



KILBEGGAN TO MULLINGAR GREENWAY

Options Selection Report



IE000653-RPS-RP-XX-
R-Z-0008
A1 C02
02 October 2025

OPTIONS REPORT

Document status					
Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
S3 P01	Draft	MC/MF	MF/GM	MF/GM	25/10/2024
S5 P01	Draft for Client Review	MC/MF	MF	GMcE	06/12/2024
S5 P03	Draft for Peer Review	MC/MF	MF	GMcE	17/01/2025
S5 P04	Close out of Comments	MC/MF	MF	GMcE	22/08/2025
A1 C01	Final	MC/MF	MF	GMcE	12/09/2025
A1 C02	Final – minor amendment	MC/MF	MF	ÁW	02/10/2025

Approval for issue	
GMcE	2 October 2025

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EXECUTIVE SUMMARY

The Kilbeggan to Mullingar Greenway will be a recreational trail, providing tourists, commuters and leisure users (collectively Non-Motorised Users - NMU) with a dedicated corridor linking Kilbeggan Town to Mullingar Town. The project will be a purposeful recreational facility for use by cyclists, walkers and other NMU users.

This project aims to provide a strategic level connection between the Royal Canal Greenway/Old Rail Trail in Mullingar and the Grand Canal Greenway (via the Kilbeggan Branch of the Grand Canal).

The National Cycle Network (NCN) includes proposals to link Mullingar with Tullamore, which this greenway would facilitate.

This project is currently at Phase 2 – Option Selection in accordance with PE-PMG-02047-01. The option selection process also takes account of the TII Publication; PE-PAG-02036 - Project Appraisal Guidelines for National Roads Unit 13.0 - Appraisal of Active Modes, February 2024 (PAG Unit 13.0) and the Department of Transport - Transport Appraisal Framework (2023) (TAF).

Project Objectives

At the beginning of this project, a set of seven overarching Project Objectives were developed through discussions with Westmeath County Council National Roads Office (WCC) and TII, and which are aligned with TAF. Each Project Objectives has associated sub-objectives that specifically address the requirements of the Kilbeggan to Mullingar Greenway. The objectives and sub-objectives are presented in **Table 0-1**.

Table 0-1 Project Objectives and sub-objectives

Objective	Ref	Sub-objective
Transport User Benefits and Other Economic Impacts - Support connectivity and economic growth in the local and regional area.	EC1	To increase the economic contribution of tourism to the regional and local economy, by increasing the numbers of domestic and international visitors to the area through the delivery of a greenway that is scenic and attractive.
	EC2	To create local employment and increase economic opportunities for new and expanded enterprises.
Accessibility Impacts – Enhance accessibility to existing amenities, services and facilities.	AC1	To increase the number of people who choose to take part in physical active outdoor recreation and leisure activities.
	AC2	To connect to other tourist activities or attractions within the region, such as historic and cultural heritage sites, and recreational activities.
Social Impacts – Enhance social inclusion and promote healthier communities through linking communities and disadvantaged areas.	SO1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.
	SO2	To benefit local communities through promotion of inclusive accessibility for all to existing amenities, services and facilities.
Land Use Impacts – Support and facilitate the implementation of national, regional and local policy.	LU1	To connect to existing transport infrastructure including greenways, cycleways, rail, canals, roads, and public transport.
	LU2	To encourage modal shift to more sustainable modes, i.e. walking and cycling, by facilitating connections to places of employment, schools, recreational hubs and urban centres, where possible.
	LU3	To facilitate the implementation of the National Cycle Network (NCN) through connecting the population centres of Mullingar and Kilbeggan.

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Objective	Ref	Sub-objective
Safety Impacts - Provide safe and accessible infrastructure that improves safety and security for vulnerable road users	SA1	To provide Greenway infrastructure that is substantially segregated from motorised traffic.
	SA2	To provide Greenway infrastructure that is a safe and secure environment for all users, regardless of age or ability.
Climate Change Impacts - Contributes to the offsetting/reduction in GHG emissions and is robust and resilient to negative climate change effects.	CC1	To ensure consideration of sustainable development principles and measures to minimise effects on the environment to support the government's Climate Action Plan.
Local Environment Impacts - Increase public appreciation of the natural environment while protecting and enhancing natural assets and biodiversity.	EN1	To minimise the impact to the natural environmental, especially habitats in ecologically sensitive areas.
	EN2	To increase public appreciation of the natural environment by encouraging people to experience the countryside through prioritising scenic and environmentally diverse routes.
	EN3	To protect and where possible enhance biodiversity and ecological connectivity.

Development of Options and Stage 1 Assessment

During Phase 1, Do-Nothing and Do-Minimum approaches were explored prior to the development of Route Corridor Options (RCO). These approaches were ruled out based on their lack of alignment with the Project Objectives and The Strategy for the Future Development of National and Regional Greenways.

In Phase 1, a Study Area was defined based on the physical features and existing transport infrastructure and through discussions with WCC. A public consultation was held on the Study Area in May 2023. Subsequently, within this Study Area, a long list of nine options was developed having regard to the various constraints and opportunities identified and the constraints study, all of which formed part of the Feasibility Report. The key factors considered when developing the long list of options included the following:

- Gradients, i.e. the steepness of inclines/ declines in the greenway;
- Local attractions and places of interest;
- Local population centres;
- Landownership patterns including areas of publicly owned land;
- Environmentally designated areas in particular SACs; SPAs, NHAs and pNHAs;
- Scenic nature of the landscape and surrounds;
- Flood prone areas

The long list of nine options were appraised against the Project Objectives. Where options did not align satisfactorily with the Project Objectives, they were eliminated from further consideration. Subsequently, the remaining options were appraised against the following criteria:

- 5 Ss (Scenic, Sustainability, Substantially Segregated & Shared Use, offers lots to See and Do, Strategic);
- Engineering;
- Environment;
- Economy;
- Political (policies and objectives).

The outcome of the above process was that two broad RCOs were selected to advance to Phase 2 Options Selection.

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Development of Phase 2 Options and Stage 2 Assessment

The two shortlisted RCOs were widened to provide scope to be able to choose a route within the RCOs that could, where possible, follow landownership boundaries and avoid severance, while also including local attractions. In addition, each of the two shortlisted RCOs had five “nodes” in common that would enable each RCO to be sub-divided into four sections. The five nodes are located at:

- Kilbeggan Harbour.
- Split Hills Esker (Teernacreeve).
- Ballynagore.
- Cloonagh (just south of Lough Ennell).
- The Old Rail Trail (just south of Mullingar).

The shortlisted RCOs and their sub-sections are shown in shown in **Figure 0.1**.

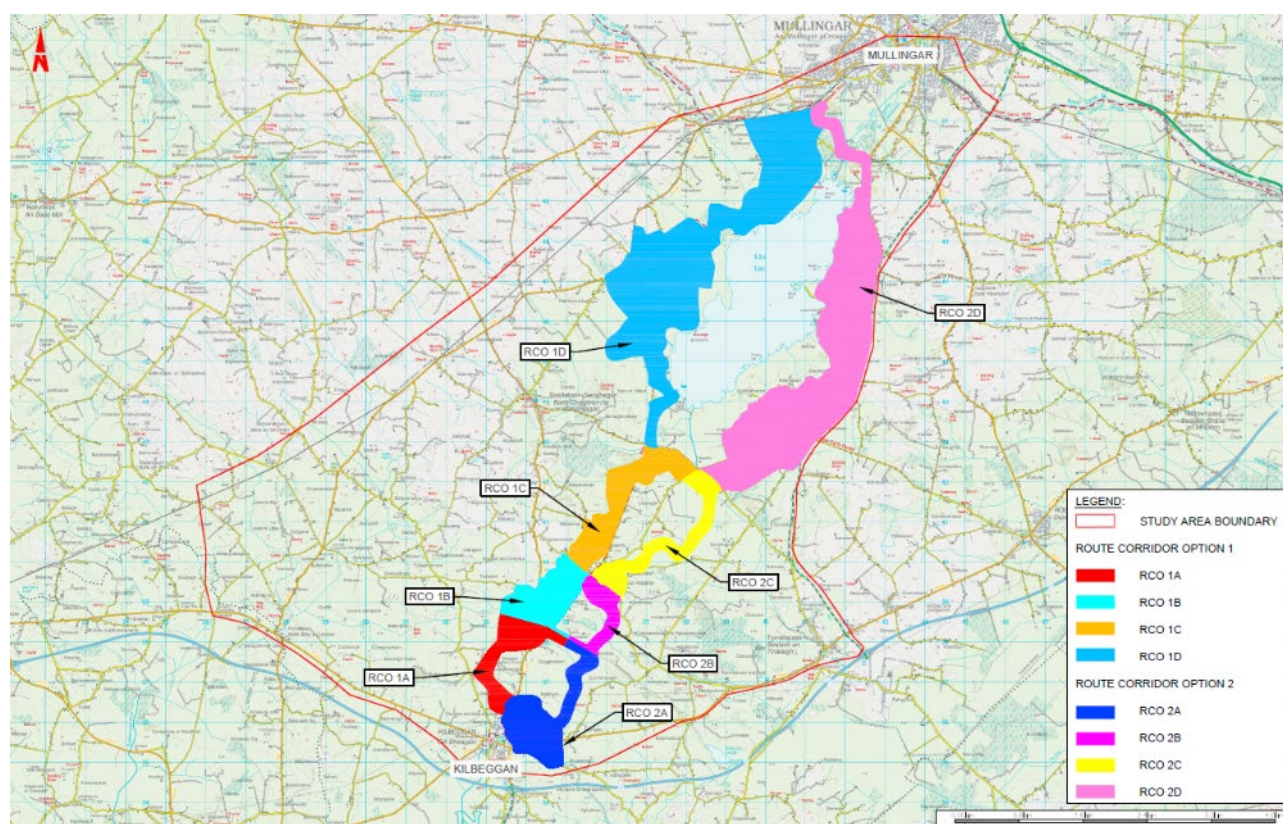


Figure 0.1 Phase 2 Route Corridor Options and Sub-Sections

Public Consultation No.2 Route Corridor Options

The second public consultation for the Kilbeggan to Mullingar Greenway was held between Tuesday 7th May to Friday 14th June 2024. The purpose of the second public consultation was to present the two shortlisted route corridor options and invite feedback from the public and other stakeholders that would help inform the identification of the Preferred Option.

The public engaged well and 128 submissions were received during the consultation period. Between 70 and 80 people attended the in-person public consultation event at the Bloomfield House Hotel, Mullingar, on Thursday 9th May 2024 between 3pm and 8pm.

The feedback received was considered by the project team in the appraisal of the route corridor options.

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Appraisal of Route Corridor Options

In accordance with PAG Unit 13.0, a Transport and Accessibility Appraisal (TAA) of the RCOs was carried out as part of the Stage 2 project appraisal process. The TAA assessment scores the impact of each RCO across the six main TAF criteria:

- Accessibility
- Social
- Land Use
- Safety
- Climate Change
- Local Environment

A Cost Benefit Analysis (CBA) in accordance with PAG Unit 13.0 was used to monetise social and economic benefits of each RCO.

The results of the TAA and the CBA for the RCOs were combined to inform the selection of an Emerging Preferred Route Corridor Option (EPRCO).

Table 0-2 summarises the results of the combined TAA and CBA. It should be noted that the number in the table are unitless and used for comparative purposes only.

Table 0-2 TAA and CBA Results

Criteria	RCO1a	RCO2a	RCO1b	RCO2b	RCO1c	RCO2c	RCO1d	RCO2d
Accessibility	Positive	Positive	Neutral	Slight Positive	Neutral	Slight Positive	Positive	High Positive
Social Impacts	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	High Positive
Land Use Impact	Slight Positive	Positive	Neutral	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive
Safety Impact	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Positive	Positive
Climate Change	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
Local Environmental Impact	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Total Section Result	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Positive
Combined TAA Numerical Score	29.7	29.9	27.8	28.2	27.7	27.5	31.5	32.7
CBA Score (BCR)	1.61	2.14	0.97	0.86	0.89	0.78	0.74	0.98
Total Combined TAA and CBA Score	31.3	32.0	28.8	29.1	28.6	28.2	32.2	33.7

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Emerging Preferred Route Corridor Option

Based on the combined results of the TAA and CBA, the following is the result of the Phase 2 Options Selection process:

- RCO2a is the preferred option between Kilbeggan Harbour and a point south of Ballinagore.
- RCO2b is the preferred option between the point south of Ballinagore and Ballinagore.
- RCO1c is the preferred option between Ballinagore and Dalystown.
- RCO2d is the preferred option between Dalystown and a point south of Mullingar Town, tying into the Old Rail Trail Greenway.

The above subsections and the links between them will form the Emerging Preferred Route Corridor Option (EPRCO) for the Kilbeggan to Mullingar Greenway.

As part of the considerations on the EPRCO, it was notable that Lilliput Adventure Centre, which is owned by Westmeath County Council, is in very close proximity to the EPRCO, where sub-sections RCO1c and RCO2d meet. This is the most visited attraction on the western side of Lough Ennell and is approximately 1.5 km straight-line distance from the EPRCO. Lilliput Adventure Centre has an estimated potential annual visitor number of 55,000, many of whom may be potential greenway users. Following an assessment including costings for the link, it is recommended that a link from the EPRCO to Lilliput Adventure Centre be included in the design of the Kilbeggan to Mullingar Greenway. The EPRCO is shown in **Figure 0.2**.

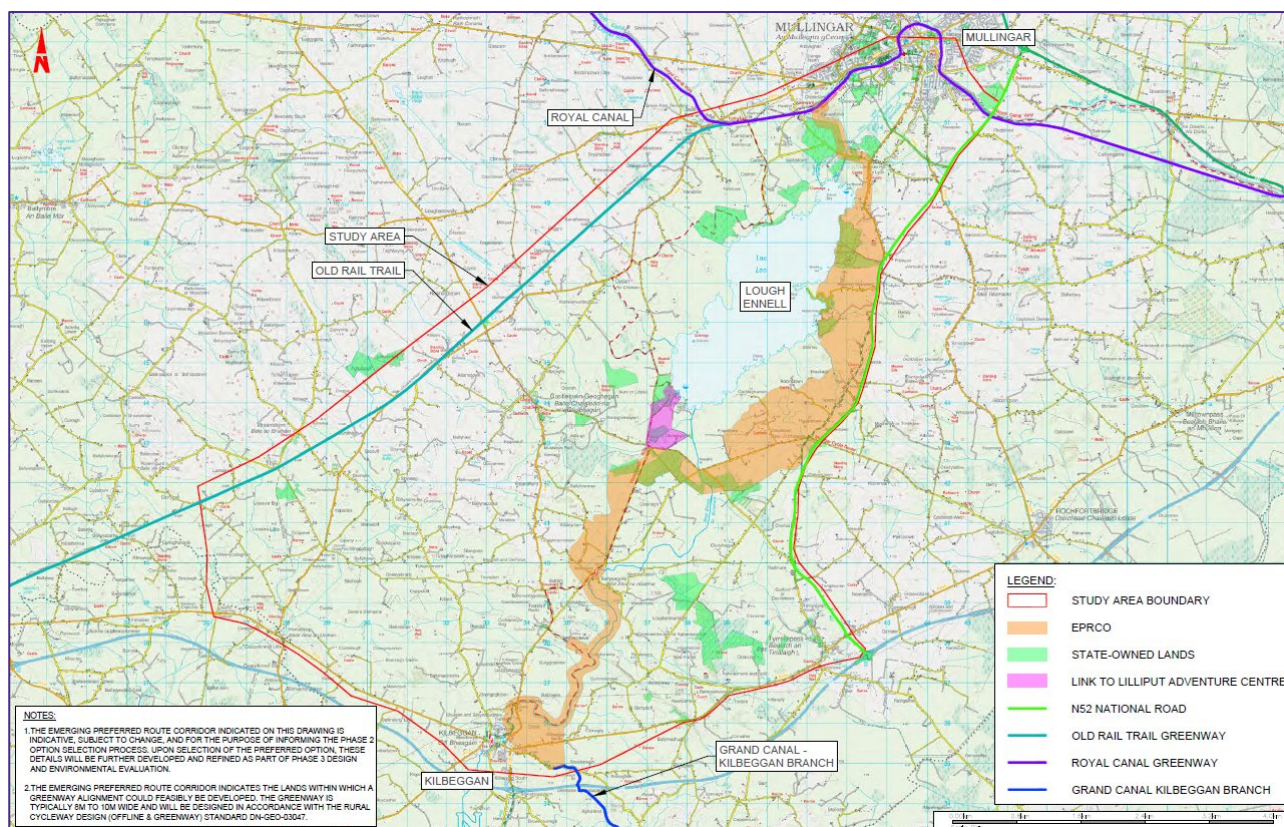


Figure 0.2 Emerging Preferred Route Corridor Option

Public Consultation No.3

Public Consultation No. 3 Emerging Preferred Route Corridor Option for the Kilbeggan to Mullingar Greenway was held between Monday 16th June and Friday 25th July 2025. The purpose of the consultation was to update all stakeholders, landowners, members of the public and interested parties on the project progress to date and the EPRCO within which the Kilbeggan to Mullingar Greenway is likely to be developed. The project team will take into consideration the feedback received during the public consultations in the design and environmental evaluation of the greenway.

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Preferred Option

Following the completion of Public Consultation No.3, a review of the EPRCO was undertaken. The review took account of issues raised such as maximising the use of state-owned lands and removing areas where it is considered unlikely that a route would be developed. This exercise resulted in the refinement of the EPRCO in two locations, one at Kilbeggan and one north of the L1122 local road between Clonsingle and Dalystown. The refined corridor is shown in **Figure 0.3**. This is the Preferred Option for the Kilbeggan to Mullingar Greenway project.

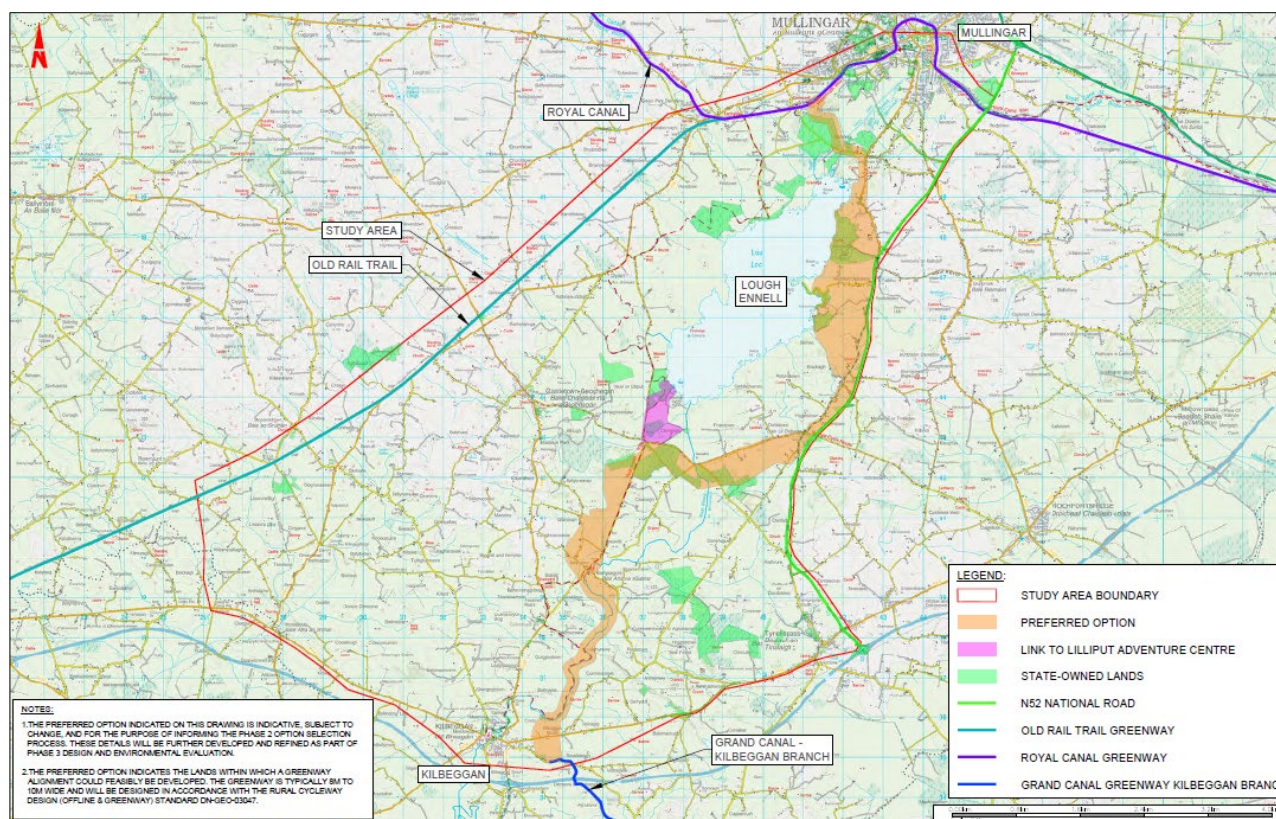


Figure 0.3 Preferred Option for the Kilbeggan to Mullingar Greenway Project

This Preferred Option is consistent with the Project Objectives and the Code of Best Practice. It also aims to maximise the use of state-owned lands, including forestry and within the existing N52 corridor. This aligns with the NIFTI intervention hierarchy. However, it must be noted that further studies, surveys, landowner engagement and investigations are required in order to select a route within the Preferred Option. The results of these surveys may result in slight amendments to the corridor to accommodate a route that links, end-to-end. This flexibility is required to ensure that a suitable route can be developed in Phase 3 Design and Environmental Evaluation and, ultimately, brought forward to Phase 4 Statutory Processes (i.e. planning application).

It is recommended that the Preferred Option be brought forward to Phase 3 Design and Environmental Evaluation in accordance with TII Publication Project Manager's Manual for Greenways, May 2025 (PE-PMG-02047-02).

OPTIONS REPORT

1 INTRODUCTION AND PROJECT DESCRIPTION

1.1 Introduction

RPS have been commissioned by Westmeath County Council (WCC) to provide multi-disciplinary engineering and specialist consultancy services for the development of a greenway between Kilbeggan and Mullingar towns in Co. Westmeath. RPS are commissioned to carry out services through Phase 1 to Phase 4 of the project lifecycle in accordance with TII Publication Project Manager's Manual for Greenways, May 2025 (PE-PMG-02047-02).

This project is currently at Phase 2 Options Selection in accordance with PE-PMG-02047. The options selection process also takes account of the TII Publication; PE-PAG-02036 - Project Appraisal Guidelines for National Roads Unit 13.0 - Appraisal of Active Modes, February 2024 (PAG Unit 13.0) and the new Department of Transport - Transport Appraisal Framework (2023) (TAF).

The structure and content of the Options Selection Report is as outlined in TII Publication; PE-PAG-02013 Project Appraisal Guidelines Unit 4.0 – Options Report, February 2024 (PAG Unit 4.0).

1.2 Overview

The Kilbeggan to Mullingar Greenway will be a recreational trail, providing tourists, commuters and leisure users (collectively Non-Motorised Users - NMU) with a dedicated corridor linking Kilbeggan Town to Mullingar Town. The project will be a purposeful recreational facility for use by cyclists, walkers and other NMU users.

This project will also aim to provide a strategic connection between the Royal Canal Greenway/ Old Rail Trail in Mullingar and the Grand Canal Greenway (via the Kilbeggan Branch of the Grand Canal). The Grand Canal Greenway follows the route of the Grand Canal and links Dublin and the River Shannon via Tullamore and a number of other towns and villages on the route. In Offaly, the Grand Canal runs from Shannon Harbour in the west to Edenderry in the east. There is an existing section of greenway between Tullamore and Kilbeggan Harbour via the Grand Canal Greenway at Ballycommon (east of Tullamore). These completed sections of the greenway utilise the old towpath along the canal.

The National Cycle Network (NCN) also includes proposals to link Mullingar with Tullamore with a cycling route. Further detail on the NCN is provided in Section 2.1.10.

1.3 Changes to Guidance Documents

Since the commencement of this project in March 2023, changes have been made to Department of Transport (DoT) appraisal framework. This project commenced under the DoT Common Appraisal Framework (CAF) for Transport Projects and Programmes (published in 2016 and subsequently updated). The CAF was replaced by the Transport Appraisal Framework (TAF) in 2023. The TAF provides appraisal and implementation guidance that aims to promote investment in the transport system which meets the needs of society, fulfils strategic policy objectives, and delivers value for money through a common framework for appraising transport investments in accordance with the Infrastructure Guidelines (IG).

The TAF was first published in June 2023 with updates published in July 2024. This phase of the project is being carried out in accordance with the TAF guidance issued in July 2024, with reference to work carried out under the previous version of TAF carried out in Phase 1.

1.4 Scheme Development to Date

Phase 1 of this project commenced in March 2023 and was complete with Gateway approval received on 29th February 2024. In Phase 1 Concept & Feasibility, a Feasibility Report was prepared in accordance with PE-PMG-02047 guidance. This guidance required options for a greenway to be developed and an assessment to be undertaken to determine if there is at least one feasible option.

In Phase 1, a Study Area was defined based on the physical features and existing transport infrastructure and through discussions with WCC. A public consultation was held on the Study Area in May 2023. Subsequently, within this Study Area, a long list of nine options was developed having regard to the various constraints and opportunities identified and the constraints study, all of which formed part of the Feasibility

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Report. The long list of nine options were appraised against the Project Objectives. Where options did not align satisfactorily with the Project Objectives, they were eliminated from further consideration. Subsequently, the remaining options were appraised. The outcome of the above process was that two broad RCOs were selected to advance to Phase 2 Options Selection.

The Feasibility Report at **Appendix A** of this Report details the Phase 1 process including the assessment of the nine long-list options and the selection of the two RCOs that were brought forward to Phase 2.

The two RCOs developed in Phase 1 and brought forward to Phase 2 are illustrated in **Figure 1.1** and drawing IE000653-RPS-DG-XX-M-Z-0002 included in **Appendix B**.

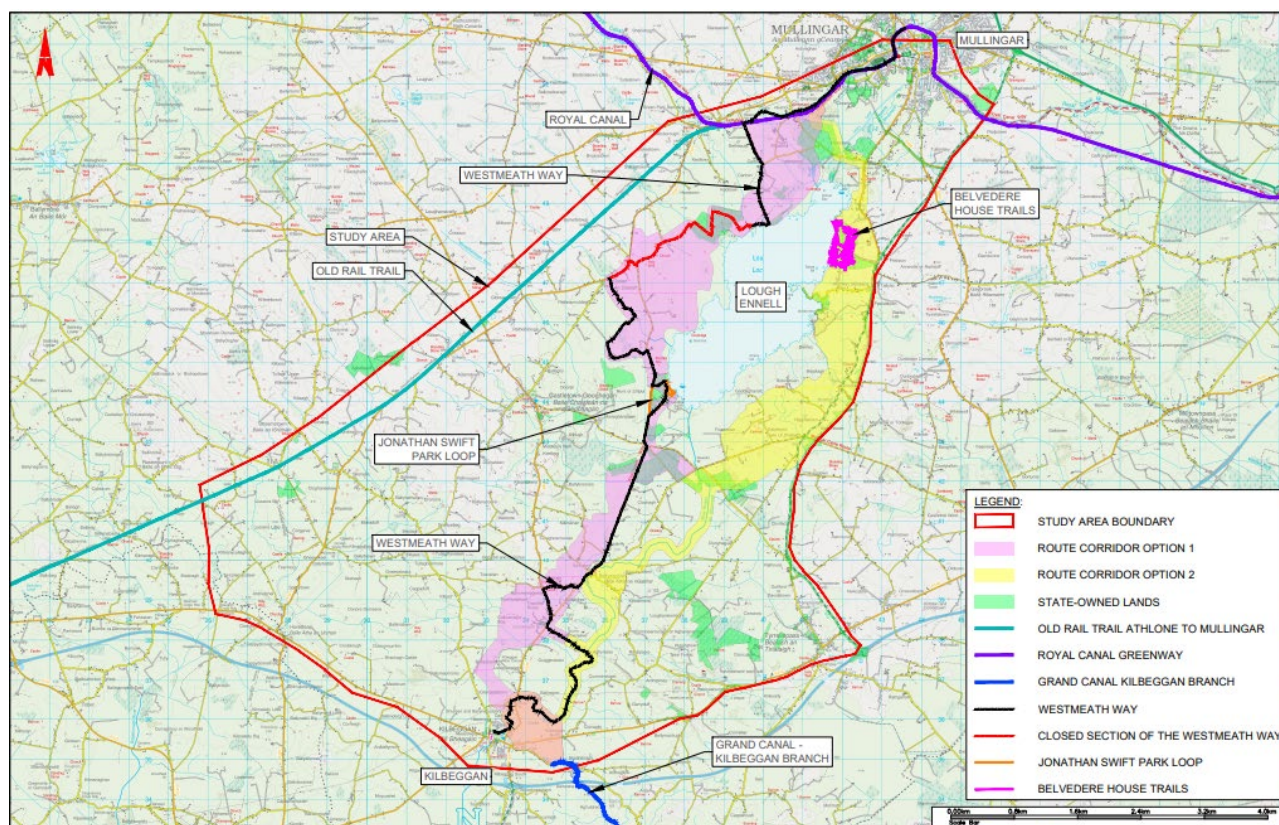


Figure 1.1 Feasible Options brought forward to Phase 2

These RCOs have been renamed for Phase 2 as follows:

- Option 5 is now named Route Corridor Option 1 (RCO1).
- Option 7 is now named Route Corridor Option 2 (RCO2).

