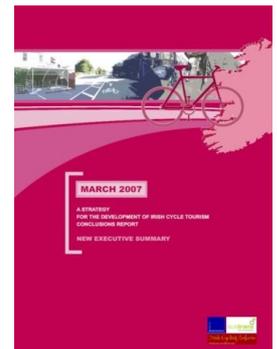
- *Provide frequent connections to towns, tourism facilities, natural amenities and other attractions in proximity to the route in collaboration with local communities and tourism providers.*
- *Generate ongoing economic benefits for rural and urban areas along the route.*
- *Maximise the number of potential commuter, leisure and tourist users.*
- *Facilitate the achievement of smarter travel targets for sustainable travel.*
- *Market and promote the cycleway internationally.*
- *Provide comprehensive corridor signage, mapping and distinct branding to international standards.*
- *Provide for maintenance of the route and monitoring of patterns of use.*
- *Create an economic stimulus for growth in the national and local economy, providing opportunities for new and existing businesses and communities.*

1.2.2 Fáilte Ireland Strategy for the Development of Irish Cycle Tourism 2007

Fáilte Ireland produced a Strategy for the Development of Irish Cycle Tourism in 2007 which observed that cycle tourism had been declining in Ireland since 2000.

The strategy also referenced a research project conducted by the market research company MORI in 2005 which found, among other things, that:

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



The purpose of the strategy is to determine how best to renew the popularity of cycling in Ireland, how to encourage visitors to come to cycle in Ireland, and how to ensure that cycle tourism can generate visitor spend in rural areas. It proposed a 3,000km (approx.) long cycle network running from Donegal along the west, south and south-east coasts and continuing along the east coast as far as the Northern Ireland border.

The Strategy identified the following needs of cycle tourists:

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

1.2.3 National Cycle Policy Framework 2009-2020

Ireland's National Cycle Policy Framework, 2009-2020 (NCPF) recognises the need to support and encourage all types of cycling, including recreational and tourist cycling.

With reference to the Strategy document produced by Fáilte Ireland, Objective 3 of the NCPF is to:

- *Provide designated rural signed cycle networks providing especially for visitors and recreational cycling.*

Supporting policies of this Objective are to:

- *Construct the National Cycle Network (NCN) as identified in the 2007 Strategy for the Development of Irish Cycle Tourism*
- *Carry out further research and surveying work in order to expand the network to include rural recreational corridors around urban areas and to connect major urban areas. We will pay special attention to the opportunities of using both the extensive disused rail network and canal / river tow-path networks as cycling / walking routes. In expanding the network, we will examine the recent UK experiences of the construction of their networks.*

1.2.4 National Cycle Network Scoping Study 2009

In August 2009 the Minister of Transport tasked the National Roads Authority with completing a Scoping Study for a National Cycle Network. An advisory group, under the auspices of the National Trails Advisory Committee and with members such as Fáilte Ireland, Waterways Ireland and Coillte, was set up.

The advisory group identified the vision of the National Cycle Network to:

Develop a National Cycle Network that will allow users to cycle between the main urban areas throughout the country. The network will be built to best practice standard, follow corridors that maximise the number of potential users and its attractiveness to users, facilitate access for all, and ensure that short and long trips can be engaged in. The National Cycle Network Scoping Study routes will, where possible, avail of existing corridors and State-owned lands, share use with walking and form the basis for linkages to more comprehensive rural and urban local networks.

The Scoping Study was published in August 2010. The study identifies thirteen potential route corridors between urban centres of a population of 10,000 and upwards that could make up a National Cycle Network. The potential network identified in the scoping study is approximately 2,000km in length. The proposed NCN overlaps with 1,600km of the cycle network proposed by Fáilte Ireland in 2007. It is envisaged that the identified route corridors will provide a skeleton around which routes should develop nationwide, with potential for links into and between the routes, particularly where existing infrastructure allows cost-effective delivery. Figure 1.1 below illustrates this network.

The Scoping Study states that the next step for the National Cycle Network project could be to select a major route corridor (e.g. Galway-Dublin corridor) or a segment of the route corridor (e.g. Athlone-Dublin as part of the Galway-Dublin corridor) and to carry out a feasibility study and route selection study. This would identify the route options available within the corridor, outline criteria for selecting between route options, make a recommendation on the preferred route, and identify the standard to which this route should be delivered. This study would also identify the potential for, and challenges of, using existing infrastructure such as abandoned railways, canal towpaths, and State owned lands.

Such a route selection report would indicate the specific design standard proposed for each section of the route e.g. off-road cycle ways, cycle trails remote from traffic (greenways) or on-road cycle routes. The cost associated with the delivery of each of the different route types/standards would be compared. Carrying out such a study would result in a detailed costing and implementation plan for the delivery of the selected route corridor, and provide a template for delivery of other route sections.

1.2.5 National Cycle Manual 2011

The National Cycle Manual was published by the National Transport Authority in 2011. It embraces the Principles of Sustainable Safety which aim to create a safe traffic environment for all road users including cyclists. The Manual challenges planners and engineers to incorporate cycling within transport networks more proactively than before. It identifies five primary needs of cyclists which should be taken into account when any infrastructure incorporating cyclists is being developed. These are:

- Road Safety
- Coherence
- Directness
- Attractiveness
- Comfort.



1.2.6 The European Cycle Corridor Network EuroVelo 2012

The European Cyclists' Federation (ECF) is an umbrella federation for national cycling organisations throughout Europe. The European Cycle Corridor Network (EuroVelo) incorporates existing and planned national and regional cycle routes into a single European network. The ECF issued a study of the EuroVelo in 2012.

EuroVelo looks at long-distance cycle routes for tourism, which is the key objective of this Dublin to Galway corridor. One of the key objectives of the EuroVelo policy is to offer sustainable tourism development, which means:

Long-distance cycle route design should embrace the principles of sustainable tourism development; cycle tourism planners need to be aware of the need to conserve natural assets, to enhance community competences and capabilities and for the need for tourism providers to minimise use of resources and output of waste and pollution. Transport to a corridor can be one of the main negative environmental impacts and the route design has to be cognisant of this in terms of offering attractive near to home travel and integration of rail, coach and ferry transfers for longer distances.

The report highlights the key motivations for cycling, which include health reasons, taking relaxation and learning something about an area. In terms of route characteristic the most important factors are safety, ease of use, route variety and accommodation/catering. Interestingly, of lesser importance is access to public transport, corridor



network density and information material. This coincides with the results of the market research conducted by Fáilte Ireland (Section 1.2.7). The guiding principles for cycle corridor development, which are the same principles outlined in the National Cycle Manual, are:

- Safety: a route that minimises danger for cyclists, pedestrians and other users and gives a feeling of security
- Coherence: a continuous route with a distinct and identifiable character, integrated with local roads, and cycle paths
- Directness: a route that avoids unnecessary detours, although it may detour to visit special landscapes or sites of interest
- Attractiveness: a route that complements and enhances its environment in such a way that cycling is attractive
- Comfort: a route that enables a comfortable flow of cycle traffic and is easy to use.

EuroVelo also sets out criteria for route selection, based on long-distance trans-European routes. The guidance states that the route should:

- Connect towns, pass through town centres and connect to important railway stations
- Join together existing long-distance cycle routes and utilise existing stretches of other cycle routes
- Be able to stimulate physical activity, environmental awareness and international contact throughout Europe
- While being reasonably direct, pass through as many countries as possible
- Incorporate especially attractive cycling areas
- Avoid uninteresting or monotonous stretches wherever possible.

In line with the five guiding principles stated above a EuroVelo route should also:

- Be consistent in terms of user safety
- Have consistent surfacing and avoid frequent changes between materials
- Plan for safety, speed and comfort standards acceptable for cyclists with fully laden cycles and cycles of different types
- Be adequately signed to guide visiting tourists
- Have accommodation and refreshment facilities available at regular intervals
- Guarantee a memorable cycling experience wherever possible
- Be accompanied by up to date and reliable information aimed at visitors, as well as local users, and including information on local laws and customs.

1.2.7 Fáilte Ireland Market Cycling and Walking Research 2013

In 2013 Fáilte Ireland surveyed just over 15,000 people in Ireland and in the four key overseas markets of Britain, France, Germany and the Netherlands. These were people who had participated in cycling whilst on holidays within the last two years and would consider doing so in Ireland within the next three years. The group was asked about the

types of things which make up a good cycling destination and the types of trails they like to use when cycling on holiday.

Respondents to this market research identified traffic-free cycling and safety of the cycle corridor as the most important attributes of a tourism cycle route after a beautiful landscape and scenery. The full rankings of route attributes were as follows:

Table 1.1 Fáilte Ireland Survey Results

| No. | Attribute | % respondents ranking the attribute in top 5 |
|-----|--|--|
| 1 | Beautiful landscape / scenery | 86% |
| 2 | Traffic-free cycling | 54% |
| 3 | Safety of cycle routes | 51% |
| 4 | Attractive cities / towns | 51% |
| 5 | Access to towns / villages | 49% |
| 6 | Wilderness / away from it all | 44% |
| 7 | Choice of route distances / terrain | 37% |
| 8 | Range of other things to see and do | 40% |
| 9 | Frequency / distance between facilities (i.e. food, restrooms etc) | 30% |
| 10 | Level of difficulty / grade / classification assigned | 27% |
| 11 | Availability of suitable accommodation | 30% |
| 12 | Breakdown / puncture repair facilities | 19% |
| 13 | Good public transport links | 16% |
| 14 | Bike transfer services between towns | 13% |

The results of this research indicate that route directness is not a critical factor in the provision of a satisfactory cycle route. Beautiful landscapes and traffic-free routes with good connections to towns and villages are rated highly.

1.3 Project Vision and Aims

The National Cycle Network Advisory Group, which is made up of various interested parties (Irish Sports Council, Fáilte Ireland, and NRA) have outlined an overall vision for the project.

Develop a world class traffic free trail from Dublin to Galway which is of a scale and singularity that will allow Ireland to tap in to the growing tourism market for cycling

The Aims of the overall project are as follows:

- Provide a shared cycleway that is safe, attractive, coherent and comfortable
- Provide a consistent 'quality of service' along the route through minimising/eliminating shared running with road traffic
- Develop the most cost efficient route that maximises the use of available public land and existing transport infrastructure
- Minimise gradients to facilitate access by all user categories
- Maximise the value of existing and proposed investment by Fáilte Ireland in key tourism destinations
- Provide a coherent signage and interpretation plan for all users to bring the experience alive
- Provide frequent connections to small towns at distances of ideally no more than 20km apart, which provide basic facilities such as food, toilets and local shops
- Provide connections to large towns at distances of between 50km and 70km apart, which provide more comprehensive offerings of retail outlets, bicycle repair, overnight accommodation and public transport access
- Facilitate regular access to visitor attractions and activities along the route, either located adjacent to the route, or accessible via a short detour (in this regard, the alignment of the route should be such that the number of unnecessary detours would be minimised)
- Provide a route that can facilitate combined use by cyclists and pedestrians in a safe environment, particularly in areas where high levels of mixed activity is anticipated
- Facilitate connections with public transport hubs which will provide access to and from the trail, including bus stops, railway stations, along with key transport hubs in Maynooth and Galway
- Develop the route around key access points where day-visitor facilities are provided, including shower/toilet facilities, car parking, public transport hubs and shopping/eating.

1.4 Physical Character of the Facility

In order to meet the Vision outlined above it is proposed that the route will be of a greenway standard along most of its length. A greenway is an entirely traffic-free route designed exclusively for the use of pedestrian and cyclists. The character of the route is generally low-key in terms of its impact on the overall landscape of an area and its environmental effects. The Galway-Dublin Greenway will consist of a narrow pathway (generally 3m in width) that will meander across the terrain avoiding houses and farmyards. The greenway will follow the natural topography with few earthworks for cuttings and embankments unlike a road or a railway which have demanding geometric design constraints.

Suitable horizontal curvature for cyclists need only be 25m in radius to facilitate a maximum speed of 30km/h or lower where appropriate, with a minimum radius of 4m facilitating 10km/h. Gradients should preferably not exceed

3% but may be relaxed to 5%, or an absolute maximum of 10%. For this cycle corridor across the Midlands of Ireland, which is generally flat, the terrain will not present a challenge for the design.

The route planning of the greenway will seek to follow in so far as possible field boundaries and land-holding boundaries to avoid disturbance to farming activity. Since the geometry of the facility is very flexible, the route should have minimal severance or agricultural impact, apart from the loss of the small area of land under the footprint of the pavement.

Depending on the nature of the agricultural activity in the field being crossed, the greenway may or may not be fenced along each side. If required, standard timber post and wire fencing will be provided.



Photo 1.1: Example of the Great Western Greenway in Mayo, unfenced across a sheep grazing field, and with animal grid at the entry point.

The greenway will be constructed as a 3m wide path made from a bituminous surface to provide a high quality finish for cyclists, overlaying a granular sub-base and capping (gravel) layer where necessary. The total construction thickness will range from 20cm on stiff ground up to 500cm on soft ground. Construction of the greenway will involve removal of the topsoil layer to a depth of typically 15cm and build-up of the gravel thickness to a level of up to 35cm above surrounding ground level. The excavated topsoil will then be placed on the sides of the greenway to provide a 1m wide verge and slope back down to ground level. The overall width of the earthworks will therefore be approximately 5m to 7m.

In some cases where the ground level is sloping laterally across the corridor, some small amount of further earthworks will be required to provide a level area for the pavement and associated small cut and fill slopes to the side. Thus the overall footprint could increase to perhaps 10m wide. Drainage of the greenway will simply be over the edge onto the adjoining ground where the rainwater will infiltrate as in the original greenfield situation. In some

places, where necessary, a shallow drainage ditch may be provided to prevent surface water from flowing over the greenway from the surrounding ground.

Other aspects of the facility will be sensitively designed such as signs and posts and access control gates if required. The Great Western Greenway provides a great example of such features using timber as the basic material to fit in with the environment.



Photo 1.2: Example of well designed shelter and information board with interesting sculpture on the Great Western Greenway.

Constraints and Opportunities

2 Constraints and Opportunities

2.1 Study Area

This report focuses on the Ballinasloe to Oranmore section of the Galway Dublin Greenway, the study area is shown in Figure 2.1 below. Generally the study area is bounded by a line just to the north of the Dublin to Galway railway line, with the southern boundary broadly following the R446 (old N6) between Ballinasloe and Loughrea and aligning closely with the existing N18 along its western extent. The primary towns and villages in the study area include Ballinasloe, Loughrea, Athenry, Clarinbridge and Oranmore. Following the first round of public consultations, the study area was extended into North Galway to include a new corridor and the assessment of that is given in Appendix A.

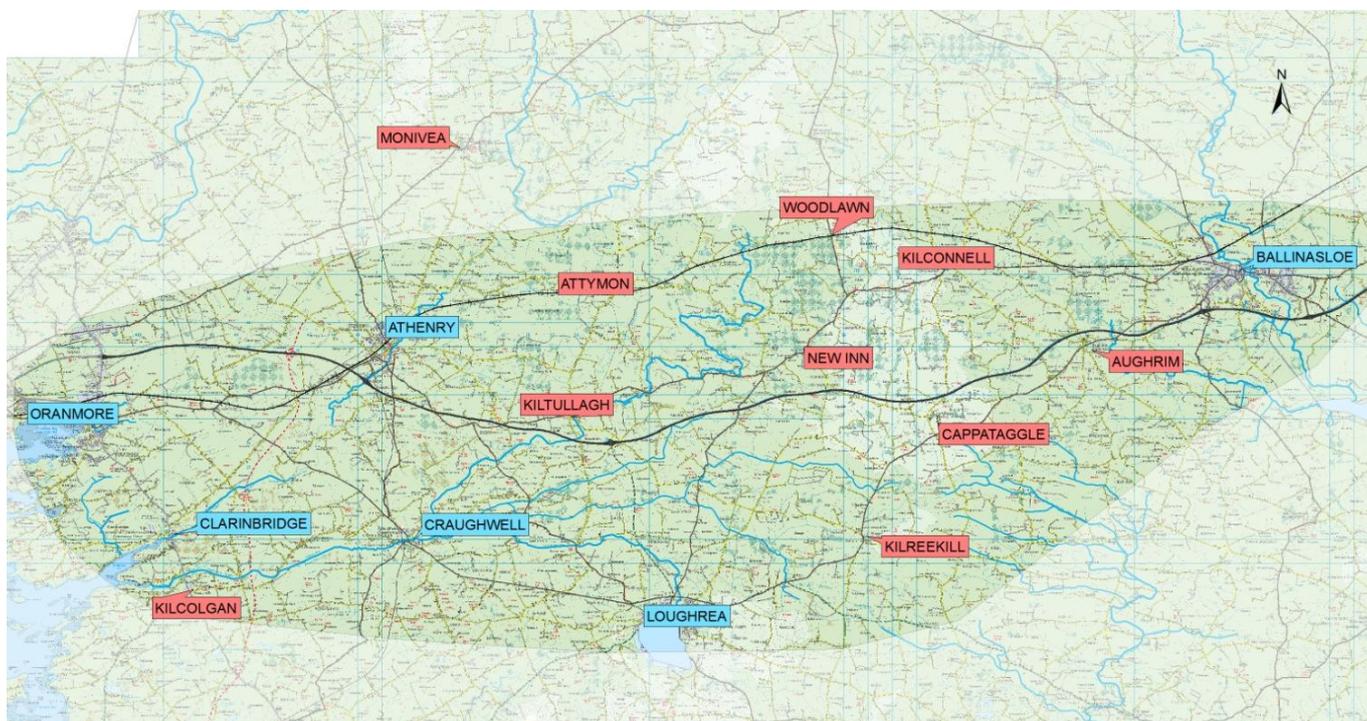


Figure 2.1 Study Area

2.2 The Natural Environment

2.2.1 Topography & Landscape (Vol B Maps Topo 1-7)

The topography of the study area is relatively low lying, with only two high points located within the study area. Details are shown in Figure 2.2 below with more comprehensive mapping provided in the Volume B Topography A1-7.