1.5 Purpose of the Options Report

This Report describes the appraisal of two shortlisted RCOs developed in Phase 1 under the criteria defined in PAG Unit 13.0. This appraisal is informed by the relevant information obtained during various studies and surveys undertaken by RPS, including feedback received from the public consultations. The purpose of this report is to identify a Preferred Option to take forward to Phase 3 Design and Environmental Evaluation.

This Options Report is a key deliverable for Phase 2 Options Selection under TII's Project Management Guidelines (PE-PMG-00247) and Project Appraisal Guidelines (PAG Unit 4.0 – Options Report). This Report documents the processes undertaken to select an EPRCO. An additional section has been included to account for the processes outlined in the Strategy for the Future Development of National and Regional Greenways 2018 and the Code of Best Practice for National and Regional Greenways 2022 (Code of Best Practice).

The assessment of the RCOs, in accordance with PAG Unit 4.0 is conducted in a 3-stage structured process as follows:

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- **Stage 1 Route Corridor Options Assessment** – The RCOs brought forward from Phase 1 are developed into a range of corridor/alignment options and sifted through an initial Multi-Criteria Analysis (MCA) process (e.g. engineering, environment, economy assessment).
- **Stage 2 Project Appraisal Matrix** – A detailed appraisal of the RCOs brought forward to Stage 1 is undertaken in line with the DoT TAF.
- **Stage 3 Selection of an Emerging Preferred Route Corridor** – The EPRCO is the best performing RCO following the detailed appraisal undertaken at Stage 2. The EPRCO will then be published for public consultation.

At the end of Phase 2, a Preferred Option will be identified and brought forward to Phase 3.

The Options Report, prepared in accordance with the PMGs and PAGs, provides a description of the project, the options (solutions) considered that meet the project objectives, an assessment of the feasible options, supporting information used in the assessment, the identification of the EPRCO, and, ultimately, a recommendation for a Preferred Option.

2 INVESTMENT RATIONALE AND STRATEGIC ROLE

This Section outlines the key investment rationale based on published strategic plans and policy documents at national, regional and local levels. Investment in exploring options for the Kilbeggan to Mullingar Greenway is justified based on the following published documents.

2.1 Need for the Project

There are a number of strategic greenways (walking and cycling routes) in the wider Westmeath and Midlands area, including the Royal Canal Greenway, The Old Rail Trail (which forms a section of the proposed strategic Galway to Dublin Greenway), and the Grand Canal Greenway (Kilbeggan Branch) which connects to the Grand Canal Greenway which, when complete, will link the River Shannon to Dublin via Tullamore. There is currently no dedicated walking or cycling route to connect the Royal Canal Greenway and the Grand Canal Greenway. The creation of a greenway between Kilbeggan and Mullingar would provide this strategic link while also providing a multi-day circular walking and cycling route between Dublin, Mullingar, Kilbeggan, Tullamore, and back to Dublin.

The EuroVelo 2 route, also known as the Capitals Route, links Dublin with Moscow via London, Berlin, Warsaw, and Minsk. In Ireland, the route has been extended to include a link between Dublin and Galway. This route is partially completed with the Royal Canal Greenway linking Maynooth to Mullingar (and on to Longford). To the southwest of Mullingar, the Royal Canal Greenway meets with the Old Rail Trail which links Mullingar and Athlone. In 2023 a new pedestrian and cycleway bridge was opened across the Shannon in Athlone where it will join with the proposed Athlone to Galway section of the EuroVelo 2 route. The Kilbeggan to Mullingar Greenway will facilitate a north-south connection between the EuroVelo 2 route at Mullingar to the Grand Canal Greenway linking Tullamore and Dublin. When complete, greenway users will be able to travel a >200 km loop from Dublin to Mullingar along the Royal Canal Greenway, then south on the Kilbeggan to Mullingar Greenway to Ballycommon (approx. 8 km east of Tullamore) and back to Dublin along the Grand Canal Greenway (or vice versa).

The Kilbeggan to Mullingar Greenway will also achieve an objective of the CycleConnects Plan. See **Section 2.3.11** for further detail.

Within the project study area, there are a number of Regional and Local Roads. However, the volume of traffic on these roads, combined with the speed of traffic, the lack of a hard-shoulder, and the absence of walking/ cycling facilities makes them unsuitable to facilitate large numbers of potential greenway users. A substantially segregated greenway will provide a safer walking and cycling network between Kilbeggan to Mullingar, and the attractions within or in close proximity to the greenway.

In order to help Ireland meet its international climate obligations, particularly the reduction in transport related fossil fuel emissions, there is a need to provide opportunities for people to change their behaviour. This change in behaviour is often termed 'modal shift' whereby private car journeys are replaced by walking and cycling, i.e. a change in the mode of transport used. The creation of a greenway linking population centres within the Kilbeggan to Mullingar area will provide locals and tourists with an option to use an alternative means of transport (i.e. walking and cycling) thereby reducing greenhouse gas (GHG) emissions.

Greenways also provide opportunities for undertaking physical activity that can improve the health and wellbeing of users.

There are also many local attractions within the Study Area that would benefit from having a greenway within or in close proximity to them, increasing visitor numbers and tourism, and providing employment opportunities.

The Kilbeggan to Mullingar Greenway is therefore considered of strategic importance as it provides the connection between the Royal Canal Greenway and the Grand Canal Greenway. Simultaneously, it will provide safer walking and cycling routes, opportunities for modal-shift (reducing GHG emissions), opportunities for more active lifestyles, and connect to local attractions and things to see and do.

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2.2 International Policy

2.2.1 UN Sustainable Development Goals

Agenda 2030 launched by the UN in 2015 has a vision to “end poverty, protect the planet, and ensure prosperity for all” by 2030. At the core of the Agenda are 17 Sustainable Development Goals (SDG). The following SDGs broadly align with the objectives of the Kilbeggan to Mullingar Greenway project.



2.2.2 Paris Agreement

Ireland is a signatory to the Paris Agreement which entered into force in November 2016. The Paris Agreement aims to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue efforts “to limit the temperature increase to 1.5°C above pre-industrial levels.”

The Kilbeggan to Mullingar Greenway will provide alternative travel options (walking and cycling) to locals and tourists in the area which in turn may result in a decrease in transport related emissions.

2.2.3 European Green Deal

The European Green Deal provides an ambitious agenda for the EU to become the first climate neutral continent by 2050 and to protect, conserve and enhance the EU’s natural capital, and protect the health and well-being of citizens from environmental risks and impacts. Some of the aims include the reduction in EU greenhouse gas emissions by at least 55% by 2030, no net emissions of greenhouse gases by 2050, and no person and no place is left behind.

The Kilbeggan to Mullingar Greenway will provide alternative travel options (walking and cycling) to locals and tourists in the area which in turn may result in a decrease in transport related emissions.

2.2.4 EU Sustainable and Smart Mobility Strategy

The EU Sustainable and Smart Mobility Strategy was published in 2020. It sets out a plan to have a 90% reduction in the transport sector’s emissions by 2050. The Strategy stresses, under Flagship 3, the need to make interurban and urban mobility more sustainable and healthy. This includes:

“35. As set out in the 2030 climate target plan, increasing the modal shares of collective transport, walking and cycling, as well as automated, connected and multimodal mobility will significantly lower pollution and congestion from transport, especially in cities and improve the health and well-being of people.”

The Kilbeggan to Mullingar Greenway will provide alternative travel options (walking and cycling) to locals and tourists in the area which in turn may result in more sustainable and healthy travel options being chosen.

2.3 National Drivers

2.3.1 Draft First Revision to the National Planning Framework

A draft first revision to the National Planning Framework (NPF) was published by the Government of Ireland in July 2024 and is the Government’s high-level strategic plan for shaping the future growth and development of the country to the year 2040. The draft revision reflects changes to government policy since the report’s first release in 2018, such as climate transition, regional development, demographics, digitalisation and investment and prioritisation. The NPF includes ten National Strategic Outcomes (NSO) over the plan period. The following NSOs are particularly relevant:

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- NSO 1: Compact Growth;
- NSO 3: Strengthened Rural Economies and Communities;
- NSO 4: Sustainable Mobility;
- NSO 7: Enhanced Amenity and Heritage; and
- NSO 8: Transition to a Low Carbon and Climate Resilient Society.

Criteria to achieve those outcomes include a transition to more sustainable travel modes such as walking and cycling.

NSO 1 seeks to promote and manage growth in urban areas. Greenways support this by providing alternative travel modes to urban dwellers.

NSO 3 acknowledges that, *“Rural areas play a key role [...] in driving our economy [...] and must be a major part of our country’s strategic development to 2040.”* Improved connectivity is seen as one of the keys to strengthening rural economies and communities, and greenways will provide this connectivity.

NSO 4 is part of the Climate Action Plan and National Sustainable Mobility Policy. Greenways help in achieving this by providing alternative sustainable modes of transport leading to a *“cleaner, quieter environment free of engine driven transport systems.”*

NSO 7 aims to increase the attractiveness of both urban and rural areas *“activity-based tourism and trails such as greenways, blueways and peatways. This is linked to and must integrate with our built, cultural and natural heritage, which has intrinsic value in defining the character of urban and rural areas and adding to their attractiveness and sense of place.”*

NSO 8 shapes the investment priorities over the lifetime of the plan including more climate-resilient and environmentally sustainable methods. Greenways will contribute to a sustainable transport network.

The NPF notes the health and economic benefits of extensive cycle infrastructure along with the climate change benefits of same.

National Policy Objectives (NPOs) are also included; for example, NPO 35 encourages greenway development through the facilitation of the development of national and regional greenways / blueways and peatways strategy which prioritises developments on the basis of achieving maximum impact and connectivity at national and regional level, while NPO 38 facilitates healthy communities through the provision of alternative means of transport to the car.

2.3.2 National Development Plan 2021-2030

The National Development Plan (NDP) 2021-2030 from the Department of Public Expenditure (DPE, 2021) sets out the Government’s over-arching investment strategy and budget for the period 2021-2030. The NDP states that the Government is firmly committed to encouraging the use of walking, cycling and other active travel methods. The NDP commits to the investment of approximately €360 million per annum over the lifetime of the NDP to be invested in walking and cycling infrastructure in cities, towns and villages across the country, including Greenways.

2.3.3 National Investment Framework for Transport in Ireland

The National Investment Framework for Transport in Ireland (NIFTI), (DoT, 2021), supports the consideration and prioritisation of future investment in land transport and “the delivery of the national planning framework.” It supports achieving the National Strategic Outcomes set out in the NPF. The framework identifies four priorities for transport investment:

- Decarbonisation;
- Protection and renewal;
- Mobility of people and goods in urban areas; and
- Enhanced regional and rural connectivity.

NIFTI also provides a modal hierarchy and an intervention hierarchy. The order of preference for each is shown in **Figure 2.1**:

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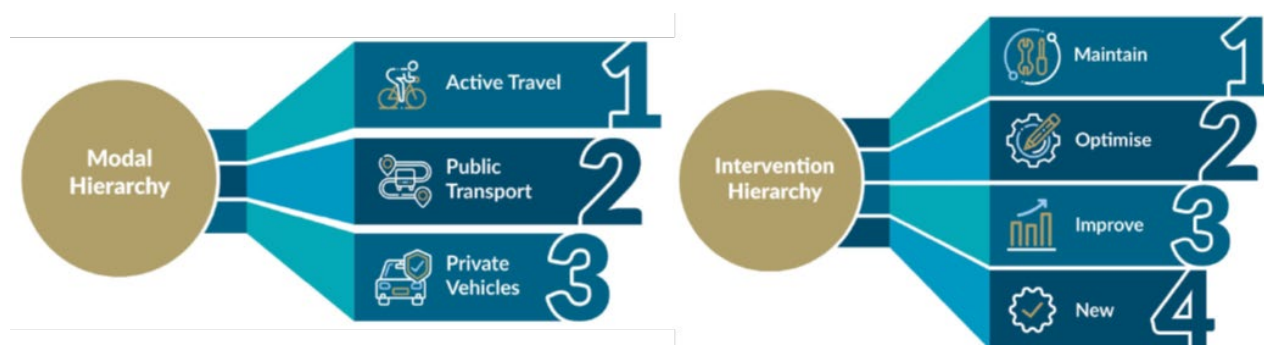


Figure 2.1 NIFTI Modal and Intervention Hierarchies

Under the Modal Hierarchy, active travel (of which greenways form a part) is considered the most sustainable mode of transport. Increasing the share of active travel can reduce the carbon footprint of the transport sector, improve air quality, reduce urban congestion, and bring about positive health impacts as a result of increased physical activity.

The intervention hierarchy supports the:

- Optimisation of existing infrastructure through enabling and encouraging more efficient behaviour and sustainable use of the network;
- Improvement of existing infrastructure, through increasing the standards of that infrastructure, or measures which shift existing capacity to more sustainable modes; and
- New infrastructure which encompasses all measures which entail significant increases to transport infrastructure capacity.

2.3.4 National Sustainable Mobility Policy

In 2022, the Department of Transport published the National Sustainable Mobility Policy (DoT, 2022). The policy sets out a strategic framework to 2030 for active travel and public transport to support Ireland's overall requirement to achieve a 51% reduction in carbon emissions by the end of 2030. The policy contains a target to deliver at least 500,000 additional daily active travel and public transport journeys by 2030 in line with metrics for transport set out in the Climate Action Plan 2021. The principles and goals of the policy are set out alongside how the Kilbeggan to Mullingar Greenway will assist in meeting those goals in **Table 2-1**.

Table 2-1 National Sustainable Mobility Policy Principles and Goals

Principles	Goals	Kilbeggan to Mullingar Greenway Alignment with Goals
Safe and Green Mobility	1. Improve mobility safety.	The greenway will be substantially segregated from vehicular traffic which will improve active travel mode safety.
	2. Decarbonise public transport.	n/a
	3. Expand availability of sustainable mobility in metropolitan areas.	Greenway will link to Mullingar providing alternative and more sustainable transport options for locals and commuters.
	4. Expand availability of sustainable mobility in regional and rural areas.	The greenway will benefit rural communities between Kilbeggan and Mullingar by providing new infrastructure to sustainable mobility.
	5. Encourage people to choose sustainable mobility over the private car.	The greenway will provide new walking and cycling routes for local communities, tourists and commuters that can make these modes more attractive than private car travel.

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Principles	Goals	Kilbeggan to Mullingar Greenway Alignment with Goals
People Focused Mobility	6. Take a whole of journey approach to mobility, promoting inclusive access for all.	The greenway will be designed for all abilities and users of non-motorised transport. It will allow for a complete journey between Kilbeggan and Mullingar towns.
	7. Design infrastructure according to Universal Design Principles and the Hierarchy of Road Users model.	The greenway will be designed for all abilities and users of non-motorised transport.
	8. Promote sustainable mobility through research and citizen engagement.	Community engagement has begun on this project through public consultation, during which the benefits of the greenway are promoted to the public. Promotion of the greenway will continue following opening.
Better Integrated Mobility	9. Better integrate land use and transport planning at all levels.	The greenway will link to other Greenways, public transport hubs, and the national road network.
	10. Promote smart and integrated mobility through innovative technologies and development of appropriate regulation.	n/a

2.3.5 Climate Action Plan 2024

The Kilbeggan to Mullingar Greenway has the potential to contribute to national policy on tackling climate change. The transport sector accounts for approximately 18% of Ireland's national Greenhouse Gas (GHG) emissions and is one of the most significant contributors. The Climate Action Plan 2024 (Dec. 2023) outlines a target of a 20% reduction in vehicle kilometres compared to business-as-usual, 50% reduction in fossil fuel usage, continued electrification of vehicles and significant modal shift to walking, cycling and public transport by 2030. This is to help achieve a 51% reduction in Greenhouse Gas (GHG) emissions by 2030 as required by the Climate Action and Low Carbon Development (Amendment) Act 2021. This plan promotes a strong shift to sustainable travel modes with a vision of healthier, safer, and more people-focused transport infrastructure.

The current mode share both locally and nationally indicates a strong reliance on private cars. From the Transport Trend 2021 Report, the way that people in Ireland travel continues to rely heavily on the private car, although recent years have seen increases in the use of public transport and active modes. Eurostat data from 2019 shows that 81.8% of journeys in Ireland were completed by car. A greenway will therefore provide alternative modes of transport for communities linked by the greenway, including cycling and walking, thereby contributing to a reduction in transport emissions.

2.3.6 Transport Appraisal Framework (TAF)

The Transport Appraisal Framework (TAF) provides appraisal and implementation guidance that aims to promote investment in the transport system which meets the needs of society, fulfils strategic policy objectives, and delivers value for money to develop a common framework for appraising transport investments in accordance with the Public Spending Code (PSC).

The TAF was published by the Department of Transport in June 2023 (DoT, 2023) and came into immediate effect. It replaces the Common Appraisal Framework (CAF) for Transport Projects and Programmes (published in 2016 and updated subsequently).

The changes facilitate the delivery of transport investment proposals through rigorous and proportionate appraisals, in compliance with PSC requirements, and by making the appraisal framework more accessible and user-friendly. It is designed to help assist and guide Sponsoring Agencies when developing transport business cases for proposed public investment.

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2.3.7 Strategy for the Future Development of National and Regional Greenways

The Strategy for the Future Development of National and Regional Greenways (DTTaS, 2018) sets out how greenways are strategic infrastructure at both the national and regional levels. Greenways will be developed in appropriate locations and constructed to an appropriate standard in order to deliver a quality experience for all cycleway users. The objectives provide guidance for different scales and locations of cycleways such as:

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

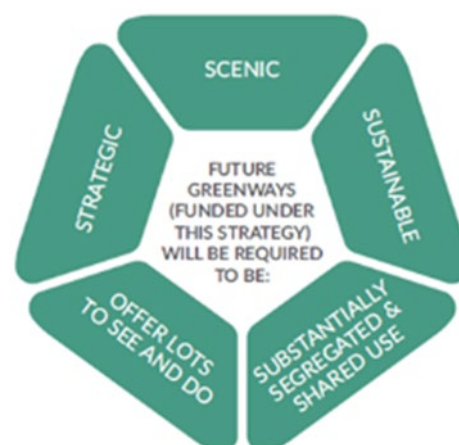
Where privately-owned lands are to be used, proposals and routes are to be developed in a consultative and proactive manner with the potentially affected landowners. In addition, where Greenways are planned in areas of private land, they should be designed to follow field boundaries and hedgelines to avoid severance where possible.

The Strategy also includes content on standards of width, gradient and surface condition and identifies that the greenways should be considered to be more than a transport route but an experience in themselves.

The development of options will be steered with reference to the Five S criteria as set out in the Strategy. These are:

- Scenic.
- Sustainable.
- Substantially segregated and shared use.
- (Offer lots to) See and do.
- Strategic.

The proposed development will be considered in the context of the Strategy and how it can assist in meeting the objectives of same and its content on biodiversity protection and awareness of same will also be considered.



2.3.7.1 Scenic

The area between Kilbeggan and Mullingar has many scenic locations that can provide the type of memorable experience cycling and walking tourists look for. The area contains a lot of pleasant rolling countryside amongst which the centrepiece is Lough Ennell which is noted as a High Amenity Area and is highly regarded for its recreational value. Several historic demesnes with attractive wooded grounds are found in the area, for example Belvedere House.

Rest areas (trailheads) will be provided along the Kilbeggan to Mullingar Greenway where people can stop to view local wildlife and fauna, with a particular focus on Lough Ennell where practicable having regard to the various identified constraints.

It will be an objective in the planning of the Kilbeggan to Mullingar Greenway to route it through the more scenic areas where practicable (having regard to the various engineering, environmental and other constraints), while also providing a variety of landscapes and environments for the user to enjoy.

2.3.7.2 Sustainable

The Kilbeggan to Mullingar greenway will give those living within its locality an improved opportunity to enjoy walking and cycling. It will also aim to promote localised modal shift by way of providing an infrastructure that will link townlands along its route that will encourage a shift away from car usage.

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The Kilbeggan to Mullingar greenway will also provide opportunities for the development of local businesses and other enterprises in the area. It will promote cycle tourism which is eco-friendlier and more sustainable than other forms of tourism. Part of the attraction in cycle tourism is the knowledge that it contributes to a reduction of carbon and transport emissions and promotes healthy lifestyles.

2.3.7.3 Substantially segregated and shared use

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

It will be an objective in the planning of the Kilbeggan to Mullingar Greenway to provide a fully segregated route. However, it is recognised that it may be impractical to achieve full segregation over the entire route length, especially in urban areas.

2.3.7.4 (Offer lots to) See and do

Mullingar is an expanding town and an increasingly attractive tourist destination, not least due to the development of greenways and blueways in and around Mullingar and linking population centres such as Athlone, Longford and Maynooth for example.

Kilbeggan similarly offers lots to see and do. The Kilbeggan Distillery & Visitor centre is located within the town.

Between Kilbeggan and Mullingar there are a number of attractions and areas of interest including: the River Brosna, Lilliput Adventure Centre, Ladestown, Lough Ennell, Nure Bog pNHA, Tudenham, and Belvedere House and Gardens. The region is steeped in ancient Irish history with some very visible and attractive cultural heritage features.

2.3.7.5 Strategic

The research used to inform The Strategy for the Future Development of National and Regional Greenways (DTTaS, 2018) indicates that the scale of the project is very important in attracting international cycling tourists who will typically wish to partake in a weeklong holiday. Therefore, the minimum length required for a cycle route to be marketable internationally is 200 km and preferably 300 km. The greenway from Kilbeggan to Mullingar, by providing cross connection between the Grand Canal and Royal Canal Greenways, opens the prospect of long-distance looped greenway routes of the required scale to be attractive to both the international and domestic markets. For example, a Dublin – Mullingar – Kilbeggan – Tullamore – Dublin Loop would be greater than 200km in length.

2.3.8 Code of Best Practice National and Regional Greenways

The Code of Best Practice was prepared in accordance with the Strategy for the Future Development of National and Regional Greenways (DoT, 2018) which committed to the development of a Code of Best Practice.

The Code of Best Practice provides comprehensive information in relation to the process involved in planning, designing and constructing National and Regional Greenways. It includes an overview of the public consultation processes, constraints study, route selection and statutory processes, as well as information about the use of State-owned lands and the acquisition of private lands for developing greenways. The Code of Best Practice also outlines the relevant roles of the 'project promoter' which is comprised of the Department of Transport, TII, local authorities and other specific stakeholders. The Code acknowledges the important role of farmers / landowners in the process and outlines the procedures to ensure that they are treated fairly and equitably.

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2.3.9 Embracing Ireland's Outdoors: National Outdoor Recreation Strategy 2023-2027

This plan for outdoor recreation provides a strategic focus for investment in outdoor recreation facilities. It recognizes the growing network of trails and cycleways nationally as a sector opportunity.

2.3.10 National Cycle Network Plan

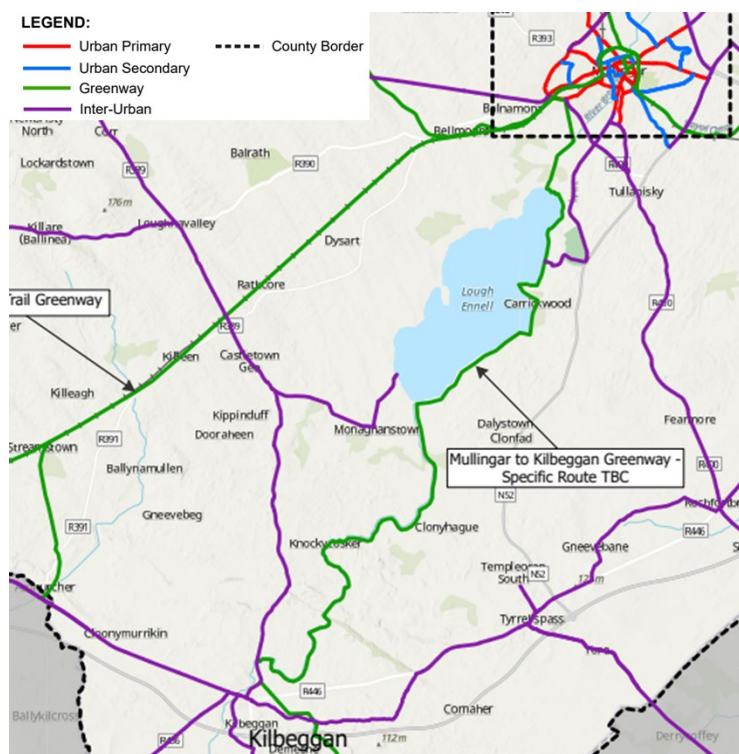
The National Cycle Network (NCN) Plan was prepared by Transport Infrastructure Ireland (TII) on behalf of the Department of Transport. In January 2024. The NCN focuses on linking cities and towns of over 5,000 people with a safe, connected and inviting cycle network. It includes plans to create cycle routes to destinations such as transport hubs, centres of education, centres of employment, leisure and tourist destinations. Where possible, it will optimise the potential for people to cycle as part of their daily activities, such as work or educational commuting. It will also integrate with existing and proposed cycle infrastructure. Both road safety, and the safety and security of users, will be central to the development of the NCN.

The NCN builds on previous work completed by TII and aligns with the work being undertaken by the National Transport Authority (NTA) in developing urban and county level cycle networks. It integrates with other cycle routes and networks in various stages of development, including the EuroVelo routes, greenways and the Strategic Plan for Greenways in Northern Ireland. The NCN plan will complement these other cycling development projects and will provide a core spine that other networks and routes can connect to.

In the NCN Mullingar is identified as a "Primary Node" and Tullamore as a "Secondary Node". The NCN Plan includes a link between Mullingar and Tullamore (assessed as Corridor Option 57B and updated to Corridor No. 55 in the final plan).

2.3.11 CycleConnects

The NTA are developing proposals for a proposed safe, accessible and convenient cycle network for Ireland, CycleConnects. This should connect more people to more places and encourage sustainable travel. Cycling links are proposed in key cities, towns and villages in each county along with connections between settlements. The plan includes both existing and planned cycle routes including greenways and blueways. CycleConnects includes a map of proposed cycleways in County Westmeath. The Kilbeggan to Mullingar Greenway is included, albeit an indicative route only is shown (see **Figure 2.2**).



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2.3.12 All-Island Strategic Rail Review

In July 2024 the All-Island Strategic Rail Review was published, a joint publication from the Department of Transport in Ireland and the Department for Infrastructure in Northern Ireland. The Review report sets out 32 strategic recommendations to enhance the rail system in Ireland and Northern Ireland. The report identifies projects that will bring a benefit to passengers and wider society by introducing increasing track capacity, electrification, increased speeds, higher service frequencies and new routes.

The Review includes proposals to develop a new single track railway line between Athlone and Mullingar. The historical railway line between Mullingar and Athlone has been paved over to form the Old Rail Trail Greenway. It is likely that this historical railway corridor used for the Old Rail Trail would be repurposed back to railway line for any future rail development. As such, any section of the Kilbeggan to Mullingar Greenway that would incorporate the Old Rail Trail further south of Mullingar, e.g. sections between Streamstown and Ballina/ Belmont, would become unusable, breaking the strategic greenway link between the Grand Canal Greenway and the Royal Canal Greenway.

2.4 Tourism

This project offers significant benefits to Westmeath and the broader Midlands and Eastern Region. Providing a cross connection between the Royal Canal and Grand Canal Greenways, the benefits could extend over an even wider area. This project has the potential for County Westmeath to further boost its image as an attractive location for sustainable tourism, by giving increased opportunities to showcase the natural beauty of the area for local people, domestic and international tourists. The Kilbeggan to Mullingar Greenway also gives an opportunity to increase visitor numbers to the extensive existing network of greenways and blueways in Westmeath such as the Old Rail Trail, Royal Canal Greenway and Grand Canal Greenway. It also opens the potential for future local greenway connections and access points to be developed in the broader region.

The Dublin to Galway Cycleway (to which the Kilbeggan to Mullingar Greenway will connect) will be a major national greenway and will be part of a trans-European network of long-distance cycle routes connecting and uniting the whole European Continent. It will form part of the EuroVelo 2 Capitals Route linking Moscow to Galway. A proportion of EuroVelo 2 users are likely to vary their trips to include the Kilbeggan to Mullingar Greenway and broader Grand Canal Greenway given the opportunity and what attractions they most wish to see. Such integrated greenways can help to maximise economic potential by attracting more multi-day trips.

An indication of the potential benefits to the local economy is provided by data in the National Development Plan 2021-2030 (DPE, 2021), which states (p.27) that the Waterford Greenway's economic benefits included the opening of one new hostel and eight new B&B's, eight new restaurants, five new bike hiring firms and approximately 139 new jobs.

In 2013, market research consultants were commissioned by Fáilte Ireland to undertake a Target Cycling Market Survey (Failte Ireland, 2013) in Germany, Britain, Netherlands, and France for cycling holidays to Ireland by overseas visitors. The research identified a core potential market of 19.5 million people with the largest segment from Germany. The key requirements of the target market both internationally and domestically were that the cycleway would run through scenic landscapes, offer traffic free cycling, and offer a high standard of safety.

According to Fáilte Ireland's Key Tourism Facts 2019 (Failte Ireland, 2021), overseas tourist participation in walking/ hiking and cycling activities had risen to 2.75 million people in 2019, while 51% of domestic holidaymakers engaged in similar activities. This represents a significant increase from figures recorded in 2013 (Failte Ireland, 2014) where an estimated 0.98 million overseas tourists engaged in walking/ hiking and cycling activities and 32% of domestic holidaymakers. These figures provide valuable information to support the need for the project.

The Target Cycling Market survey (Failte Ireland, 2013) shows that there is significant demand for cycle tourism in Ireland, including from international tourists. These tourists desire cycleway routes through attractive landscapes that have substantial off-road segregation with lots to see and do. This tourism market nationally and internationally has the potential to generate significant revenue. The research also indicates that the scale of the project is very important in attracting international cycling tourists who will typically wish to partake in a weeklong holiday. Therefore, the minimum length required for a cycle route to be marketable internationally is 200 km and preferably 300 km. The greenway from Kilbeggan to Mullingar, by providing cross connection between the Grand Canal and Royal Canal Greenways, opens the prospect of long-

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distance looped greenway routes of the required scale to be attractive to both the international and domestic markets. For example, a Dublin – Mullingar – Kilbeggan – Tullamore – Dublin Loop would be greater than 200 km in length.

Cycle tourism also brings other benefits. As noted in a Sustrans report (p.9, 2017) cycle tourism contributes to enhancing public health and fitness and improves facilities for local people leading to a reduction in pollution and traffic congestion.

2.4.1 Ireland's Hidden Heartlands Regional Tourism Development Strategy 2023-2027

The report Ireland's Hidden Heartlands Regional Tourism Development Strategy 2023-2027 (Failte Ireland, 2023) 20 sets out an approach to sustainable development of tourism in Ireland's Hidden Heartlands. The vision for the region is as a well-known sustainable destination where visitors can experience nature, outdoor activities, Heritage, Cultural Gems and a web of Greenways and Blueways spread throughout the Hidden Heartlands. The strategy promotes the development of strategic greenways that focuses on visitor experience connecting to towns, villages, cultural heritage and connecting to other greenway infrastructure.

2.4.2 County Westmeath Tourism Strategy 2023-2027

The County Westmeath Tourism Strategy 2023-2027 sets out strategies to improve and increase the tourism offering in County Westmeath. In this strategy document, there are initiatives set out to achieve the strategic tourism goals. Some of the initiatives that support the development of a greenway between Kilbeggan and Mullingar are as follows:

- 2.1.1: Support initiatives to further connect our greenways with towns, villages and attractions where possible throughout the county, including links to the Hill of Uisneach and Belvedere House, Gardens and Park.
- 2.1.3: Support efforts to create strategic connections between greenways, including north-south linkages such as Athlone south to Shannon bridge and north to Longford, Mullingar to Kilbeggan and Mullingar to North Westmeath.
- 2.1.8: Work with local attractions and communities to create distinctive experiences for the greenway user, identify the local stories, heritage, landscapes and bring these to life, connect cyclists and walkers with local attractions, visitor centres, audio tours, viewing points or other forms of interpretation and interactivity that immerse visitors in the locality.
- 2.1.9: Explore the potential to provide multi-activity exploration of the county, connecting cycling and walking trails with locations where water-based activities can be enjoyed, allowing visitors to easily and seamlessly enjoy a varied 'active in nature' experience across multiple days around the county.
- 2.1.12: Explore opportunities to create walking, hiking and rambling trails near scenic landscapes, alongside our lakes and rivers, and around historical sites, enabling visitors to explore these scenic environments while minimising any environmental impacts.
- 2.1.13: Prioritise the development of walking trails which are connected with towns and villages, either directly or via public transport or greenways, where visitor services, including accommodation, cafes, toilets etc can be provided.
- 2.1.19: Prioritise the visitor experience at our lakes, including facilities at lake access points and provision for water-based activities associated with our lakes and waterways, subject to compliance with planning regulations and the requirements of the Habitats Directive; prioritising service provision in nearby towns and villages and utilising and upgrading existing infrastructure where possible.
- 2.1.26: Support the continued collaborative approach to addressing the quality of the visitor experience at Lough Ennell as part of a wider plan to address its water quality and secure habitat protection.

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2.4.3 Local Attractions

2.4.3.1 Kilbeggan¹

Kilbeggan (in Irish Cill Bheagáin) is the main town in the Barony of Moycashel in County Westmeath. The name signifies: The Church of [St] Becann. Kilbeggan, like Mullingar, is located on the River Brosna – here the river has been harnessed to power the water-wheel of the local distillery. The town lies south of Lough Ennell and quite close to the Offaly border with the nearest villages being Rahugh and Ballinagore. It lies approximately halfway between Horesleap to the west and Tyrrellspass to the east and is connected to both through the R446 regional road. Kilbeggan is also on the line of the Esker Riada the great chain of eskers which were deposited across central Ireland after the last Ice-Age. Kilbeggan has a population of 1,909 according to the April 2022 census.

Kilbeggan became an important market town as evidenced by the substantial Market House which still survives in the Square though it is no longer used for its original purpose. The market was saved in 2006 and is held in the Square each Saturday morning.

The town of Kilbeggan is synonymous with the production of whiskey. The distillery which later became Locke's in Kilbeggan was founded in 1757. In more recent times the arrival of Cooley Distillers and Beam Inc has seen the Kilbeggan Distillery Experience become a major tourist attraction offering great insights into the world of distilling in Ireland.

Kilbeggan is also associated with horse-racing – the first races were held there in 1840. It is the only racecourse in Ireland where all the races are over jumps under the National Hunt Rules. Since 1992 the number of meetings has increased from three to eight. The Midlands National each July is the highlight of the season and is the biggest summer steeplechase outside the Galway Festival.

Kilbeggan holds a Knighthood Festival on the June Bank Holiday weekend to commemorate the 18th C knighting of Kilbeggan inn-keeper, Thomas Cuffe, by the then Lord Lieutenant of Ireland.



Figure 2.3 Images of Kilbeggan

¹ Source: <http://www.westmeathcoco.ie/en/ourservices/library/explorewestmeath/inthepast/kilbeggan/>

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2.4.3.2 Mullingar²

The name Mullingar (An Muileann gCearr) is derived from 'The wry or left-handed mill'. It is the county town of Westmeath and is located in the centre of the county. The river Brosna flows through Mullingar. Situated within Mullingar is the imposing renaissance style Roman Catholic Cathedral of Christ The King, which was completed in 1936. The cathedral has twin towers over 42.5 meters high surmounted by gilt bronze crosses. The area around Mullingar is surrounded by a number of fine limestone lakes including Loughs Ennel, Owel and Derravaragh. The town grew up around the monastery of Lynn and came into its own after the Anglo-Norman invasion when the manor of Mullingar was assigned to the Petit family. There are records of burgesses and grants of fairs going back to the early years of the 13th C indicating that it was becoming established as a town by that time.

In the nineteenth century two major infrastructural advances in Mullingar were the arrival of the Royal Canal (1806) and the arrival of the railway in 1848. The railway was initially connected to Galway via Athlone and subsequently to Longford.

Mullingar is the county town of Westmeath. It is the third most populous town in the Midland Region. Mullingar had a population of 22,512 as recorded in the April 2022 Census.



Figure 2.4 Images of Mullingar

2.4.3.3 The Old Rail Trail

The Old Rail Trail starts in Athlone and ends in Mullingar. The Old Rail Trail follows the route of the disused Great Western Railway between Mullingar and Athlone. The trail is a purpose built off-road shared pedestrian and cycleway trail, alongside the historic Midlands Great Western Railway track. Generally flat with smooth sealed surface and some gentle slopes. This trail is suitable for family groups of all ages and all types of bikes. The route traces the historic Midlands Great Western Railway track, past restored station houses and under arched bridges. It will eventually form part of the proposed Dublin to Galway Cycleway.

² Source: <http://www.westmeathcoco.ie/en/ourservices/library/explorewestmeath/inthepast/mullingar/>

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Figure 2.5 Images of the Old Rail Trail

2.4.3.4 Royal Canal Greenway

The Royal Canal Greenway is currently Ireland's longest greenway at 130km in length. It follows the level towpath, and is ideal for walkers, runners and cyclists of all ages and stages. The route commences in Maynooth and passes through Mullingar.



Figure 2.6 Images of the Royal Canal Greenway and Blueway

2.4.3.5 Westmeath Way

The Westmeath Way is a linear 33km route starting behind Kilbeggan Distillery Museum and finishing at the Harbour Bridge in Mullingar. From Kilbeggan, the route follows the banks of the River Brosna before heading west over the Split Hill Esker and the townland of Balrath before turning back to Ballynagore. From there it heads northwards to Lilliput, on the southern shore of Lough Ennell. Jonathan Swift is said to have stayed with friends on the lake's shore and used the name for his fantasy island in *Gulliver's Travels*. The route continues to Dysart to the west of Lough Ennell. The section north of Dysart, over the privately owned land from Keoltown to Ladestown is currently closed. From Ladestown the route goes north to join the Royal Canal at Bellmount Bridge and then follows the Royal Canal into Mullingar. Walkers and cyclists can join the

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Old Rail Trail to Athlone or the Royal Canal Greenway eastwards to Dublin or north westwards to Longford and the River Shannon from Mullingar.



Figure 2.7 Images of the Westmeath Way

2.4.3.6 Lough Ennell

Lough Ennell is a lake near the town of Mullingar, County Westmeath, Ireland. It is situated west of the N52 road, off the Mullingar/Kilbeggan road. The lake is part of the Lough Ennell Special Protection Area (SPA), Lough Ennell Special Area of Conservation (SAC) and Lough Ennell proposed Natural Heritage Area (pNHA). It is 6.5 km long by 2 km wide, with an area of about 12 km².



Figure 2.8 Images of Lough Ennell

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2.4.3.7 River Brosna

The River Brosna is a river within the Shannon River Basin in Ireland, flowing through County Westmeath and County Offaly. It flows through both Mullingar and Kilbeggan. The river rises in Lough Owel north of Mullingar and is a tributary of the River Shannon. It meets the Shannon at Shannon Harbour. The River Brosna is approximately 80km in length



Figure 2.9 Images of the River Brosna

2.4.3.8 Lilliput Adventure Centre

Lilliput Adventure Centre is in Jonathan Swift Park, on the southern shores of Lough Ennell, approximately a 20 minute drive from Mullingar town by car. Walkers and cyclists can current get to Lilliput from Mullingar by taking a section of the Old Rail Trail before leaving it south of Ballina/ Ballineae and heading toward Dysart on the R391 before turning off toward Nure and Lilliput. The journey would take approximately 1 hour for a cyclist. From Kilbeggan, the trip to Lilliput would take approximately 30 minutes for a cyclist following the R389 and L1122, L1120, and L1221 northwards. It is approximately a 10 minute drive following the same route.



Figure 2.10 Images of the Lilliput Adventure Centre

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2.4.3.9 Belvedere House and Garden

Belvedere House and Garden is a Georgian house and estate owned and operated by Westmeath County Council located approximately 8 kilometres from Mullingar, County Westmeath in Ireland on the north-east shore of Lough Ennell. Belvedere House and Garden is located within a 160-acre site. Visitors can enjoy a self-guided visit, with optional audio tour, around the period house, lakeshore walks, woodlands trails and Victorian Walled Garden. There is an entrance fee for the house and garden and the garden and park are open year round.



Figure 2.11 Images of the Belvedere House and Garden

2.4.3.10 Kilbeggan Distillery Visitor Centre

Within the town of Kilbeggan is the famous Kilbeggan Distillery. The distillery was built c.1757. It closed in the 1950s but was subsequently reopened in the late 1980s as a heritage centre and working distillery museum.

2.4.3.11 Coola Mill and Bridge

Coola Mill is located just north of Kilbeggan town where the R389 road crosses the River Brosna. The corn mill complex was built c.1770. It is now derelict and out of use. There is a five-arch road bridge, built c.1780, carrying the Mullingar Road over the River Brosna and an adjacent millrace associated with Coola Mills

2.4.3.12 Kilbeggan Racecourse

Kilbeggan Racecourse is located just to the north of Kilbeggan and is accessed off the R389. The racecourse is a popular tourist venue in Westmeath. It is a notable summer track and stages the valuable Midlands National Handicap Chase which is a recognised trial for the Galway Plate and other major festival races. The vast majority of race meetings are held in the evening time.

2.4.3.13 Lakeland Shooting Centre

Lakeland shooting centre in Mullingar offers clay pigeon shooting.

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2.4.3.14 Bloomfield House Hotel

Bloomfield House Hotel overlooks Lough Ennell. The country house hotel is 1 km from Mullingar Golf Club and 4.6 km from Mullingar train station.

2.4.3.15 Molly Moo's Pet Farm

Molly Moo's Pet Farm is located near Rochfort Demesne, in Tudenham on the eastern side of Lough Ennell. The pet farm offers many visitors activities and amenities including picnic areas, crazy golf, shops, and go karting.

2.4.3.16 Riverbirch Photography Hides

Located just to the south east of Mullingar, in Lynn, and northwest of Lough Ennell, Riverbirch Photography Hides provides opportunities for photographers to take wildlife photographs. There are two different hides on site: one woodland and one river hide.

2.4.3.17 Ladestown Riding and Trekking Centre

The Ladestown Riding Stables is a family run riding school offering horse & pony trekking to all ages, open seven days a week.

2.4.3.18 Better Together Therapy Riding Centre

The Better Together Therapy Riding Centre located in Castletown Geoghegan offers a therapeutic approach to equine therapy and equine assisted activities for children and adults.

2.5 Economic Benefits

Greenways can have a positive impact on economic development and regeneration in the local area. Locally, greenways provide improved access to the main towns and villages in the area, a pathway to schools and work for some children and adults and access to the local amenities such as sports fields, shops, bars, and restaurants. The local economy is also affected positively by the day trips and overnight stays in the area.

Greenways have proven to be successful for the local economy in other parts of the country especially the Waterford Greenway, with Waterford having a previously similar small tourism base. A survey carried out in the opening year of 2017 indicates that people spent an average of €16.90 per day on food, drink, bicycle hire, and accommodation; 54% of people responded that they had spent money in the area in connection with their greenway visit. Another scheme - The Great Western Greenway in Mayo attracted 484,000 users in 2016 and was worth €38.9m to the local economy, supporting 200 jobs and 710 indirect jobs.

In an economic impact case study of the Great Western Greenway (Failte Ireland, p.ii, 2011), the report finds that the Great Western Greenway contributed to an additional economic spend of €3.8m per annum in the local economy from the combination of domestic and international tourist visitors with the average spend by domestic tourists being €49.85 and for overseas tourists €50.71. In the U.K., Sustrans reported (p.8, 2017) that "long distance cycle routes, which are predominantly rural, can generate as much as £30 million per year to the local economy; enough to sustain over 600 full time equivalent jobs." The report further states (p.9) that leisure-based cyclists can spend £9.20 per day with overnight tourists spending £22.90 per day. This is very similar to the findings from the 2017 survey of the Waterford Greenway.

Research carried out by Tourism Ireland (2019) states that tourism in Ireland generated €8.9bn in revenue in 2019. This research also indicates that Ireland's midlands areas, do not receive a large share of the tourist and holidaymakers to Ireland market. The research also surveyed the age demographic of visitors to Ireland. This showed that 83% of visitors were between the ages of 16 to 64. This is a demographic that could be expected to have good mobility and could be targeted by this type of greenway and potentially increase visitor numbers and the local economy.

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2.6 Promoting Healthy Living

In 2022, Healthy Ireland Summary Report produced by the Department of Health (Department of Health, 2022), reported only 41% percent of people surveyed reported being at a normal weight, 6% higher than that reported in 2019.

The National Physical Activity Plan 2016 (Department of Health, 2016) set a target of increasing the highly active cohort of the population by 1% year on year. The plan endeavours to achieve this through policy, infrastructure, and marketing interventions. The plan places a strong emphasis on supporting investment in active travel infrastructure to encourage people to become active in their local areas. The National Physical Activity Plan Implementation Summary (Department of Health, 2020) notes that amenities such as greenways, blueways, cycle paths and parks can provide opportunities, choices and support for being more physically active.

Cancer, diabetes, and cardiovascular diseases can all be reduced through increased physical activity. Increased exercise also has benefits for wellbeing and mental health. The Covid-19 pandemic encouraged more people to take up exercise with almost 50% of the population exercising more frequently than before the pandemic (Barrett, Wyse & Forde, 2022). The provision of a local greenway, substantially segregated from road traffic, will provide further opportunities for locals to undertake physical activities, such as walking, running and cycling.

2.7 School and Sports Facilities

Greenways can encourage children and adults into more active lifestyle choices including taking more sustainable modes of transport to and from school and sporting facilities, of which there are a number within or adjacent to the route corridor options. In Kilbeggan the Mercy Secondary School is within RCO1a and RCO2a while the primary school Scoil an Chlochair is just to the west towards Kilbeggan town. Kilbeggan Shamrock's GAA Club is just to the west of Kilbeggan town close to the western edge of RCO1a. Further north, both of the route corridor options converge at Ballynagore where St. Patrick's National School is adjacent to both options. At Dalystown, RCO2d passes close to Dalystown National School. Further along RCO2d, the corridor passes beside the Lakeland Shooting Centre and, just north of Belvedere House and Gardens, the Mullingar Golf Club. Near Mullingar, where RCO1d meets the Royal Canal Greenway and Old Rail Trail near Bellmount Bridge is Shandonagh GAA Club. The proximity of the Kilbeggan to Mullingar Greenway to one or more of these facilities can encourage modal shift and promote active lifestyle choices.

2.8 Preserving our History and Culture

Trails and greenways have the power to connect us to our cultural heritage by linking historic places, providing easier access to them and renewing interest in them.

Both the Royal Canal (Mullingar) and the Grand Canal (Kilbeggan Branch) are major industrial and transport heritage features in the area and they are of national cultural heritage importance. There are many other established historic cultural sites within the study area including for example Belvedere House and Gardens, Lilliput, Lough Ennell, Tudenham House. A cultural heritage impact assessment has been developed to inform the Option Selection process. This assessment lists potential opportunity sites as well as sites that may be a constraint to the greenway. Opportunity sites can be developed into new cultural heritage attractions in locations that are currently inaccessible to the public. This cultural heritage impact assessment is included in the Environmental Evaluation Report in **Appendix F**.

2.9 Regional and Local Drivers

2.9.1 Eastern & Midland Regional Spatial & Economic Strategy 2019-2031

The Eastern & Midland Regional Spatial & Economic Strategy (RSES) 2019-2031, provides a strategic plan and investment framework to shape future growth and to better manage regional planning and economic development throughout the Eastern Region, which includes County Westmeath. The RSES notes that greenways and cycleways can enhance areas, contributing to liveable places and creating opportunities to be physically active. In relation to Mullingar, the RSES notes (p.87) that the town "provides an essential role in supporting population and job growth and in this regard acts as a crucial centre for the surrounding hinterland."

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2.9.2 Westmeath County Development Plan 2021-2027

The Westmeath County Development Plan (WCDP) 2021-2027 guides the overall proper planning and sustainable development of County Westmeath over the plan period. The Plan includes Mullingar Key Town Economic Development Policy Objectives where CPO 5.18 aims to:

“Support Mullingar’s role as a tourism hub having regard to its accessibility to key tourist destinations in the Region including proximity to natural amenities and recreational opportunities including the Galway to Dublin Greenway.”

Generally, the WCDP is very supportive of cycleway development (p.162):

“Westmeath County Council, working with strategic partners at a national, regional and local level, are strongly committed to greenway development, recognising their strong potential, particularly for generating tourism activity and the resulting economic impacts. In particular, Westmeath County Council have taken a strong role in the development of the Galway to Dublin Greenway and have invested significant levels of resources in this regard. Further resources are being committed on an ongoing basis to further develop and enhance the greenways and associated infrastructure, in order to maximize the tourism potential in this regard.

At a regional level, Westmeath County Council works closely with neighbouring local authorities and strategic agencies relevant to greenway development. A joint project with Offaly County Council, the ‘Royal Canal to Grand Canal’ greenway link from Kilbeggan to the Offaly County boundary to Ballycommon Co. Offaly has been recently completed with funding provided by the Department of Rural and Community Development.

Off-road looped walking trails are located at various locations in the county, including Mullaghmeen Forest, Portlick Millennium Forest, the Shannon Banks Walk, Belvedere House, Gardens and Park and St. Feichin’s Way in Fore. One long-distance National Waymarked Way exists from Mullingar to Kilbeggan called the Westmeath Way, however this is fragmented and requires some work to re-route and upgrade. Excellent high-quality parklands offering smaller trails for walking and cycling include Burgess Park in Athlone, Mullingar Town Park and Dún na Sí Amenity and Heritage Park.”

Furthermore, the Plan specifically refers to greenways around the Kilbeggan area, linking the Royal and Grand Canals (p.206):

“There are also a number of existing and proposed walking/cycling Greenway developments around Kilbeggan which offer further tourism potential. The Grand Canal connects Dublin City to the River Shannon with a Grand Canal spur from Ballycommon in County Offaly to the Canal Harbour located to the southeast of Kilbeggan. The ‘Royal Canal to Grand Canal’ greenway provides a link south of Kilbeggan to Ballycommon. A long-distance National Waymarked Way exists from Mullingar to Kilbeggan titled the “Westmeath Way”, however this is fragmented and requires some work to reroute and upgrade. There is potential to re-route the “Westmeath Way” from Aghyrassy along the River Brosna to Lilliput linking up with the existing “Westmeath Way” as far as Dysart. A new extension to the walkway along the Dysart River will provide for a connection to the “Old Rail Trail” greenway at Barrettstown.

In addition, potential exists for a cycle link from Kilbeggan to the “Old Rail Trail” greenway in Streamstown, providing a cycle connection to Mullingar and Athlone.”

The WCDP also contains policies and objectives relating to the natural environment and the protection of biodiversity that will be considered in the development of the Kilbeggan to Mullingar Greenway.

2.10 Design Standards

The greenway project will be delivered in accordance with TII’s Project Management Guidelines PE-PMG-02041 and Project Manager’s Manual for Greenway Projects PE-PMG-02047 (TII, 2025). The design of the greenway shall comply with the published TII design standards, in particular the Rural Cycleway Design (Offline and Greenways) Standard DN-GEO-03047, as well as other publications such as the National Transport Authority’s Cycle Design Manual (NTA, 2023).

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Typical sections of how the design of greenway would look in different construction scenarios are shown in **Figure 2.12** to **Figure 2.14**.



Figure 2.12 Typical Greenway Cross Section Between Farm Boundaries



Figure 2.13 Typical Greenway Cross Section Along Forest and Farmland Boundary

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Figure 2.14 Typical Greenway Cross Section Along Rural Road and Farm Boundary

The greenway will be required to have crossing points where it interacts with regional and local roads along its length. These crossings will be designed in accordance with Rural Cycleway Design (Offline and Greenways) Standard DN-GEO-03047. Where possible, road crossings will be sited where speed limits are low and additional traffic management requirements will be considered as the design of the greenway progresses.

3 DESCRIPTION OF ROUTE CORRIDOR OPTIONS

The Route Corridor Options (RCOs) were developed in Phase 1 with further refinement in Phase 2. The following sections describe the process used to identify and develop RCOs.

3.1 Consideration of Alternatives

3.1.1 Do Nothing Approach

The do-nothing approach examines the approach of no new development of greenway between Kilbeggan and Mullingar. In this scenario, the strategy of linking the Grand Canal Greenway at Tullamore with the Royal Canal Greenway/Old Rail Trail Greenway in Mullingar would not be achieved. It would also be expected that there would be very limited future growth of the greenway tourism market in the Kilbeggan to Mullingar area. The do-nothing approach is not examined any further in this report as it fails to meet the project objectives.

3.1.2 Do Minimum Approach

In terms of alternatives to the creation of a greenway and providing a do-minimum option, there are no clear viable alternatives that would meet the objectives of the project which include, inter alia:

- increasing access to scenic areas with lots to see and do;
- increasing the attractiveness of the region for domestic and overseas tourists interested in active holidays; increasing opportunities for economic development and local employment;
- providing a safe, accessible and user-friendly walking and cycling trail;
- creating a strategic link between the Grand Canal Greenway and the Old Rail Trail/ Royal Canal Greenways; and
- encouraging modal shift from motorised vehicles to public transport and active travel modes.

The do-minimum approach would involve using existing infrastructure such as local roads and existing greenways, waymarked trails to connect Kilbeggan with Mullingar.

There is an on-road cycle route between Kilbeggan and Streamstown that connects to the existing Old Rail Trail Greenway linking Mullingar with Athlone. This on-road route consists of signage only, there is no separation between cyclists and vehicles, no marked cycle lanes, and no facilities for pedestrians or mobility impaired users. Do-minimum works to upgrade this on-road route would not provide all NMUs with a safe and accessible greenway. Given the lack of attractions on this section, it would also not meet the project objectives.

Similarly, an on-road solution north from Kilbeggan to Ballynagore, Lough Ennell and Mullingar (either east or west of the lake) will not provide a safe and secure route for NMUs, especially mobility impaired users, given the shared space with vehicles.

The Westmeath Way is an existing waymarked trail linking Kilbeggan and Mullingar. However, this trail is poorly marked in some locations, is uneven underfoot (largely grassed trails through fields), and cannot be used by cyclists. Mobility impaired users would also find the trail difficult if not impossible to use in certain locations as it involves climbing over walls and walking over narrow footbridges over streams/ rivers. The Westmeath Way traverses lands that are in private ownership and access is facilitated by agreement between Westmeath County Council and each landowner. Access for the public to the Westmeath Way is dependent on the continuation of these agreements. Currently, a section of the Westmeath Way between Dysart and Ladestown is closed to walkers. All of these factors are a significant constraint to the usage of the Westmeath Way as a do-minimum approach.

Taking into consideration the above issues, there is no do-minimum approach that will achieve the project objectives. Therefore, the do-minimum approach is not examined any further in this report.

3.1.3 Approach to Assessing Options

In the absence of a feasible do-nothing or do-minimum option, options were developed that could meet the project objectives and also provide safe and secure routes for all NMUs of the Kilbeggan to Mullingar

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Greenway. The options developed were corridor options. Within these corridors there are existing road networks. As stated in the Strategy for the Future Development of National and Regional Greenways, it is preferable for greenways to be substantially segregated from traffic. As described in **Section 2.3.7.3**, it is an objective in the design of the Kilbeggan to Mullingar Greenway to provide a fully segregated route where possible. As the project develops through Phase 3, on-road options will be given consideration if necessary.

3.2 Phase 1 Feasible Options

3.2.1 Introduction

In Phase 1, a Feasibility Report was prepared in accordance with PE-PMG-02047. The Feasibility Report was prepared in accordance with the guidance set out in TII Publication: PE-PAG-02036 - Project Appraisal Guidelines for National Roads Unit 13.0 - Appraisal of Active Modes (May 2023), and the DoT Transport Appraisal Framework (2023).

It should be noted that Phase 1 of this project was carried out in 2023, prior to the publication of the 2024 versions of TAF and PAG Unit 13.0.

3.2.2 Process to Identify Route Corridor Options

The development of options for the Kilbeggan to Mullingar Greenway followed a systematic approach. Firstly, the project objectives were established. Secondly, a project Study Area was created within which a greenway could be developed that met the project objectives. Subsequently, feasible Route Corridor Options (RCOs) within this Study Area were developed taking into consideration the project objectives and constraints within the Study Area. The following sections detail this process to identify the RCOs.

3.2.2.1 Project Objectives

At the beginning of this project, a set of seven overarching Project Objectives were developed through discussions with Westmeath County Council National Roads Office (WCC) and TII, and which are aligned with TAF. Each Project Objectives has associated sub-objectives that specifically address the requirements of the Kilbeggan to Mullingar Greenway. The objectives and sub-objectives are presented in **Table 3-1**.

Table 3-1 Project Objectives

Objective	Ref	Sub-objective
Transport User Benefits and Other Economic Impacts - Support connectivity and economic growth in the local and regional area.	EC1	To increase the economic contribution of tourism to the regional and local economy, by increasing the numbers of domestic and international visitors to the area through the delivery of a greenway that is scenic and attractive.
	EC2	To create local employment and increase economic opportunities for new and expanded enterprises.
Accessibility Impacts – Enhance accessibility to existing amenities, services and facilities.	AC1	To increase the number of people who choose to take part in physically active outdoor recreation and leisure activities.
	AC2	To connect to other tourist activities or attractions within the region, such as historic and cultural heritage sites, and recreational activities.
Social Impacts – Enhance social inclusion and promote healthier communities through linking communities and disadvantaged areas.	SO1	To be attractive to people of all age groups and abilities, with multiple accesses to the route allowing use for long or short distances.
	SO2	To benefit local communities through promotion of inclusive accessibility for all to existing amenities, services and facilities.
Land Use Impacts – Support and facilitate the	LU1	To connect to existing transport infrastructure including greenways, cycleways, rail, canals, roads, and public transport.

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Objective	Ref	Sub-objective
implementation of national, regional and local policy.	LU2	To encourage modal shift to more sustainable modes, i.e. walking and cycling, by facilitating connections to places of employment, schools, recreational hubs and urban centres, where possible.
	LU3	To facilitate the implementation of the National Cycle Network (NCN) through connecting the population centres of Mullingar and Kilbeggan.
Safety Impacts - Provide safe and accessible infrastructure that improves safety and security for vulnerable road users	SA1	To provide Greenway infrastructure that is substantially segregated from motorised traffic.
	SA2	To provide Greenway infrastructure that is a safe and secure environment for all users, regardless of age or ability.
Climate Change Impacts - Contributes to the offsetting/reduction in GHG emissions and is robust and resilient to negative climate change effects.	CC1	To ensure consideration of sustainable development principles and measures to minimise effects on the environment to support the government's Climate Action Plan.
Local Environment Impacts - Increase public appreciation of the natural environment while protecting and enhancing natural assets and biodiversity.	EN1	To minimise the impact to the natural environmental, especially habitats in ecologically sensitive areas.
	EN2	To increase public appreciation of the natural environment by encouraging people to experience the countryside through prioritising scenic and environmentally diverse routes.
	EN3	To protect and where possible enhance biodiversity and ecological connectivity.