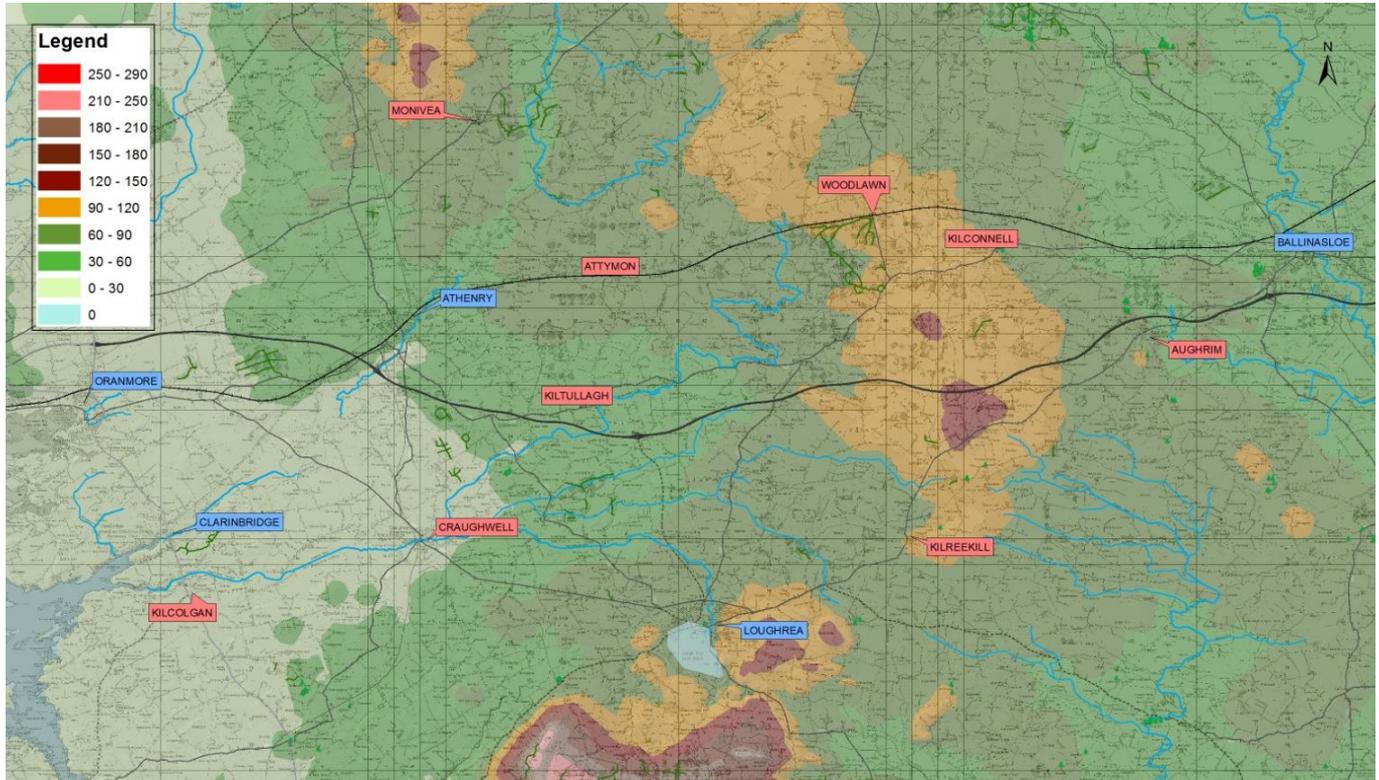


Figure 2.2 Topography (in metres)

There are two significant high points within the study area. The first stretches between Cappataggle, off the R446, 15km southwest of Ballinasloe, to Kilconnell off the R348, to the west of Ballinasloe. The highest point, close to Cappataggle, is approximately 150m above sea level gently reducing down to 100m above sea level at Kilconnell. This is locally known as Kilreekill Ridge, and forms the watershed between the small rivers flowing east towards the Suck/Shannon and west towards Galway Bay (Clarín, Dunkellin, Oranmore Rivers).

The second high area is located to the east of Loughrea, in an area between the old N6, R446 (formerly the N6) and the R351. Similar to the central area, the highest point is approximately 150m above sea level. The Slieve Aughty Mountains lie to the south of Loughrea town, and rise to much greater heights, but are not included in the study area.

Conclusion

The topographical information available was reviewed and mapped, highlighting areas of interest. While two areas of high land were noted, these isolated high points and reasonable gradients meant that topography should not be considered a severe constraint.

These high points also provide distant views across the landscape which will add to the opportunity for scenic views from the greenway.



Photo 2.1 Higher ground offers opportunities for scenic views

A landscape character assessment for the entire county has been previously carried out and included in the most recent version of the Galway County Development Plan. The Landscape Sensitivity Map of Galway County Development Plan identifies the value of the landscape in any given part of the county and ranks its attractiveness on a descending scale of Outstanding, High, Medium and Low.

The assessment subdivides the county in a number of regions and ranks them in terms of their landscape value. Area 3, East Central Galway, covers the Oranmore to Ballinasloe area. The overall landscape value rating for this area of the county is low. There are a number of focal points identified within the study area which offer interesting views. There are two primary clusters within the study area where these occur. These are southwest of Ballinasloe towards Loughrea and north of Craughwell towards Athenry. The area around Loughrea town and the adjacent lake (Lough Rea) is also identified as having scenic focal points.

A more detailed landscape assessment of the study area itself was undertaken by Paul Hogarth & Company. This assessment evaluated the landscape within the study area and scored them on a ranking of between 1 and 10 with sites scoring 7/10 or over considered to be “wow” views.

2.2.2 Rivers and Streams (Vol B Maps River & Streams 1-7)

Information on rivers, lakes and streams was obtained from Galway County Council and Open Street Map 2011. In addition, information relating to historic flooding was also obtained, based on information from the OPW, as well as Galway County Council information on flooding from 2009, which impacted greatly on areas such as Ballinasloe and Craughwell. This section of the report considers the physical nature of the rivers/streams/lakes within the study area.

There are a number of significant water bodies within the study area, the most significant of these including Lough Rea, Dunkellin River (also known as the Kilcolgan River) and the Suck River.

The River Suck forms a boundary between counties Galway and Roscommon. It is an important tributary of the River Shannon which it meets at Shannonbridge, a few kilometres south of Ballinasloe. The river is open to navigation and provides access to Ballinasloe. A number of tributaries cross the study area eastwards heading for

this river, including the Ballinure River which travels east of Aughrim through Ballinure. This is a sizable river in parts.

The Dunkellin River rises in the Loughrea area and travels west. It enters Galway Bay near Kilcolgan. The river is less significant in parts, but gains in stature as it passes through Craughwell, where it is joined by a number of smaller tributaries. One of these tributaries is the Radford River which travels in a southwesterly direction from the Radford River Bog picking up the Clogharevaun River and Dooyërtha River on the way. In 2009 the Dunkellin River burst its banks and subjected Craughwell to large areas of flooding. The river also passes through Rahasne Turlough which is a designated site and a naturally functioning turlough.

In the northern section of the study area, a number of small rivers travel westward and converge to enter the sea at Clarinbridge, including the River Clareen which travels through Athenry.

Because of the relatively flat nature of the study area, there are a large number of tributaries to these rivers, which may require a number of bridge crossings, depending on the significance of the water feature.

While rivers offer a natural and existing severance line, areas of land around them are under threat of flooding at times of heavy rainfall. While the rainfall in 2009 was an extraordinary event, the extents of flooding will be considered when choosing a final alignment for the greenway. From the information available, the River Suck and Dunkellin River are areas affected by flooding.



Photo 2.2 Dunkellin River near Craughwell

Conclusion

There is an extensive network of rivers through the study area, offering existing and natural severance lines. Rivers can offer cyclists a tranquil route to cycle while allowing visitors to experience the natural environment.

While the rivers and streams offer opportunity, there is also a constraint associated with these features. These routes are susceptible to flooding and may make the route unusable in times of heavy rain. Some livestock also rely on access to river and streams. This will need to be considered in the design of the final route.

2.2.3 Ecology (Vol B Maps Ecology 1-7)

This section identifies key ecological constraints, which include designated sites and features of ecological significance which may influence the identification of a suitable route corridor. This chapter was informed by a desktop assessment of available ecological databases and mapping within the study area. Detailed maps are provided in Volume B, Dwgs Ecology 1-7.

Galway is a county rich in natural heritage, including blanket bogs, raised bogs, sea cliffs, sand dunes, river callows and many species of plants and animals that are rare elsewhere in Ireland and Europe.

In order to protect ecological resources a number of sites have been designated which are representative of habitats and species of conservation interest and include RAMSAR Sites and Natura 2000 Sites: Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) and Natural Heritage Areas (NHAs).

- RAMSAR sites are designated wetland sites of international importance which are protected under the RAMSAR convention of which Ireland is one of 160 Contracting Parties. The convention embodies the commitments of its member countries to maintain the ecological character of wetlands of international importance and to ensure sustainable use of all wetlands within the country.
- NHAs are nationally designated areas for habitats, species and geology that are of conservation interest. In addition to the 150 designated NHAs in Ireland, there are also a large number of proposed NHAs.
- SACs are prime wildlife areas considered important both nationally and internationally. Special Areas of Conservation are designated under the Habitats Directive and form part of "Natura 2000", a network of protected areas throughout Europe that require particular measures to conserve them. Within these areas certain habitats and species which are listed as the "qualifying interest" must be protected.
- In Ireland and Europe, the areas of lands protected primarily for wild birds are known as Special Protection Areas (SPAs) and are included with the Natura 2000 network.

There is a significant amount of overlap between all designations and many sites hold more than one designation.

Table 2.1 Designated Environmental Areas within Study Area

| Name | Type |
|--------------------------------|--------|
| River Suck Callows | SPA |
| Lough Corrib | SPA |
| Inner Galway Bay | SPA |
| Lough Rea | SPA |
| Rahasane Turlough | SPA |
| Cregganna March | SPA |
| Glenloughan Esker | SAC |
| Lough Corrib | SAC |
| Galway Bay Complex | SAC |
| Lough Rea | SAC |
| Rahasane Turlough | SAC |
| Castletaylor Complex | SAC |
| Inner Galway Bay | RAMSAR |
| River Suck Callows | NHA |
| Cregganna Marsh | NHA |
| Carberry Lough | NHA |
| Callow Lough | NHA |
| Monivea Bog | NHA |
| Kiltullagh Turlough | NHA |
| Lough Corrib | NHA |
| Galway Bay Complex | NHA |
| Ardgraique Bog | NHA |
| Lough Rea | NHA |
| Radford River Bog | NHA |
| Rahasane Turlough | NHA |
| Castletaylor Complex | NHA |
| Lough Fingall Complex | NHA |
| Clonascragh Fen and Black Wood | pNHA |
| Ballinasloe Esker | pNHA |

| Name | Type |
|--------------------|------|
| Galway Bay Complex | pNHA |
| Lough Rea | pNHA |
| Rahasane Turlough | pNHA |

Conclusion

The ecological constraints within the study area have been identified and mapped. Based on the information available, it is clear that the study area has a large number of important ecological sites and receptors. The design of a greenway needs to carefully consider the balance between the attractions of a site of conservation interest as an amenity while avoiding the impact on such a site so as to circumvent degradation.

2.2.4 Geology & Hydrogeology

There are no sites of geological conservation value identified within the Galway County Development Plan 2009-2015. The relatively low lying topography is reflected in the land cover within the study area with the majority of the land cover consisting of farmland and peat bog. There are also tracts of woodland located throughout the study area with larger areas along the Dublin Galway railway line.

The bedrock composition in the area is almost entirely carboniferous limestone as is much of the central band of the country. There is a variety of soil types across the study area from Galway City to Ballinasloe all with limestone as the parent material. From west to east these soils are:

- Shallow brown earths and rendzinas from Athenry west to Galway City (Orange);
- A narrow band of degraded grey brown podzolics running northwards and extending out east and west from Loughrea (Yellow);
- Groundwater Gleys extending northeast from Loughrea to Ballinasloe (Blue); and
- Grey brown podzolics surrounding Ballinasloe and extending a little west of here (Red).

The spread and extent of these soil types can be seen in Figure 2.3 below.

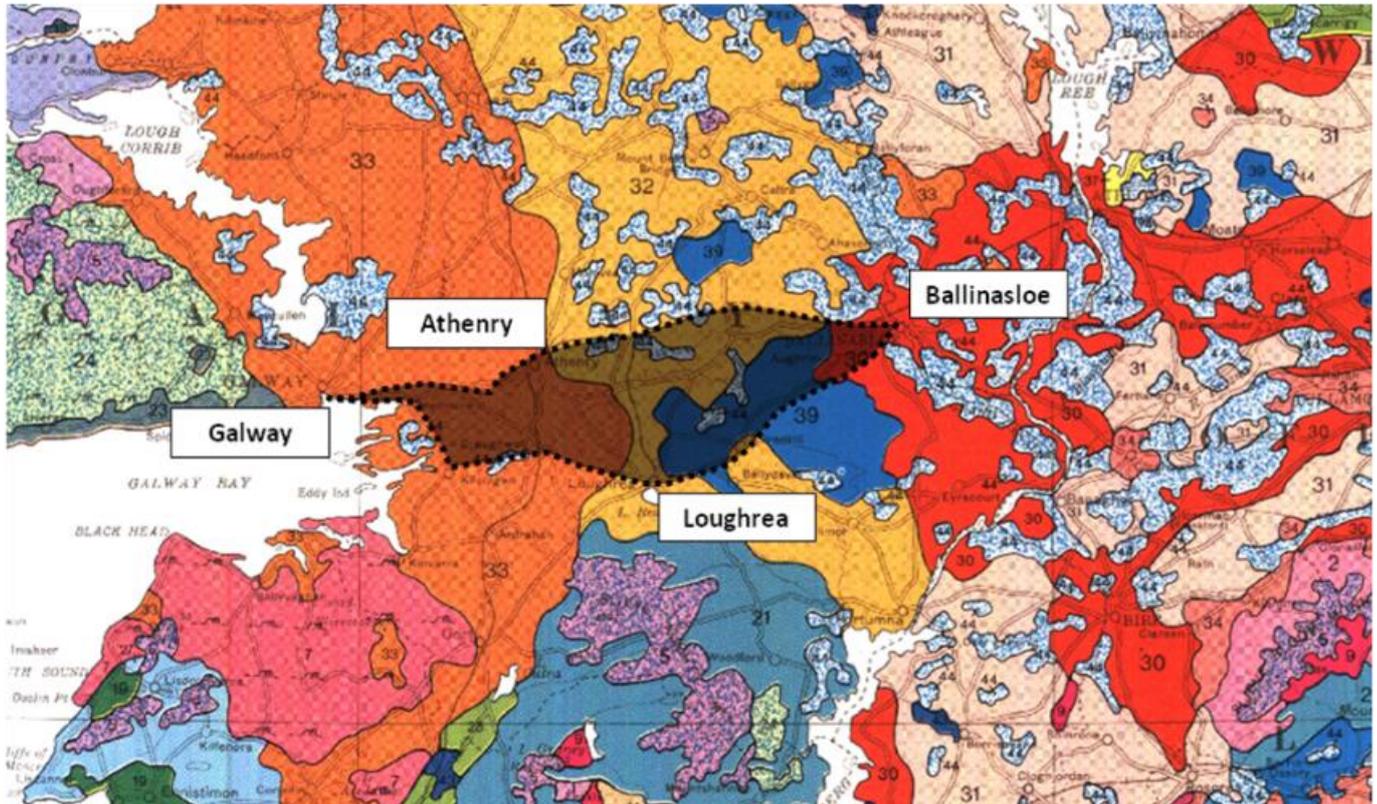


Figure 2.3 Soil types

Hydrogeology concerns itself with the movement and distribution of water within soils and bedrocks. Due to its position in the earth and, depending on the depth of the water table, groundwater can be extremely vulnerable to infiltration and pollution from the surrounding environment.

There is a distinction between the east and west of the study area along an axis between Athenry and Loughrea. East of here the level of vulnerability is generally low to moderate with some isolated areas of high vulnerability. West of this line however the level of vulnerability is almost entirely high with large areas of extreme vulnerability east of Clarinbridge and west of Craughwell approaching Galway Bay.

Conclusion

The geology and hydrogeology of the study area should not pose a significant barrier to the development of the greenway within the study area.

2.2.5 Bogs and Woodlands (Vol B Maps Bogs & Woodland 1-7)

There are a number of forests within the study area. All large forests within the northern half of the study area (north of the M6), are in the control of Coillte, with the exception of one large forest to the north of Aughrim. There is a patchwork of small privately owned forests also in the northern section of the study area. Of particular note is the large forest to the south of the train line at Woodlawn. This forest contains an extensive network of forest tracks and is opened to the public. To the west of Athenry, in Toberroe, there is also a large forest with trails.

Within the southern half of the study area, Coillte Forests are less prevalent, with a more widespread sprinkling of smaller privately owned forests, usually accounting for a few acres of land. Kilcornan Wood is located close to

Clarinbridge, with approximately 8km of existing trails. There is also a Coillte forest with trails north of Craughwell between the R347 and R348. Finally, Dunsandle Castle and Woodlands is located between Craughwell and Kiltullagh, which is a large estate with forest walks, however the lands are privately owned.

Generally the extents of these tracks are limited to a couple of kilometres within parcels of forestry land, and often do not run in the optimum direction for the proposed cycle way. Nonetheless, these routes could offer an attractive diversion for some.

The bog lands across the study area are generally located around the railway line between Athenry and Ballinasloe at Attymon. In addition there are some parcels of boglands just north of the M6 motorway, on the ridge known as Kilreekill Ridge. There are two-three large parcels of land with eight smaller parcels dipping in and out of the study area. Initial review of landownership suggests that the majority of bogs in the study area are in private ownership, with only small parcels of Bord na Móna lands present. There are no light industrial railway lines within the boglands within this study area, which are synonymous with Bord na Móna boglands.

Raford River Bog is designated as a Natural Heritage Area, as a raised bog. It is located off the R348, close to New Inn, in the townlands of Cloonbenes, Crossmacrin and Derrynamagh. The site is considered of significance as it contains raised bog and a good diversity of raised bog microhabitats, including hummocks and pools.

There is little bog land on the southern side of the Study Area, south of the M6. Three parcels of land have been identified, with a larger section around Ballinasloe, with Pollboy bog south of Ballinasloe. A small section of bog exists around Clarinbridge, with Cregganna marshland also located to the north of Clarinbridge and south of Oranmore, which is protected as an SPA.

Conclusion

Existing trails offer opportunity to diversify the landscape on the corridor, while not interfering with existing plantations. Good forest opportunities exist in the northern half of the study area and to the southwest. Boglands are limited to the northern half of the study area, around the railway, with small parcels in the south. The bogs within the study area are generally privately owned. No light industrial railway lines or bog roads of significance have been identified within the existing bogs.

Boglands and forests are sensitive ecosystems and are, by definition, constraints to the development of the greenway where they are also designated sites.

2.3 The Built Environment (Archaeology, Architectural and Cultural Heritage)

2.3.1 Definitions and Protections

Architectural Heritage (Vol B Maps Architectural 1-7)

In the Architectural Heritage (National Inventory) Act 1999, architectural heritage is defined as ‘structures and buildings together with their settings and attendant grounds... [and] sites that are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.’ The range of things that satisfies this definition in practice is very wide and this is acknowledged in the Architectural Heritage Protection Guidelines for Local Authorities (DAHG 2011, 13), which states that ‘social history is revealed by structures such as market houses, hump-backed canal bridges, stables, servants’ staircases, public water-pumps and even by bootscrapers outside front doors.’

The main protections for architectural heritage are set out in the Local Government (Planning and Development) Act 2000, which requires local authorities to maintain a Record of Protected Structures and allows them to designate Architectural Conservation Areas (i.e. a place, area, group of structures or townscape that is considered to be of special interest or value, so that it is considered necessary to preserve its character).

Buildings may also be entered on the National Inventory of Architectural Heritage (NIAH), which is compiled by the Department of Arts, Heritage and Gaeltacht. Entry on the NIAH does not in itself confer any protection, but it is recommended by the Minister that buildings rated of regional, national or international importance in the NIAH should be listed by the relevant local authority in its Record of Protected Structures. An illustrated selection of buildings from the NIAH can be browsed at www.buildingsofireland.ie or in the published *Introduction to the Architectural Heritage of County Galway* (DEHLG 2011).

The *Draft Galway County Development Plan 2015-2021* lists over 2000 Protected Structures. There are concentrations of them within towns and villages, but also many others dispersed across the rural landscape including, for instance: mansions, farm buildings, cottages, schools, shops, churches, mills, kilns, bridges, piers, harbours, post boxes, hand pumps, public sculptures and other types of monuments. The Development Plan identifies six Architectural Conservation Areas within the study area. These are town or village centres in Oranmore, Clarinbridge, Athenry, Craughwell, Loughrea and Ballinasloe; and also St Brigid’s Hospital (1833), in Ballinasloe.

The distribution of the architectural heritage in the present study area, following the online NIAH database, is shown in Volume B at Architectural Heritage Maps 1–7.

Archaeological heritage (Vol B Maps Archaeological 1-7)

The National Monuments Acts 1930–2004 define a monument as ‘any artificial or partly artificial building, structure, or erection whether above or below the surface of the ground...and any prehistoric or ancient tomb, grave or burial deposit, but does not include any building which is for the time being habitually used for ecclesiastical purposes.’ Also, a ‘national monument’ is defined as ‘a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic, or archaeological interest attaching thereto.’

To enjoy any measure of protection under the Acts, an archaeological site or monument must be considered a National Monument, or be the subject of a Preservation Order, or be entered on the Register of Historic Monuments or the Record of Monuments and Places. This last category is by far the biggest because Recorded Monuments include everything already listed in the other categories—i.e. all recorded National Monuments and registered Historic Monuments. It only affords a minimum protection, however, requiring that two months notice of any proposed works be given in writing to the Minister.

There are over 7,000 recorded sites and monuments in the County and City of Galway. They are very varied and include prehistoric tombs and hilltop enclosures, early medieval farmsteads, ruined churches, abbeys and churchyards, castles and tower houses, and a good many monuments of the early modern period, such as railways, bridges and mills. Many of these recorded monument sites are not visible on the ground because the upstanding elements (e.g. an earthen bank forming an early farmstead enclosure) have been levelled or ploughed away. There may still be buried remains, however, and hence these levelled sites can enjoy the same protection in law as a standing monument.

The Record of Monuments and Places was based in the first instance on the Sites and Monuments Record (SMR), which is an archive and database maintained by the National Monuments Service. Entry in the SMR does not in itself confer any protection but the SMR is a very useful baseline dataset and can be consulted at www.archaeology.ie. There are also two published Inventories of the archaeology of County Galway, for west and north Galway (OPW 1997; Dúchas the Heritage Service 1999). The north Galway inventory encompasses part of the present study area.

The distribution of archaeological sites and monuments in the present study area, following the online SMR database, is shown in Volume B at Archaeological Heritage Maps 1–7.

Cultural Heritage

In contrast to archaeology and architecture, definitions of ‘cultural heritage’ are scarce. In the *European Convention on the Value of Cultural Heritage for Society* (Faro 2005), cultural heritage is defined as ‘a group of resources inherited from the past that people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time.’ This definition is very broad and could include archaeology and architectural heritage, for instance, among other elements of culture.

The *Draft Galway County Development Plan 2015–21* states in ‘Chapter 10: Culture, Social and Community Development’ that community identity and local heritage are expressed by language, arts and crafts, festivals, games, jobs and occupations, buildings and the places where people live.

The Environmental Protection Agency *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements* (EPA 2003, 26) distinguishes between physical assets (‘archaeology in context; architecture in context; settlements; monuments, features and landmarks; historic sites and structures; geological heritage’) and social assets (‘language and dialects; folklore and tradition; religion and belief; literary and artistic association’). These sorts of ‘social asset’ amount to cultural heritage for present purposes, in tandem with archaeology and architectural heritage.

There are no specific protections for ‘cultural heritage’, as defined above, in Irish legislation.

2.3.2 Amenities and Attractions

The study area contains a rich cultural landscape offering a variety of amenities and attractions. These were mapped with reference to information from Fáilte Ireland, Galway County Council, the Sites and Monuments Record (Archaeology) and National Inventory of Architectural Heritage, to establish their locations. The following amenities and attractions have been recorded in the study area:

- historic churches, abbeys and monasteries;
- equestrian centres;
- museums and interpretive centres;
- open farms;
- historic houses and castles;

- historic and pilgrimage walks;
- nature and wildlife locations;
- arts and craft locations;
- outdoor activity centres;
- food markets; and
- restaurants and public houses.

These are found throughout the study area but a brief review of the towns and villages along the way will best convey the range of opportunities.

Oranmore

Oranmore is located at the innermost part of Galway Bay. The village has grown very quickly in recent years to become a major suburb of Galway City, with all of the attendant features (housing developments, light industry and business parks, playing fields, schools, supermarkets and a service station). But the old village centre retains a self-contained feel and has picturesque pubs and restaurants, and a public library housed in a former 19th-century church. Oranmore Castle is on the waterfront, within easy walking distance of the village centre. This is one of the most impressive medieval tower houses in the West of Ireland. The castle was built by the Clanricarde Burkes, the Norman lords of Galway. It is privately owned but is open to visitors seasonally, and is occasionally used as a venue for live festival events.



Photo 2.3 Village Centre Pub; Oranmore

Clarinbridge

Clarinbridge is a pretty village built along a winding street (currently part of the N18 Limerick to Galway road but soon to be bypassed by the M18 motorway). Its annual Oyster Festival (September) celebrates a long tradition of shellfish harvesting in the Clarin River estuary. Again there are well presented traditional pubs, as well as a garden centre, supermarket and restaurants. The central features are the village green (c. 1875), the parish church with its towering steeple (c. 1930), and an old masonry bridge (c. 1820) on the Clarin River. The green was laid out by the Redington family, who were the major landowners and patrons of the village in the early modern period. The ornamental gateway to their house at Kilcornan is a striking feature, opening onto the south end of the village street. A winding avenue, through woods and meadows, leads to the house and walled garden, passing en route a little medieval chapel (c. 1200). The house itself is an impressive Tudor style mansion (1837). It is currently owned by the Brothers of Charity. Much of the former demesne is now private farmland and the woods provide the setting for popular local walks.



Photo 2.4 Kilcornan House; Clarinbridge

Craughwell

Craughwell is another winding village, this time built along the R446 road between Galway and Loughrea, with several well presented pubs. At its east end the village street descends to a historic crossing of the Dunkellin River. The old masonry bridge, which is now pedestrianised, once carried the high road between the principal Norman towns in the region: Galway, Athenry and Loughrea. Traces of wattle formwork beneath the bridge arches are tell-tales of its medieval date. There are striking ruins of tower houses near the village, in Killora and Seefin.



Photo 2.5 Medieval Masonry Bridge; Craughwell

Athenry

Athenry was founded by the Normans in the 13th century. It is one of the best preserved medieval towns in Ireland. The town walls survive over much of their circuit and, on the north-east side, there is a surviving gate tower. The old Norman castle is in the care of the OPW now and is open to the public in season. It stands in a landscaped park, with playground, along the banks of the Clarin River. Nearby is the ruined medieval priory. There is an interesting collection of grave slabs but entry, currently, is by arrangement. The medieval parish church now houses a heritage centre and is open to the public. The old town centre has an unusual street plan with the principal streets converging on a little triangular market place. A remnant of the medieval market cross survives, bearing a carved crucifixion with beasts writhing about the base. Athenry is proud of its medieval origins and celebrates them especially during Heritage Week (August), with costumed pageantry and a fair. The main Galway/Dublin railway passes through the town, via an attractive Victorian station on the north side of the town centre.



Photo 2.6 Norman Castle and Landscaped Park; Athenry

Loughrea

Loughrea is an attractive town. It is located on the north shore of Lough Rea. The lake boasts a Blue Flag beach, recreational boating and fishing (for members of its angling club), and public walks along the shoreline. There are new housing developments on the outskirts of Loughrea, a cattle mart, and several supermarkets. There are more traditional shops in the town centre, and many pubs and restaurants.

Like Athenry, the town was founded by the de Burgos, Norman lords of Connacht in the 13th century. The castle is long gone but there is a surviving medieval arched gate and a ruined medieval priory. The town was moated once, with water from the lake, and the town centre is still surrounded by a little stream, perpetuating the line of the moat. Crannógs (artificial islands) on the lake are relics of pre-Norman, Gaelic times. Again, the medieval heritage of the town is celebrated in Heritage Week (August) with pageantry and a medieval fair.

The town centre is dominated by 18th and 19th-century buildings, often brightly painted, beneath steep, slated roofs with towering chimney stacks, in the distinct style of Irish market towns and villages. The former Loughrea/Attymon railway line was closed in the 1960s but some station buildings survive. To the north side of the town there is a secluded tree-lined walk known as The Mall. This was endowed in the 18th century by the Earl of Clanricarde, a direct descendent of the de Burgos.

St Brendan's Cathedral in the town centre is decorated with some very fine stain glass windows. There are gardens and a small museum of medieval sculpture in the grounds.

Dartfield Horse Museum is a few kilometres outside the town on the east side. Turoe Pet Farm and the historic Turoe Stone - an enigmatic Iron Age sculpture (probably a royal inauguration stone) are a few kilometres to the north.



Photo 2.7 Medieval Dominican Priory: Loughrea

Aughrim

Aughrim is a village off the R446 road between Loughrea and Ballinasloe. It has a noted place in Irish history because of a battle fought in and around the village in 1691 during the 'War of the two Kings', between James II and William of Orange. This was a large and particularly bloody battle, which left 7,000 Jacobite dead on the field. It is remembered today by a battlefield interpretive centre and themed park in the village, and by roadside signage throughout the battlefield.



Photo 2.8: Battle of Aughrim Mural; Battle of Aughrim Interpretative Centre

Ballinasloe

Ballinasloe is a gateway to County Galway on a historic crossing of the River Suck. There are remains of a minor castle or masonry fort on the river crossing in Townparks. Like Loughrea, the town centre is dominated by tall 18th and 19th-century buildings, with steep, slated roofs and towering chimney stacks. Also in the town centre, St Michael's Church (c. 1850) is a satisfyingly restrained example of gothic revivalist architecture and has stained glass windows by Harry Clarke. Further west, the Fair Green is dominated by St John's Church (c. 1840), another gothic revivalist building (possibly occupying a Norman motte mound).

Garbally House (1819), in the western outskirts of the town, was the seat of the Trench family, Earls Clancarty and patrons of the town. Much of the old demesne landscape has been consumed by the expanding town but, at its heart, there is still a very fine neoclassical house with avenues, planting and formal garden features.

In the eastern outskirts of Ballinasloe, St Brigid's Hospital (1833) is an especially unusual building. It is both accomplished and innovative in its design and is rated of national importance in the NIAH. It was built as a mental asylum, with a governor's house forming the centrepiece of four wings on an X-shaped plan.



Photo 2.9 de Poer Trench Monument; Ballinasloe

The 'Connaught Extension' of the Grand Canal reached Ballinasloe in 1828. The canal is dewatered and the original canal basin infilled, but some canal buildings survive and much of the canal earthworks, as well as a fine canal bridge in Pollboy, south of the town.

Ballinasloe is still an important market town in east Galway but as a manufacturing centre it has declined. The big annual event in the town calendar is the annual horse fair (October), a crowded, colourful event centred on the Fair Green.

Buildings and monuments in the countryside

In the rural hinterland of the towns and villages described above, there is a wide diversity of archaeological monuments and historic buildings. Many of the archaeological sites listed in the Sites and Monuments Record have been levelled by modern farm improvements so that there are now no longer visible, upstanding remains on the sites. But some monument types are still relatively numerous and highly visible. Among prehistoric sites and monuments, the small embanked funerary monuments known as barrows are commonest in the southern part of the study area and are often associated with standing stones. The highly decorated Iron Age standing stone at Turoe is a unique monument. The early medieval earthen farmstead enclosures known as ringforts (or cashels if built in stone) are especially common. There are several hundred ringforts or ringfort sites in the study area. Among examples nearest our route corridors the trivallate example (three banks) by Kilreekil village was probably a royal fort. The tall, slender medieval castles known as tower houses are far less common but much more visible. Oranmore Castle is the outstanding example but there are at least a dozen other well-preserved examples in the

study area, including Derrydonnell, Seefin and Killora. Every parish in the study area has one or more ruined medieval churches, standing in a medieval graveyard. The graveyards are often still in use so that access is assured. St Brigid's is in the outskirts of Loughrea. Kilmogilleen has a collection of medieval grave slabs. Killconnell is the best preserved example of a medieval friary or abbey in the study area. Some of the mansions of the early modern landed estates in the county are still occupied. Other are now striking ruins. Dartfield House, Ballydonnellan Castle and Wallscourt are all within view of route corridor options. The countryside itself is an artefact of early modern agricultural improvements when a distinctive landscape of pasture fields bounded by stone walls or hedgerows (more common in the eastern part of the study area) was created by the landed families who dominated the social and economic life of County Galway until the early 1900s.

Conclusion

The study area offers abundant opportunities for encounters with relics of former times, from later prehistory to the industrial period. Significant elements of the architectural heritage are concentrated in towns and villages but there are examples in the countryside too. Visible archaeological monuments include many earthworks and standing buildings of the medieval period, but include some prehistoric burial mounds and standing stones. Athenry, Loughrea and Ballinasloe are historic towns with well preserved town centres. There are interpretive centres or local museums in Loughrea (medieval sculpture), Dartfield (horse museum) and Aghrim (battlefield site 1691). Loughrea and Athenry celebrate their medieval origins with annual pageants during national Heritage Week in August. Clarinbridge hosts an annual Oyster Festival in September and Ballinasloe has a famous horse fair in October.

2.3.3 Road and Rail Network

Bus

The M6 represents the primary bus corridor within the study area with a number of intercity and express services using this corridor. The old N6 (R446) is also a heavily used bus corridor with a number of local and regional as well as inter-regional and intercity services using the corridor. The penetration of bus services within the study area is more comprehensive than with rail services with more of the small towns and villages being served by bus.

Express services between Dublin and Galway operate along the M6 and are run by Gobus and Citylink. Intercity non-direct services are also operated by Citylink and Bus Éireann along the R446. As these services are indirect they serve the main towns on the route: Ballinasloe, Aghrim, Loughrea, Craughwell, Oranmore and Galway City. Intercity services also operate between Galway and Cork.

A direct service between Limerick and Galway City is also operated by Bus Éireann on a daily basis, with a link from Cork to Derry using Galway as an intermediate stop.

Bus Éireann carry folded bikes free of charge, however regular bikes are carried only if space permits in the luggage compartment, and may be subject to charge as determined by Bus Éireann from time to time. Should the passenger need to transfer to another bus to continue a journey, the guarantee of necessary space is not available. Similar conditions apply to other bus operators serving towns in the study area.

A number of local services also serve the major towns including Ballinasloe, Athenry and Loughrea. These services are generally limited and link other towns and villages to their closest neighbour, for instance Aghrim to Ballinasloe or Portumna to Loughrea.

Rail

There are two operational sections of railway line in the study area currently. These are the Galway – Dublin line and the Limerick - Galway line. There is also a dismantled section of railway which previously travelled north – south between Attymon and Loughrea though some of the former railway now carries the M6 to Loughrea link road.

The Dublin line serves stops, from west to east, in Galway City, Athenry and Ballinasloe, with a number of services also stopping at Attymon and Woodlawn. A new transportation interchange which was recently opened at Garraun (Oranmore), east of Galway City, also serves this route.

The Limerick service serves Galway City, Athenry and Craughwell within the study area. This route also serves the Garraun (Oranmore) interchange.

Services on the Dublin route are more frequent than the Limerick route with nine operating between Dublin and Galway on a typical weekday with one additional early morning service originating in Athlone and terminating in Galway as well as another between Athenry and Galway which also operates in the evening.

Services from Limerick are not as frequent as the Dublin services with five services a day stopping at Craughwell. Stations within the study area served by this corridor are Craughwell and Athenry.

The carriage of bicycles is provided by Irish Rail on all their intercity services though this provision is limited to three bicycles per train. Bicycles are permitted on commuter services off peak between 10:00 and 15:30 and also after 19:00.

Conclusion

Based on the current public transport options available, towns that would offer good transport links to the proposed greenway are Ballinasloe, Loughrea, Craughwell, Oranmore and Athenry. National services link major towns and cities to the study area, while within Galway local services offer some connections to local towns in the area.

The carriage of bikes on public transport is limited and not guaranteed. With a maximum of three bikes permitted per train and bikes carried in the luggage compartments of buses, large parties of cyclists would currently find it difficult to use public transport to connect to the sections of the greenway.

2.3.4 Population Centres

The population, as detailed in the CSO Electoral Divisions 2011, for key towns/villages in the study area is shown in Table 2.2 below. The study area is largely rural in nature with some large towns included. The rural nature of the study area is shown in its relatively low population density. Ribbon development is common along county roads and rural housing is well scattered.

Galway City and Suburbs has over 76,000 people living there, based on data from the 2011 Census. After Gort, Ballinasloe is the second largest town in Galway with a population of almost 6,500 people. Loughrea and Athenry are similar sized towns at approximately 5,000 people, with Oranmore at 4,300. Within the study area, Clarinbridge is the largest village, with a number of smaller villages with populations in the region of 500-700.

As expected, population numbers decrease as distance increases from the main towns. In general there are a greater number of settlements along the alignment of the old N6, now the R446, with smaller settlements to the north of the study area, around the railway line.

Table 2.2: Galway Towns and Populations (per 2011 census)

| Name | Type | Population |
|--------------|---------|------------|
| Ballinasloe | Town | 6,449 |
| Loughrea | Town | 5,062 |
| Athenry | Town | 4,828 |
| Oranmore | Town | 4,325 |
| Clarinbridge | Village | 3,271 |
| Craughwell | Village | 1,640 |
| Kilcolgan | Village | 1,239 |
| Kiltulagh | Village | 702 |
| Kilconnell | Village | 670 |
| Aughrim | Village | 595 |
| New Inn | Village | 500 |
| Capataggle | Village | 436 |
| Attymon | Village | 429 |
| Kilreekill | Village | 295 |

2.4 External Parameters

2.4.1 Technical/Design Standards

NRA TD 300 Rural Cycle Scheme Design document was released in September 2013 and outlines the design standards that need to be considered when providing cycling facilities in rural areas.

The core principles within the NRA standards are the same as the Euro Velo standards in that there is a requirement to provide a facility that is safe, coherent, direct, convenient, comfortable, attractive and accessible. However, added to this are a number of design standards that includes widths, gradients and design speeds.

The standards state that dedicated cycle facilities are required on roads where speeds of greater than 50kph and/or AADT greater than 1000 vehicles exist. With regards to the width of the facility a number of criteria should be examined, including the expected usage and the type of facility it is. Table 2.3 shows the width requirements for various types of facilities.