3.2.2.2 Study Area

The Study Area for the project was defined based on the physical features and existing transport infrastructure and through discussions with WCC. The Study Area is broadly bounded by the Old Rail Trail Greenway in the west, Mullingar to the north, the N52 to the east and an axis between Horseleap-Kilbeggan-Tyrrellspass to the south, as shown in **Figure 3.1**.

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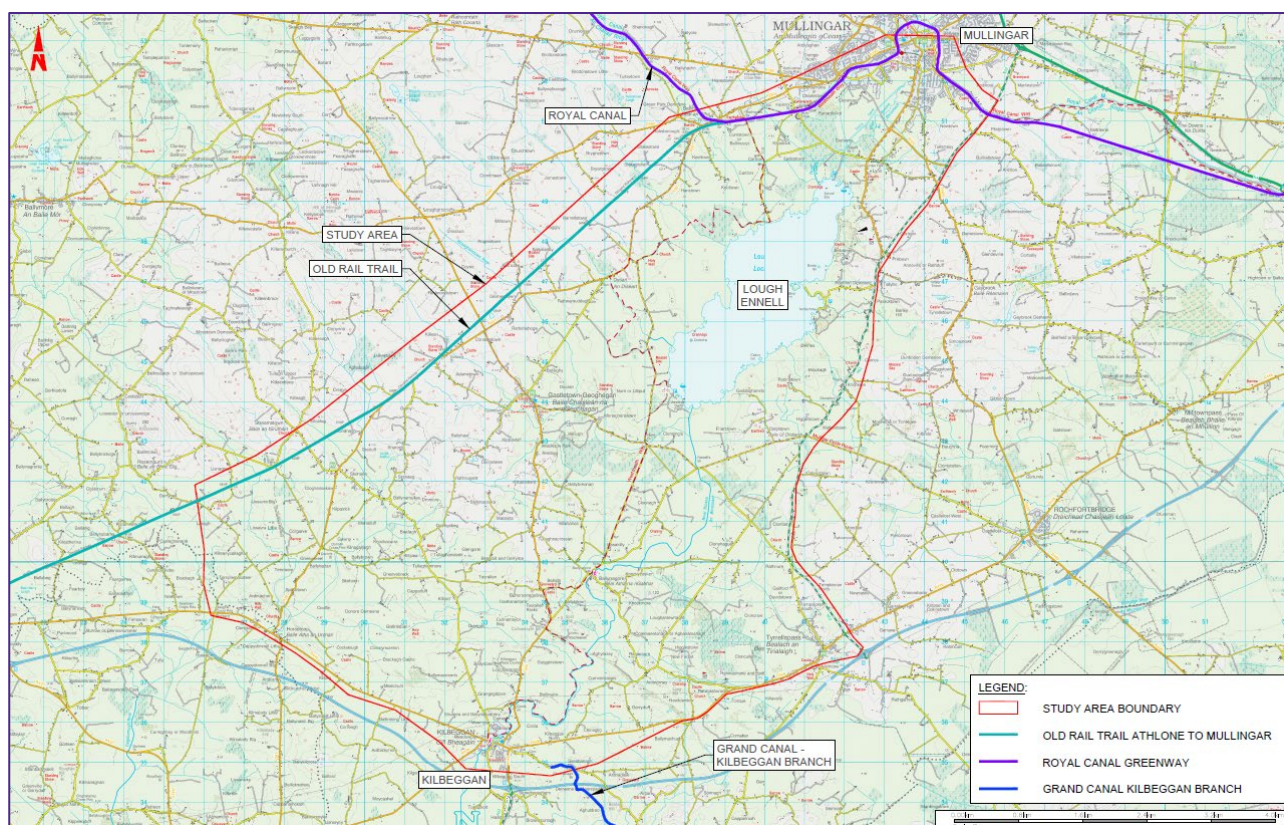


Figure 3.1 Study Area

3.2.2.3 Public Consultation No. 1 Study Area and Constraints

The first Public Consultation on the Study Area and constraints for the project was held over a three-week period from 18th May to 8th June 2023, and the public were invited to make submissions on the development of a greenway between Kilbeggan and Mullingar.

An in-person Public Consultation event was held in the Bloomfield House Hotel, Mullingar on 18th May 2023 between 15:00 and 20:00, where the Study Area was displayed.

The Project Website was established at the start of the consultation period and information on the project was made available online. This project website has remained live throughout the project since 18th May 2023.

Feedback from the first public consultation was considered as part of the development of the long list of nine feasible options.

3.2.3 Feasible Options

A long list of nine feasible options were developed having regard to the various constraints and opportunities identified in Phase 1, the first public consultation, and the constraints study, all of which formed part of the Feasibility Report. The key factors considered when developing the long list of options included the following:

- Gradients, i.e. the steepness of inclines/ declines in the greenway;
- Local attractions and places of interest;
- Local population centres;
- Landownership patterns including areas of publicly owned land;
- Environmentally designated areas in particular SACs; SPAs, NHAs and pNHAs;
- Scenic nature of the landscape and surrounds;
- Flood prone areas.

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An overview of the nine long list of feasible options is as follows:

- Option 1: Kilbeggan - R446 – Horseleap - Clara Branch of the Midlands Great Western Railway – Streamstown – Old Rail Trail - Mullingar.
- Option 2: Kilbeggan - L1223 - Clara Branch of the Midlands Great Western Railway – Streamstown – Old Rail Trail - Mullingar.
- Option 3: Kilbeggan - L1223 to Streamstown – Old Rail Trail - Mullingar.
- Option 4: Kilbeggan – North to L-1120/ L1122 - Castletown Geoghegan – Old Rail Trail - Mullingar.
- Option 5: Kilbeggan – North to Dysart - Westmeath Way – Ladestown - Mullingar.
- Option 6: Kilbeggan – North to Dysart/ Lilliput – Western shore of Lough Ennell - Ladestown - Mullingar.
- Option 7: Kilbeggan - Along River Brosna – Dalystown - Old N52 - Belvedere - Mullingar.
- Option 8: Kilbeggan - Along River Brosna – Southern and eastern shore of Lough Ennell – Belvedere - Mullingar.
- Option 9: Kilbeggan - R446 – Tyrrellspass – New N52 - Mullingar.

The nine long list of feasible options are illustrated in **Figure 3.2**.

The long list of nine feasible options subsequently underwent the Stage 1 assessment as described in the next section.

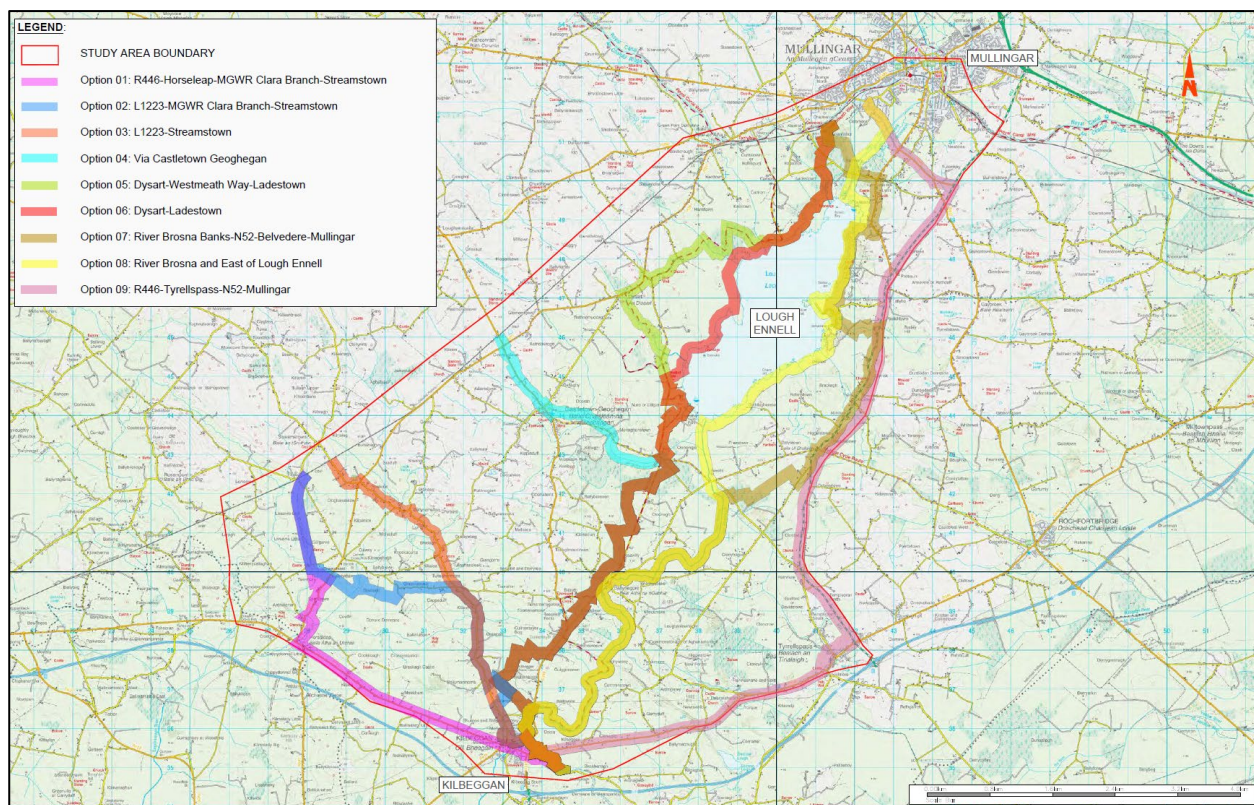


Figure 3.2 Nine Long Listed Options

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4 STAGE 1 - ROUTE CORRIDOR OPTIONS ASSESSMENT

4.1 Stage 1 Route Corridor Options Assessment

In Phase 1, the long list of nine feasible options were appraised in a two-step process. Details of this appraisal are included in the Feasibility Report in **Appendix A**.

4.1.1 Step 1 Project Objectives: Does an option accomplish the project objectives in a satisfactory manner?

Each of the nine long list options was appraised independently against each of the 15 project sub-objectives using the categories in **Table 4-1**, ranging from “Strong alignment with project objective” to “Poor alignment with project objective.”

Table 4-1 Alignment with Project Objectives

Strong alignment with Project Objective
Satisfactory alignment with Project Objective
Somewhat meets Project Objective
Unsatisfactory alignment with Project Objective
Poor alignment with Project Objective

The long list of nine options were appraised against the Project Objectives. Where options did not align satisfactorily with the Project Objectives, they were eliminated from further consideration.

Options 1, 2, 3, 4, and 9 did not satisfactorily align with the project objectives and were eliminated from further consideration.

Options 5, 6, 7, and 8 were deemed to satisfactorily align with the project objectives and were therefore short listed and brought forward to the Step 2.

4.1.2 Step 2 Feasibility: Appraisal to identify feasible options.

Each of the four short listed options was appraised against feasibility criteria namely:

- 5 Ss:
 - Scenic.
 - Sustainable.
 - Substantially segregated and Shared use.
 - (Offers lots to) See and do.
 - Strategic.
- Engineering:
 - Length.
 - Gradient.
 - Estimated road crossings.
 - Watercourse crossings.
 - Flooding.
- Environment:
 - Population & Human Health.

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- Biodiversity.
- Water.
- Land, Soils & Geology.
- Air Quality, Noise & Vibration.
- Climate.
- Landscape & Visual.
- Material Assets (Non-agricultural).
- Material Assets (Agricultural).
- Cultural Heritage.
- Economy:
 - Estimated construction cost.
- Political (policies and objectives):
 - NPF/ NDP.
 - NIFTI.
 - Westmeath County Development Plan.

The Step 2 appraisal was carried out using the five categories listed in **Table 4-2**.

Table 4-2 Alignment with Project Feasibility Criterion

Strong alignment with Criterion
Satisfactory alignment with Criterion
Somewhat meets Criterion
Unsatisfactory alignment with Criterion
Poor alignment with Criterion

4.1.2.1 5Ss Appraisal

The appraisal of each of the four options in terms of the 5 S criteria described above are summarised in **Table 4-3**.

Table 4-3 5S Appraisal

Sub-criteria	Option 5	Option 6	Option 7	Option 8
Scenic	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion
Sustainable	Satisfactory alignment with Criterion	Somewhat meets Criterion	Satisfactory alignment with Criterion	Somewhat meets Criterion
Substantially Segregated & Shared Use	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion
(Offers Lots to) See & Do	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion
Strategic	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion

The main differentiator between the four options is under the Sustainable criterion. Both Option 6 and 8 traverse close to or through the European sites around Lough Ennell, as well as associated wetlands. Therefore, they are considered less sustainable options than either Option 5 or 7.

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4.1.2.2 Engineering Appraisal

In terms of the engineering topics described above, the results are summarised in **Table 4-4**.

Table 4-4 Engineering Appraisal

Sub-criteria	Option 5	Option 6	Option 7	Option 8
Length	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion
Gradient	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion
Road Crossings	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion
River Stream Crossings	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Somewhat meets Criterion	Somewhat meets Criterion
Flooding	Satisfactory alignment with Criterion	Unsatisfactory alignment with Criterion	Somewhat meets Criterion	Unsatisfactory alignment with Criterion

From an engineering perspective, both Options 6 and 8 were deemed unsatisfactory in terms of flooding. This is due to their proximity to Lough Ennell. This is the main differentiator between the options. Another differentiator is the number of river and stream crossings which is higher on the eastern side of Lough Ennell (Options 7 and 8) than on the western side (Options 5 and 6), with a lower number being preferred.

4.1.2.3 Environmental Appraisal

Each option was appraised individually in terms of the environmental topics described above. The results are summarised in **Table 4-5**.

Table 4-5 Environmental Appraisal

Sub-criteria	Option 5	Option 6	Option 7	Option 8
Population & Human Health	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion
Biodiversity	Somewhat meets Criterion	Poor alignment with Criterion	Somewhat meets Criterion	Poor alignment with Criterion
Water	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Somewhat meets Criterion	Somewhat meets Criterion
Land, Soils & Geology	Satisfactory alignment with Criterion	Somewhat meets Criterion	Somewhat meets Criterion	Somewhat meets Criterion
Air Quality, Noise & Vibration	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion
Climate	Somewhat meets Criterion	Somewhat meets Criterion	Somewhat meets Criterion	Somewhat meets Criterion
Landscape & Visual	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Somewhat meets Criterion	Somewhat meets Criterion
Material Assets (Non-ag)	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion
Material Assets (Ag)	Unsatisfactory alignment with Criterion	Somewhat meets Criterion	Unsatisfactory alignment with Criterion	Somewhat meets Criterion
Cultural Heritage	Satisfactory alignment with Criterion	Satisfactory alignment with Criterion	Strong alignment with Criterion	Strong alignment with Criterion

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Overall, all four options perform well against the majority of the environmental criterion. However, as can be seen in **Table 4-5**, Option 6 and Option 8 are both considered to be poorly aligned with the biodiversity criterion. Their corridors are within or in very close proximity to the European sites at Lough Ennell. Similarly, they intersect with the wetland areas around the lake and areas that have been identified for enhancement (Lauder & Cussen, 2021). In trying to avoid a route within the European sites, both options are significantly constrained in terms of the shoreline of Lough Ennell. Ex-situ effects on European sites are also potentially a significant constraint whereby lands immediately adjacent to the European sites may support the Qualifying Interests (habitats and species) of those sites and as such are afforded strict protection.

The corridors for both Option 5 and Option 7 are similarly within or in very close proximity to the European sites at Lough Ennell, but to a much lesser extent than Option 6 and Option 8. Their corridors also provide a greater degree of flexibility for route selection as they are less constrained. This should make it easier to avoid and/or minimise likely significant effects during later phases of the project.

Options that have the potential for likely significant effects on biodiversity may pose significant challenges in future phases of the project. Case law in Ireland, the European Court of Justice as well as recent decisions by An Coimisiún Pleanála (formerly An Bord Pleanála), particularly in relation to greenways, has highlighted the significant project risks in advancing options that have the potential for likely significant effects on biodiversity. Furthermore, the recent publication of the Transport Appraisal Framework (TAF), Module 7, Section 7.2.9 (DoT, p.18, 2023) states:

“[...] It should also be noted that biodiversity appraisal requirements are becoming more stringent, reflected in the growing case law in this area, and there is a risk to the delivery of projects if provision is not made at the outset of investment decisions to ensure that transport projects are compliant with biodiversity and ecology obligations. Particular consideration should be given to the following:

- *Potential to affect protected areas including European Sites (SAC, SPA and RAMSAR), National Sites (NHAs, pNHAs) and other sites of regional or local importance (Areas of Special Scientific Interest (ASSI), Areas of Outstanding Natural Beauty (AONBs), Nature Reserves, National Heritage Sites, Wildlife Reserves).*
- *Potential to impact biodiversity in non-designated areas.*
- *Potential to spread invasive species during construction work.”*

On the basis of the biodiversity risks associated with Option 6 and 8 it was recommended that they not be considered further as feasible options.

4.1.2.4 Economic Appraisal

All four options were considered to be strongly aligned with the economic criterion. It was noted in the Feasibility Report (see **Appendix A**) that a Cost Benefit Analysis would be required to appraise the economic benefits fully during later Phases of the project.

4.1.2.5 Policies Appraisal

All options are relatively similar in terms of adherence to national and regional policies as summarised in the Feasibility Report. Overall, Option 5 and Option 7 were considered to be strongly aligned with policy while Option 6 and Option 8 and satisfactorily aligned with policy.

4.1.2.6 Step 2 Feasibility Appraisal Summary

Each of the four short listed options were appraised independently against the feasibility criteria listed above. Of the four short listed options, Options 6 and 8 were deemed to be poorly aligned with the feasibility criterion of biodiversity (ecology) due to their proximity to/ through the European sites around Lough Ennell, and wetlands. Therefore, they were considered not feasible. Options 5 and 7 were the two best performing options and were brought forward to Phase 2 Options Selection. These are the RCOs being assessed in this Options Selection Report as shown in **Figure 4.1** and in drawing IE000653-RPS-RN-XX-M-Z-0002 located in **Appendix B**.

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4.2 Development of Phase 2 Route Corridor Options

Following a review of the Phase 1 deliverables, the two shortlisted RCOs were expanded from that appraised in Phase 1. This expansion was carried out to ensure that, where practicable, a route could be found within the corridors that met the project objectives (in particular, attractions in the locality) and also provided sufficient scope to discuss options with a number of adjacent landowners and to avoid severance where possible.

The two shortlisted RCOs were widened to provide scope to be able to choose a route within the RCOs that could, where possible, follow landownership boundaries and avoid severance, while also including local attractions. In addition, each of the two shortlisted RCOs had five “nodes” in common that would enable each RCO to be sub-divided into four sections. The five nodes are located at:

- Kilbeggan Harbour.
- Split Hills Esker (Teernacreeve).
- Ballynagore.
- Cloonagh (just south of Lough Ennell).
- The Old Rail Trail (just south of Mullingar).

The shortlisted RCOs are shown in **Figure 4.1** and their sub-sections are shown in **Figure 4.2**. Drawings of the RCOs are included in **Appendix B**.

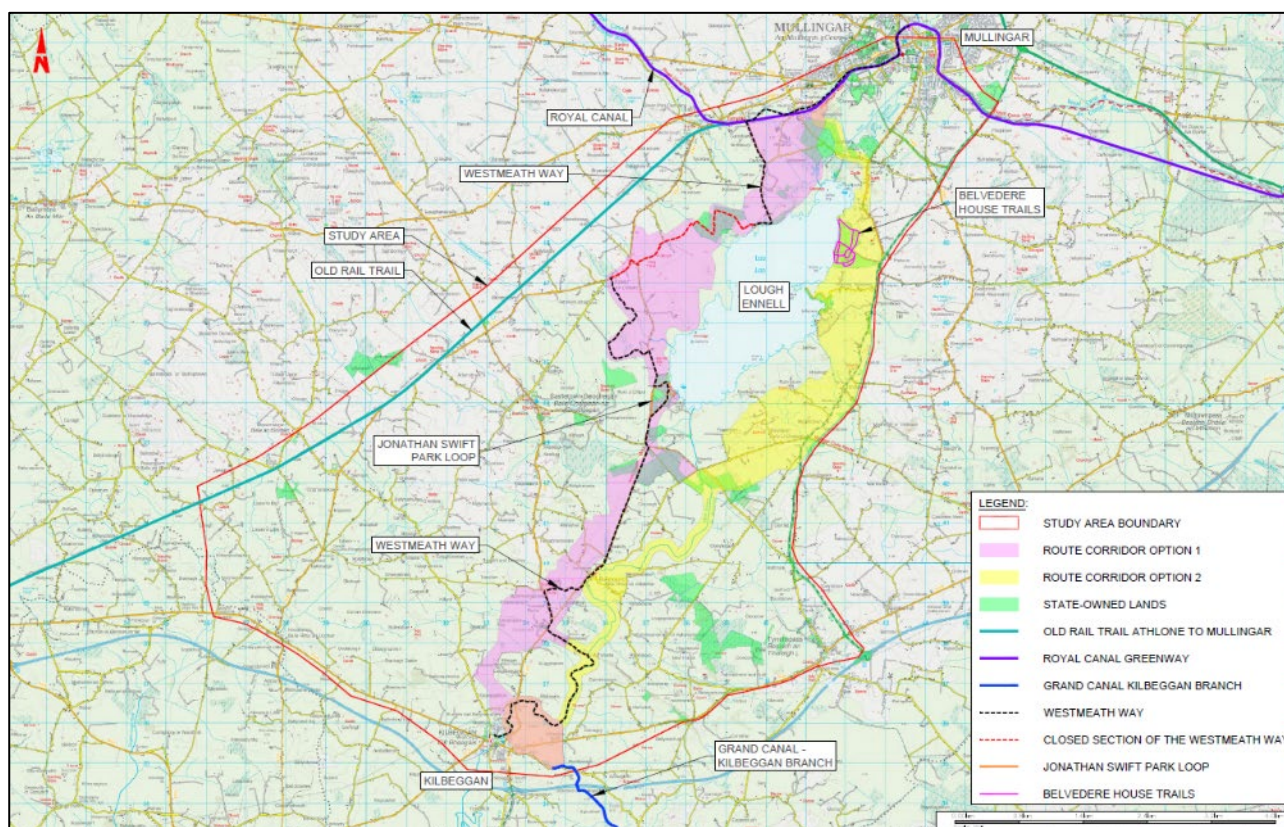


Figure 4.1 Phase 2 Route Corridor Options

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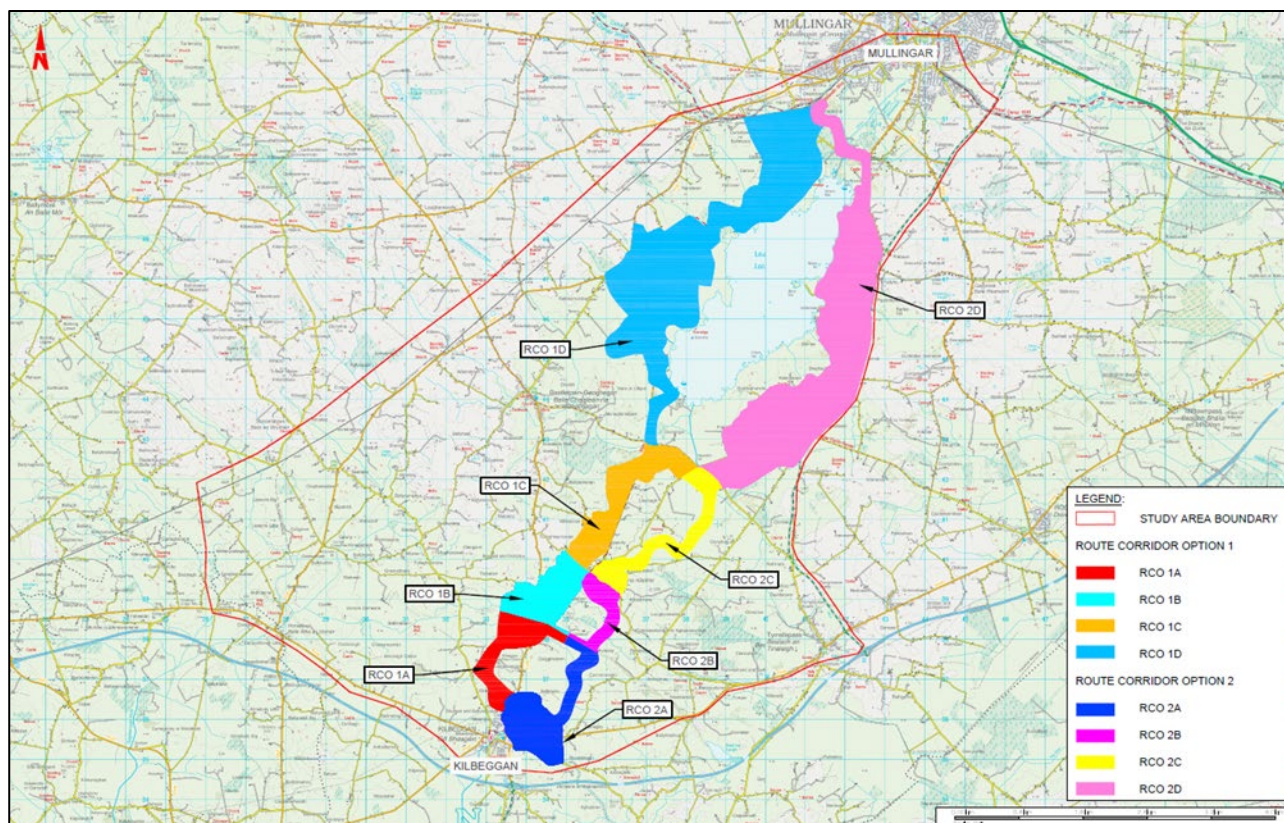


Figure 4.2 Phase 2 Route Corridor Options and Sub-Sections

4.3 Description of Route Corridor Options for Stage 2 Appraisal

4.3.1 Route Corridor Option 1 (RCO1)

RCO1 commences at Kilbeggan Harbour. It follows a broad corridor northwards, and to the east of Kilbeggan, that crosses the R446 road, before continuing north to the River Brosna. It then veers eastwards to the north of Kilbeggan until it meets the R389 road (between Kilbeggan and Coola Mill). It then narrows to the northwest of Kilbeggan for a short distance before heading north to the west of Kilbeggan Racecourse. North of the racecourse, the corridor widens out to accommodate possible routes through Split Hills and Long Hill Esker SAC and pNHA. This includes a link back to the R389 at the junction with the L11225 at Split Hills Esker where it is possible to connect to RCO2. The sub-section between Kilbeggan Harbour and the Split Hills Esker is RCO1a.

From the Split Hills Esker, RCO1 continues in a northern direction, to the west of the L1122, crossing the R389 (Kilbeggan to Castletown Geoghegan road) in the townland of Balrath before turning slightly eastwards toward Ballynagore village. At Ballynagore village it would be possible to connect to RCO2. Between Split Hills Esker and Ballynagore is sub-section RCO1b.

From Ballynagore village, RCO1 continues northwards, passing west of Ballynagore and the Sragh/Cloonagh Road to the townland of Clonsingle/ Monaghanstown (Clonsingle/ Monaghanstown crossroads on L-1120/ L1122), just south of Nure Bog NHA. It would be possible to connect RCO1 with RCO2 in this area around the crossroads. This sub-section between Ballynagore and the L-1120/L1122 junction is RCO1c.

RCO1 then continues north running through Lilliput and Nure Bog NHA and includes an area roughly bounded by the Westmeath Way to the west and the western shore of Lough Ennell to the east. This includes area of Lough Ennell SAC, SPA and pNHA. RCO1 then intersects with state-owned Coillte forestry before turning westwards to include Ladestown carpark and shoreline. From here, RCO1 broadens out to include an area to the west from Bellmount Bridge (junction between the Old Rail Trail and the Royal Canal Greenway) to the Forest Park Industrial Estate to the east, which is southwest of Mullingar. This includes a substantial plot of state-owned Coillte forestry. The sub-section between the L-1120/L1122 junction and Mullingar is RCO1d.

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RCO1 is circa 30km in length. The RCO is shown in **Figure 4.3** and drawing IE000653-RPS-RN-XX-M-Z-0003 in **Appendix B**.

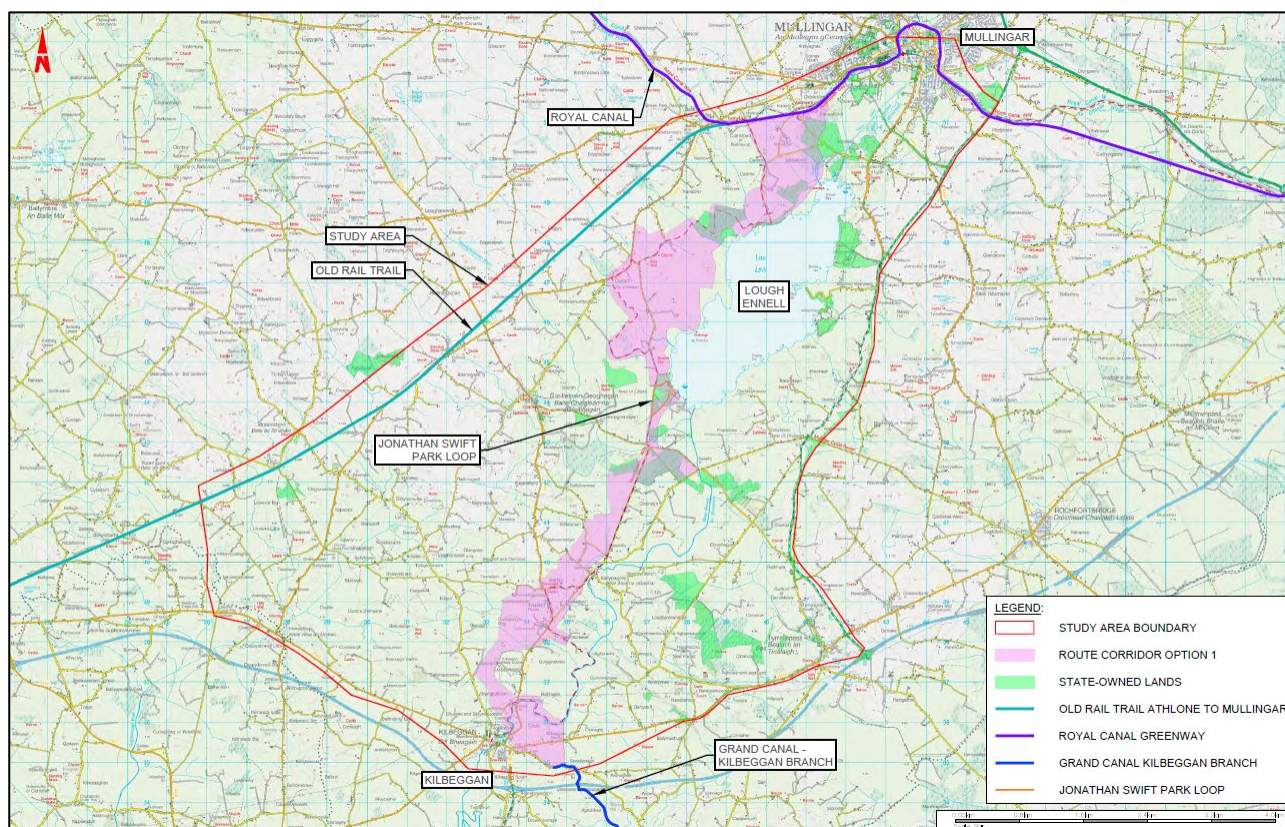


Figure 4.3 Route Corridor Option 1 (RCO1)

4.3.2 Route Corridor Option 2 (RCO2)

RCO 2 also commences at Kilbeggan Harbour and follows the same corridor as RCO 1 to just north east of Kilbeggan town to the River Brosna. From there, RCO2 follows the Westmeath Way along a corridor centred on the River Brosna until it meets the Split Hills and Long Hill Esker SAC and pNHA. This includes a link back to the R389 at the junction with the L11225 at Split Hills Esker where it is possible to connect to RCO1. The sub-section between Kilbeggan Harbour and the Split Hills Esker is RCO2a.

From the Split Hills Esker, RCO2 continues in a northern direction along the River Brosna to Ballynagore village. At Ballynagore village it would be possible to connect to RCO1. The sub-section between Split Hills Esker and Ballynagore village is RCO2b.

RCO2 then follows the River Brosna to the north of Ballynagore before turning eastwards and then north again as far as the townland of Cloonagh. At Cloonagh, either side of the L1122 local road, there is a section of Coillte forestry which is state-owned land. It is possible to link RCO2 and RCO1 in this area.

From Cloonagh, RCO2 widens and proceeds north-eastwards towards Dalystown and then north to Carrickwood, bounded on the east by the new N52. From Carrickwood the corridor continues north to Belvedere House and Gardens, the Mullingar Golf Club and Bloomfield House Hotel. Thereafter, RCO2 narrows as it is constrained to the west by Lough Ennell and to the east by the L1136 road to Lynn crossroads. From here, RCO2 travels in a westerly direction to take in the state-owned Coillte forestry, before turning north to meet the Old Rail Trail to the southwest of Mullingar. The sub-section between Cloonagh and Mullingar is RCO2d.

RCO2 is circa 30km in length. The RCO is shown in **Figure 4.4** and drawing IE000653-RPS-RN-XX-M-Z-0004 in **Appendix B**.

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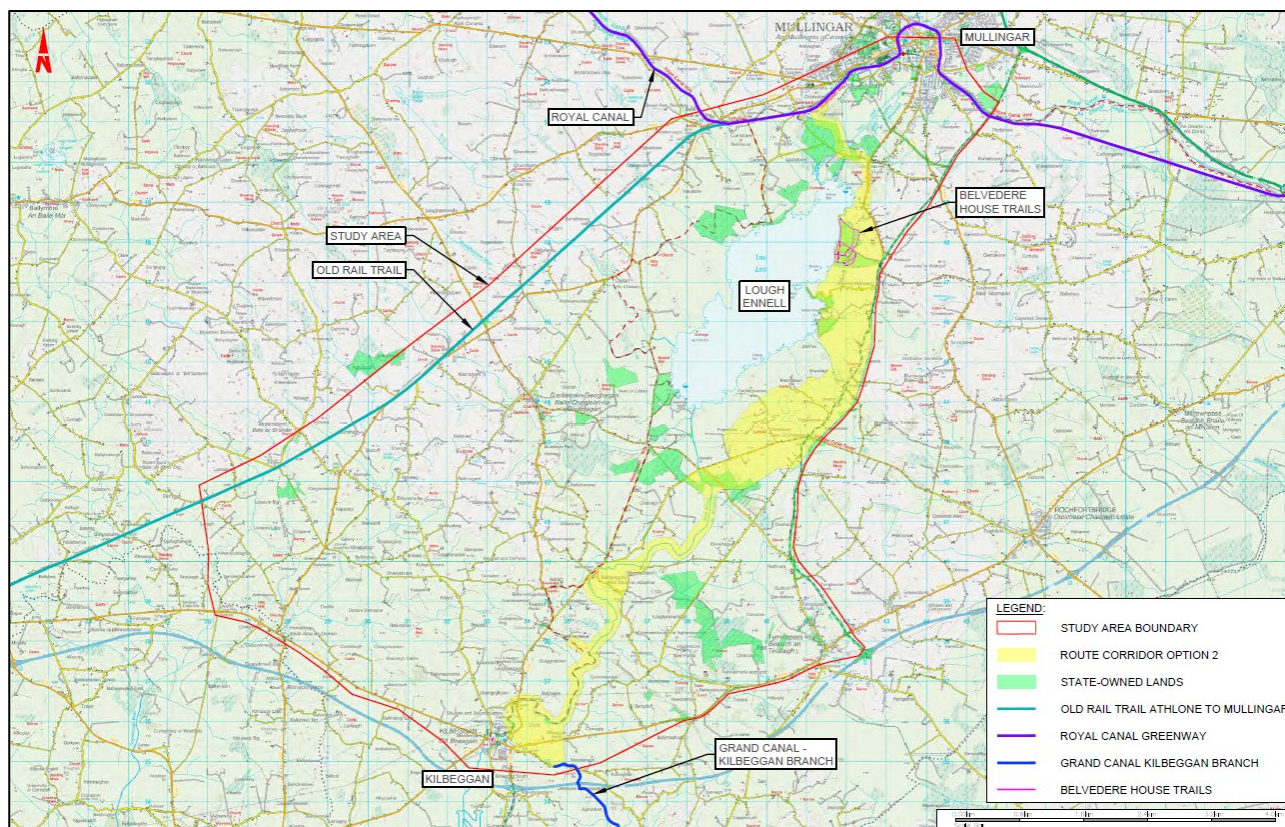


Figure 4.4 Route Corridor Option 2 (RCO2)

4.3.3 Stage Two Appraisal Approach

During Phase 1 an examination of both RCOs identified that they have five “nodes” in common around which an EPRCO can be developed. The five nodes are located at:

- Kilbeggan Harbour
- Split Hills Esker (Teernacreeve)
- Ballynagore
- Clonsingle (Just south of Lough Ennell)
- The Old Rail Trail (Just south of Mullingar)

Using these nodes the two RCOs have been split into four sections where the EPRCO can deviate between RCOs to select the optimum corridor between the two RCOs. The Stage Two appraisal will be completed on both RCOs in each of the four sections. The best performing RCO in each section will be developed into the EPRCO. These RCOs around each node are described as follows;

- RCO1a and RCO2a are between Kilbeggan Harbour and Split Hills Esker (Teernacreeve)
- RCO1b and RCO2b are between Split Hills Esker (Teernacreeve) and Ballynagore
- RCO1c and RCO2c are between Ballynagore and Clonsingle (Just south of Lough Ennell)
- RCO1d and RCO2d are between Clonsingle (Just south of Lough Ennell) and The Old Rail Trail (Just south of Mullingar)

Figure 4.5 shows the breakdown of the two RCO's into their four sections, this drawing is also provided in **Appendix B** drawing IE000653-RPS-RN-XX-M-Z-0005.

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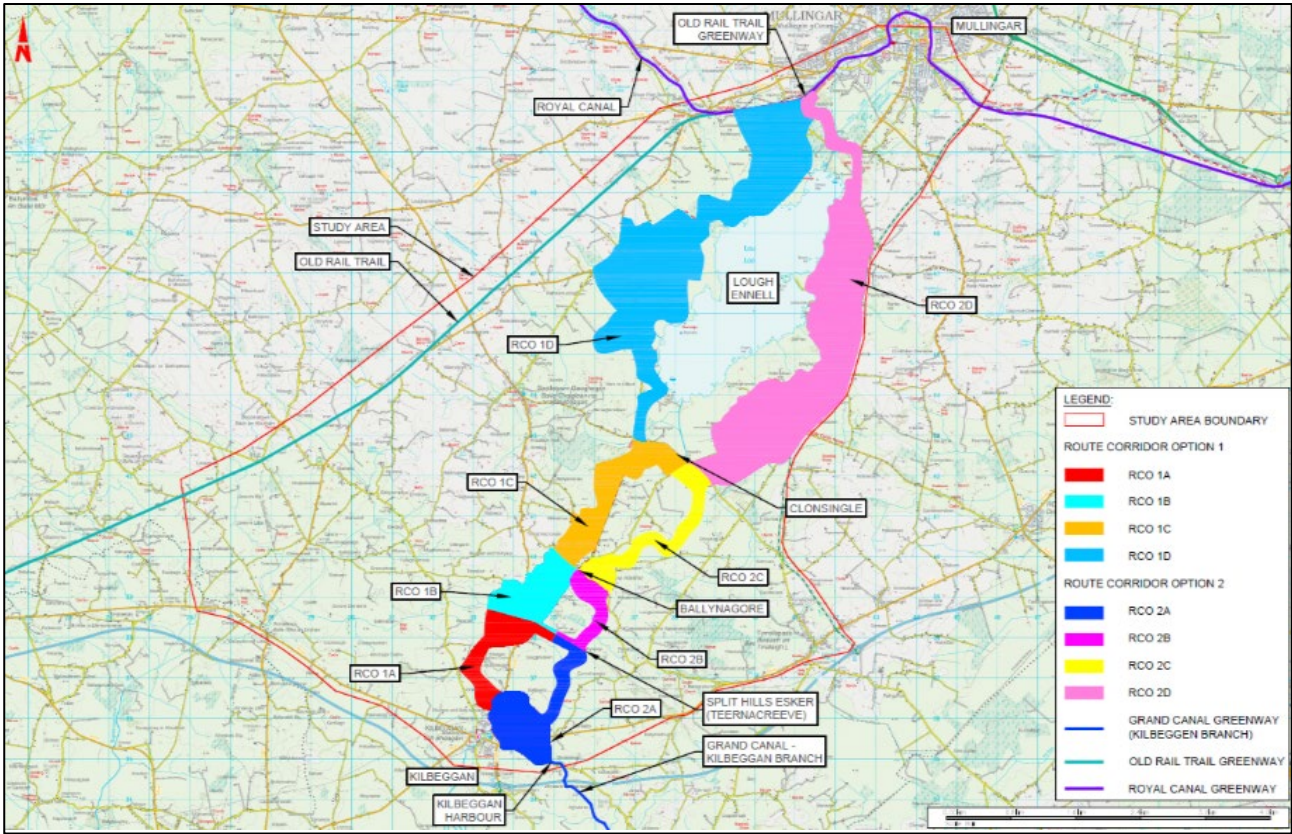


Figure 4.5 Route Corridor Options Sections

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5 TRANSPORT ASSESSMENT APPROACH AND ANALYSIS TOOLS

5.1 Analysis Tools

This section provides information on the analysis tools used in the option selection process.

5.1.1 Transport and Accessibility Appraisal

In accordance with PAG Unit 13.0, a Transport and Accessibility Appraisal (TAA) of the RCOs is required as part of the Stage 2 project appraisal process. The TAA assessment scores the impact of each RCO across six main TAF criteria:

- Accessibility
- Social
- Land Use
- Safety
- Climate Change
- Local Environment

The seventh TAF criterion 'Economic Impacts' is separately considered using the Cost Benefit Analysis tool (see **Section 5.1.2** and **Section 5.1.3**).

Each RCO is scored against each of the TAA criteria using the Department of Transport TAA template modified as required to better suit the requirements of TII's PAG Unit 13.0.

The results of the TAA are presented as a performance matrix that shows how each option performs. The appraisal of each RCO against the TAA criteria is carried out using the seven-category scoring method shown in **Table 5-1**.

Table 5-1 TAA Scoring

Score	Rating
7	Major or Highly Positive
6	Moderately Positive
5	Minor or Slightly Positive
4	Not Significant or Neutral
3	Minor or Slightly Negative
2	Moderately Negative
1	Major or Highly Negative

5.1.2 Cost Benefit Analysis

A Cost Benefit Analysis (CBA) was used to monetise social and economic benefits of each RCO. The CBA is conducted after the TAA is complete and the results of both assessments will be presented together to recommend an EPRCO for the project. The CBA was carried out using the guidance set out in PAG Unit 13.0.

5.1.3 Tool for Economic appraisal of Active Modes

The TII publication Tool for Economic appraisal of Active Modes (TEAM) was used to assist with the CBA for each of the RCOs. The TEAM estimates the benefits associated with increased levels of walking and cycling that will be provided by the project. The TEAM was developed for greenway and active travel projects as a quantitative assessment tool which does not require input from complex transport modelling.

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6 STAGE 2 – OPTIONS APPRAISAL

6.1 Public Consultation No. 2 Route Corridor Options

The purpose of the public consultation 2 (PC2) was to inform the general public about the shortlisted RCOs. PC2 provided an opportunity for landowners and the wider local community to make submissions on the RCOs including highlighting positive and negative views, or special interests that could be taken into account in the appraisal of the two RCOs.

The second public consultation commenced on Tuesday 7th May 2024 at 9am and was scheduled to end at 4pm on Friday 31st May 2024. Following requests during the consultation period, the end date was extended to 4pm on Friday 14th June 2024. The project website was updated to include material that explained the Kilbeggan to Mullingar Greenway project, the process following TII's Project Management Guidelines and the work completed up to the commencement of PC2. A virtual consultation room on the project website provided information, including maps for viewing and download, as well as an online feedback form to capture the views of the public. An in-person public consultation event was held in the Bloomfield House Hotel, Mullingar, on Thursday 9th May 2024 between 3pm and 8pm. The full details of Public Consultation 2 are included in the Report in **Appendix C**.

6.2 Project Liaison Officer (PLO)

Liaison with landowners commenced on 3rd April 2024 where Project Liaison Officers (PLO) from RPS called out to individual homes, farms and businesses along the RCOs. Details of landowners associated with individual folios within the study area were also obtained from Tailte Éireann. The PLOs have continued through Phase 2 to discuss the RCOs with landowners through phone calls, emails and face-to-face meetings.

6.3 Sustainability

In July 2023, TII published a new guidance document: *Guide to the Implementation of Sustainability for TII Projects*, GE-GEN-01101. This was followed in October 2023, with the TII publication *Circular Economy in Greenways and Rural Cycleways*. In March 2024, TII also published their *Sustainability Implementation Plan Our Future*. These documents ensure that sustainability is embedded in all TII activities, through using the 'Avoid, Shift, Improve' model which is aligned with the Model and Intervention hierarchies from the National Investment Framework for Transport in Ireland (NIFTI) (**Figure 6.1**), which in turn supports the commitments in Ireland's Climate Action Plan and national decarbonisation commitments.



Figure 6.1 Avoid, shift improve model aligned with NIFTI modal and intervention hierarchies

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While the Greenway project itself is a sustainable mobility initiative, it still represents a significant intervention and capital investment, and requires to be assessed for overall project sustainability. In other words, is the project being developed and delivered in the most sustainable way possible, both in terms of construction and operation.

Phase 2 is an early phase in project delivery and provides an ideal opportunity to introduce sustainability considerations into the development of infrastructure projects. In order to explore how sustainability considerations can be integrated into the development of the Kilbeggan to Mullingar Greenway, a Sustainability Workshop was undertaken between Westmeath County Council, Transport Infrastructure Ireland (TII) and the RPS sustainability team. The purpose of the workshop was to explore sustainable design and planning considerations in relation to the greenway and to apply the TII 'sustainability workflows'.

The result of the workshop was the identification of seven sustainability objectives under seven topics as follows:

- **Active Travel:** Enhance connectivity between existing greenways, specifically linking Mullingar and Tullamore, with an emphasis on ease-of-access, universal access and public transport connections.
- **Biodiversity:** Prioritise the protection of existing biodiversity, followed by exploring opportunities for enhancement, while balancing scheme quality, access to amenities, and protection of the natural environment.
- **Circular Economy:** Maximise the benefit gained from existing facilities and amenities; explore innovative reuse and recycling opportunities and aim for a 'zero-waste' operational approach.
- **Net Zero:** Integrate carbon efficiency considerations from the early stages, aiming to reduce embodied carbon throughout the design and tendering processes. Low carbon operational model with electrified plant/equipment.
- **Resilience:** To enhance resilience against extreme climate events in the areas surrounding Lough Ennell, and along the emerging preferred route.
- **Social Value:** Maximise benefits of the greenway for local residents and visitors and build a sense of ownership with local communities and existing facilities; deliver a highly accessible project.
- **Sustainability in Practice:** Follow best-practice construction guidelines and construction waste minimisation guidelines.

These seven sustainability objectives will be carried forward to Phase 3 Design and Environmental Evaluation where they will be used to inform the development of sustainable design options for the Kilbeggan to Mullingar Greenway.

6.4 Transport and Accessibility Appraisal

The Transport and Accessibility Appraisal (TAA) of the two RCOs was carried out using the six TAF criteria. Under each criterion, a number of sub-criteria are defined to allow for a more detailed assessment of the RCOs to be undertaken. The six criteria and sub-criteria used for the TAA are:

- 1. Accessibility Impact**
 - Access to Services.
 - Access to Recreational Facilities.
- 2. Social Impact**
 - Accessibility impact on deprived groups.
 - Transport users with different mobility needs.
 - Gender Impacts.
 - Health.
 - Recreation.
- 3. Land Use Impact**
 - Public Realm

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- Connectivity with existing public transport facilities and cycle facilities
- Material Assets
- Land Use

4. Safety Impacts

- Reduced risk of collisions with traffic.

5. Climate Change Impact

- Climate Change Mitigation.
- Climate Change Adaption.

6. Local Environment Impact

- Air Quality.
- Noise and Vibration.
- Biodiversity.
- Water Resources and soil quality.
- Landscape and Visual Quality.
- Cultural Heritage.

6.4.1 Exclusions from Appraisal

The TAA process allows for the exclusion of criteria with agreement from the Sponsoring Agency where it is considered appropriate. **Table 6-1** describes the criteria to be excluded and the reasoning for their exclusion as agreed with WCC.

Table 6-1 TAA Exclusions

Criteria	Sub Criteria to be Excluded	Indicator to be Measured	Reason for Exclusion
Accessibility	Access to Services	Urban Centres Schools and educational facilities Hospitals and healthcare facilities	This greenway is a recreational facility and the Project Objectives are not specifically targeting access to services via active travel. Urban centres are considered populations of at least 50,000 or a density of at least 1,500 inhabitants per km ² (Eurostat). Mullingar and Kilbeggan can be considered small urban areas whereas the remaining Study Area is rural. As both Kilbeggan and Mullingar are within both RCOs, there is no discernible difference between them and this consideration can be excluded. Modal shift has been considered in the TAA under other criteria.
	Access to jobs	Access to jobs	This greenway is a recreational facility and the Project Objectives are not specifically targeting access to jobs via active travel in areas of existing or planned employment. As the main employment centres of Kilbeggan and Mullingar are within both RCOs, there is no discernible difference between them and this consideration can be excluded. Modal shift has been considered in the TAA under other criteria.
	Access to International Transport Gateways	Change in Public Transport Access Change in HGV/LGV access	This greenway is a recreational facility for NMUs. The project will not change access to/ from public transport. The project will not result in any changes in HGV/LGV access.
	Freight Access	Freight Facilities Change	The project will not result in any changes to or for freight facilities and access.
		LGV access to urban areas	The project will not result in any changes to or for LGV access to urban areas.
Social Impacts	Impacts of deprived groups	Access to urban centres Access to healthcare facilities	This greenway is a recreational facility and the Project Objectives are not specifically targeting access to services via active travel. Urban centres are

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Criteria	Sub Criteria to be Excluded	Indicator to be Measured	Reason for Exclusion
			considered populations of at least 50,000 or a density of at least 1,500 inhabitants per km ² (Eurostat). Mullingar and Kilbeggan can be considered small urban areas whereas the remaining Study Area is rural. As both Kilbeggan and Mullingar are within both RCOs, there is no discernible difference between them and this consideration can be excluded. Modal shift has been considered in the TAA under other criteria.
Climate Change	Climate Mitigation	Percentage change in private car kilometres travelled.	This greenway is a recreational facility for non-motorised modes of transport. The project is not targeting a specific reduction in private car travel.
		CO ₂ emissions	This greenway is a recreational facility for non-motorised modes of transport. The project is not targeting a specific reduction in CO ₂ emissions.

6.4.2 Inclusions to Appraisal

An appraisal of the types of land uses and material assets were added to the TAA. Through discussions with WCC and TII, these additional criteria to the TAA were considered to be appropriate as sub-criteria to the Land Use Impact criterion. The appraisal of these sub-criteria was carried out with consideration to the following key criteria.

- Use of state-owned lands where possible and practicable.
- Comparatively, which RCO minimises the potential to impact on private landowners.
- Feedback received from public consultations.
- The buildability of the greenway taking account of the existing topography, gradients flooding, etc.
- The impact on material assets in the form of non-agricultural and agricultural properties.

Land Registry data, GIS information, LiDAR surveys and feedback received from the PLOs was used to inform this appraisal.

6.4.3 Appraisal Scoring

All appraisal criteria use a standard unitless scale, ranging from 1 *Major or highly negative impact* to 7 *Major or highly positive impact*. A score of 4 represents a *Neutral or Not significant impact*. Refer to **Table 5-1**.

Each sub-section of each RCO was appraised individually and assigned a score under each sub-criterion. Subsequently, each sub-criterion score was summed and averaged to give an overall score for that criterion.

The scores for each criterion were then summed to give an overall score for each RCO sub-section.

6.4.4 Transport and Accessibility Appraisal Criteria Appraisal

The following sections summarise the RCO appraisal using the TAA criteria for each RCO. The detailed TAA is included in **Appendix E**.

6.4.4.1 Accessibility Impact Appraisal

Access to major land transport hubs and interchange facilities such as rail and bus stations

The RCOs within the urban areas of Kilbeggan and Mullingar are well connected to transport infrastructure including national bus routes. These routes connect Kilbeggan and Mullingar to other towns and cities including Galway City, Dublin City and Dublin Airport. A local TFI bus service is available at both Dysart within RCO1d and Belvedere within RCO2d connecting to Athlone and Mullingar. There is also a train station in Mullingar connecting to Sligo, Longford and Dublin. The M6 motorway is just south of Kilbeggan close to the start point of both RCOs. The M6 is accessible from RCO1a and RCO2a and connects Athlone, Galway and Dublin. The N52 national route is within RCO2d. Regional routes in the area include the R446, R436, R389, R390 and the R391.

OPTIONS REPORT

Both RCO1a and RCO2a connect to the Kilbeggan Branch of the Grand Canal Greenway at Kilbeggan Harbour. Both RCO1d and RCO2d connect to the Old Rail Trail Greenway southwest of Mullingar town. The greenway will also have connection to the Royal Canal Greenway via the Old Rail Trail at Mullingar. This will complete the connection of the two strategic greenways, the Royal Canal and Grand Canal, while also connecting to the Galway to Dublin Greenway at Mullingar.

Access to Recreational Facilities/Tourism Sites

An appraisal of each RCO in relation to access to recreational facilities and tourism sites was undertaken. Potential sites of interest along with already established sites of interest were considered. The scoring was applied based on the PAG Unit 13.0 guidance. **Figure 6.2** illustrates the locations of existing and potential tourism sites considered. This drawing IE000653-RPS-AP-XX-D-Z-0006 is also provided in **Appendix B**.

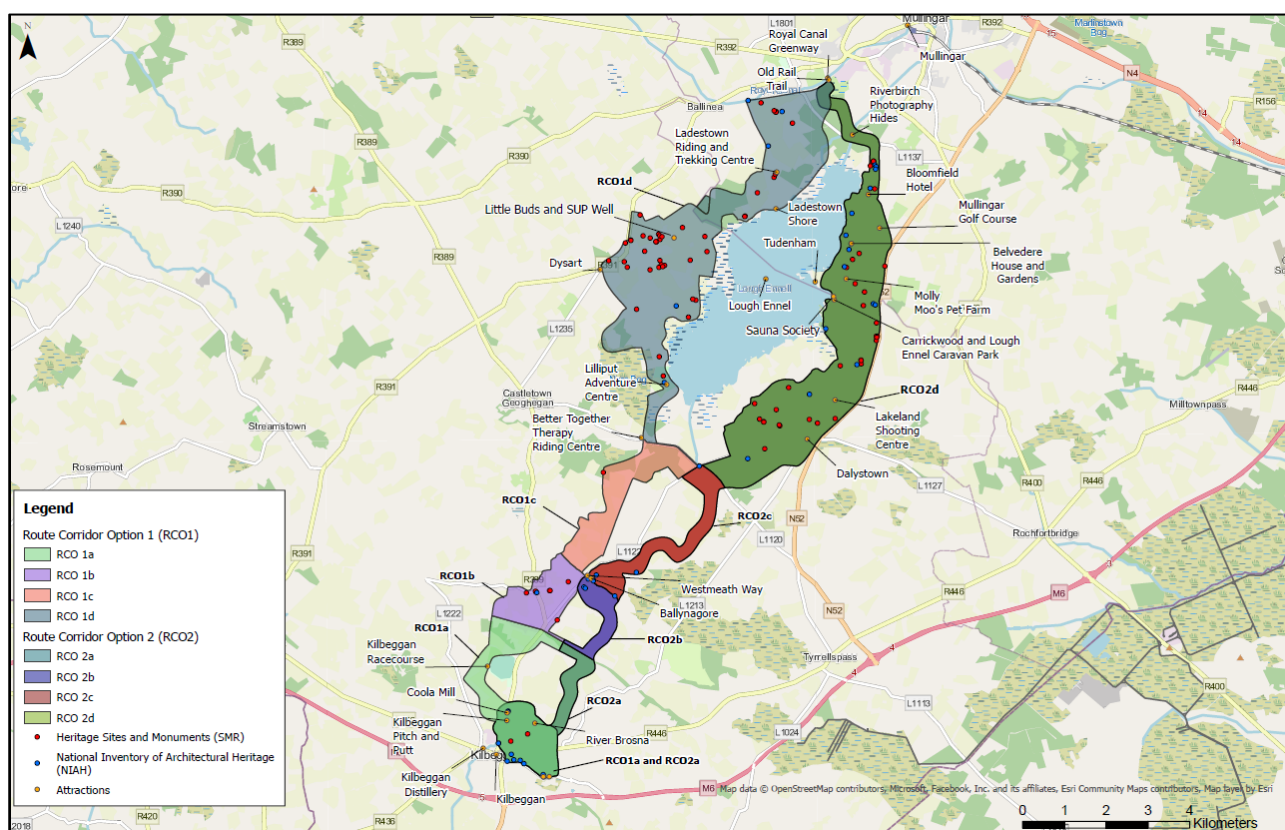


Figure 6.2 Heritage Sites, Monuments and Attractions

Summary

RCO1a received a Positive overall score given its proximity and accessibility to/from transport hubs at Kilbeggan and the number of things to see and do within the corridor, including Kilbeggan Harbour, Kilbeggan Distillery, the racecourse and River Brosna.

RCO2a received a Positive overall score given its proximity and accessibility to/from transport hubs at Kilbeggan and the number of things to see and do within the corridor, including Kilbeggan Harbour, Kilbeggan Distillery, and River Brosna.