Table 2.3 Range of Mandatory Widths for Cycle Facilities (per NRA TD 300)

| | | Desirable Min (m) | One Step Below Desirable Min (m) | Two Steps Below Desirable Min (m) |
|--|-------------|-------------------|----------------------------------|-----------------------------------|
| One Way (Cycle Facility) | Low Volume | 2.0 | 1.75 | 1.5 |
| | High Volume | 3.0 | 1.75 | 1.5 |
| Two Way (Cycle Facility) | Low Volume | 2.5 | 2.0 | 1.75 |
| | High Volume | 3.0 | 2.5 | 1.75 |
| Shared Use One Way (Cycle Facility) with pedestrians | Low Volume | 3.0 | 2.0 | 1.75 |
| | High Volume | 4.0 | 3.0 | 2.0 |
| Shared Use Two Way (Cycle Facility) with pedestrians | Low Volume | 3.0 | 2.0 | 1.75 |
| | High Volume | 5.0 | 3.0 | 2.5 |

Details of verge width are also provided and are generally between 1m and 1.5m, while carriageway separation distances vary from 2m (on a road with speeds of less than 80kph) to 6m (on roads with speeds greater than 80kph). Stopping sight distances are also specified, details are provided in Table 2.4.

Table 2.4 Dynamic Sight Distance and Stopping Distances (per NRA TD 300)

| Design Speed (km/h) | 50 km/h | 30 km/h | 10 km/h |
|-------------------------------------|---------|---------|---------|
| Minimum Dynamic Sight Distance (m) | 110 | 65 | 15 |
| Minimum Stopping Sight Distance (m) | 60 | 35 | 15 |

Horizontal alignment is an important factor in designing safe and comfortable facilities for cyclists; tight radii can cause cyclists to lose balance or momentum, however appropriately tight radii can be used as a speed inhibitor if designed correctly with appropriate signage. Similar to this the vertical gradients can make a facility comfortable or more challenging for some users. The design standards set down the following recommended values.

Table 2.5 Recommended Horizontal Radii for different Design Speeds (per NRA TD 300)

| Design Speed (km/h) | Minimum Horizontal Radius (m) |
|---------------------|-------------------------------|
| 10 km/h | 4 |
| 30 km/h | 25 |
| 50 km/h | 94 |

Table 2.6 Recommended Gradients (per NRA TD 300)

| | Gradients |
|-----------------------------------|-----------|
| Desirable Maximum | 3% |
| One Step Below Desirable Maximum | 5% |
| Two Steps Below Desirable Maximum | 10% |

Details are also provided on crossing details for major and minor roads, roundabouts and accesses. Pavement surfaces, access control and drainage requirements are also noted, with signage and markings an important part of the scheme to be considered at an early stage.

As the design of the proposed route progresses, these design standards will be adhered to.

2.4.2 Local Policy Requirements

Galway County Council Walking and Cycling Strategy Report (2013)

The Galway County Council Walking and Cycling Strategy recognises the potential walking and cycling can have on health benefits, transport benefits as well as economic benefits. A general overview of the existing facilities within the county was examined, with four key towns looked at in detail. The Strategy sets out the scope, vision and goals for the reduction of car journeys to “*embrace walking and cycling into daily routine of commuting, shopping, exercise and living*”. The key goals of the Strategy are to:

- Encourage modal shift
- Boost tourism with walking and cycling attractions and facilities
- Develop walking and cycling facilities for local participation in exercise
- Raise awareness of benefits of walking and cycling.

The Strategy aims to achieve its goals by splitting actions into three specific areas, Cycle Tourism, Cycle Commuting and Walking. For each area, specific projects were identified. Within the cycle tourism section, it was identified that the Galway City to Ballinasloe route, which is part of the National Cycle Network and pan European Cycle route, should be developed. This will allow users to cycle between the main urban areas throughout the country on an off-road facility. A number of other off-road facilities were identified, as well as cycle hubs and loops in

more rural areas. In addition a number of cycle commuter routes were identified, including the Oranmore to Galway City Greenway.

In terms of walking, the strategy aims to develop a hub of information on-line, with Smartphone applications for trails. In addition it plans to standardise the signage and information provided. It also aims to link existing and proposed routes.

The Strategy includes an information, marketing and education plan, with actions, to ensure people are aware of how alternative trips may be made, the benefits of these alternatives as well as incentives available. Finally the Strategy sets out an implementation plan, with targets for modal split, and timeframes for deliverables of each specific project identified.

Athenry Walking and Cycling Strategy (2012)

The Athenry Walking and Cycling Strategy has been developed to provide a sustainable transport future within the town and improve the quality of life for its inhabitants. Given the size of the town, walking and cycling are viable options for local trips, with a good proportion of work trips beginning and ending in Athenry. In addition, the existing walking proportions are high for both work and education, with possibly a latent demand for cycling which is not encouraged due to current road conditions. Fourteen objectives were set out including enhancing connectivity, managing traffic and improve safety on road for cycling.

Targets have been set out for modal shift and the approach to achieve these objectives also explored. A regional cycle plan has been included, which sets out potential links from Athenry to Tuam (via the disused western railway line) and to Loughrea (via local and regional roads). The Strategy also refers to potential to join the National Cycle Network from Dublin to Galway (Clifden).

Galway City and Environs Walking and Cycling Strategy

The Galway City and Environs Walking and Cycling Strategy focuses on the benefits of increased walking and cycling trips in the Galway Metropolitan Area. It takes a more holistic view of the benefits offered by increased modal share for these travel types by not just looking at the quantifiable benefits in terms of CO2 reductions and reduction in accident rates but also at the unquantifiable benefits such as the improvement to people's health and general well being. Eight specific objectives are set out in the vision statement of the document which it is anticipated will dramatically improve the environment for all vulnerable road users.

Loughrea Smarter Travel Plan Submission

The Loughrea Smarter Travel Submission was prepared for the Smarter Travel Town (a funding stream managed by the Department of Transport Tourism and Sport) application. In the submission, Loughrea not only proposed a number of Smarter Travel measures and supporting infrastructure but also a change in attitude and behaviour. Its aim was to break old habits and introduce new, more sustainable ones, where walking and cycling would take the forefront in travel options. A series of fourteen actions/work streams were proposed including car share schemes, cycle and walking measures and parking strategies. This submission has formed the basis of how the town plans to move forward in terms of sustainable travel.

Ballinasloe Active Travel Town Strategy Report

Following on from the Galway County Walking and Cycling Strategy, specific plans are detailed for a number of towns within the county, including Ballinasloe. This plan examines modal split, sets targets for future modal splits, and details specific upgrades to the existing road network for the improvement of walking and cycling in the town. As well as hard measures, soft measures such as workplace travel plans, personalised travel plans, and wayfinding are proposed.

Alternatives Considered

3 Alternatives Considered

3.1 Previous Feasibility Studies

In April 2013, NUI Galway concluded a high-level constraints study and an outline route selection report for a national cycle network connection from Mullingar to Oranmore. The report splits the Mullingar to Dublin route into three areas, including Ballinasloe. Six route options were identified and considered between each of these areas and assessed against the following criteria:

- Route Type
- Directness
- Gradient
- Integration.

These criteria were established prior to the current project's objectives being defined. Therefore it is noted that a fully segregated off-road facility was not considered in the NUI Galway Report. A summary of the six proposed corridor options for both sections is shown in Table 3.1. A review of the routes is shown in the 'Outcome' column in which viable options or positives associated with any particular option are noted.

Table 3.1: Summary of NUI Galway Section 3A and 3B route proposals

| Corridor ID | Corridor Type | Brief Description | Outcome |
|-------------|--------------------|---|--|
| C1 | Greenway (railway) | The route follows the live Dublin-to-Galway railway line from Oranmore to Ballinasloe, via Athenry | Viable option to be taken forward. |
| C2 | On-Road | The route travels on the old national road, now the R446 from Ballinasloe, via Loughrea, Craughwell and Athenry and on to Oranmore | Not viable as the route proposes to utilise excessive amount of on-road cycleway |
| C3 | On-Road | Travels on the R446 to Aughrim, then uses local roads to Cappataggle and on to Loughrea, it then travels north to Kiltullagh and Athenry before returning to the R446 on entering Oranmore. | Not viable as the route proposes to utilise excessive amount of on-road cycleway |
| C4 | On-Road | The route follows the R446 from Ballinasloe to Loughrea, then follows the R349 to Athenry. From here, the corridor travels on the R348 and then enters Oranmore on the R446. | Not viable as the route proposes to utilise excessive amount of on-road cycleway |
| C5 | On-Road | The route follows the R446 out of Ballinasloe then travels on local roads from Aughrim via Loughrea, Craughwell and Oranmore. | Not viable as the route proposes to utilise excessive amount of on-road cycleway |
| C6 | On-Road | This route leaves Ballinasloe on the R446 to Aughrim, and then travels on local roads to Attymon, Athenry and Oranmore. | Not viable as the route proposes to utilise excessive amount of on-road cycleway |

The primary objective of the present project is to provide a world class traffic-free trail from Galway to Dublin. As a result, almost all of the options considered in the NUI Galway report can be set aside. Consequently, a further refined corridor study is required that provides a comprehensive selection of feasible off-road corridors.

As corridor C1 was identified as a viable option, it has been taken forward as a corridor option within the scope of this study.

3.2 Do-Nothing

The 'Do-Nothing' scenario, in effect, implies that no modifications or improvements be made to existing infrastructure and the route selected will ultimately be the cyclists' decision for any touring cyclists who do decide to journey between Dublin and Galway. (In this scenario the numbers would be small.). The 'Do-Nothing' alternative comprises an investigation of the existing infrastructure and its ability to meet future demands of cyclists and traffic if the suggested route is on-road.

The most appropriate route, considering this approach, is the R446 regional road. The R446 continues to offer an alternative for drivers wishing to avoid the tolled sections of the motorway. As such, this route continues to support relatively high traffic volumes and therefore has not been considered further in the development of proposed corridor options as it cannot achieve the project objectives.

3.3 Do-Minimum

The 'Do-Minimum' alternative generally comprises an investigation of feasible 'on-line' upgrades of existing routes which would be capable of delivering the required levels of service and safety in accordance with applicable design standards.

Although upgrading the R446 to incorporate on-road cycle lanes is feasible and there may be a significant cost-benefit, the characteristics of the corridor are non-compliant with the general requirements of greenway facilities. In line with Fáilte Ireland research, studies have shown that cyclist route preferences are influenced by scenery and amenity opportunities rather than directness of route. The R446 corridor provides good directness but will not deliver on the project vision to deliver a '*world class traffic free trail*' as outlined in Section 1.3. As a result the option to upgrade the R446 has not been considered further in the development of proposed route options.

Corridor Options and Assessment

4 Corridor Options and Assessment

4.1 Introduction

This section of the report provides outlines of the seven corridors which have been identified within the study area for the present report and evaluates these against the assessment criteria.

A summary assessment matrix is provided at the end of this section which graphically summarises these results.

4.2 Proposed Corridor Options

A total of seven corridors have been identified, within the study area, with different connections/alignments forming the seven corridors.

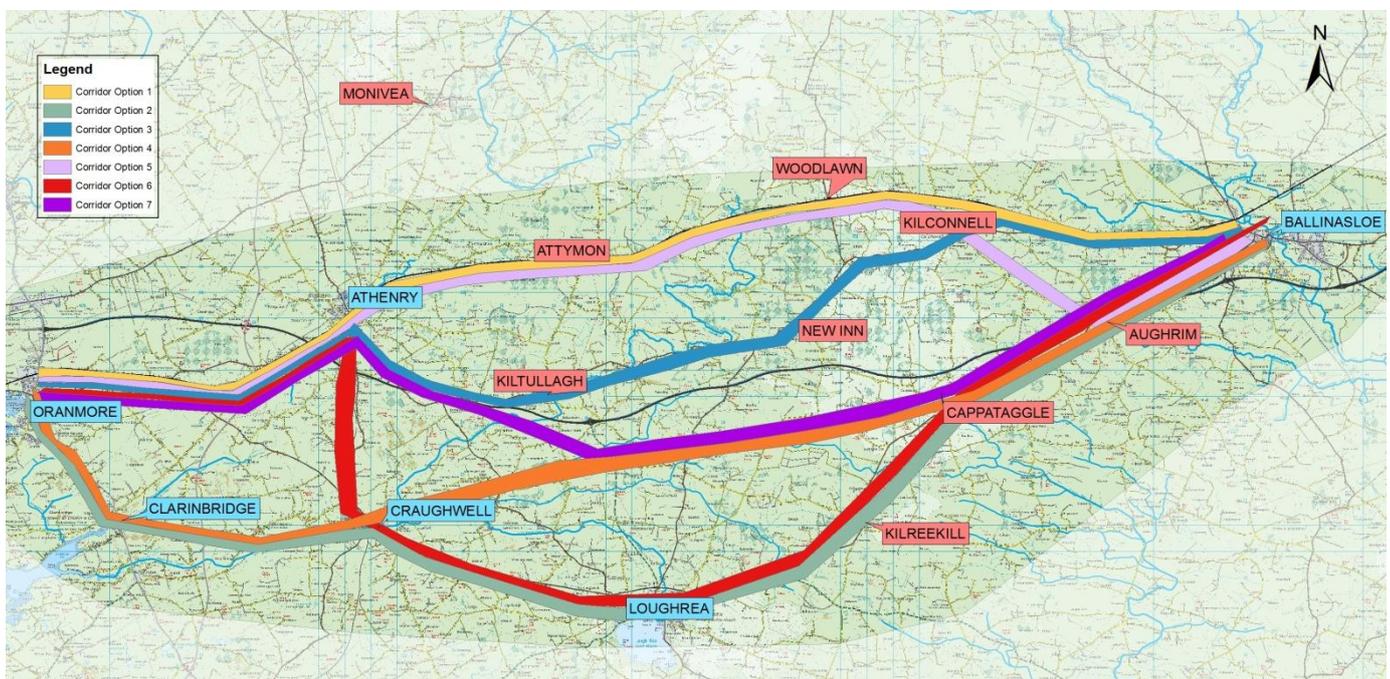


Figure 4.1 Corridor Options

4.3 Assessment Criteria

This section sets out the assessment criteria used in the selection process of the preferred corridor. The criteria adopted are based on those identified in the NRA Project Management Guidelines and the NRA Guidance on Environmental Impact Assessments. The identification of the selection assessment criteria was informed by the user preferences that were identified in the Fáilte Ireland Cycling and Activities Research, guidance from EuroVelo documents and international best practice. Eight assessment criteria have been developed as follows:

1. Landscape and Visual (Attractions and Potential Impacts)
2. Flora & Fauna (Attractions and Potential Impacts)
3. Cultural Heritage and Visitor Attractions (Attractions and Potential Impacts)
4. Connectivity and Accessibility to local amenities
5. User Safety
6. Economy (Cost)
7. Physical Constraints (topography, flooding)

8. Material Assets, Human Beings.

This section of the report will examine how the proposed corridors perform against each of the criteria set out above. This will enable a final preferred corridor to be selected.

A multi-criteria assessment was prepared, involving the comparison of various factors that cannot be readily quantified on a single consistent scale. The tool that has been used to facilitate this is a graphic representation, where a colour scale of red to green is used. The most favourable ranking for a particular issue is coloured green, with the least favourable red. Figure 4.2 below, shows this colour grading and the associated scoring.

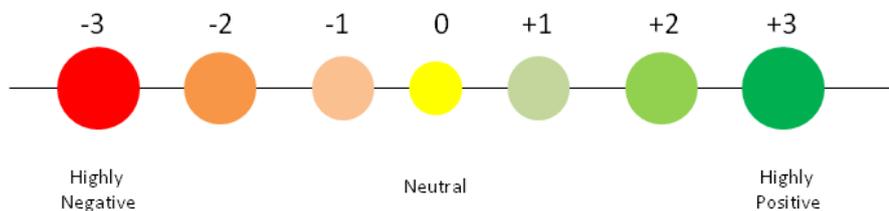


Figure 4.2 Key to Multi-Criteria Assessment

4.3.1 Corridor Option 1 (Yellow)

This corridor broadly follows the alignment of the existing Dublin to Galway railway. Beginning in Ballinasloe the corridor travels adjacent to the south of the railway line. It dips into the village of Kilconnell, home to a 15th-century Franciscan Friary (in ruins) which is maintained by the Office of Public Works. The village has a number of public houses and local shops. The corridor then returns to the railway line and passes through Woodlawn. Seven of the 11 daily railway services between Dublin and Galway stop at Woodlawn. Travelling west, the landscape is a mixture of woodlands, peat bogs and green fields, on a very flat terrain.

The corridor continues to Attymon, which has a shop and bar, located approximately 450m from the railway line. It enters Athenry, travelling along the eastern side of the River Clarin. The corridor will bring users close to the ancient castle and churches in the medieval town before rejoining the railway as it descends into Oranmore, entering to the west of the town centre and close to Oranmore Train Station.

4.3.2 Corridor Option 2 (Green)

This option links the towns of Ballinasloe, Loughrea, Clarinbridge and Oranmore. Running southwest out of Ballinasloe, the proposed greenway takes in the historic village of Aughrim, famed for the battle of Aughrim in 1691. There is a small number of shops and bars, also a service station (currently closed), with an interpretative centre which provides information on the Battle.

Travelling further southwest, the corridor heads towards Cappataggle, the highest point within the study area, and then travels further south to Kilreekill, a village with a shop/post office and bar. In Kilreekill village there is an impressive early medieval ringfort (earthenworks enclosure). Landscape in this area consists mainly of green fields, with small areas of forest. The corridor continues down to Loughrea, passing through the town's main streets before hitting Lough Rea. Loughrea has a good offering of shops, and accommodation. It also has a number of tourist attractions such as the medieval priory off the 18th-century walk known as 'The Mall', the lake has a blue flag designation for water quality and bathing, while Dartfield Horse Museum is just outside the town. Passing through green fields, the corridor travels northwest towards Craughwell, where it meets the Dunkellin River. Craughwell has a pedestrianised medieval bridge. Craughwell has a good offering of bars, restaurants and other services.

A short trip north takes the corridor to Clarinbridge. From here the corridor travels north from Clarinbridge to Oranmore, both with an abundance of shop, cafes/restaurants and bars. Creganna Marsh NHA lies to the southeast of Oranmore and any route developed along this corridor may need to avoid this area.

Between Clarinbridge and Oranmore the route corridor is constrained by conservations areas and natural features such as the Clarinbridge River, Cregganna Marsh and Galway Bay.

4.3.3 Corridor Option 3 (Blue)

Corridor Option 3 travels along a central corridor within the study area, to the north of the M6. The corridor begins in Ballinasloe, and travels west along the railway line to Kilconnell before it heads south west to New Inn, a small village with a pub and shop. The corridor passes through a number of small forested areas which contain a number of forest trails that could be utilised. As this corridor descends from the Kilreekill Rodge, it offers good views westwards over the Galway plain. From here the corridor travels west to Kiltullagh. The proposed corridor then swoops northwest towards Athenry, before continuing along the rail line to Oranmore. Again the corridor enters the town to the west of the centre, close to the railway station.