RCO1b received a Neutral overall score given its largely rural setting. There are no major transport hubs on this sub-section and a limited number of attractions.

RCO2b received a Slight Positive overall score given its proximity to the River Brosna and route along the existing Westmeath Way. It is within a largely rural setting with no major transport hubs on this sub-section.

OPTIONS REPORT

RCO1c received a Neutral overall score given its largely rural setting. There are no major transport hubs on this section and a limited number of attractions.

RCO2c received a Slight Positive overall score given its proximity to the River Brosna. It is within a largely rural setting with no major transport hubs on this sub-section.

RCO1d received a High Positive overall score given its proximity and accessibility to/from transport hubs at Mullingar and the number of things to see and do within the corridor, including Lilliput, Little Buds Farm, Ladestown, Westmeath Way, scenic walks and Lough Ennell.

RCO2d received a High Positive overall score given its proximity and accessibility to/from transport hubs at Mullingar and the number of things to see and do within the corridor, including Belvedere House and Gardens, local hotel, scenic walks, Carrickwood, The Sauna Society and Lough Ennell.

The overall accessibility impact appraisal for each sub-section of each RCO is summarised in **Table 6-2**.

Table 6-2 Summary of Accessibility Impact Appraisal

RCO1	Appraisal Result	RCO2	Appraisal Result
RCO1a	Positive	RCO2a	Positive
RCO1b	Neutral	RCO2b	Slight Positive
RCO1c	Neutral	RCO2c	Slight Positive
RCO1d	Positive	RCO2d	High Positive

6.4.4.2 Social Impact Appraisal

Social impacts of the greenway have been appraised based on the potential benefit each RCO can bring to those in disadvantaged areas, those with different mobility needs and people of all genders. The social impacts also include the potential health benefits and potential to improve wellbeing by creating access to outdoor recreation for people within the RCOs. This part of the appraisal was carried out using GIS, CSO, Geodirectory and POBAL data.

It must be noted that the following calculations are based on the forementioned datasets and are extrapolated. That is, the exact numbers are unknown so an assumption has been made to apply averages or percentages from the data to estimated populations within the areas of each sub-section of RCO to derive a relevant figure.

Impact on Deprived Groups (Access to Schools)

The POBAL 'Small Areas' data alongside Geodirectory data and CSO statistics relating was used to estimate the population of children within the RCOs. **Table 6-3** demonstrates the estimated number of children that could have access to schools using the greenway in each of the RCOs. This information alongside mapping was used to determine the potential benefits of the greenway in terms of access to schools.

Mercy Secondary School and Scoil an Chlochair Kilbeggan are within RCO1a and RCO2a. St Patrick's National School Ballynagore is accessible to both RCOs at Ballynagore. Both RCOs offer connection to schools in Mullingar via the Old Rail Trail or the Royal Canal Greenway. Dysart National School is adjacent to RCO1d and Dalystown National School is within RCO2d. In RCOs with both a National and Secondary school two age groups were used for the appraisal, children aged between 5-19 years and in RCOs with just a national school only the lower age group of 5-14 years was used.

Table 6-3 POBAL Data for Children within the RCOs

Option	RCO1a	RCO 1b	RCO 1c	RCO 1d
Children Aged 5-19	30	-	-	37
Children Aged 5-14	-	19	8	-
Option	RCO2a	RCO 2b	RCO 2c	RCO 2d
Children Aged 5-19	28	-	-	61
Children Aged 5-14	-	7	9	-

OPTIONS REPORT

Impact on Transport Users with Different Mobility Needs

The potential impact of the greenway on transport users with different mobility needs was appraised using POBAL data and the Geodirectory to determine the approximate number of people within the RCO with a disability as shown in **Table 6-4**. To determine the potential impact on users of all ages, POBAL data and the Geodirectory was used to determine an estimate of the number of people aged between 65 and 79 likely to be residing within the RCO. This data was then combined with the POBAL data for potential users with limited abilities to measure impact. The RCOs were compared based on the number of people within these groupings using statistics taken from the CSO 'Small Areas' data.

Table 6-4 POBAL data for people with different mobility needs within the RCOs

Option	RCO1a	RCO 1b	RCO 1c	RCO 1d
Disability Rating	20.1%	21.8%	17.5%	20.3%
People with Limited Ability	33	31	8	48
People Aged 65-79	19	22	7	35
Option	RCO2a	RCO 2b	RCO 2c	RCO 2d
Disability Rating	20.1%	20.4%	17.5%	18.3%
People with Limited Ability	31	10	8	66
People Aged 65-79	18	8	7	55

Gender Impacts

A greenway can encourage people to take up walking and cycling, which can in turn help to reduce the gender disparity in walking and cycling. Information contained within the TII Report 'Travelling in a Woman's Shoes – Understanding Women's Travel Needs in Ireland to Inform the Future of Sustainable Transport Policy and Design (2020)', was considered in the appraisal of this criterion alongside mapping data and professional judgement. Passive surveillance and the benefits of segregation away from roads likely being encouraging factors for females to use the greenway were the key criteria used in this part of the appraisal. Mapping of the RCOs proximities to housing and professional judgement of potential benefits of passive surveillance were used to determine the Gender Impacts of each RCO. The Geodirectory and POBAL data was used to estimate the number of female residents that could utilise the facility as shown in **Table 6-5**.

Table 6-5 Estimated female residents within the RCOs

Option	RCO1a	RCO 1b	RCO 1c	RCO 1d
Residential Properties	60	54	14	71
Estimated Female Residents	78	77	21	124
Option	RCO2a	RCO 2b	RCO 2c	RCO 2d
Residential Properties	56	17	15	110
Estimated Female Residents	73	24	23	190

Impact on Health

The greenway can impact positively on the health of users by increasing the opportunity to carry out physical activity. The number of residents within the RCO obtained from the POBAL data and Geodirectory data as shown in **Table 6-6** was used alongside professional judgement as the means of appraising the potential impact on health from the greenway.

Table 6-6 Estimated potential users within the RCOs

Option	RCO1a	RCO 1b	RCO 1c	RCO 1d
Residential Properties	60	54	14	71
Estimated Residents	164	143	44	234
Option	RCO2a	RCO 2b	RCO 2c	RCO 2d
Residential Properties	56	17	15	110
Estimated Residents	154	48	47	359

Figure 6.3 shows the Geodirectory information within the RCOs. Drawing no. IE000653-RPS-AP-XX-D-Z-0005 illustrating this information is also provided in **Appendix B**.

OPTIONS REPORT

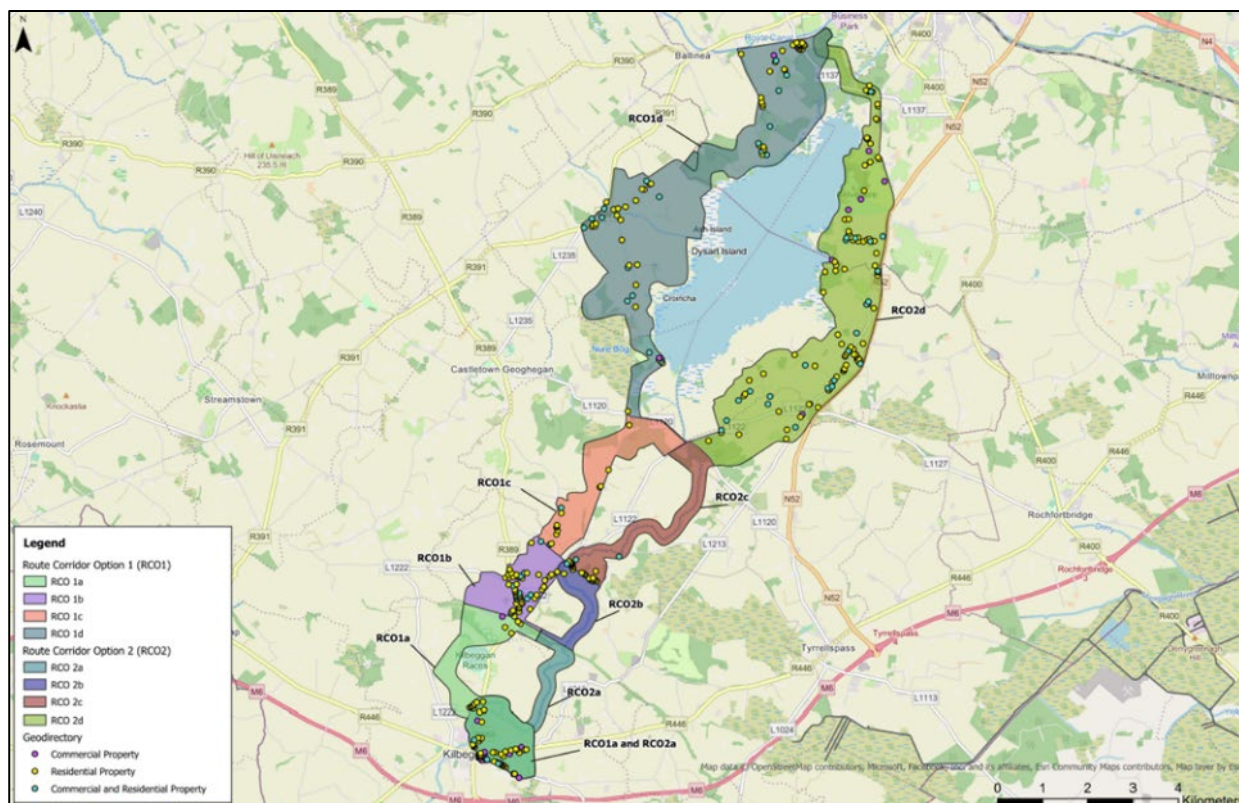


Figure 6.3 Properties within the RCOs

Recreation

Access to high quality facilities for outdoor recreation is to be considered a key driver for greenway usage. A mapping exercise of things to see and do within the RCOs and heritage sites with potential to become attractions was used to form the basis of the appraisal for this criterion. The presence of a greenway was considered to be positive as physical outdoor recreation exercise has the potential to increase a person's sense of wellbeing. The level of positive impact for each RCO was measured comparatively and using professional judgement. The locations of recreational facilities, attractions and potential attractions are shown in **Figure 6.2**.

Summary

RCO1a received a Slight Positive overall score given its connection to local schools, Kiltbeggan, and providing a safe and secure route for users including those with disabilities. The greenway will provide safe crossing points across existing roads. This sub-section provides a segregated greenway that would be attractive to NMUs, especially females, children, the elderly and those with mobility issues. However, the rural nature of some of the RCO may detract from a passive surveillance/ security perspective.

RCO2a received a Slight Positive overall score. It is largely the same as RCO1a. The main difference is that RCO2a is more rural and therefore would not be as desirable from a passive surveillance/ security perspective but, at the same time, provides access to the River Brosna and the Westmeath Way, which is considered to be a positive recreational impact.

RCO1b received a Slight Positive overall score given its connection to the primary school at Ballynagore, and providing a safe and secure route for users including those with disabilities. The greenway will provide safe crossing points across existing roads. This sub-section provides a segregated greenway that would be attractive to NMUs, especially females, children, the elderly and those with mobility issues. However, the rural nature of the RCO may detract from a passive surveillance/ security perspective.

RCO2b received a Slight Positive overall score. It is largely the same as RCO1b. The main difference is that RCO2 is more rural and therefore would not be as desirable from a passive surveillance/ security perspective but, at the same time, provides access to the River Brosna and the Westmeath Way, which is considered to be a positive recreational impact.

OPTIONS REPORT

RCO1c received a Slight Positive overall score given its connection to the primary school at Ballynagore, and providing a safe and secure route for users including those with disabilities. The greenway will provide safe crossing points across existing roads. The sub-section provides a segregated greenway that would be attractive to NMUs, especially females, children, the elderly and those with mobility issues. However, the rural nature of the RCO may detract from a passive surveillance/ security perspective.

RCO2c received a Slight Positive overall score. It is largely the same as RCO1c. The main difference is that RCO2 is more rural and therefore would not be as desirable from a passive surveillance/ security perspective but, at the same time, provides access to the River Brosna, which is considered to be a positive recreational impact.

RCO1d received a Slight Positive overall score given its proximity to schools in Dysart and connection to Mullingar and schools in the town. The greenway would provide a safe and secure route for users including those with disabilities. The greenway will provide safe crossing points across existing roads. The sub-section provides a segregated greenway that would be attractive to NMUs, especially females, children, the elderly and those with mobility issues. However, the rural nature of the RCO may detract from a passive surveillance/ security perspective.

RCO2d received a High Positive overall score. Of all the sections of RCOs, RCO2d has the greatest population on the eastern side of Lough Ennell that would benefit from the greenway. Applying average population trends, it is reasonable to conclude that more people, especially females, children, the elderly and those with limited mobility, would benefit from the greenway. RCO2 also passes through Belvedere House and Gardens and Bloomfield House Hotel where it would provide easy access to vulnerable users. The increased presence of people along RCO2d also improves passive surveillance.

The overall social impact appraisal for each sub-section of each RCO is summarised in **Table 6-7**.

Table 6-7 Summary of Social Impacts Appraisal

RCO1	Appraisal Result	RCO2	Appraisal Result
RCO1a	Slight Positive	RCO2a	Slight Positive
RCO1b	Slight Positive	RCO2b	Slight Positive
RCO1c	Slight Positive	RCO2c	Slight Positive
RCO1d	Slight Positive	RCO2d	High Positive

6.4.4.3 Land Use Impact

Impacts on Land Use from the greenway have been appraised based on the guidance set out in PAG Unit 13.0. This appraisal requirement should aim to “capture impacts related to changes in public realm, such as streets, footpaths, and public buildings, as a result of a scheme. It also captures connectivity with the existing transport infrastructure in an area and with broader national and regional planning policy objectives.”

There are four sub-criteria required to be appraised in the TAA:

Public Realm

The RCOs were appraised based on their interaction with existing public realm facilities and locations that can be used as trailheads for the greenway.

Connectivity with existing public transport facilities and cycling facilities

The RCOs were appraised based on the interaction of the RCOs with existing interchange facilities to public transport, which is primarily bus connections. Connection opportunities to existing cycling infrastructure has also been included in this part of the appraisal.

Material Assets

Descriptions of existing land use types were obtained from Corine mapping as shown in **Figure 6.4** and in Drawing no. IE000653-RPS-SK-XX-M-Z-0007 provided in **Appendix B**. Feedback from landowners with regard to the type of farm enterprise (e.g. dairy, equine) being undertaken on certain lands was also considered. Refer to **Appendix F**, Section 11 for further discussion on Material Assets.

OPTIONS REPORT

Land Use

An additional sub criterion was added to the TAA to allow for the appraisal for land use within the RCOs taking into consideration the following topics:

- Identify the availability of state-owned lands that could be used, where practicable (refer to Drawing IE000653-RPS-AP-XX-D-Z-0008 in **Appendix B**);
- The potential to impact on private landowners and feedback from engagement with landowners; and
- The buildability of the greenway based on the existing topography of the land in which the RCOs traverse. The topography of each sub-section of RCO was assessed to determine the likelihood of achieving the maximum desirable 3% vertical gradient.

The 2018 Corine Land use map was used to assess the land use within each of the RCOs and is illustrated in **Figure 6.3**. Through consultation with landowners an estimation of farm types has also been included in **Figure 6.3**.

Figure 6.5 illustrates the calculated gradients within each RCO as used in the appraisal. Drawing no. IE000653-RPS-AP-XX-D-Z-0009 illustrating this information is also provided in **Appendix B**.

Table 6-8 Percentage of land within the RCO within defined bands of gradients

Option	RCO1a	RCO 1b	RCO 1c	RCO 1d
0-3%	53%	43%	58%	71%
3%-5%	20%	27%	20%	19%
5%-8%	12%	17%	12%	7%
8%-10%	4%	5%	3%	1%
10%+	12%	8%	7%	1%
Option	RCO2a	RCO 2b	RCO 2c	RCO 2d
0-3%	59%	51%	57%	46%
3%-5%	17%	16%	17%	23%
5%-8%	10%	15%	11%	17%
8%-10%	3%	5%	4%	5%
10%+	11%	12%	11%	9%

The percentage of state-owned lands available within the RCOs are summarised in **Table 6-9**, and shown in **Figure 6.6** and drawing IE000653-RPS-AP-XX-D-Z-0008 available in **Appendix B**.

Table 6-9 Percentage of State-owned Lands within the RCOs

RCO1	Percentage of State-owned Land	RCO2	Percentage of State-owned Land
RCO1a	1%	RCO2a	1%
RCO1b	0%	RCO2b	0%
RCO1c	28%	RCO2c	11%
RCO1d	13%	RCO2d	14%

OPTIONS REPORT

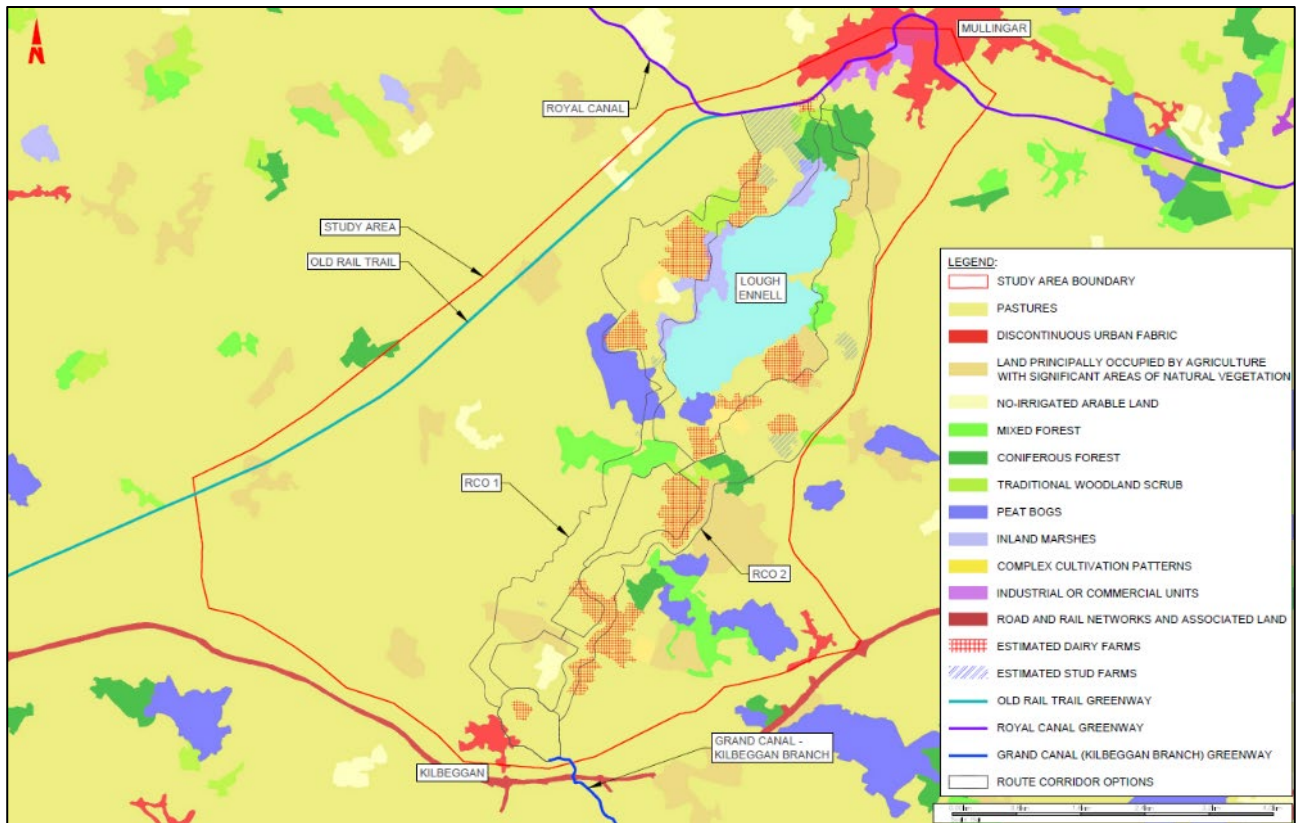


Figure 6.4 Land Use Map

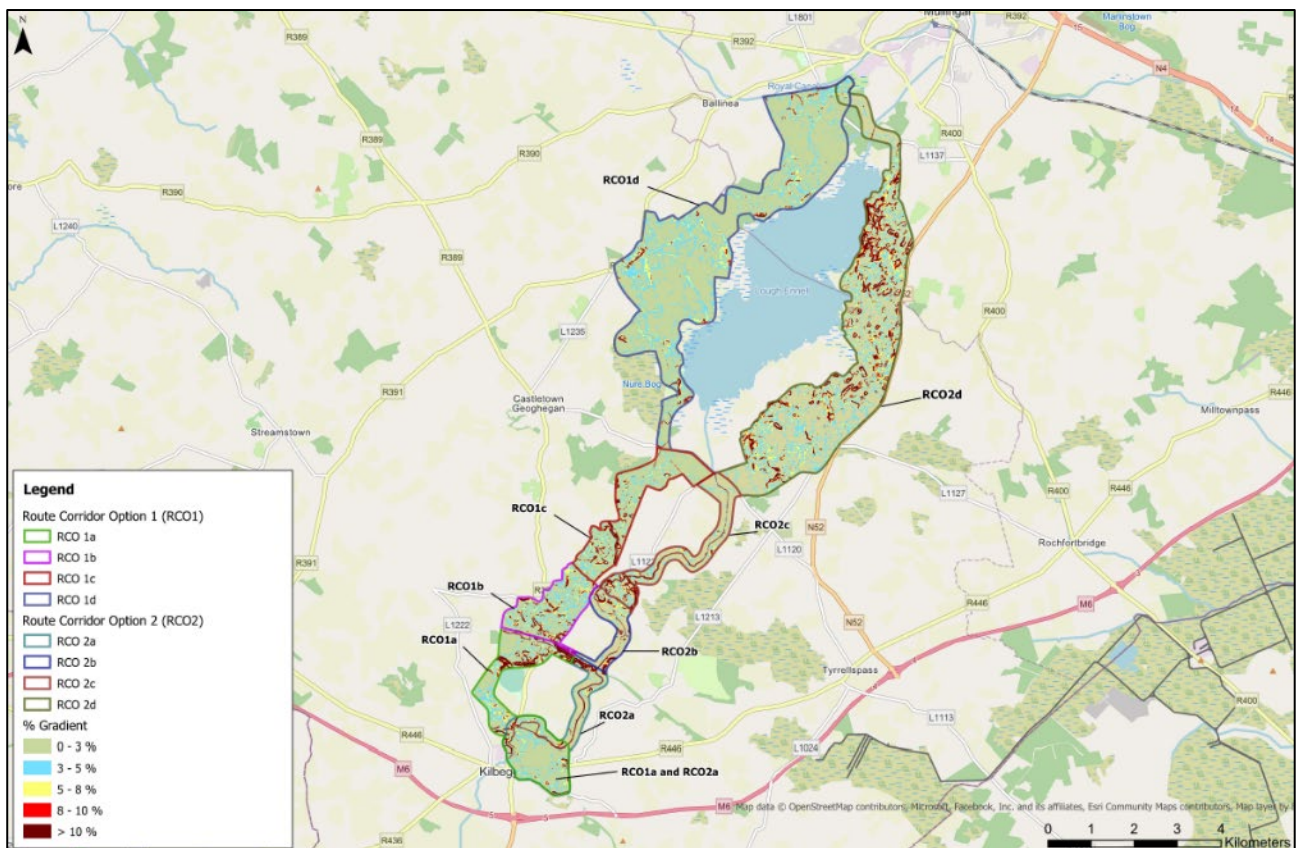


Figure 6.5 Bands of Gradients within the RCOs

OPTIONS REPORT

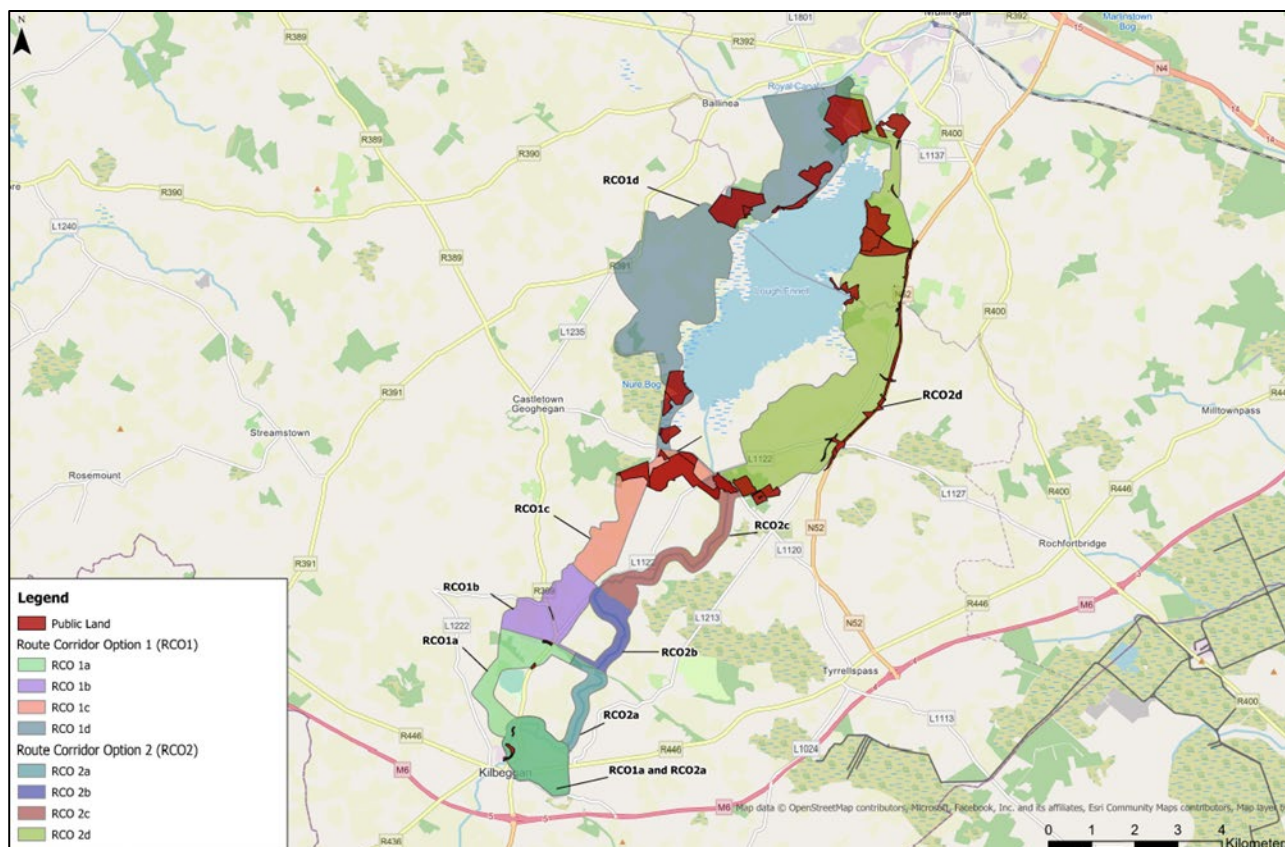


Figure 6.6 State-owned Lands within the RCOs

Summary

RCO1a received a Slight Positive overall score given its connection to a trailhead at Kiltbeggan and providing connectivity to the Grand Canal Greenway (Kiltbeggan Branch) at Kiltbeggan Harbour. It also includes an existing active travel connection on the R446 linking back to Kiltbeggan town. The land is primarily agricultural with areas of bog, commonage, an active quarry, racecourse and a small proportion of dairy farms. There are also some steeper sections >8% gradient within the corridor that will impact on buildability. There is very limited publicly owned land within RCO1a.

RCO2a received a Positive overall score. It is largely the same as RCO1a with connections to Kiltbeggan and the Grand Canal Greenway. The main difference is that RCO2a includes the existing Westmeath Way which is on a flood embankment along the River Brosna. This is segregated from agricultural properties and is considered to have the potential for less of an impact on those land-uses. The land is primarily agricultural with a higher proportion of dairy farms than RCO1a. There are also some steeper sections >8% gradient within the corridor that will impact on buildability. There is very limited publicly owned land within RCO2a.

RCO1b received a Neutral overall score. It has a connection to Ballynagore and the Westmeath Way. The land is primarily agricultural. There are also some steeper sections >8% gradient within the corridor that will impact on buildability. There is very limited publicly owned land within RCO1b. Ribbon housing development in the vicinity of the R389 near Balrath may also impact on buildability.

RCO2b received a Slight Positive overall score. It is largely the same as RCO1b. The land is primarily agricultural. There are also some steeper sections >8% gradient within the corridor that will impact on buildability.

RCO1c received a Slight Positive overall score given its connection to Ballynagore and the Westmeath Way. The land is primarily agricultural. There is a relatively small proportion of the RCO that has >8% gradient. This sub-section also includes a section of publicly owned Coillte forestry in its northern end that could facilitate a greenway.

RCO2c received a Neutral overall score. It is largely the same as RCO1c but has less availability of publicly owned lands to the north.

OPTIONS REPORT

RCO1d received a Slight Positive overall score given its proximity to Mullingar as a transport hub and its connections to the existing Old Rail Trail and Royal Canal greenways. It also connects to Lilliput Adventure Centre which is owned by Westmeath County Council and Ladestown Car-park where there are existing facilities including walking-trails. Both could feasibly provide trail heads for the Kilbeggan to Mullingar Greenway. The land-use is primarily agricultural with equestrian facilities located between Ladestown and Mullingar on this RCO. The land is relatively flat and therefore gradients >8% are not anticipated to be an issue.

RCO2d received a Slight Positive overall score given its proximity to Mullingar as a transport hub and its connections to the existing Old Rail Trail and Royal Canal greenways. It also connects to existing attractions along the eastern shore of Lough Ennell. The land-use to the south of Lough Ennell is predominantly agricultural. The layout of the agricultural lands within this RCO would require the greenway to take an elongated route with bends to avoid farm severance. This is less of an issue within RCO1d. As the RCO travels north, it enters forested areas and high amenity areas around Carrickwood, Belvedere House and Gardens and Bloomfield House Hotel. Both Carrickwood and Belvedere House and Gardens are publicly owned with existing car-parking, walking trails and facilities that could provide trail heads for the Kilbeggan to Mullingar Greenway. Paid entry is required to access the Belvedere House and Gardens grounds and this may be impacted by a greenway through this area which could have a potential negative effect on revenue depending on the route taken. The RCO has a significantly higher percentage of lands with a gradient over 8% than RCO1d. There is also only a relatively narrow strip of land between Bloomfield Hotel and Lynn's Crossroads that passes through an area of high value cultural heritage features that could impact on buildability. RCO2d intersects with publicly owned lands to the north.

The overall land use impact appraisal for each sub-section of each RCO is summarised in **Table 6-10**.

Table 6-10 Summary of Land Use Appraisal

RCO1	Appraisal Result	RCO2	Appraisal Result
RCO1a	Slight Positive	RCO2a	Positive
RCO1b	Neutral	RCO2b	Slight Positive
RCO1c	Slight Positive	RCO2c	Neutral
RCO1d	Slight Positive	RCO2d	Slight Positive

6.4.4.4 Safety Impact

The purpose of this greenway is not to address a specific safety issue within the RCOs. This greenway will however provide a safe route for NMUs to use, separated from vehicular traffic, and this can be considered as Highly Positive.

Each of the RCOs contains a number of local and regional roads. Given the potential for there to be conflict between roads users (vehicular traffic) and pedestrians and cyclists, it is preferable, particularly for a strategic greenway like the Kilbeggan to Mullingar Greenway, to be substantially segregated. Consideration can be given to the use of a local road where it will not give rise to an unacceptable or unnecessary risk to greenway users or where a segregated route is not an option, for example, due to environmental constraints or an archaeological feature.

There will be some areas within the RCOs that may require road crossings to complete the route. Providing safe infrastructure will be predominantly a design issue and will be addressed in Phase 3 of this project. For the purposes of addressing this safety impact criterion in the TAA, the potential number of interactions with roads within each RCO has been considered comparatively to determine which RCO has the greater positive impact in terms of safety.

To calculate the number of potential road interactions, the number of roads within the RCOs was used. These interactions with roads are considered to be areas where there may be potential for road crossings.

In addition to the interactions with roads being appraised, the sense of personal security while using the greenway was also appraised based on the potential passive surveillance opportunities within each RCO. This was appraised by considering each RCO's proximity to housing and built-up areas.

OPTIONS REPORT

Summary

RCO1a received a Slight Positive overall score. It has a relatively low number of local and regional roads within the corridor. The greenway will provide segregation from these roads and therefore create a slight positive impact. Further to the northwest of this RCO, the corridor becomes more rural and therefore there would be a sense of less passive surveillance and the potential for there to be a perceived reduction in security for users.

RCO2a received a Slight Positive overall score. It is largely the same as RCO1a. It has fewer road interactions which is a positive but is more rural leading to the potential for there to be a perceived reduction in security for users which is a negative.

RCO1b received a Slight Positive overall score. It has a relatively low number of local and regional roads within the corridor. The greenway will provide segregation from these roads and therefore create a slight positive impact but with some ribbon development around the R389 there may be some safety issues with the increase in interactions between NMUs and vehicles at junctions. This RCO is very rural and therefore there would be a sense of less passive surveillance and the potential for there to be a perceived reduction in security for users.

RCO2b received a Slight Positive overall score. It is largely the same as RCO1b. It has fewer road interactions which is a positive but is more rural leading to the potential for there to be a perceived reduction in security for users which is a negative.

RCO1c received a Slight Positive overall score. It has a relatively low number of local roads within the corridor. The greenway will provide segregation from these roads and therefore create a slight positive impact. This RCO is very rural and therefore there would be a sense of less passive surveillance and the potential for there to be a perceived reduction in security for users.

RCO2c received a Slight Positive overall score. It is largely the same as RCO1c. It has fewer road interactions which is a positive but is more rural leading to the potential for there to be a perceived reduction in security for users which is a negative.

RCO1d received a Positive overall score. It has a relatively low number of local and regional roads within the corridor. The greenway will provide segregation from these roads and therefore create a slight positive impact. This RCO is largely very rural and therefore there would be a sense of less passive surveillance and the potential for there to be a perceived reduction in security for users. However, the section between Mullingar and Ladestown is likely to see greater levels of activity that would provide a greater sense of passive surveillance.

RCO2d received a Positive overall score. It has a relatively higher number of local and regional roads within the corridor than RCO1d. The greenway will provide segregation from these roads and therefore create a slight positive impact but with the level of development along the eastern shores of Lough Ennell and the existing road network there will likely be some safety issues with the increase in interactions between NMUs and vehicles at junctions. This RCO is in a more built-up area than RCO1d and therefore there would be an increased sense of passive surveillance and a perceived increased sense of security for users.

The overall safety impact appraisal for each sub-section of each RCO is summarised in **Table 6-11**.

Table 6-11 Summary of Safety Impact Appraisal

RCO1	Appraisal Result	RCO2	Appraisal Result
RCO1a	Slight Positive	RCO2a	Slight Positive
RCO1b	Slight Positive	RCO2b	Slight Positive
RCO1c	Slight Positive	RCO2c	Slight Positive
RCO1d	Positive	RCO2d	Positive

6.4.4.5 Climate Change Impact

The PAG Unit 13.0 guidance in relation to Climate Change Impacts in the TAA require project teams to consider how likely a scheme is to promote modal shift towards walking and cycling. The PAG Unit 13.0 guidance refers to this as being particularly relevant for short trips and regular trips to work, school and retail/services.

OPTIONS REPORT

Climate Mitigation

The presence of the greenway within communities may encourage modal shift as locals become used to the greenway. Therefore, recreational users may be encouraged, over time, to use the greenway for trips to work, school or other nearby facilities, thereby providing some degree of modal shift.

Guidance taken from the Climate Mitigation Scorecard in the TAA template alongside CSO population figures was used as the basis for the appraisal of this criterion.

The impact scoring guidance taken from the TAA Climate Mitigation Scorecard is extracted and shown in **Table 6-12**.

Table 6-12 TAA Climate Mitigation Scorecard

Score	% Mode Shift
High Negative	> -3%
Negative	-2% to -3%
Low Negative	-0.5% to -1%
Neutral	0.25% to -0.25%
Low Positive	0.5% to 1%
Positive	2% to 3%
High Positive	>3%

Climate Adaptation

For the purposes of this appraisal, climate adaptation relates to measures to prepare for and respond to the impacts of climate change. Projects may increase the resilience and robustness of the transport network to protect it from the negative impacts of climate change. Design mitigation measures can be implemented to reduce the risks associated with climate change on this greenway. The most notable risk to the greenway from climate change is that posed by flooding. The Adaptation Scorecard in the TAA template was used alongside flood mapping data obtained from CFRAMs to form the basis of the appraisal.

The TAA Adaptation Scorecard guidance is shown in **Table 6-13**.

Table 6-13 TAA Adaptation Scorecard

Impact		With Scheme		
		Not impacted	Limited Impact	Significant Impact
Observed/Projected	Not impacted	Neutral	Negative	High Negative
	Limited Impact	Positive	Negative	High Negative
	Significant impact	High Positive	Low Positive	High Negative

The scorecard is populated based on a review of the resources available through Climate Ireland, including flood maps and sea flooding maps. A review of the maps was carried out and it is noted if current/historical climate hazards have been identified within the scheme area. Future climate events such as 1 in 100-year flooding events are examined to determine the projected impacts within the scheme area. Once an impact has been identified it is scored in line with the guidance in **Table 6.12**.

Summary

RCO1a received a Slight Positive overall score. A modal shift of 2-3% is estimated which is deemed to be positive. There is some risk of flooding related to the River Brosna but the greenway will be designed to be above flood level so this is deemed to be neutral.

RCO2a received a Slight Positive overall score. It is the same as RCO1a.

RCO1b received a Slight Positive overall score. A modal shift of 2-3% is estimated which is deemed to be positive. There is no identified risk of flooding on this section of the RCO.

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RCO2b received a Slight Positive overall score. It is the largely the same as RCO1b. A modal shift of 2-3% is estimated which is deemed to be positive. Although it is adjacent to the River Brosna, the greenway will be designed to be above flood level so this is deemed to be neutral.

RCO1c received a Slight Positive overall score. A modal shift of 2-3% is estimated which is deemed to be positive. There is some risk of flooding on low-lying lands or lands with high water-tables but the greenway will be designed to be above flood level so this is deemed to be neutral.

RCO2c received a Slight Positive overall score. It is the largely the same as RCO1c. A modal shift of 2-3% is estimated which is deemed to be positive. Although it is adjacent to the River Brosna, the greenway will be designed to be above flood level so this is deemed to be neutral.

RCO1d received a Slight Positive overall score. A modal shift of 2-3% is estimated which is deemed to be positive. There is some risk of flooding on low-lying lands, particularly around the Monaghanstown River to the southwest of Lough Ennell but the greenway will be designed to be above flood level so this is deemed to be neutral.

RCO2d received a Slight Positive overall score. A modal shift of 2-3% is estimated which is deemed to be positive. Although it is adjacent to the River Brosna, the greenway will be designed to be above flood level so this is deemed to be neutral.

The overall climate change impact appraisal for each sub-section of each RCO is summarised in **Table 6-11**.

Table 6-14 Summary of Climate Change Impact Appraisal

RCO1	Appraisal Result	RCO2	Appraisal Result
RCO1a	Slight Positive	RCO2a	Slight Positive
RCO1b	Slight Positive	RCO2b	Slight Positive
RCO1c	Slight Positive	RCO2c	Slight Positive
RCO1d	Slight Positive	RCO2d	Slight Positive

6.4.4.6 Local Environment Impact

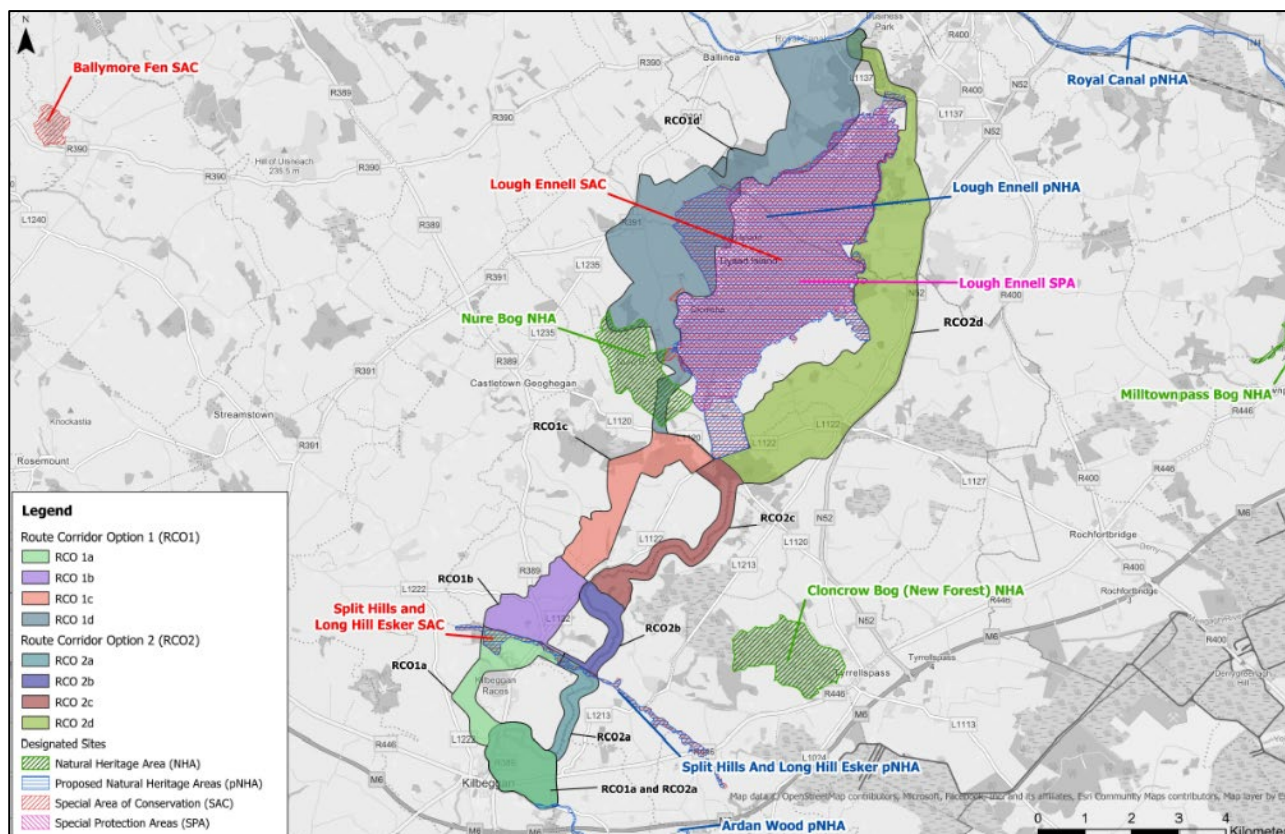
Local Environment Impacts from the greenway have been appraised based on the guidance set out in PAG Unit 13.0. The Environmental Options Report in **Appendix F** details the work carried out to assess the impacts of the greenway on the local environment and the assessment of the RCOs in relation to environmental impact. Reference should also be made to the drawings in **Appendix B** and, in particular, drawing IE000653-RPS-AP-XX-D-Z-0006 Designated Sites, and drawing IE000653-RPS-AP-XX-D-Z-0007 Heritage Sites and Monuments, NIAH, and Amenities.

The PAG Unit 13.0 guidance sets out six local environment considerations for the TAA.

1. Air Quality: PAG unit 13.0 notes, “*impact on non-greenhouse gas emissions from transport that have a negative impact on human health, such as nitrous oxides and particulate matter*”. The greenway will be for use by NMUs that do not produce harmful emissions. For completeness this criterion has been included in the appraisal with a neutral score applied.
2. Noise: The TAA requires noise impact from transport to be appraised.
3. Biodiversity: An appraisal of the impact of each RCO on biodiversity and habitats was carried out on a comparative basis. This was carried out using desktop analysis, site visits and bird survey, the details of these are included in the Environmental Options Report in **Appendix F**. Designated sites intersecting the RCOs are shown in **Figure 6.7**.
4. Water Resources and Soil Quality: In accordance with PAG Unit 13.0 the greenways impact on surface waters and ground waters was assessed. Due to the location of the greenway, coastal resources were not considered.
5. Landscape and Visual Quality: Infrastructure projects can potentially have negative effects on the landscape and views within it. For a greenway, there are also positive impacts as it can bring people to experience the landscape and viewpoints. Both the potential negative and positive impacts of the greenway on the landscape and visual quality of the areas in which the RCOs traverse was considered in the appraisal.

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6. Cultural Heritage: The potential impact of the greenway on cultural heritage sites was assessed by Archaeological Consultancy Services Unit (ACSU). To complete the impact assessment, ACSU carried out desktop analysis and site visits. The detailed findings from ACSU are included in the Environmental Options Report **Appendix F**. The impact on cultural heritage was considered in both positive and negative terms. The width of the RCOs allows scope to avoid significant cultural heritage sites where required. The presence of cultural heritage sites also presents opportunity to create access for the public to within viewing distance of these sites and information stands along the greenway can add to the experience and offer something to see and do along the route. Cultural heritage features sites intersecting the RCOs are shown in **Figure 6.2**.



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Given the potential for a greenway route within the RCOs to have likely significant effect(s) on the qualifying interest(s) of the Split Hills and Long Hill Esker SAC, a vegetation/ habitat survey of the esker between the R389 and the River Brosna was undertaken. The report detailing the surveys and results is presented in **Appendix I** and summarised in **Section 7.7** of this report.

Summary

RCO1a received a Neutral overall score. There will be temporary impacts on air quality during construction reducing to zero during operation. The greenway may contribute to an overall reduction in noise due to modal shift. There are sensitive habitats within the RCO at Split Hills and Long Hill Esker SAC. The area along the River Brosna may be subject to some flooding risk. There may be a slight positive impact on landscape and visual by opening up views along the greenway. There are a number of cultural heritage features within the RCO that offer possible attractions on the greenway.

RCO2a received a Neutral overall score. It is largely same as RCO1a. Some minor differences are that RCO2a is slightly further from trafficked areas and so would have less noise from traffic. It also has a slightly higher flood risk due to the corridor following the River Brosna.

RCO1b received a Neutral overall score. There will be temporary impacts on air quality during construction reducing to zero during operation. The greenway may contribute to an overall reduction in noise due to modal shift. There are sensitive habitats within the RCO at Split Hills and Long Hill Esker SAC. No areas of high flood risk have been identified. There are no protected views and limited opportunities to open up views along the greenway. There are a number of cultural heritage features within the RCO that offer possible attractions on the greenway.

RCO2b received a Neutral overall score. It is largely same as RCO1b.

RCO1c received a Neutral overall score. There will be temporary impacts on air quality during construction reducing to zero during operation. The greenway may contribute to an overall reduction in noise due to modal shift. There are no sensitive habitats yet identified within the RCO. One area of high flood risk has been identified. There are no protected views and limited opportunities to open up views along the greenway. There are a number of cultural heritage features within the RCO that offer possible attractions on the greenway.

RCO2c received a Neutral overall score. It is largely same as RCO1c. Some minor differences are that RCO2a has two areas identified as having a high probability of flooding.

RCO1d received a Neutral overall score. There will be temporary impacts on air quality during construction reducing to zero during operation. The greenway may contribute to an overall reduction in noise due to modal shift. There are sensitive habitats within the RCO at Lough Ennell SPA, Lough Ennell SAC, Lough Ennell Ramsar, Nure Bog NHA, Lough Ennell pNHA and Royal Canal pNHA. These include Alkaline Fens and Caladium Fens. There are six areas identified as having a high probability flood risk. There are two protected views within the RCO and it contains a High Amenity area. There are a number of cultural heritage features within the RCO that offer possible attractions on the greenway.

RCO2d received a Neutral overall score. There will be temporary impacts on air quality during construction reducing to zero during operation. The greenway may contribute to an overall reduction in noise due to modal shift. However, the presence of the N52 within the corridor may increase noise for users of the greenway. There are sensitive habitats within the RCO at Lough Ennell SPA, Lough Ennell SAC, Lough Ennell Ramsar, Nure Bog NHA, Lough Ennell pNHA and Royal Canal pNHA. These include Alkaline Fens and Caladium Fens, although this is to a somewhat lesser extent than in RCO1d. There is one area identified as having a high probability flood risk. There are two protected views within the RCO and it contains a High Amenity area. There are a number of cultural heritage features within the RCO that offer possible attractions on the greenway.

The overall local environment impact appraisal for each sub-section of each RCO is summarised in **Table 6-16**.

Table 6-16 Summary of Local Environment Impact Appraisal

RCO1	Appraisal Result	RCO2	Appraisal Result
RCO1a	Neutral	RCO2a	Neutral
RCO1b	Neutral	RCO2b	Neutral
RCO1c	Neutral	RCO2c	Neutral
RCO1d	Neutral	RCO2d	Neutral

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6.4.4.7 Summary of TAA Results

The summary of the results of the TAA are presented in **Table 6-17**. The results of this appraisal are combined with the results of the CBA to inform the EPRCO.

Table 6-17 TAA Results Summary

Criteria	RCO1a	RCO2a	RCO1b	RCO2b	RCO1c	RCO2c	RCO1d	RCO2d
Accessibility	Positive	Positive	Neutral	Slight Positive	Neutral	Slight Positive	Positive	High Positive
Social Impacts	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	High Positive
Land Use Impact	Slight Positive	Positive	Neutral	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive
Safety Impact	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Positive	Positive
Climate Change	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
Local Environmental Impact	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Total Section Result	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Positive
Combined TAA Numerical Score	29.7	29.9	27.8	28.2	27.7	27.5	31.5	32.7

6.4.4.8 TAA Results Analysis

As shown in **Table 6-17**, the TAA results were similar throughout the appraisal. However, there are key differences between each of the sub-sections of the RCOs that resulted in certain sub-sections of the RCOs being preferred and selected for the EPRCO. A discussion on each comparable sub-section is included below.

RCO1a and RCO2a

The key difference between RCO1a and RCO2a was under the Land Use Impact Criteria. RCO2a was preferred over RCO1a as it includes the route for the Westmeath Way along the banks of the River Brosna, one of the key attractions in the locality. There is an existing embankment along the right bank of the River Brosna that could be repurposed for the greenway and which would significantly reduce the impact on landowners along this stretch of RCO2a. In contrast, RCO1a would require a more circuitous route around landholdings and the Kilbeggan Racecourse to avoid significant impacts and/or severance on landowners.

RCO1b and RCO2b

RCO2b is preferred over RCO1b as it provides greater accessibility to things to see and do, primarily the scenic route along the River Brosna.

Under the Land Use impact, RCO2b is preferred over RCO1b due to buildability factors. RCO2b offers a corridor with less undulating features which provides some reassurance that the maximum permissible gradients (3% desirable vertical gradient) can be achieved along most of the corridor. In contrast, RCO1b has more topographical features that may prove challenging, not least a quarry on the Split Hills and Long Hill Esker. In addition, RCO1b includes more road crossings and ribbon housing development which may prove challenging to navigate from the point of view of finding a route.

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RCO1c and RCO2c

RCO1c and RCO2c differed in impacts under the Accessibility Impact and Land Use Impact criteria.

RCO2c ranked higher than RCO1c on Accessibility Impacts as it provides greater accessibility to things to see and do, primarily the scenic route along the River Brosna.

However, RCO1c ranked higher than RCO2c under Land Use Impacts as it contains a much greater percentage of state-owned lands.

One of the key objectives of national and regional greenways is to use state-owned lands where possible. Therefore, given the greater percentage of state-owned lands within RCO1c, it was selected as the preferred option. RCO1c also provides a more direct connection to Lilliput Adventure Centre at Lough Ennell.

RCO1d and RCO2d

RCO2d scored higher than RCO1d under the Accessibility Impacts and Social impacts criteria. RCO2d scored higher based on the greater accessibility to things to see and do, including Dalystown, Lakeland Shooting Centre, Carrickwood, Lough Ennell Caravan Park, Tudenham Walking Trail, Molly Moo's Pet Farm, Belvedere House and Gardens, Bloomfield House Hotel, and Riverbirch Photography Hides. Belvedere House and Gardens, which is owned and operated by Westmeath County Council, attracted 89,000 visitors in 2021, just under 130,000 in 2022, and over of 160,000 in 2023 (Failte Ireland). RCO2d also serves a higher local population connecting communities along Lough Ennell between Dalystown and Mullingar. RCO2d also includes substantial sections of state-owned lands beside the new N52, Carrickwood, Belvedere and Coillte forestry to the north of Lough Ennell.

RCO1d includes sections of the Westmeath Way, although there is currently one part of the Westmeath Way that is closed to the public. In contrast to RCO2d, RCO1d has fewer things to see and do on the western side of Lough Ennell. The western side of Lough Ennell (RCO1d) includes Lilliput Adventure Centre, Ladestown, lake views, and cultural heritage features. While there is state-owned land to the north of RCO1d, i.e. Coillte Forestry, there is less state-owned land on this side of the lake than on the eastern side. The preferred eastern side of Lough Ennell (RCO2d) includes Carrickwood and amenities, Tudenham Park, Belvedere House and Gardens, Bloomfield House Hotel, a pet farm, shooting centre, bird watching, lake views, and cultural heritage features. The state-owned lands within RCO2d include Coillte Forestry around Dalystown, Carrickwood and north of Lough Ennell as well as lands along the western side of the N52.

As a result, RCO2d was selected over RCO1d.

Summary of Comparisons

Based on the TAA and as summarised in the discussions above, the preferred sub-sections of RCO at this stage of the appraisal process are:

- RCO2a
- RCO2b
- RCO1c, and
- RCO2d.

6.5 Option Comparison Estimate (OCE)

An Option Comparison Estimate (OCE) was prepared as required in PAG Unit 13.0. In order to be able to complete the OCE, it was necessary to devise an indicative route within each RCO. A potential route, within the RCOs has been identified for comparative costing. These routes follow existing landowner boundaries to avoid severance of lands where possible and use state owned land where available. The potential routes have informed the development of the OCE and scheme input details for the TEAM. These routes are for comparative costing only and do not represent a chosen route through the RCO. The process of developing a route through the EPRCO is to be undertaken in Phase 3 of the project.

The OCE was carried out in accordance with TII Publication: PE-PAG-02021 - Project Appraisal Guidelines Unit 6.2 - Preparation of Scheme Costs, December 2023 (PAG Unit 6.2). The detailed OCE is available to view in **Appendix D**. The OCE is summarised in **Table 6-18** for RCO1 and **Table 6-19** for RCO2.

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Table 6-18 ROC 1 Option Comparison Estimate (millions)

Item	RCO1a	RCO1b	RCO1c	RCO1d	RCO1 Combined
RCO1	€9.4	€2.2	€4.2	€21.9	€37.7

Table 6-19 RCO 2 Option Comparison Estimate (millions)

Item	RCO2a	RCO2b	RCO2c	RCO2d	RCO2 Combined
RCO2	€5.5	€3.3	€5.3	€23.0	€37.1

6.6 Cost Benefit Analysis (CBA)

A Cost Benefit Analysis (CBA) is required to inform the selection of the EPRCO. The TEAM and cost estimates were used to calculate the CBA for each sub-section of each RCO. The tool provides the following outputs:

- Present Value of Benefits (PVB) for monetised economic benefits over a project's appraisal period;
- Present Value of Costs (PVC) for the total sum of capital and operating costs over the project's appraisal period;
- Net Present Value (NPV) which is the PVB minus the PVC;
- Benefit to Cost Ratio (BCR) values over a 30-year appraisal period.

The BCR is the main output of the CBA. This value is the ratio of economic benefits to economic costs. A BCR of less than 1 means the costs outweigh the benefits but does not mean the project is not worthwhile as there are other additional benefits that are not reflected in the CBA.

Table 6-20 shows the results for the CBA central scenario from the TEAM.

Table 6-20 Cost Benefit Analysis Results for Individual RCO sub-sections

RCO1	Length (km)	BCR	RCO2	Length (km)	BCR
RCO1a	8.0	1.61	RCO2a	4.0	2.14
RCO1b	1.9	0.97	RCO2b	2.6	0.86
RCO1c	4.5	0.89	RCO2c	5.1	0.78
RCO1d	14.1	0.74	RCO2d	16.1	0.98

The detailed breakdown of the results of the CBA to inform the EPRCO as calculated using the TEAM is included in the CBA report included in **Appendix G**.

6.7 Emerging Preferred Route Corridor Option (EPRCO)

6.7.1 Identification of the EPRCO

For the purposes of determining the best performing sub-section, each sub-section's BCR is considered alongside each sub-section's TAA. This allows a comparison to be made between each parallel sub-section to select a preferred sub-section. For example, the BCR and TAA for sub-section RCO1a are combined, as are the BCR and TAA for sub-section RCO2a. These two sub-sections are then compared against each other and the better performing sub-section selected as part of the EPRCO. This is repeated for each parallel sub-section, i.e. a, b, c and d, to derive an overall preferred EPRCO between Kilbeggan and Mullingar.

The results of the TAA and the CBA for the RCOs were combined to inform the selection of the EPRCO. **Table 6-21** demonstrates the full results of the combined TAA and CBA.

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Table 6-21 Multi Criteria Analysis Results

Criteria	RCO1a	RCO2a	RCO1b	RCO2b	RCO1c	RCO2c	RCO1d	RCO2d
Accessibility	Positive	Positive	Neutral	Slight Positive	Neutral	Slight Positive	Positive	High Positive
Social Impacts	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	High Positive
Land Use Impact	Slight Positive	Positive	Neutral	Slight Positive	Slight Positive	Neutral	Slight Positive	Slight Positive
Safety Impact	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Positive	Positive
Climate Change	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive
Local Environmental Impact	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Total Section Result	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Slight Positive	Positive
Combined TAA Numerical Score	29.7	29.9	27.8	28.2	27.7	27.5	31.5	32.7
CBA Score (BCR)	1.61	2.14	0.97	0.86	0.89	0.78	0.74	0.98
Total Combined TAA and CBA Score	31.3	32.0	28.8	29.1	28.6	28.2	32.2	33.7

Based on the combined results of the combined TAA and CBA, the following is the result of the option appraisal process:

- RCO2a is the EPRCO between Kilbeggan Harbour and the Split Hills Esker.
- RCO2b is the EPRCO between Split Hills Esker and Ballinagore.
- RCO1c is the EPRCO between Balinagore and Dalystown.
- RCO2d is the EPRCO between Dalystown and a point south of Mullingar Town, tying into the Old Rail Trail Greenway.

Figure 6.8 illustrates this EPRCO.