4.3.4 Corridor Option 4 (Orange)

This option takes a relatively central alignment through the study area and travels to the south of the M6 motorway. The corridor leaves Ballinasloe and travels towards Aughrim, and on to Cappataggle, where it turns west. Cappataggle has facilities such as a post office with public house. The corridor runs parallel to a number of rivers, forest and parklands such as Dunsandle Castle and woods (privately owned), with short sections on very minor local roads, before arriving at Craughwell. From Craughwell, the corridor would continue as per Option 2, from Craughwell to Clarinbridge and up to Oranmore.

4.3.5 Corridor Option 5 (Pink)

Corridor Option 5 is essentially a combination of Option 1 and Option 2. Travelling southwest from Ballinasloe, the corridor enters Aughrim where it will take in the Battle of Aughrim site and interpretative centre. From here the corridor travels back to Kilconnell and up to the railway. It runs past Woodlawn, Attymon and into Athenry before travelling southwest to Oranmore close to the railway alignment.

4.3.6 Corridor Option 6 (Red)

This option is also a combination of Option 1 and Option 2. The corridor begins in Ballinasloe and travels southwest where it again hits the Battle of Aughrim site. It then heads southwest, through green fields, towards Kilreekill and Loughrea. From Loughrea the corridor travels north west, generally travelling through green fields to Craughwell. At this point the greenway breaks from Corridor Option 2 and heads north, along the line of the former Midlands and Great Western Rail railway line to Athenry. The corridor then rejoins Corridor Option 1 and travels south west to Oranmore.

4.3.7 Corridor Option 7 (Purple)

Corridor Option 7 travels from Ballinasloe, to Aughrim and down to Cappataggle. From here the corridor heads west, following the alignment of Corridor Option 4 as far as Dunsandle Castle and woods, and from here heads northwest towards Athenry. It connects with Athenry, and then travels towards Oranmore on the railway alignment.

4.4 Assessment of Options

4.4.1 Landscape and Visual (Attractions and Potential Impacts)

As a means of differentiating the seven corridors in terms of the quality of the landscapes and visual attractions, a landscape assessment was commissioned for the study area from the Paul Hogarth Company. This assessment was based on a number of criteria, including the general views, wow factor views (views rated 7/10 and above in the landscape assessment).

The assessment set out to determine whether the views from the route are predominantly good quality (i.e. avoiding areas that would undermine the overall impression) and importantly are they dramatic, memorable and diverse (and photogenic). Included in this assessment was the possibility to see interesting places, such as designated areas,

which might offer potential wildlife views, visitor attractions and the connection to existing facilities, towns and villages. The towns of Ballinasloe and Oranmore are common to all corridor options and both score 5/10 in the landscape assessment.

Corridor Option 1, the yellow corridor, follows the railway alignment and generally the views along this corridor have been rated 2-3/10, with two spots rated as 5/10 at Woodlawn woods and on the approach to Athenry. The towns/villages along the corridor have also been rated, with Kilconnell rated as a 3/10, Woodlawn 4/10 and Attymon 2/10. Athenry, Oranmore and Ballinasloe were all scored at 5/10. No “wow” views were noted along this corridor. The corridor has a length of 53km and a total landscape score of 52.

Corridor Option 2, the green corridor, travels along the southernmost extent of the study area. There is a greater variation in scoring at locations along this corridor, with marks noted from 2/10 to 7/10. There are a number of interesting links along this corridor, including Craughwell to Clarinbridge, with some high scoring locations including Carraun and Aggard More with views of Dunkillen River and the Kilcolgan River. The link between Aughrim and Loughrea also has the potential to be a scenic corridor with views of Ballydonnellan Castle and woodlands, the Aughrim Battlefield and Ballydoggan Estate which is a private estate with mature trees and a stately home. “Wow” views were recorded at two locations on this corridor, at Ballydonnellan Castle and the Rahasne Turlough in Carraun. Loughrea town scores highly, with 6/10, while other towns along the corridor scoring 3-4/10. The corridor has a length of 64km and a total landscape score of 103.

The blue corridor, Corridor Option 3, includes sections of the railway which received low ratings, from Ballinasloe to Kilconnell and from Athenry to Oranmore. It does include a number of interesting spots such as Esker and Radford, and the river Clogheravaun. There is a small variation in landscape in this central location which consists of floodplains, farmlands, and undulating landscapes in addition to mature trees and wooded areas. The quality of the places of interest is limited to a number of ancient cemeteries and some bridges. Towns/villages included in this corridor include Kilconnell, New Inn and Kiltullagh, all of which scored 3/10, with a 5/10 scored at Athenry. The corridor has a total score of 54 and a length of 63km.

Corridor Option 4, the orange corridor, travels to the south of the M6 motorway and travels through, or close to, the towns of Aughrim, Cappataggle, Craughwell and Clarinbridge. With a total score of 110 over its entire length, this corridor option has a number of interesting landmarks, including the battle site at Aughrim, 5/10. There are also views of floodplains, woodlands and farmlands along this corridor. It also includes the scenic corridor from Craughwell to Clarinbridge, as noted in Option 2 above. The corridor has a total length of 61 km and a landscape score of 110.

Corridor Option 5, the pink corridor follows the alignment of the railway with a diversion out of Ballinasloe to Aughrim. As with the yellow option, this corridor generally scores low in terms of views with an average score of 3/10 along the corridor. The link between Aughrim and Kilconnell adds little to the railway option, with generally no wow factors or places of interest noted. The total score for the corridor is 61, over a distance of 55km.

The red corridor, Option 6, includes the “wow” view at Ballydonnellan Castle, as well the Battle of Aughrim site. The link from Craughwell to Athenry is relatively monotonous with average scores of 2/10 along this corridor, with no places of interest noted. Towns and villages included along this corridor include Aughrim, Kilreekill and Craughwell, with scores of 3-4/10 and Loughrea which scores highly with a 6/10. Athenry scores a 5/10 however the approach to the town is dominated by new road infrastructure, therefore only scores 1/10. The total landscape score for the corridor is 85, and a total length of 69km.

The final option, Option 7 – purple corridor, tries to include some of the more scenic views, while also hitting key towns. The corridor is a combination of the Orange Corridor, and the Blue Corridor. Sights included are the Bloody Hollow at Aughrim, Dunsandle Castle and woods, as well as Esker and Athenry town. While this corridor does not

include any wow factor views, the rating of the view is consistently high, with a variation in the landscapes and scenery. The total score for this corridor is 106 over a length of 66km.

The following table summarises the results of the landscape view analysis:

Table 4.1: Landscape and Views (Attractions and Potential Impacts)

| Corridor | Corridor Option 1 | Corridor Option 2 | Corridor Option 3 | Corridor Option 4 | Corridor Option 5 | Corridor Option 6 | Corridor Option 7 |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mark | -1 | 3 | -1 | 3 | 0 | 2 | 3 |

4.4.2 Flora & Fauna (Attractions and Potential Impacts)

This criterion investigates the flora and fauna within the study area. This has been based on the location of designated sites which primarily consist of Natural Heritage Areas (NHA), Special Areas of Conservation (SAC) and Special Protection Areas (SPA). NHAs are designated areas for habitats species and geology that are of conservation interest, while SACs are prime wildlife areas, often with habitats and species which must be protected. Lands used by important wild birds species are generally protected by SPA status as well as Natura 2000. These sites are constraints in their own right and may prove to be barriers in the final corridor selection process. Every effort will be made to promote the amenity, ecological and educational values of the sites while at the same time ensuring their conservation value is preserved and not adversely affected by the greenway. In addition to designated sites, various landscapes and land use may add to the variety of flora and fauna along a corridor.

Corridor Option 1 generally travels through areas of farmlands, with a small number of woodlands noted. There are no designated sites noted along this corridor. At Clooncah, a location between Attymon and Woodlawn, there is potential to see a number of watercourses and lakes, which are natural habitats for birds and wildlife, as well as flora. However a number of areas close to the railway were also identified as flood risk areas with the River Clarin also identified as a flood area. This could impact on the proposals to provide a scenic corridor into Athenry along the banks of the river.

Corridor Option 2 has a varied landscape with farmlands, mature trees, woodland plantations, river and floodplain views on gently undulated terrain. This corridor passes close to three designated areas, including Rahasane Turlough SPA and SAC. It is the most important turlough for birdlife in the country, supporting seven species of national importance. Greenland white fronted geese, whooper swans and golden plover have been recorded at this location, and are important occurrences, with these species listed in Annex I of the EU Birds Directive. The fairy shrimp (*Tanymastix stagnalis*) was first recorded in Ireland in the southern basin at Rahasane. It also rates highly for its vegetation and supports two listed rare species. Again the rivers, woodland plantations and floodplains also add to the possibility of interesting occurrences of flora and fauna along the route. Similarly Cregganna Marsh is home to interesting wildlife and vegetation, including the Greenland white fronted geese, hazel scrub and freshwater marsh. The route also passes close to Galway Bay complex, which potentially offers views of all manner of marine life. The route also passes along the banks of Lough Rea, an SAC and SPA. Lough Rea is rich in aquatic life, bird life and has some rare and unusual plant life, including the narrow leafed helleborine, betony and water germander, all found on Hare Island. The Brimstone butterfly is also common in the area, as well as on the Shannon.

Corridor Option 3 mainly passes through farmland, with small patches of woodland and floodplain. There are also areas of mature trees and undulating landscapes, however the corridor does pass close to the motorway reducing its attractiveness. The proposed corridor avoids any designated areas, and passes through a limited number of flood areas. This route offers limited access to a variety of flora and fauna.

Corridor Option 4 passes to the south of the M6 motorway, and includes the battlefield at Aughrim, with open landscapes with a scattering of mature trees. This corridor passes Rahasane Turlough, which again offers various flora and fauna potential. The corridor travels up to Clarinbridge, with views of the Clarin River estuary. Similar to

Corridor Option 2, the corridor passes through the designated sites of Cregganna Marsh SPA, Galway Inner Bay SPA and Galway Bay Complex SAC. This corridor also passes a number of rivers and floodplains, affording the opportunity to see varying natural habitats along the river banks. There are small patches of woodland along this route.

Corridor Option 5, pink corridor, has a similar offering in terms of interesting habitats to Corridor Option 1, with no designated areas included. The route does include the Battle of Aghrim site, however, with an open landscape and a scattering of mature trees, but the opportunity to see flora and fauna is limited at this location. Woodlands, rivers and floodplains offer some variety to the otherwise predominately agricultural land use.

Corridor Option 6 follows the same route as Corridor Option 2 as far as Craughwell, passing farmlands, rolling landscapes and floodplains and watercourses. It includes the benefit of all Lough Rea has to offer in terms of flora and fauna. From Craughwell the route travels north to Athenry, mainly through farmlands, and on to Oranmore, again in farmlands. Aside from Lough Rea, the variety of flora and fauna is limited along this route.

Corridor Option 7 includes the rolling landscape at the Battle of Aghrim site, as well as the farmlands, woodlands, wetlands and floodplains along the central corridor. The corridor follows close to a number of rivers, before heading north towards Athenry, where areas of mature trees and woodlands are noted. The final leg into Oranmore is dominated by farmlands. This corridor does not pass through any designated sites.

Figures 4.3 below illustrate maps showing the designated areas within the study area.

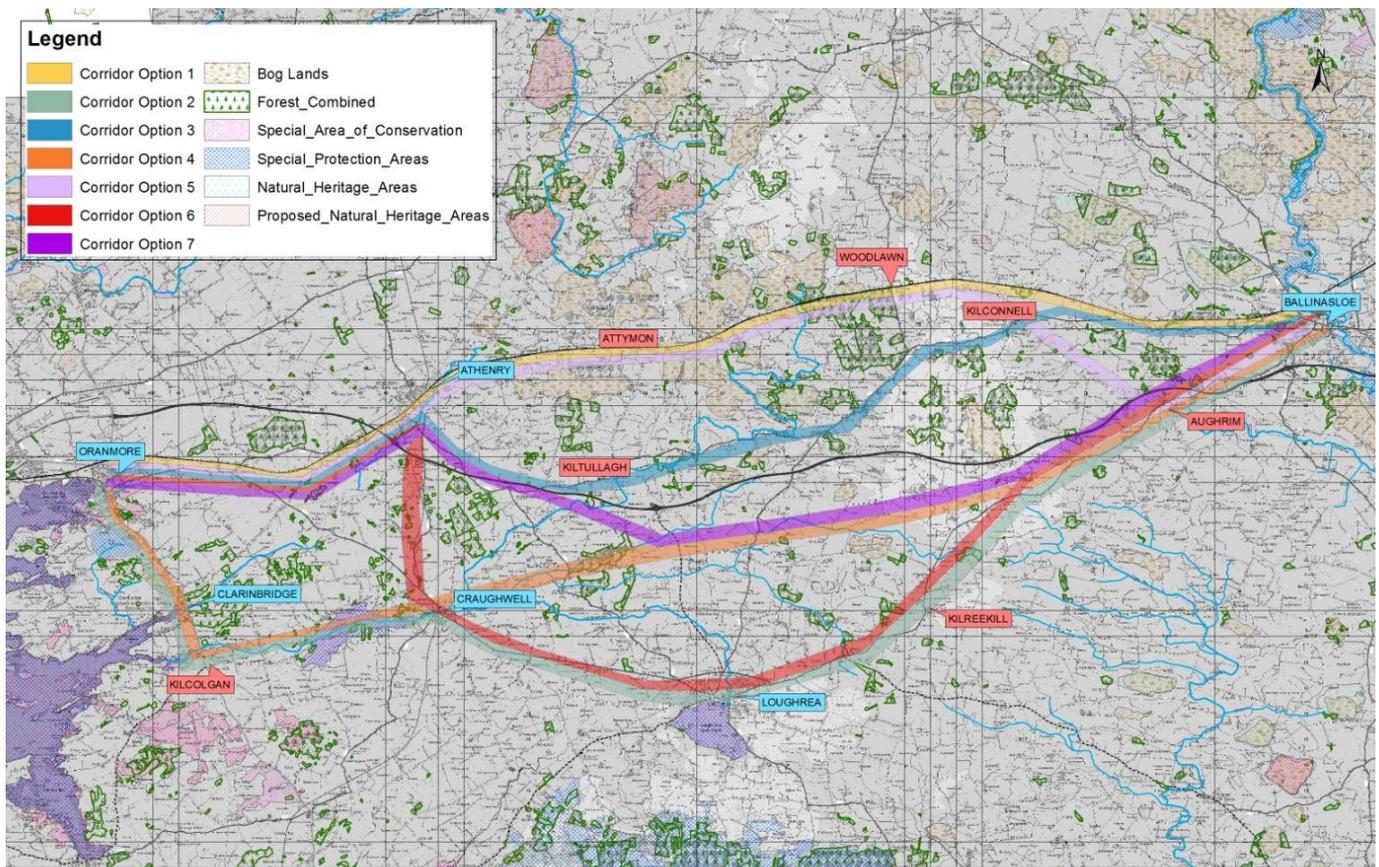


Figure 4.3 Designated sites, forests and bog land

Of the seven corridors, corridors to the south have the potential to include the most varied and interesting access to flora and fauna, due to the designated sites of Rahasane Turlough, Cregganna Marsh and Galway Bay. Option 2, Option 4 and Option 6 all score highly. The two corridors that follow the railway line are dominated by flat, relatively mundane landscapes and thus do not score as highly.

Table 4.2: Flora and Fauna (Attractions and Potential Impacts)

| Corridor | Corridor Option 1 | Corridor Option 2 | Corridor Option 3 | Corridor Option 4 | Corridor Option 5 | Corridor Option 6 | Corridor Option 7 |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mark | -1 | 2 | 0 | 2 | 0 | 2 | 1 |

4.4.3 Cultural Heritage and Visitor Attractions (Attractions and Potential Impacts)

A review of the data made available by Fáilte Ireland in terms of the attractions and amenities in the study area was carried out. It was found that in general there are relatively few commercial or developed tourist attractions and amenities in the east of County Galway.

Tourist attractions include cultural heritage opportunities (e.g. the battlefield interpretive centre in Aughrim or the Cathedral in Loughrea) but also managed activities (e.g. pony trekking at Dartfield or visiting the pet farm at Turoe). Places such as hotels, restaurants, shops, etc. have not been included as, while they serve a practical function in terms of offering services to passing tourists, most would not be considered attractions in their own right.

Corridor Option 1 possesses limited visitor attractions between Ballinasloe and Athenry. Kilconnell has an ancient friary which is in ruins and is maintained by the OPW, while Coillte owns a wood in Woodlawn with a designated walking area provided. Athenry is a designated Heritage Town, with Athenry Castle and parts of the towns medieval walls still standing. There is an Arts and Heritage Centre in the town, with a number of attractions noted in the areas, including activity trails, and the ruined medieval priory.

Corridor Option 2 hits a number of visitor attractions, including the Battle of Aughrim site and the Interpretative centre in Aughrim, Dartfield Horse Museum in Kilreekill and a number of attractions in Loughrea. These include the beach and lake, historic walks, cathedral and museum, and outside the town Woodville House Walled Garden. In Clarinbridge the Galway Bay coastline is easily accessible from the proposed corridor.

Corridor Option 3, the blue corridor, takes in Kilconnell friary in Kilconnell, and Esker Monastery between Kiltullagh and Athenry. Again Athenry is included with the castle, heritage centre, and surrounding attractions.

Corridor Option 4, orange Corridor, includes the historic village of Aughrim and its interpretative centre and battle sites. It also included Turoe Pet Farm and Turoe Stone, Dunsandle Castle and Woods. The castle and woods are in private ownership with events open to the public throughout the year. From here the corridor travels towards Clarinbridge which benefits from coastal attractions.

Corridor Option 5, pink corridor, travels from Ballinasloe to Aughrim to include the battle field and interpretative centre at Aughrim and Kilconnell friary. It also includes the woods at Woodlawn and all the attractions Athenry has to offer.

The red corridor, Corridor Option 6, includes the Battle of Aughrim site and attractions, Dartfield Horse Museum, the attractions of Loughrea as well as Athenry.

Corridor Option 7 includes the attractions of Aughrim, Turoe Pet Farm and the Turoe Stone and Dunsandle Castle and Woods. It also includes Esker Monastery and Athenry town.

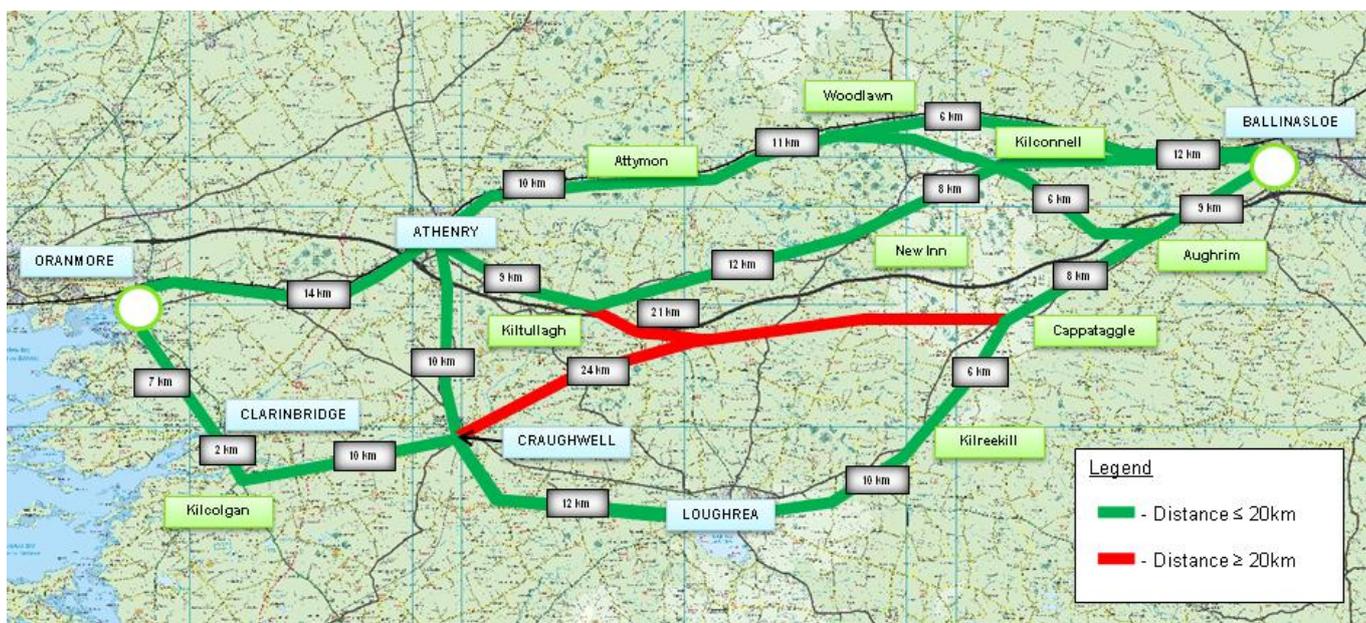
The table below outlines the attractions encountered along each corridor option as well as the ratings along the corridor.

Table 4.3 Cultural Heritage and Visitor Attractions

| Corridor | Corridor Option 1 | Corridor Option 2 | Corridor Option 3 | Corridor Option 4 | Corridor Option 5 | Corridor Option 6 | Corridor Option 7 |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mark | 1 | 3 | 2 | 1 | 1 | 3 | 1 |

4.4.4 Connectivity and Accessibility to Local Amenities

This is an important criterion to assess the feasibility of corridor options proposed. A basic level of facilities including toilets, food and accommodation should be available every 20km (or approximately 1 hours cycling), with larger towns which have a more comprehensive offering every 50-70km. Figure 4.6 below shows the distances between the various towns and villages on each of the corridors.

**Figure 4.6 Distances between Towns and Villages**

There are four main towns within the study area, Ballinasloe, Loughrea, Atherry and Oranmore. Table 4.4 sets out the estimated distance between major towns for each corridor option. The desirable distance between these towns should be in the range of 50-70km.

Table 4.4 Distances between Major Towns

| Corridor | Towns | Distance |
|-------------------|-------------------------|----------|
| Corridor Option 1 | Ballinasloe to Atherry | 40km |
| | Atherry to Oranmore | 14km |
| Corridor Option 2 | Ballinasloe to Loughrea | 30km |
| | Loughrea to Oranmore | 26km |

| | | |
|-------------------|-------------------------|------|
| Corridor Option 3 | Ballinasloe to Athenry | 40km |
| | Athenry to Oranmore | 14km |
| Corridor Option 4 | Ballinasloe Oranmore | 60km |
| Corridor Option 5 | Ballinasloe to Athenry | 40km |
| | Athenry to Oranmore | 14km |
| Corridor Option 6 | Ballinasloe to Loughrea | 30km |
| | Loughrea to Athenry | 27km |
| | Athenry to Oranmore | 14km |
| Corridor Option 7 | Ballinasloe to Athenry | 40km |
| | Athenry to Oranmore | 14km |

The offering each village/town has in terms of food/toilet, accommodation and local shops with details on the facilities provided by the larger towns on the corridor was also evaluated. This tables uses the same scale as noted in Figure 4.2 with a colour scale of red to green used. The most favourable score is green, with the least favourable red. The table sets out the corridor and the towns/villages the corridor passes; it identifies the distance between each settlement, and highlights the availability of food/toilets, accommodation and shops.

Table 4.5: Level of Facilities in Town/Villages by Corridor

| Corridor 1 | | Distance | Cumulative Distance | Food & Toilets | Accommodation | Local Shops |
|-------------|--------------|----------------|---------------------|---|---|---|
| Ballinasloe | Oranmore | | | | | |
| Ballinasloe | Kilconnell | 12 | 12 |  |  |  |
| Kilconnell | Woodlawn | 6 | 18 |  |  |  |
| Woodlawn | Attymon | 11 | 29 |  |  |  |
| Attymon | Athenry | 10 | 39 |  |  |  |
| Athenry | Oranmore | 14 | 53 |  |  |  |
| Oranmore | | | |  |  |  |
| | | All under 20km | 53 | | | |
| Corridor 2 | | Distance | Cumulative Distance | Food & Toilets | Accommodation | Local Shops |
| Ballinasloe | Oranmore | | | | | |
| Ballinasloe | Aughrim | 9 | 9 |  |  |  |
| Aughrim | Kilreekill | 14 | 23 |  |  |  |
| Kilreekill | Loughrea | 10 | 33 |  |  |  |
| Loughrea | Craughwell | 12 | 45 |  |  |  |
| Craughwell | Clarinbridge | 12 | 57 |  |  |  |

| | | | | | | |
|-------------------|--------------|----------------|---------------------|---|---|---|
| Clarinbridge | Oranmore | 7 | 64 |  |  |  |
| Oranmore | | | |  |  |  |
| | | All under 20km | 64 | | | |
| Corridor 3 | | Distance | Cumulative Distance | Food & Toilets | Accommodation | Local Shops |
| Ballinasloe | Oranmore | | | | | |
| Ballinasloe | Kilconnell | 12 | 12 |  |  |  |
| Kilconnell | New Inn | 8 | 20 |  |  |  |
| New Inn | Kiltullagh | 12 | 32 |  |  |  |
| Kiltullagh | Athenry | 9 | 41 |  |  |  |
| Athenry | Oranmore | 14 | 55 |  |  |  |
| Oranmore | | | |  |  |  |
| | | All under 20km | 55 | | | |
| Corridor 4 | | Distance | Cumulative Distance | Food & Toilets | Accommodation | Local Shops |
| Ballinasloe | Oranmore | | | | | |
| Ballinasloe | Aughrim | 9 | 9 |  |  |  |
| Aughrim | Cappataggle | 8 | 17 |  |  |  |
| Cappataggle | Craughwell | 24 | 41 |  |  |  |
| Craughwell | Clarinbridge | 12 | 53 |  |  |  |
| Clarinbridge | Oranmore | 7 | 60 |  |  |  |
| Oranmore | | | |  |  |  |
| | | 1 Over 20km | 60 | | | |
| Corridor 5 | | Distance | Cumulative Distance | Food & Toilets | Accommodation | Local Shops |
| Ballinasloe | Oranmore | | | | | |
| Ballinasloe | Aughrim | 8 | 8 |  |  |  |
| Aughrim | Kilconnell | 6 | 14 |  |  |  |
| Kilconnell | Woodlawn | 6 | 20 |  |  |  |
| Woodlawn | Attymon | 11 | 31 |  |  |  |
| Attymon | Athenry | 10 | 41 |  |  |  |
| Athenry | Oranmore | 14 | 55 |  |  |  |

| | | | | | | |
|-------------------|-------------|----------------|---------------------|---|---|---|
| Oranmore | | | |  |  |  |
| | | All under 20km | 55 | | | |
| Corridor 6 | | Distance | Cumulative Distance | Food & Toilets | Accommodation | Local Shops |
| Ballinasloe | Oranmore | | | | | |
| Ballinasloe | Aughrim | 9 | 9 |  |  |  |
| Aughrim | Kilreekill | 14 | 23 |  |  |  |
| Kilreekill | Loughrea | 10 | 33 |  |  |  |
| Loughrea | Craughwell | 12 | 45 |  |  |  |
| Craughwell | Athenry | 10 | 55 |  |  |  |
| Athenry | Oranmore | 14 | 69 |  |  |  |
| Oranmore | | | |  |  |  |
| | | All under 20km | 69 | | | |
| Corridor 7 | | Distance | Cumulative Distance | Food & Toilets | Accommodation | Local Shops |
| Ballinasloe | Oranmore | | | | | |
| Ballinasloe | Aughrim | 9 | 9 |  |  |  |
| Aughrim | Cappataggle | 9 | 18 |  |  |  |
| Cappataggle | Athenry | 30 | 48 |  |  |  |
| Athenry | Oranmore | 14 | 62 |  |  |  |
| Oranmore | | | |  |  |  |
| | | 1 Over 20km | 62 | | | |

Distance between major towns is less than 60km for all options. This is within the 50-70km limit required under the assessment. Generally each corridor option enters three towns, including Ballinasloe and Oranmore. Corridor Option 4 only includes the towns of Ballinasloe and Oranmore, with Corridor Option 6 travelling through all four towns.

Looking at the *Distance* column of Table 4.5, it can be seen that Corridor Options 4 and 7 do not meet the requirement to provide small towns/villages at the 20km spacing. Between Cappataggle and Craughwell a distance of approximately 24km is noted while Corridor Option 7 travels from Cappataggle to Athenry (30km) without encountering a village. The other corridors all perform well in relation to distance, with an average distance of 10km between towns/villages on each of the other corridors.

The final section of this criterion examines the facilities and accommodation on offer in each of the towns/villages. Larger villages such as Clarinbridge and Craughwell are well facilitated with shops, public houses and local amenities (Garda station, post offices, service stations). Aughrim, Kilreekill and New Inn are relatively well served with facilities for food, toilet breaks and local shops. However smaller villages may only have one retail offering, be it

a public house, a post office, or small local shop, such as Woodlawn, Kiltullagh and Cappataggle. Under this criterion, Corridor Option 2 and 6 perform the best, with a high number of well served villages along the route. Corridor Option 1, 3 and 5 perform worse due to the limited number of villages and the number of facilities in each village.

All the larger towns within the study area are well served with cafes/public houses/local shops and amenities. Loughrea is a vibrant and picturesque town centre. While the centre is small, it is well defined with a good variety of shops in the town. In Athenry, the retail offering is quite varied. There are a number of cafes and public houses. On the outskirts of the town, a small retail park has developed with an anchor food store and some smaller shops including a chemist, bookstore and clothing store.

There is a requirement for the larger towns to have a comprehensive offering of accommodation. This is generally achieved, with hotels located in each of the four large towns, as well as some guesthouses. Athenry also has self catering options and hostels, adding to the variety. The small town criteria require some accommodation every 20km, however, none of the seven corridors proposed fully conforms to this objective. Corridors 1, 3 and 5 require a distance of approximately 40km to be travelled between Ballinasloe and Athenry to find overnight accommodation. Corridors 2 and 6 require a trip length of approximately 30km to find accommodation, while Corridor 4 identifies one accommodation property in Craughwell, with a distance of over 50km between Ballinasloe and Clarinbridge required to find a small selection of properties.

In relation to public transport, Ballinasloe, Athenry and Oranmore have access to a rail service as well as bus services. The bus is the only available mode of public transport to Loughrea. Corridors 3, 4 and 7 travel through long sections that have no public transport connections, therefore the attractiveness of these corridors reduces slightly.

As can be seen, none of the seven corridors fully conforms to these objectives, generally let down by the requirement to have some overnight accommodation available in each village. Corridor 2 and 6 perform the best in this criterion, with Corridor Options 4 and 7 performing the worst due to distance between settlements. The following is the scoring awarded to each of the seven corridors based on the analysis above.

Table 4.6 Connectivity and Accessibility to Local Amenities

| Corridor | Corridor Option 1 | Corridor Option 2 | Corridor Option 3 | Corridor Option 4 | Corridor Option 5 | Corridor Option 6 | Corridor Option 7 |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mark | 1 | 3 | 1 | 1 | 1 | 3 | 1 |

4.4.5 User Safety

This section describes the safety of cyclists on each of the proposed corridors in terms of the number of junction conflicts which will be encountered.

The number of junction conflicts is one of five criteria used in the National Cycle Manual to determine the overall quality of service of cycle corridors. Due to the scale of the Oranmore to Galway sector of the proposed Galway to Dublin greenway, and the fact that it will largely be a greenfield project (i.e. not built in the margins of existing public roads), outside the towns, an overall high level of service should be readily achievable. The number of junction conflicts is used as a proxy to judge the safety of users on the corridor with a higher number of junction conflicts representing the potential for a reduced level of safety. It is intended that junctions will be carefully designed to minimise this risk.

Corridor Option 1 (Yellow)

There are three major road crossings on this corridor, two of which are grade separated with 27 minor crossings in addition to these. This would give a crossing every 1.8km on average over the 53km length of the corridor. Approximately 50km of the proposed corridor would be greenway, with just 1km of the corridor shared with traffic and 2km carried by on-road cycle lanes.

Corridor Option 2 (Green)

Over a total length of 64km, there are six major crossing points (M6, N18, N65, N66, R446 and the R347) of which the M6 is the only one which provides grade separation. There are also 44 minor at grade crossings to be negotiated in addition to these major crossing points. This represents a crossing approximately every 1.1km at which points cyclists may be forced to dismount. The vast majority of the corridor, 58km, is greenway and entirely traffic free with 5km being sharing public road and a further 1km consisting of on-road cycle lanes.

Corridor Option 3 (Blue)

On this corridor there are six major crossings and 45 minor crossings thus representing a crossing almost every kilometre over the 55km corridor length. 50km of the corridor is of greenway standard with 3km and 2km respectively being the proportion of cycle lanes and shared-use sections on the corridor.

Corridor Option 4 (Orange)

The total length of the corridor is 61km with 53 km of the corridor greenway and a relatively high proportion of the corridor consisting of shared use and cycle lanes of 5km and 3km, respectively. There are a total of 39 road crossings with five of these being major crossing points (M6, N65, N18, R350 and R349). Four of these crossings are at grade with the crossing of the M6 being the only grade-separated crossing. This represents an average of a crossing point every 1.6km which is relatively infrequent when compared to some of the other corridors.

Corridor Option 5 (Pink)

The pink corridor is one of the shorter corridors in terms of overall distance at 55km, of which 48km is traffic free and off-road with 3km shared with traffic and 4km on-road cycle lane. There are a similar number of crossing or potential conflicts points as the yellow corridor with three major and 30 minor crossing points. Of these major crossing points, which are the M6, R359 and the R348, only the M6 is grade separated. This represents a crossing, on average, every 1.7 km along the corridor.

Corridor Option 6 (Red)

The longest of the seven corridors in terms of total distance is Corridor Option 6 which spans approximately 69km. There are eight major road crossings, M6, N18, N65, N66, R347, R348 and the R446, which includes six at-grade and two motorway overbridges. There are also 52 other road crossings which consist of local and minor roads. This represents one crossing for every 1.1 km travelled.

Although 63km of the corridor is greenway, the number of major at-grade crossing points (6) and the overall frequency of minor crossings increases cyclists vulnerability and reduces their overall level of comfort.

Corridor Option 7 (Purple)

The proposed purple corridor is 62 km in all with 56km of this being of a greenway standard and the remaining 3km and 2km of the corridor comprising of shared running with traffic and on-road cycle lanes respectively. This corridor has five major crossing points: the M6, N65, R350 and the R347 (x 2) with the M6 being the only grade-separated crossing. In addition to these there are 26 at-grade minor road crossings. At an average of one crossing point approximately every 2 km, this represents a relatively low crossing frequency in comparison to some of the other corridors.

Table 4.7 Assessment of User Safety

| Corridor | Corridor Option 1 | Corridor Option 2 | Corridor Option 3 | Corridor Option 4 | Corridor Option 5 | Corridor Option 6 | Corridor Option 7 |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mark | 3 | 1 | 0 | 1 | 2 | 0 | 2 |

4.4.6 Cost

This criterion is based on the cost of each of the corridor options. The lengths of corridors and likely structural requirements (i.e. bridges, overpasses) have been considered, however, other costs, such as land costs have not been included.

The estimated costs have been based on a rate of €128,000 per kilometre. A preliminary examination of the structural requirements was also carried out based on an estimation of the number of river crossings, rail crossings and/or structural elements required.

Results show that Corridor Option 1, along the railway line is the cheapest option, due to the limited number of river crossings, and the total length of the scheme. Corridor Options 2 and 6 are the most expensive. Given the relatively small difference between corridors and the early stage of design on which the estimate is based, it is not proposed to eliminate any corridor options on the basis of this criterion. Option 6 is the most expensive and the longest distance. The cost of other options are approximately in the same range.

Table 4.8 Assessment of Cost of Schemes

| Corridor | Corridor Option 1 | Corridor Option 2 | Corridor Option 3 | Corridor Option 4 | Corridor Option 5 | Corridor Option 6 | Corridor Option 7 |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mark | 0 | 0 | 0 | 0 | 0 | -1 | 0 |

4.4.7 Physical Constraints

Physical constraints (topography and flooding) associated with the development of the route have been considered for each of the corridors. The topography of the study area is relatively flat and as a result topography is not considered to be a factor that differentiates the corridors. Flooding data has been mapped to understand the potential for flooding with each of the corridors. The flooding information indicates that a flood event in 2009 impacted the southern corridors (Options 2 and 4) quite significantly. While acknowledging this occurrence it is not proposed to eliminate these corridors as this stage and it should be possible to weave a route that avoids the majority of these floodplains.

Table 4.9 Assessment of Physical Constraints

| Corridor | Corridor Option 1 | Corridor Option 2 | Corridor Option 3 | Corridor Option 4 | Corridor Option 5 | Corridor Option 6 | Corridor Option 7 |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mark | 2 | 1 | 0 | 0 | 2 | 1 | 1 |

4.4.8 Material Assets, Human Beings

An estimate of the number of land parcels each of the proposed corridor passes through has been carried out. This does not indicate the number of land owners, but gives an indication of the potential numbers that could be involved.

The approximate number of land parcels along the proposed corridors is lowest along the railway line, which also has the benefit of an existing severance line. Along the southern corridor the number of land parcels increases significantly, with no natural feature or infrastructure lines to follow. Due to the larger number of landowners the delivery of the southern corridors will possibly be more difficult than the northern corridors, in terms of impacts on property and especially farms. The scores for each corridor are assigned accordingly in Table 4.10.

Table 4.10 Assessment of Material Assets, Human Beings

| Corridor | Corridor Option 1 | Corridor Option 2 | Corridor Option 3 | Corridor Option 4 | Corridor Option 5 | Corridor Option 6 | Corridor Option 7 |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Mark | 3 | 0 | 2 | 0 | 3 | 0 | 0 |

4.5 Assessment Matrix

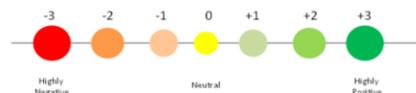
Bringing all the above together, the following spreadsheet details the assessment of corridors and identifies the preferred corridor.

The lowest scoring corridors include Option 1 and 3, due mainly to the lack of attractions, less varying scenery and distance between towns and villages.

Results show that the preferred corridor option is Corridor Option 2, which travels from Ballinasloe through Aughrim, Kilreekill, Loughrea, Craughwell, Clarinbridge and onto Oranmore. This route scored highly on Landscape and Visual criteria, and includes a number of “wow” views, as well as flora and fauna attractions. This route scored highly for flora and fauna due to the number of designated sites it passes through or close to, and while this is a positive in terms of flora and fauna, it requires sensitivity in the design to ensure the eco-systems are preserved. This corridor was also one of the highest scoring corridors in terms of cultural heritage and visitor attractions, with a rich heritage of features found in many of the towns and villages along the route.

In terms of connectivity and accessibility to local amenities, this route received high scores. The villages it passes through are generally well served with retail/break facilities, with the villages reasonably spaced, and towns offering a comprehensive offering of accommodation, food and retail. There are good rail links in Ballinasloe and Oranmore, with services also provided through Craughwell. Loughrea, as well as Ballinasloe and Oranmore are well served by bus services.

Owing to the fact that this corridor does not follow an existing severance line, there are a large number of road crossings, with six major crossings, and 44 minor crossings, averaging one crossing every 1.1km. This also adds to the number of land parcels the corridor passes through. While these elements add to the difficulty of delivering this route, the attractions, settlements and scenery outweigh any difficulties that may be posed by delivery of the route along this corridor.



Evaluation of Route Options Oranmore to Ballinasloe

This table should be printed at A3 paper size

| | Option 1 (Yellow) | Option 2 (Green) | Option 3 (Blue) | Option 4 (Orange) | Option 5 (Pink) | Option 6 (Red) | Option 7 (Purple) | | | | | | | |
|---|--|------------------|--|-------------------|--|----------------|--|----------|---|----------|--|----------|---|----------|
| Assessment Criteria | Kilconnell, Woodlawn, Attymon, Athenry | | Aughrim, Kilreekill, Loughrea, Craughwell, Clarinbridge. | | Aughrim, Kilconnell, Kiltullagh, Athenry | | Aughrim, Cappataggle, Craughwell, Clarinbridge | | Aughrim, Kilconnell, Woodlawn, Attymon, Athenry | | Aughrim, Kilreekill, Loughrea, Craughwell, Athenry | | Aughrim, Cappataggle, Kiltullagh, Athenry | |
| Landscape and Visual (Attractions and Potential Impacts) | -1 | 3 | -1 | 3 | 0 | 2 | 3 | 0 | 2 | 3 | 0 | 2 | 3 | 0 |
| Flora and Fauna (Attractions and Potential Impacts) | -1 | 2 | 0 | 2 | 0 | 2 | 1 | 0 | 2 | 1 | 0 | 2 | 1 | 0 |
| Cultural Heritage & Visitor Attractions (Attractions and Potential Impacts) | 1 | 3 | 2 | 1 | 1 | 3 | 1 | 1 | 3 | 1 | 1 | 3 | 1 | 1 |
| Connectivity and Accessibility to Local Amenities | 1 | 3 | 1 | 1 | 1 | 3 | 1 | 1 | 3 | 1 | 1 | 3 | 1 | 1 |
| User Safety | 3 | 1 | 0 | 1 | 2 | 0 | 2 | 0 | 1 | 2 | 0 | 1 | 2 | 0 |
| Economy (Cost) | 0 | 0 | 0 | 0 | 0 | -1 | 0 | 0 | -1 | 0 | -1 | 0 | 0 | -1 |
| Physical Constraints | 2 | 1 | 0 | 0 | 2 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 1 | 0 |
| Material Assets, Human Beings | 3 | 0 | 2 | 0 | 3 | 0 | 2 | 3 | 0 | 2 | 0 | 2 | 0 | 2 |
| OVERALL SCORE | 8 | 13 | 4 | 8 | 9 | 10 | 9 | 9 | 10 | 9 | 10 | 9 | 9 | 9 |

4.6 Conclusion

Having considered all the constraints and opportunities within the study area and having evaluated seven corridors against the assessment criteria, it is concluded that the Galway to Dublin greenway should be developed along Corridor Option 2. This will see the Oranmore to Ballinasloe section of the Galway to Dublin Greenway travel through the towns of Oranmore, Clarinbridge, Craughwell, Loughrea, Aughrim and Ballinasloe. The exact routing within this corridor will be subject to further consultation and assessment.

Appendix A

Appendix A Additional Corridor Assessment

Project: **Galway Dublin Greenway**
Subject: **Northern Corridor Option**

Job No: **60283270**
Date: **December 2014**

1. Introduction

Some business owners and elected representatives, who attended the public consultation in October 2014, requested that a northern corridor be considered within the corridor selection process. As a direct response to this request this supplementary note was prepared. The corridor which is assessed in this note will be referred to as Corridor Option 8 and should be read in conjunction with the Oranmore to Ballinasloe Corridor Selection Report.

2. Constraints and Opportunities

2.1. Study Area

The note focuses on assessing a possible corridor to the north of the railway line, for the Oranmore to Ballinasloe section of the Galway Dublin Greenway. The study area relevant to this note is shown in Figure 2.1 below. Generally the study area is bounded by the N63 to the north with the railway line forming the southern boundary. Details of Constraints and Opportunities between Athenry and Oranmore are detailed in the Oranmore to Ballinasloe Corridor Option Selection Report.

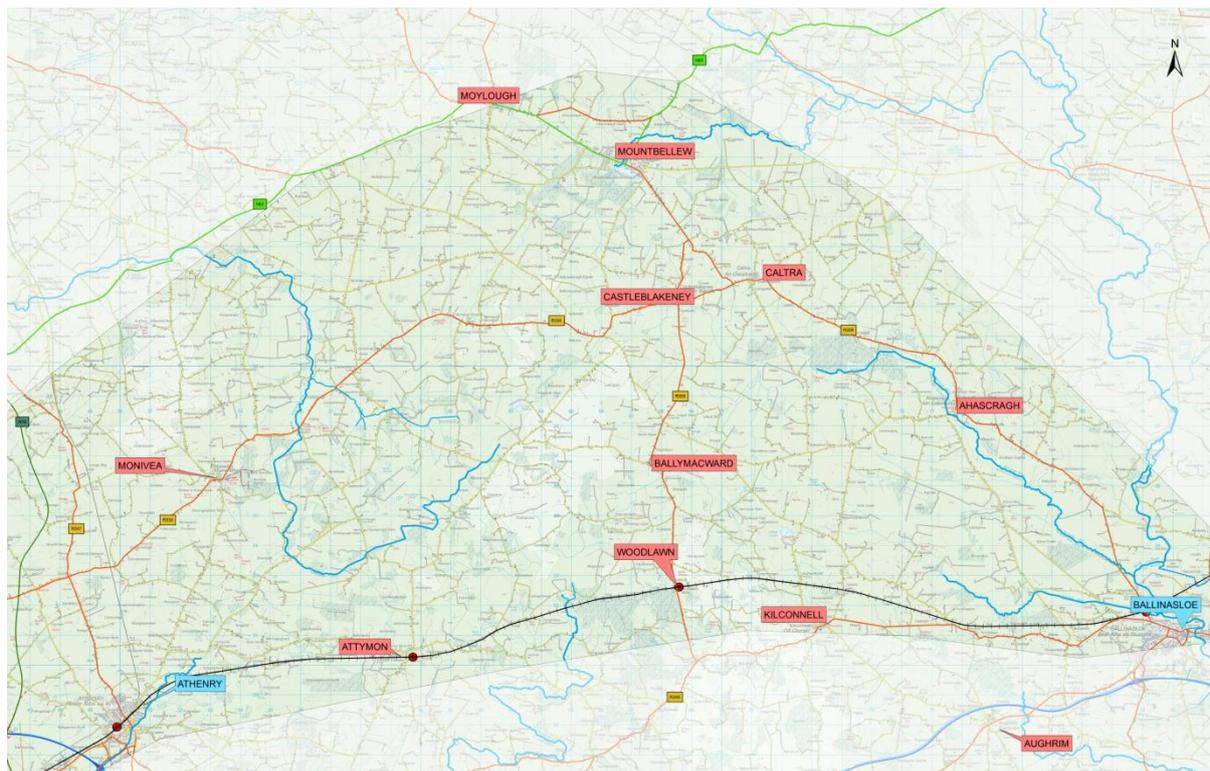


Figure 2.1 Study Area

Further to the constraints and opportunities identified in the Oranmore to Ballinasloe Corridor Selection Report, this section of this report looks at constraints and opportunities within this extended study area.

2.2. The Natural Environment

2.2.1. Topography & Landscape

The topography of the study area is relatively low lying with a ridge running through the centre, extending to a height of approximately 110m high. The ridge extends from Woodlawn, through Killooaun, and up to Moylough. The highest point is approximately 110m, with the spacing between contours suggesting a gentle rise. To the west of Monivea, there is a high point, recorded at approximately 130m above sea level.

The spacing of the contours suggests reasonable gradients, which does not pose a constraint to users of the greenway. These high points also provide distant views across the landscape which will add to the scenery offer provided by the greenway. It is therefore also an opportunity in this regard.

Landscape Assessment

A landscape assessment was conducted for the corridor by the Paul Hogarth company and will be summarised in a later section of this note.

2.2.2. Rivers and Streams

Information on rivers, lakes and streams was obtained from Galway County Council and Open Street Map 2011. In addition, information relating to historic flooding was also obtained from the OPW, as well as Galway County Council information on flooding from 2009. This section of the report considers the physical nature of the rivers/streams/lakes within the study area.

There are a number of water bodies within the study area with waters flowing towards two main receptors, the River Suck and Lough Corrib. The most significant rivers include Killaclogher River which changes to Abbert River and travels west to Lough Corrib. This river is fairly insignificant within the study area, and does not gain stature until it gets closer to Lough Corrib. Ahascraigh River travels south through Ahascraigh, and changes to the Bunowne River near Killure. The river travels through Killure Bog, and is a sizable river before it enters the River Suck on the outskirts of Ballinasloe. Records show flooding exists throughout the alignment of the river. The river is part of an EU Atlantic Aquatic Resource Conservation (AARC) Project which is looking at improving the conservation status of important migratory fish species such the Atlantic salmon in the River Shannon. A number of other small rivers and stream travel west into the River Suck, including Deerpark River.



Photo 2.1 Bunowen River near Killure Bog

2.2.3. Ecology

This section identifies key ecological constraints, which includes designated sites and features of ecological significance which may influence the identification of a suitable route corridor. This chapter was informed by a desktop assessment of available ecological databases and mapping within the study area.

Galway is an area rich in natural heritage, including blanket bogs, raised bogs, sea cliffs, sand dunes, river callows and many species of plants and animals that are rare elsewhere in Ireland and Europe. In order to protect our ecological resources a number of sites have been designated which are representative of habitats and species of conservation interest and include RAMSAR Sites and Natura 2000 Sites: Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) and Natural Heritage Areas (NHAs).

These sites are as follows:

- RAMSAR sites are designated wetland sites of international importance which are protected under the RAMSAR convention of which Ireland is one of 160 Contracting Parties. The treaty embodies the commitments of its member countries to maintain the ecological character of wetlands of international importance and to ensure sustainable use of all wetlands within the country.
- NHAs are nationally designated areas for habitats species and geology that are of conservation interest, in addition to the 150 designated NHA's in Ireland, there are also a large number of proposed NHA's.
- SACs are prime wildlife areas considered important both nationally and internationally. Special Areas of Conservation are designated under the Habitats Directive and form part of "Natura 2000", a network of protected areas throughout Europe and require particular measures to conserve them. Within these areas certain habitats and species must be protected.
- In Ireland and Europe, the areas of lands protected primarily for wild birds are known as Special Protection Areas (SPA's) and are included with the Natura 2000 network.

There is a significant amount of overlap between all designations and many sites hold more than one designation.

Table 1.1 Designated Environmental Areas within Study Area

| Name | Type |
|--------------------------|------|
| River Suck Callows | SPA |
| Lough Corrib | SAC |
| Monivea Bog | SAC |
| Carrownagappul Bog | SAC |
| Curragleharagh Bog | SAC |
| Shankill West Bog | SAC |
| River Suck Callows | NHA |
| Killure Bog | NHA |
| Crit Island West | NHA |
| Callow Lough | NHA |
| Monivea Bog | NHA |
| Lough Corrib | NHA |
| Annaghbeg Bog | NHA |
| Castle French West Bog | NHA |
| Castle French East Bog | NHA |
| Derrnagran Bog and Esker | NHA |
| Derrinlough Bog | NHA |
| Killaclougher Bog | NHA |
| Lough Tee Bog | NHA |
| Tiaquin Bog | pNHA |
| Carrownagappul Bog | pNHA |
| Curragleharagh Bog | pNHA |
| Shankill West Bog | pNHA |
| Summerville Lough | pNHA |

The ecological constraints within the study area have been identified and mapped. Based on the information available, it is clear that the study area has a large number of important ecological sites and receptors. The design of a cycle-way needs to carefully consider the balance between the attractions of a site of conservation interest as an amenity while minimising the impact on such a site so as to avoid degradation.

2.2.4. Geology and Hydrogeology

The bedrock composition in the area is almost entirely carboniferous limestone as is much of the central band of the country. Grey brown podzolics is the predominant soli type along this corridor area all with limestone as the parent material. Pockets of groundwater Gleys are also present.

Hydrogeology concerns itself with the movement and distribution of water within soils and bedrocks. Due to its position in the earth and, depending on the depth of the water table, groundwater can be extremely vulnerable to infiltration and pollution from the surrounding environment. Groundwater vulnerability mapping indicates that the vulnerability levels range from low to high along this corridor. The construction techniques for greenways are low impact and as a result it is concluded that the geology

and hydrogeology of the study area should not pose a significant constraint to the development of the greenway within the study area.

2.2.5. Bogs and Woodlands

There are a number of forests spread throughout the study area. The vast majority of these are in the ownership of Coillte, including the forest at Mountbellew, lands at Killure, Clonbrock, and Clonkeenkerrill

near Monivea. The woods at Woodlawn are also in the ownership of Coillte. These forests also include walking trails which are open to the public. While the trails are generally limited to a couple of kilometres, there may be opportunity to connect into routes to bring cyclists through these existing paths. The remainder of the forests in this northern study area are in private ownership.

The area to the north of the railway line has a number of bogs and includes a number of areas which are protected. These include Killure Bog, Crit Island West bog, Monivea Bog and Lough Tee Bog. Initial review suggests Bord na Mona owns a number of these bogs, however no evidence of tracks has been seen, which is synonymous with Bord na Mona owned bogs. The majority of bogs in this area are raised bogs, which include high bogs and cutover bogs.

Lough Tee bog is located 6km east of Monivea, while Killure Bog and Crit Island bog are located on the eastern side of the study area, close to Ballinasloe. There are also a number of bogs located in and around the train line between Woodlawn and Athenry.

2.3. The Built Environment

2.3.1. Definitions and Protections

The main report sets out the definition and protection of architectural heritage, archaeological heritage and cultural heritage for Ireland. Refer to section 2.3.1 of the Oranmore to Ballinasloe Corridor Section Report.

2.3.2. Amenities and Attractions

The study area north of the railway line contains a rich cultural landscape offering a variety of amenities and attractions. These were mapped with reference to information from Fáilte Ireland, Galway County Council, the Sites and Monuments Record (Archaeology) and National Inventory of Architectural Heritage, to establish their locations. The following amenities and attractions have been recorded in the study area:

- historic churches, abbeys and monasteries;
- museums and interpretive centres;
- historic houses and castles;
- historic walks;
- nature and wildlife locations;
- arts and craft locations;
- food markets; and
- restaurants and public houses.

These are found throughout the study area but a brief review of the towns and villages along the way will best convey the range of opportunities. Information on Ballinasloe and Athenry are found in Chapter 2 of the main body of this report.

Throughout the study area there are numerous, other archaeological monuments and architectural heritage features, in rural environs, representing several periods of Irish prehistory and early history. For instance, there are prehistoric funerary carins on Knockroe Hill, south of Abbey village. Callow Lough boasts a crannog or ancient lake dwelling. There is a notable concentration of the early medieval farmstead enclosures known as 'ringforts' around Ahascragh. Abbey (*An Mainistir*) is called after the medieval Cistercian monastery standing in ruins near the village. The massive walled Norman castle near Moylough is just outside the northern boundary of the study area but there are other, more modest, medieval tower houses within it and several churchyards with ruined medieval churches, like Cloonkeenkerrill. Clonbrock House is a magnificent example of an early modern mansion house and planned village and estate landscapes of this period were already mentioned at Mountbellew and Monivea.

Mountbellew

Mountbellew is a small town located on the N63, midway between Tuam and Ballinasloe. It is 30km from Roscommon and 50km from Galway City. It is a busy town, with a number of schools and facilities such as banking, local shops, pubs restaurants etc. It also has an Agricultural College, run by the Franciscan Brothers. The town has a number of attractions including the golf course, Bellew Demense, which has various wildlife, walks and a lake. There is the Forge Museum and a number of shows are held annually in the town, including the Agricultural show, which has been running for over 100 years, and the more recent Vintage Club show. It is also home to an Irish and English Grand National winner, Bobbyjo, with a monument in the town to commemorate him.

Monivea

Monivea is a small village steeped in history dating back to the Ffrenches in the 12th Century. Lady Kathleen Ffrench left a large estate to the people of Galway which now has a number of walks and trails, with highlights including the Mausoleum and Ice House. There is a rich abundance of flora and fauna in the woods itself. The village itself is well equipped with services, such as local shops and public houses; there is also a castle in ruins in the village centre.

2.3.3. Road and Rail Network*Bus*

Bus services within the study area are limited, with three Bus Eireann bus service a day travelling from Longford to Galway, passing through Mountbellew, Caltra and Castleblankeney. There is also a private bus services with three services a day in each direction. There are also bus services between Ballinasloe and Athenry, travelling along the M6/R446.

Rail

The Dublin-Galway train line forms the southern boundary to this study area, with stops at Ballinasloe, Woodlawn, Attymon and Athenry. There are no further working rail connections in the study area. The disused section of the Great Western Railway, between Tuam and Athenry is located within the study area.

Based on the current public transport provision, there are good transport links in the large towns, with Ballinasloe and Athenry serviced by bus and rail links. However, there are limited bus services to smaller villages within the study area, with no rail service.

2.3.4. Population Centres

Details in relation to population are provided in Table 2.1 below. The area is largely rural in nature with a number of villages. A review of the census data shows that there are approximately 5000 people in the area between the railway line and Mount Bellew, from Ballinasloe to Athenry. Mount Bellew makes up the biggest proportion of this figure, with a number of small villages also noted.

| Name | Type | Population |
|-----------------|---------|------------|
| Ballinasloe | Town | 6,449 |
| Athenry | Town | 4,828 |
| Mount Bellew | Village | 1,874 |
| Castleblankeney | Village | 526 |
| Caltra | Village | 365 |
| Ballymacward | Village | 315 |

2.4. External Parameters

2.4.1. Technical/Design Standards

The standards, as detailed in Section 2.4.1 of the main report, Oranmore Ballinasloe Corridor Selection Report, apply equally to this corridor option.

3. Corridor Assessment

3.1. Introduction

This section of the report provides an outline of the corridor examined to the north of the railway line. This route will be evaluated and should be read in conjunction with Chapter 4 of the Oranmore to Ballinasloe Route Corridor Selection report. The corridor subject to this report has been called Route Corridor 8, to follow on from the seven route corridor options presented in the main report.

3.2. Proposed Corridor Option

The proposed corridor is shown in Figure 3.1.

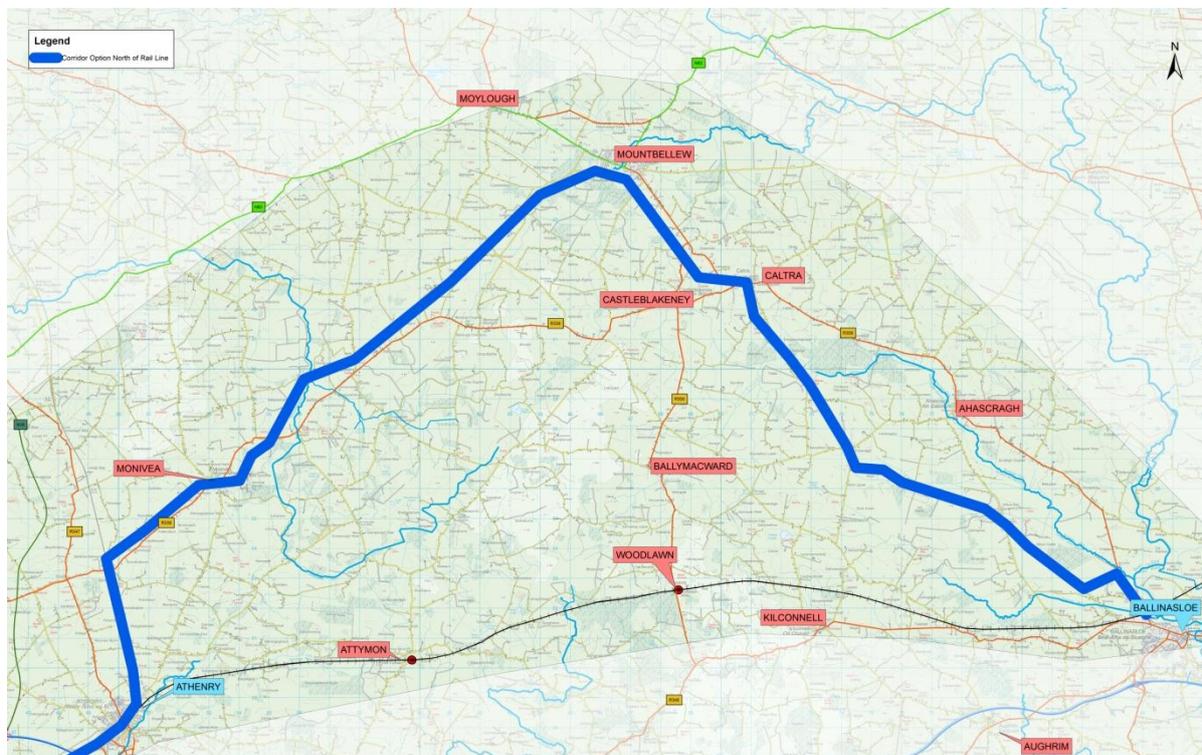


Figure 3.1 Corridor for Assessment

Corridor Option 8 (Dark Blue)

This corridor leaves Ballinasloe and travels northwest towards Killure bog. It is proposed to be taken through quiet roads through the Killure bog as well as Crit Island West bog, allowing users to see the bog and forestry elements, without impacting on the Natural Heritage areas. From here the corridor travels to Fohenagh, a small village with a public house. It then travels north, passing Clonbrock Demesne, through green fields to Caltra/Castleblankeney. Caltra has a couple of public houses and a service station, while Castleblankeney has a similar offering. The corridor then enters Mountbellew, passing more bog lands on the approach, and leaving through the Bellew Demesne on existing trails. Heading south, the corridor travels in green field to Monivea, and again links up with existing trails in Monivea Woods. Heading south west the corridor travels in green fields until it reaches the disused railway line and follows this feature into Athenry.

3.3. Assessment Criteria

The assessment criteria have been set out in section 4.3 of the main report. It evaluates the route against 8 main criteria. The eight assessment criteria have been developed as follows:

1. Landscape and Visual (Attractions and Potential Impacts);
2. Flora & Fauna (Attractions and Potential Impacts);
3. Cultural Heritage and Visitor Attractions (Attractions and Potential Impacts);
4. Connectivity and Accessibility to local amenities;
5. User Safety;
6. Economy (Cost);
7. Physical and Engineering Constraints; and
8. Material Assets, Human Beings.

3.4. Assessment of Option

3.4.1. *Landscape and Visual (Attractions and Potential Impacts)*

A landscape assessment was conducted for the corridor by the Paul Hogarth company. One 'wow' factor view was recorded along the corridor at Mountbellew Centre. Despite the absence of other 'wow' factor views the corridor overall scores quite well with scores of 6/10 recorded at Ballydavid South with views to church and castle ruins. A score of 6/10 is also recorded at Killaclogher River where panoramic views over rivers, floodplains and forestry were recorded.

Table 3.1: Landscape and Visual (Attractions and Potential Impacts)

| Corridor | Option 8 |
|----------|----------|
| Mark | 3 |

3.4.2. *Flora & fauna (Attractions and Potential Impacts)*

The criterion investigates the flora and fauna within the study area. This has been based on the location of designated sites which primarily consist of Natural Heritage Areas (NHA), Special Areas of Conservation (SAC) and Special Protection Areas (SPA). NHAs are designated areas for habitats species and geology that are of conservation interest, while SACs are prime wildlife areas, often with habitats and species which must be protected. Lands used by important wild bird species are generally protected by SPA status as well as Natura 2000. These sites are constraints in their own right and may prove to be barriers in the final corridor selection process however; every effort will be made to promote the amenity, ecological and educational values of the sites while at the same time ensuring their conservation value is preserved and not adversely affected by the cycleway. In addition to designated sites, various landscapes and land use may add to the variety of flora and fauna along a corridor.

Corridor Option 8 travels through a mixture of land types, including bogs forests and farmlands. There are a number of designated sites noted along the corridor including the NHAs at Killure Bog and Crit Island West Bog, while both are protected and contain rare species of flora and fauna, there are under threat due to drainage, agricultural works and forestry. The corridor also passes through two existing forests with trails, at Mountbellew and Monivea. Again both areas have interesting wildlife and planting.

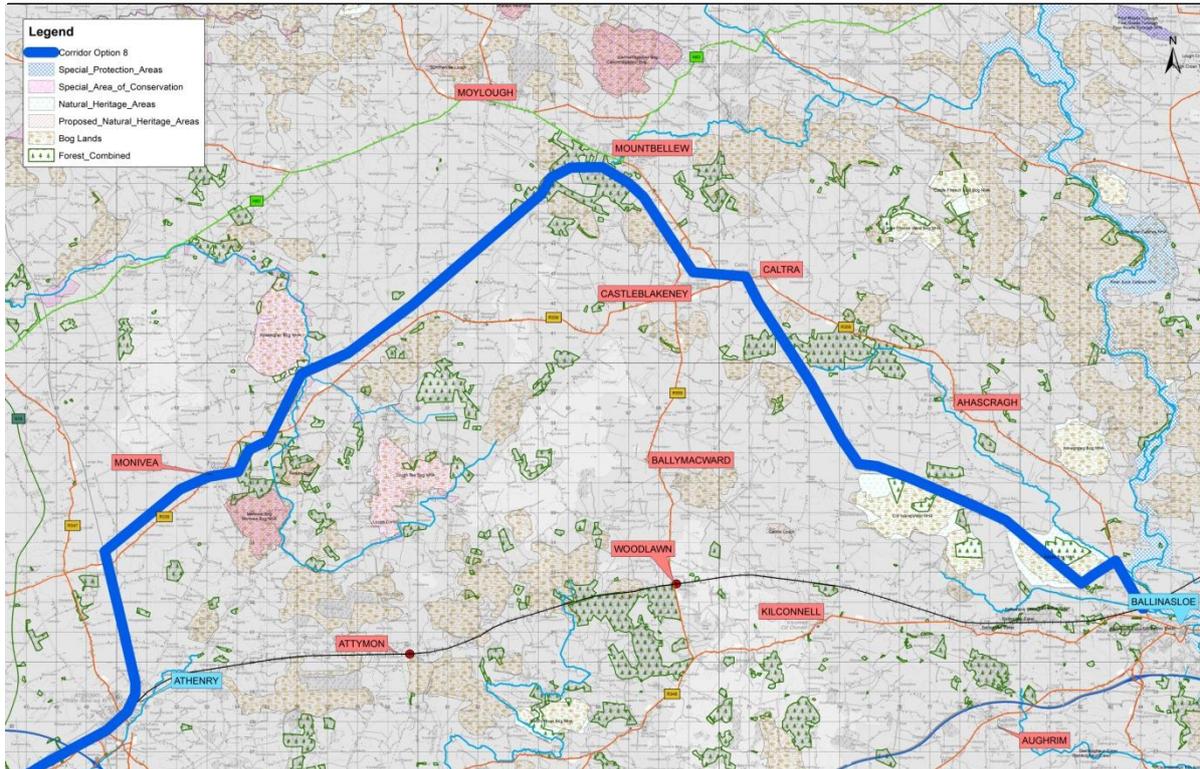


Figure 3.2 Designated Sites, Bogs and Forests

Due to the variety of landscapes this route passes through, as well as the designated sites, it offers a good potential to see interesting and varied flora and fauna.

Table 3.2: Flora and Fauna (Attractions and Potential Impacts)

| Corridor | Option 8 |
|----------|----------|
| Mark | 2 |

3.4.3. Cultural Heritage and Visitor Attractions (Attractions and Potential Impacts)

A review of the data made available by Fáilte Ireland in terms of the attractions and amenities in the study area was carried out. Mountbellew has the largest amount of attractions which include Bellew Demesne, a wooded area with woodland walks, a lake and picnic area, offering an interesting variety of wildlife. The Forge Museum is also located in Mountbellew, and the town hosts a number of shows every year, including the Agricultural Show, which has been running for over 100 years. There are also a number of mansions and castle ruins along the route, such as Clonbrock Demesne, Killure Castle (pictured below) while Monivea Woods is home to a Mausoleum and Ice House.



Figure 3.4 Killure Castle

Table 3.3: Cultural Heritage and Visitor Attractions (Attractions and Potential Impacts)

| | |
|-----------------|-----------------|
| Corridor | Option 8 |
| Mark | 1 |

3.4.4. Connectivity and Accessibility to Local Amenities

This is an important criterion to assess the feasibility of corridor corridors proposed. The objective requires a basic level of facilities including toilets, food and accommodation should be available every 20km (or approximately 1 hours cycling), with larger towns which have a more comprehensive offering every 50-70km. Figure 3.5 below shows the distances between the various towns and villages on the proposed corridor.

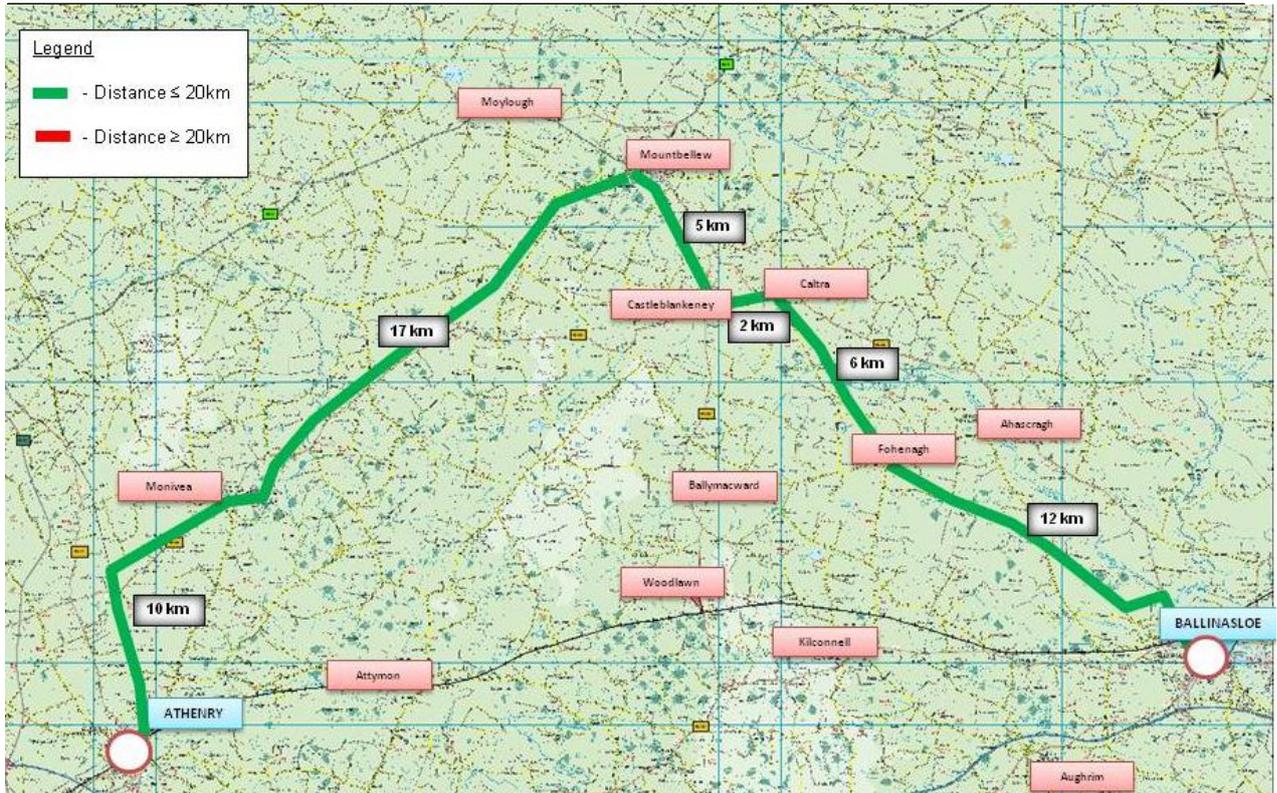


Figure 3.5 Distances between Towns and Villages

The proposed corridor will travel between the towns of Ballinasloe, Athenry and Oranmore. Table 3.4 sets out the estimated distance between major towns for each corridor option. The desirable distance between these towns should be in the range of 50-70km.

Table 3.4: Distances between Major Towns

| Corridor | Towns | Distance |
|-------------------|------------------------|----------|
| Corridor Option 8 | Ballinasloe to Athenry | 53km |
| | Athenry to Oranmore | 14km |

The offering each village/town has in terms of food/toilet, accommodation and local shops with details on the facilities provided by the larger towns on the corridor was also evaluated. The table sets out the corridor and the towns/villages the corridor passes; it identifies the distance between each settlement, and highlights the availability to food/toilets, accommodation and shops.

Table 3.5: Level of Facilities between Town and Corridor

| Corridor 8 | | Distance | Cumulative Distance | Food Toilets & | Accommodation | Local Shops |
|-----------------|-----------------|----------------|---------------------|----------------|---------------|-------------|
| Ballinasloe | Oranmore | | | | | |
| Ballinasloe | Fohenagh | 12 | 12 | ● | ○ | ● |
| Fohenagh | Caltra | 6 | 18 | ○ | ● | ● |
| Caltra | Castleblankeney | 2 | 20 | ○ | ● | ○ |
| Castleblankeney | Mountbellew | 6 | 26 | ○ | ● | ○ |
| Mountbellew | Monivea | 17 | 43 | ● | ● | ● |
| Monivea | Athenry | 10 | 53 | ○ | ● | ○ |
| Athenry | Oranmore | 14 | 67 | ● | ● | ● |
| | | All under 20km | 67 | | | |

The maximum distance between major towns is 53km, which is within range. Distances between smaller towns/villages are also within the required range, with the distance from Mountbellew to Monivea being the greatest distance at 17km. The services etc available are limited outside of Ballinasloe, Mountbellew, Monivea and Athenry, with the smaller villages generally containing just a shop and pub, or perhaps a service station. No accommodation was noted in any of the villages.

Table 3.6: Connectivity and Accessibility to Local Amenities

| Corridor | Corridor Option 8 |
|----------|-------------------|
| Mark | -1 |

3.4.5. User Safety

This section describes the safety of cyclists on each of the proposed corridors in terms of the number of junction conflicts which will be encountered.

The number of junction conflicts is one of five criteria used in the National Cycle Manual to determine the overall quality of service of cycle corridors. Due to the scale of this corridor and the fact that it be almost exclusively green field construction (outside the towns) an overall high level of service should be readily achievable. The number of junction conflicts is the one criterion which cannot be easily designed out and is therefore used as a proxy to judge the safety of users on the corridor with a higher number of junction conflicts representing a reduced level of safety.

Corridor Option 8 (Dark Blue)

There are three major road crossings and a total of 28 minor road crossings. With a total distance of 67km, that represents a crossing, on average, every 2.1km. An estimated 59km of the corridor is proposed to be greenway, however almost 10% (6km) is shared with traffic as well as 2km on existing trails and forest tracks.

Table 3.7: Assessment of User Safety

| Corridor | Corridor Option 8 |
|----------|-------------------|
| Mark | 1 |

3.4.6. Cost

This criterion provides an indication of the cost of each of the corridor option, taking into consideration the length of the corridor and structural elements (bridges/underpasses) possibly required. While there are relatively few structural elements required, the length of the corridor is one of the longest, and therefore pushes the scheme costs up. Given the relatively minor difference between the cost of the corridors at this early stage of design, it is not proposed to eliminate any corridor options on the basis of this criterion.

Table 3.8: Assessment of Cost of Schemes

| Corridor | Corridor Option 8 |
|----------|-------------------|
| Mark | 0 |

3.4.7. Physical Constraints

Physical constraints (topography and flooding) associated with the development of the route have been considered for each of the corridors. The topography of the corridor is not considered to be a constraint. Flooding is also not considered to be a significant constraint to this corridor.

Table 3.9: Assessment of Physical Constraints

| Corridor | Corridor Option 8 |
|----------|-------------------|
| Mark | 2 |

3.4.8. Material Assets, Human Beings

An estimate of the number of land parcels the corridor passes through has been carried out. With an estimated 250 land parcels impacted upon by the route, it is similar to many of the southern routes. However this route does follow a number of existing severance lines, including the disused rail line from Gort to Athenry as well as quiet roads at Killure Bog.

Table 3.10 Assessment of Material Assets, Human Beings

| Corridor | Corridor Option 8 |
|----------|-------------------|
| Mark | 0 |

3.5. Conclusion

This corridor option scores relatively well against the assessment criteria. A total score of 8 was recorded. Corridor Option 2 remains the preferred corridor option and will be taken forward for route selection. Corridor Option 2 will be subjected to further consultation and assessment.