It should be noted that there is not anticipated to be an additional cost associated with linking section RCO2b and RCO1c as it is assumed they have a common link point of Ballinagore. However, it will be necessary to create a link in order to join RCO1c and RCO2d. This link is approximately 1.5 km in length.

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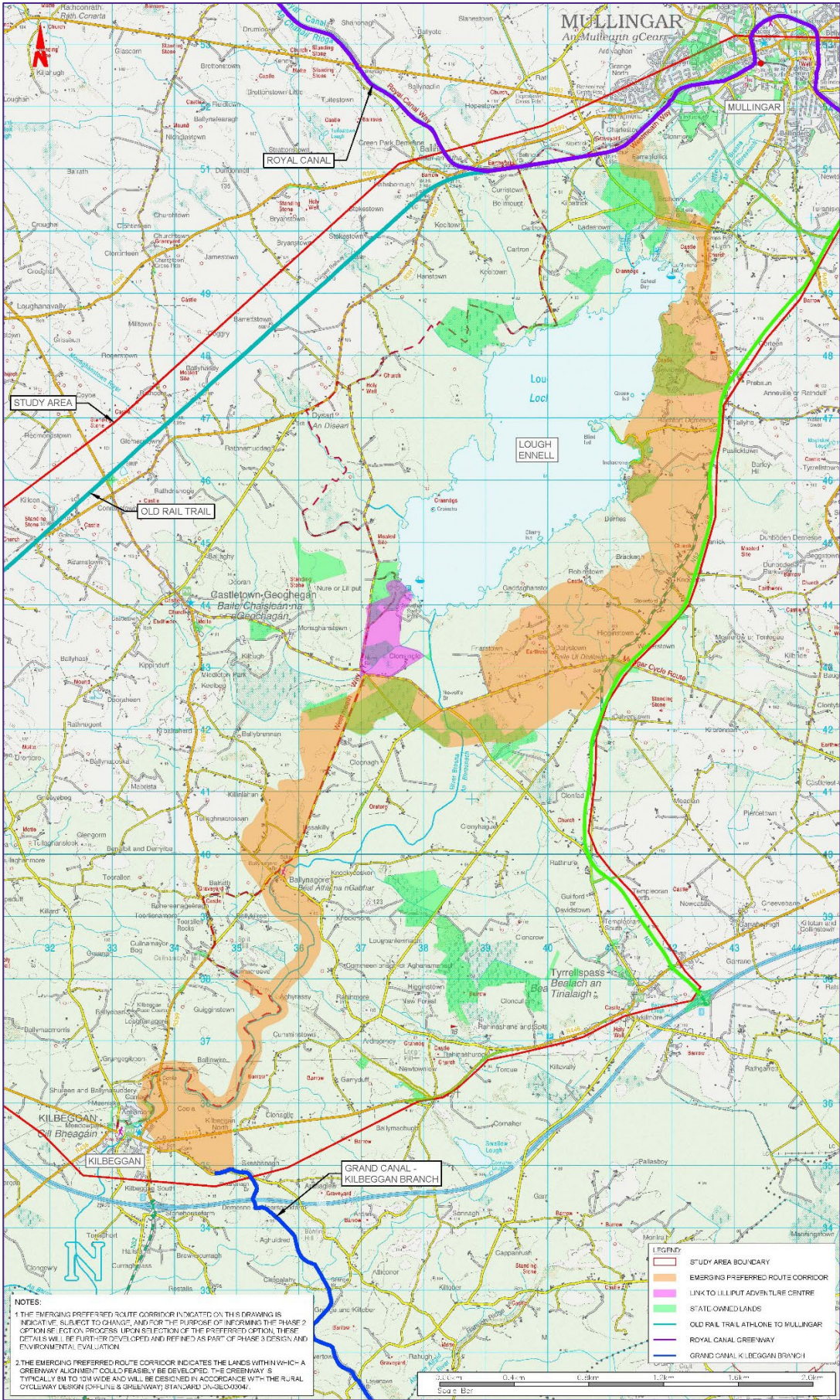


Figure 6.8 Emerging Preferred Route Corridor Option

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6.7.2 EPRCO Option Comparison Estimate

The OCE for the EPRCO, taking into account the link between RCO1c and RCO2d, yielded an estimate of €37.2 million for the EPRCO, as summarised in **Table 6-22**.

Table 6-22 Option Comparison Estimate Results for EPRCO (million)

Section	RCO2a	RCO2b	RCO1c	Linking Section	RCO2d	Combined
EPRCO	€5.5	€3.3	€4.2	€1.2	€23.0	€37.2

6.7.3 EPRCO Cost Benefit Analysis

The CBA for the EPRCO, taking into account the link between RCO1c and RCO2d, yielded a BCR of 1.18, as summarised in **Table 6-23**.

Table 6-23 Cost Benefit Analysis Results for EPRCO

Section	Length (km)	BCR
EPRCO	28.7	1.18

6.7.4 Justification for Emerging Preferred Route Corridor

During Phase 1 nine long list options for providing a greenway between Kilbeggan and Mullingar were developed. An appraisal process was carried out in accordance with TII Project Management Guidelines, the Project Manager's Manual for Greenway Projects (TII, 2022), PAG Unit 13.0 and TAF.

In Phase 1, the nine long listed options were assessed against the project objectives, and four options were taken through for appraisal against criteria including 5S's, engineering, environment, and economy. The appraisal identified two feasible RCOs for a greenway between Kilbeggan and Mullingar. These RCOs were brought forward to Phase 2.

In Phase 2 these RCOs were further developed and appraised in line with PAG Unit 13.0 and TAF. The process for selecting the EPRCO has been carried out in accordance with the TII and DoT TAF guidelines.

Each of the two RCOs was divided into four sub-sections to facilitate comparison and selection of the best EPRCO. A TAA and CBA were undertaken on each sub-section. Combining the results of the TAA and the CBA yielded the best performing RCO, namely: **RCO2a, RCO2b, RCO1c and RCO2d**.

The EPRCO supports the project objectives as follows:

- It will “*Support connectivity and economic growth in the local and regional area*” by connecting the existing greenways at Kilbeggan and Mullingar, which will support tourism and create business opportunities in both towns.
- It will “*Enhance accessibility to existing amenities, services and facilities*” by linking the towns of Kilbeggan to Mullingar, connecting to Ballynagore and linking to existing amenities along the way, such as Westmeath Way, Carrickwood, Tudenham, Belvedere House and Gardens, and Lough Ennell.
- It will “*Enhance social inclusion and promote healthier communities through linking communities and disadvantaged areas*” by creating a link from the village of Ballynagore and rural areas to Mullingar and Kilbeggan. It will also offer a safe and segregated facility in the area for people to exercise. It can also be used by local schools as a recreational facility.
- It will “*Support and facilitate the implementation of national, regional and local policy*” by offering sustainable connection to Public Transport in Kilbeggan and Mullingar and connecting to other local and regional greenway infrastructure such as Grand Canal Greenway, Old Rail Trail Greenway and the Royal Canal Greenway. It will also provide level one trailhead facilities at Kilbeggan and Mullingar towns and level two trailhead facilities at Ballynagore and Belvedere House and Gardens.
- The EPRCO is substantially segregated from traffic, the corridor routes along the Brosna from Kilbeggan to Ballynagore and then along the east side of Lough Ennell. The EPRCO at this stage will aim to minimise road crossings and on-road travel for users and therefore, the EPRCO will “*Provide safe and accessible infrastructure that improves safety and security for vulnerable road users*”.

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- It “Contributes to the offsetting / reduction in GHG emissions and is robust and resilient to negative climate change effects” by providing a sustainable alternative transport mode to both Kilbeggan and Mullingar. The most notable climate change hazard in the EPRCO is flooding from the river Brosna or Lough Ennell.
- It will “Increase public appreciation of the natural environment while protecting and enhancing”. The EPRCO offers a wide variety of landscape for users to enjoy including the River Brosna, Split Hills Esker, Lough Ennell, and woodlands. Within the EPRCO environmentally sensitive areas have been identified and qualifying interests will need to be safeguarded, these include Grand Canal pNHA, Split Hills and Long Hill Esker SAC and pNHA, Lough Ennell SPA, pNHA and SAC, and the Royal Canal pNHA.

6.8 Potential Link to Lilliput Adventure Centre

As part of the considerations on the EPRCO, it was notable that Lilliput Adventure Centre, which is owned by Westmeath County Council, is in very close proximity to the EPRCO, where sub-sections RCO1c and RCO2d meet. This is the most visited attraction on the western side of Lough Ennell and is approximately 1.5 km straight-line distance from the EPRCO. Lilliput Adventure Centre has an estimated potential annual visitor number of 55,000, many of whom may be potential greenway users. The inclusion of a link between the EPRCO and Lilliput therefore warranted further consideration, as set out below.

6.8.1 Transport and Accessibility Appraisal

A Transport and Accessibility Appraisal (TAA) relevant to Lilliput Adventure Centre are described below.

Providing a greenway link from the EPRCO to the Lilliput Adventure Centre will provide access to a key outdoor attraction at Lough Ennell that would benefit both greenway and Centre users. The link to Lilliput Adventure Centre also has the potential to provide access to the following attractions, including sports facilities that are between it and the EPRCO:

1. Lilliput Adventure Centre
2. Lilliput Pitch and Putt course
3. Better Together Therapy Riding Centre
4. The Westmeath Way
5. Lough Ennell

These five local attractions/ amenities are further described below:

1. **Lilliput Adventure Centre:** This adventure centre includes walkways through an area covering 50 acres of evergreen forestry. The operator of Lilliput Adventure Centre currently offers single day or multi day specialised courses in canoeing, kayaking, hill walking, first aid, raft building and rock climbing. Lilliput Adventure Centre also have camping facilities and offer activities for wheelchair users.

A link from the EPRCO to Lilliput Adventure Centre would offer segregated active travel access to this facility, potentially boosting visitor numbers from greenway users seeking additional recreational activities. Similarly, providing this greenway link from the EPRCO to Lilliput Adventure Centre would boost the number of greenway users as visitors to Lilliput Adventure Centre could potentially wish to explore the surrounding areas between Kilbeggan and Mullingar.

2. **Lilliput Pitch and Putt course:** Lilliput Pitch and Putt course adjacent to Lilliput Adventure Centre. This pitch and putt course offers a recreational facility to greenway users as a pay to use facility with no membership requirements.
3. **Better Together Therapy Riding Centre:** Better Together Therapy Riding Centre is an equine centre offering therapeutic activities and education for children and adults. It currently caters for individual and group lessons. Providing a link to Lilliput Adventure Centre from the EPRCO has the potential to provide improved walking and cycling access to Better Together Therapy Riding Centre due to its close proximity to the EPRCO and Lilliput Adventure Centre.
4. **The Westmeath Way:** The Westmeath Way is an existing waymarked trail linking Kilbeggan and Mullingar. The Westmeath Way can be accessed at Lilliput Adventure Centre and can provide a separate route for pedestrians using the greenway to explore the area.

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5. **Lough Ennell:** There is direct access to Lough Ennell at Lilliput Adventure Centre. This access is considered to be excellent in comparison to other points of access along the RCOs. From Lilliput Adventure Centre, the lough can be accessed for swimming, bird watching, and boating activities. Lough Ennell is considered to be a focal point of the Kilbeggan to Mullingar Greenway. The access to the lough from Lilliput Adventure Centre is considered to be of a high standard in comparison to other locations along the EPRCO.

In terms state-owned lands, a link from the EPRCO to Lilliput Adventure Centre can take advantage of state-owned forestry lands owned by Coillte, and a state-owned track owned by Waterways Ireland. Assuming these state-owned lands can be used, they would reduce the amount of privately owned land that would be otherwise by required.

6.8.2 Trailhead Facilities

Lilliput Adventure Centre is a potential trailhead facility that has existing facilities including car-parking and bus parking. It would be an ideal location as a Level 2 trailhead facility for the Kilbeggan to Mullingar Greenway. Its location between Mullingar and Ballynagore, on the southwestern side of Lough Ennell, provides a feasible access point for locals in the Dysart area, including users of the Old Rail Trail, as well as those from the western part of the County.

6.8.3 Cost Benefit Analysis (CBA)

A working route was developed for the purpose of estimating the costs of a greenway link between the EPRCO and Lilliput Adventure Centre. The working route was developed taking into consideration land-uses, field boundaries and state-owned lands (where available). This results in a working route that is approximately 2.9 km in length with 2.2 km of this being through state owned lands and 700 m being through land in private ownership.

Costs were developed for the construction of this link from the EPRCO to Lilliput Adventure Centre and added to the costs for the EPRCO. Similarly, the demand scenario associated with this link was added to that developed for the EPRCO. These data sets were input into the TEAM spreadsheet.

The entire EPRCO including the link to Lilliput Adventure Centre gives an overall BCR of 1.13.

6.8.4 Conclusion

Based on the findings of the above assessment, it is recommended that a link from the EPRCO to Lilliput Adventure Centre be included in the design of the Kilbeggan to Mullingar Greenway.

6.9 Public Consultation No. 3

Public Consultation No. 3 Emerging Preferred Route Corridor for the Kilbeggan to Mullingar Greenway was held between Monday 16th June and Friday 25th July 2025. The purpose of the consultation was to update all stakeholders, landowners, members of the public and interested parties on the project progress to date and the EPRC within which the Kilbeggan to Mullingar Greenway is likely to be developed.

During the consultation period, 193 submissions were received. These were submitted through the following methods: verbally at the public consultation event; by email using the online feedback form; by post; or a written submission handed to one of the team.

The main sentiment expressed during the public consultation event and in the submissions throughout the consultation period was one of concern regarding impacts of the greenway and objection to the acquisition of privately owned land for the purpose of constructing the greenway. In total 59% of the submissions received had objections or concerns relating to the development of the greenway, one of the route corridor options or a particular area or plot of land within one of the route corridor options. In the submissions and at the in-person event the following themes emerged:

- Landowner impacts and concerns,
- Operation, safety and maintenance,
- Environment,

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- Communication and consultation,
- Development and construction,
- Community and rural development,
- Landscape and visual, and
- Health and wellbeing.

The project team will take into consideration the feedback received during the public consultations in the design and environmental evaluation of the greenway.

A summary report on Public Consultation No. 3 is included in **Appendix C**.

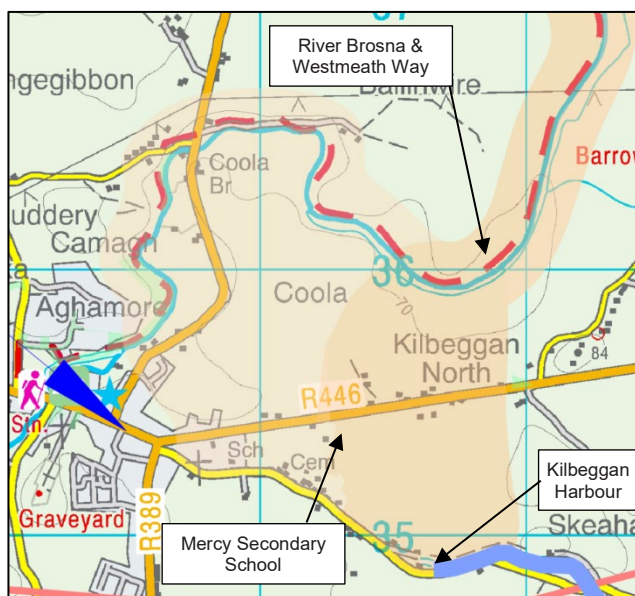
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7 STAGE 3 PREFERRED OPTION AND CONCLUSION

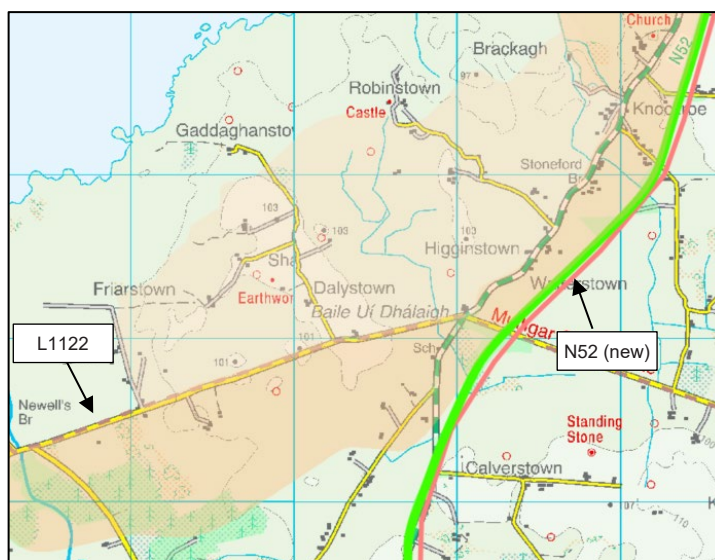
7.1 Preferred Option

Further to the publication of the EPRCO and Public Consultation No.3, a review of the EPRCO was undertaken to determine the Preferred Option that will be taken forward to Phase 3 Design and Environmental Evaluation. The review took account of issues raised such as maximising the use of state-owned lands and removing areas where it is considered unlikely that a route would be developed. This exercise resulted in a refinement of the EPRCO at the following locations:

- Kilbeggan.** The area of the EPRCO west of a line running approximately south to north between the Mercy Secondary School, Kilbeggan, and the River Brosna. Mercy Secondary School is linked to the town of Kilbeggan with an existing wide footpath on the southern side of the R446. Therefore, any route linking back to Kilbeggan is likely to be along the R446 to join in with the existing footpath. It is also unlikely that a route will be created from Kilbeggan Harbour looping west through Kilbeggan town before looping back east to the River Brosna before heading north again. Such a circuitous route would interact with more roads and properties, and have a greater environmental impact on factors such as biodiversity, climate, population, and material assets, than a more direct route north linking Kilbeggan Harbour, the R446 and the River Brosna.



- North of the L1122 in the Townlands of Clonsingle to Dalystown.** The EPRCO has been reduced to remove the area to the north of the L1122. The area to the north of the L1122 does not have any state-owned land. This area is also likely to have a greater environmental sensitivity given the proximity of the EPRCO to the Lough Ennell SAC and Lough Ennell SPA. In addition, a route north of the L1122 would require more road crossings and bring the route closer to existing residences located on or adjacent to the L1122. The nature of the land-holdings to the north of the L1122 are also quite irregular and therefore would require a more circuitous route to try and prevent severance, increasing the potential for environmental impacts.



This has resulted in the identification of the Preferred Option as shown in **Figure 7.1**. This Preferred Option is consistent with the Project Objectives and the Code of Best Practice. It also aims to maximise the use of state-owned lands, including forestry and within the existing N52 corridor. This aligns with the NIFTI intervention hierarchy.

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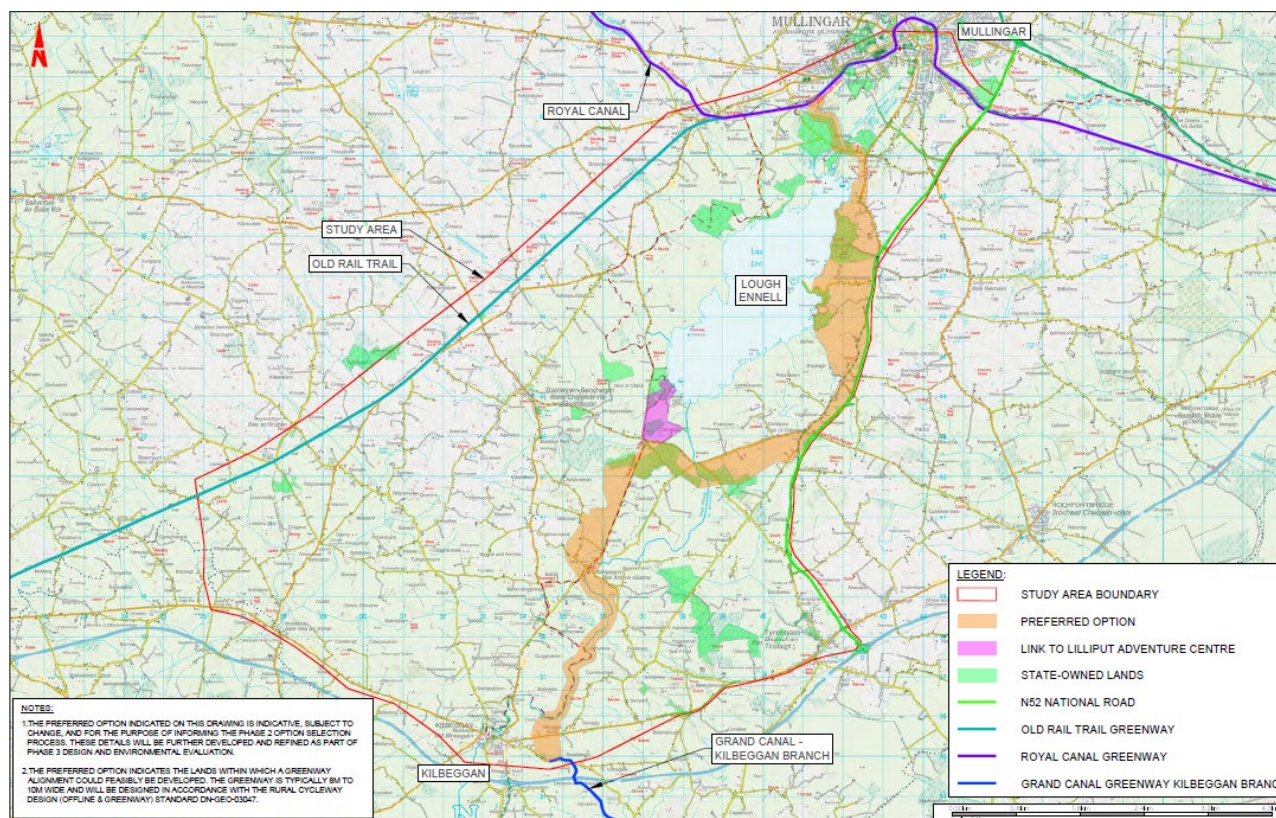


Figure 7.1 Preferred Option for the Kilbeggan to Mullingar Greenway Project

Further studies, surveys, landowner engagement and investigations are required in order to select a route within the Preferred Option. The results of these surveys may result in slight amendments to the corridor to accommodate a route that links, end-to-end. This flexibility is required to ensure that a suitable route can be developed in Phase 3 Design and Environmental Evaluation and, ultimately, brought forward to Phase 4 Statutory Processes (i.e. planning application).

7.2 Summary of Preferred Option Appraisal Impacts

The Preferred Option satisfies the Project Objectives all of which aim to create a positive influence in the areas. The Preferred Option has been appraised in accordance with guidance set out in PAG Unit 13.0 and has recorded the highest score of all options considered in the TAA appraisal.

Public consultations have been carried out through three public consultation events (May 2023, May 2024 and June 2025). Since April 2024, there has also been extensive landowner engagement carried out across the two RCOs investigated for the project. The fourth public consultation involves individual landowner engagements. This will involve engaging with landowners within the Preferred Option to identify a feasible route.

During Phase 3 a route within the Preferred Option will be developed in line with TII guidelines. The route will be designed in accordance with the relevant design standards with engineering investigations undertaken to support the design process, e.g. a ground investigations contract. The route will also be subject to environmental evaluation with ecological and other environmental surveys undertaken.

7.3 Preferred Option – Option Comparison Estimate (OCE)

Table 7-1 presents the Option Comparison Estimate (OCE) for the Preferred Option. The cost includes the construction of a linking section between RCO1c and RCO2d and the Lilliput Link. The cost presented in **Table 7-1** is a high-level estimate only and include an allowance for inflation and programme risk. The cost estimate will be examined further during Phase 3 Design and Environmental Evaluation.

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Table 7-1 Option Comparison Estimate (millions) of the Preferred Option

Preferred Option	OCE
Total Estimated Cost (million)	€40.0

7.4 Preferred Option – Cost Benefit Analysis (CBA)

Table 7-2 presents the results of the CBA for the Preferred Option in the form of the Benefit to Cost Ratio (BCR). This BCR has been calculated using an indicative route identified within the Preferred Option, including linking sections and the Lilliput Link. The potential route identified within the RCOs for comparative costing as described in **Section 6.5**, are the routes that have been used for this analysis. The BCR is positive (>1) and indicates that the benefits of the Preferred Option are greater than the costs.

Table 7-2 Cost Benefit Analysis of the Preferred Option

Preferred Option	Length (km)	BCR
CBA TEAM Results	31.6	1.13

7.5 Use of State-owned Lands

In recognition of the importance of the Code of Best Practice to the development of greenways, an assessment of the Preferred Option with respect to the utilisation of state-owned lands was carried out. A mapping exercise was undertaken to estimate the area of state-owned lands within the Preferred Option and is summarised in **Table 7-3**.

Table 7-3 Percentage of State-owned Land within the Preferred Option

Preferred Option	Percentage of State-owned Land
Total Overall	13.4%

7.6 Interaction with Designated Sites

The percentage of lands within designated sites (i.e., SAC, SPA, NHA and pNHA) within the Preferred Option has been calculated and is summarised in **Table 7-4**. This information is also illustrated on Drawing No. IE000653-RPS-AP-XX-D-Z-0016 in **Appendix B**.

Table 7-4 Percentage of lands within the Preferred Option that are within Designated Sites

Preferred Option	SAC	SPA	NHA	pNHA
Total Overall	1.6%	0.4%	0.0%	1.7%

7.7 NIFTI Investment Priorities Alignment

The Preferred Option for the Kilbeggan to Mullingar Greenway aligns with the investment priorities set out in the NIFTI modal and intervention hierarchies. As this is a greenway infrastructure project, it meets the primary modal hierarchy as summarised in **Table 7-5** while **Table 7-6** sets out how the Preferred Option aligns with the NIFTI intervention hierarchies. A full NIFTI assessment will be completed on the Preferred Route as part of the Preliminary Business Case at Phase 3 Design and Environmental Evaluation.

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Table 7-5 Preferred Option NIFTI Model Hierarchy Alignment

Modal Hierarchy	Alignment
Active Travel	The greenway will be for NMU only and is solely active travel infrastructure.
Public Transport	The Preferred Option links the towns of Kilbeggan and Mullingar. These towns are serviced by public transport (buses and trains), and this can be used by greenway users to access to/from the greenway.
Private Vehicles	There are no new interventions proposed for private vehicles at this project phase.

Table 7-6 Preferred Option NIFTI Intervention Hierarchy Alignment

Intervention Hierarchy	Alignment
Maintain	This intervention hierarchy is specifically for measures which protect the existing transport network, and keep it at the standard or capability at which it was designed. The Preferred Option provides a strategic connection between the Grand Canal Greenway (Kilbeggan Branch) at Kilbeggan, and the Royal Canal/ Old Rail Trail Greenways at Mullingar. This strategic connection will increase activity on the existing greenway network, resulting in more cost-effective operation and maintenance of those assets and the potential to realise greater economic benefits, particularly from tourism. Similarly, the Preferred Option connects to existing trails at Belvedere House and Gardens and Lilliput Adventure Centre. The creation of a greenway linking to or incorporating this existing infrastructure will help maintain these existing state-owned assets.
Optimise	This intervention hierarchy is for measures which are targeted at increasing levels of service of transport infrastructure through enabling and encouraging more efficient behaviour and sustainable use of the network. The Preferred Option provides a strategic connection between the Grand Canal Greenway (Kilbeggan Branch) at Kilbeggan, and the Royal Canal/ Old Rail Trail Greenways at Mullingar. The Preferred Option will provide opportunities to optimise the benefits of these existing greenways, including provide a full greenway loop connection to/from Dublin. The Preferred Option is also in close proximity to the M6 motorway at Kilbeggan and the Dublin-Sligo railway line and the N4 in Mullingar. The Preferred Option connects communities located between Kilbeggan and Mullingar, providing more opportunities for more sustainable travel choices, especially between Mullingar and Belvedere House and Gardens.
Improve	This intervention hierarchy is for measures which increase the capability of existing infrastructure, through increasing the standards of that infrastructure, or measures which shift existing capacity to more sustainable modes. The Preferred Option provides a sustainable walking and cycling trail for users between Kilbeggan and Mullingar and other communities along the corridor.
New	This intervention hierarchy encompasses all measures which entail significant increases to transport infrastructure capacity. The Preferred Option provides for the development of a new strategic greenway linking Kilbeggan and Mullingar, which will ultimately provide for loop linking Dublin, Mullingar, Tullamore and back to Dublin.

7.8 Split Hills and Long Hill Esker SAC Grassland Constraints Survey

Following the identification of the EPRCO in Phase 2, the corridor included sub-section RCO2a and RCO2b which meet at the point where the River Brosna meets the Split Hills and Long Hill Esker SAC. It was considered necessary to carry out targeted ecological surveys at the interface between RCO2a and RCO2b to determine the extent of the Qualifying Interests (QI) of the SAC within the corridors.

An ecological survey was undertaken within and adjacent to Split Hills and Long Hill Esker SAC. The report detailing the survey methodology and results is included in **Appendix I**.

The results of the survey confirmed two areas of highly modified, improved agricultural grassland of negligible ecological value on either bank of the River Brosna through the SAC, as shown in purple shading in **Figure 7.2** below. There are no Annex I grassland communities present within these areas.

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It is, therefore, possible to provide a route within the Preferred Option through the SAC along either side of the River Brosna that will avoid direct impacts on QIs of the SAC.

The design of a route within the Preferred Option at this location will be subject to the results of further ecological surveys in Phase 3.

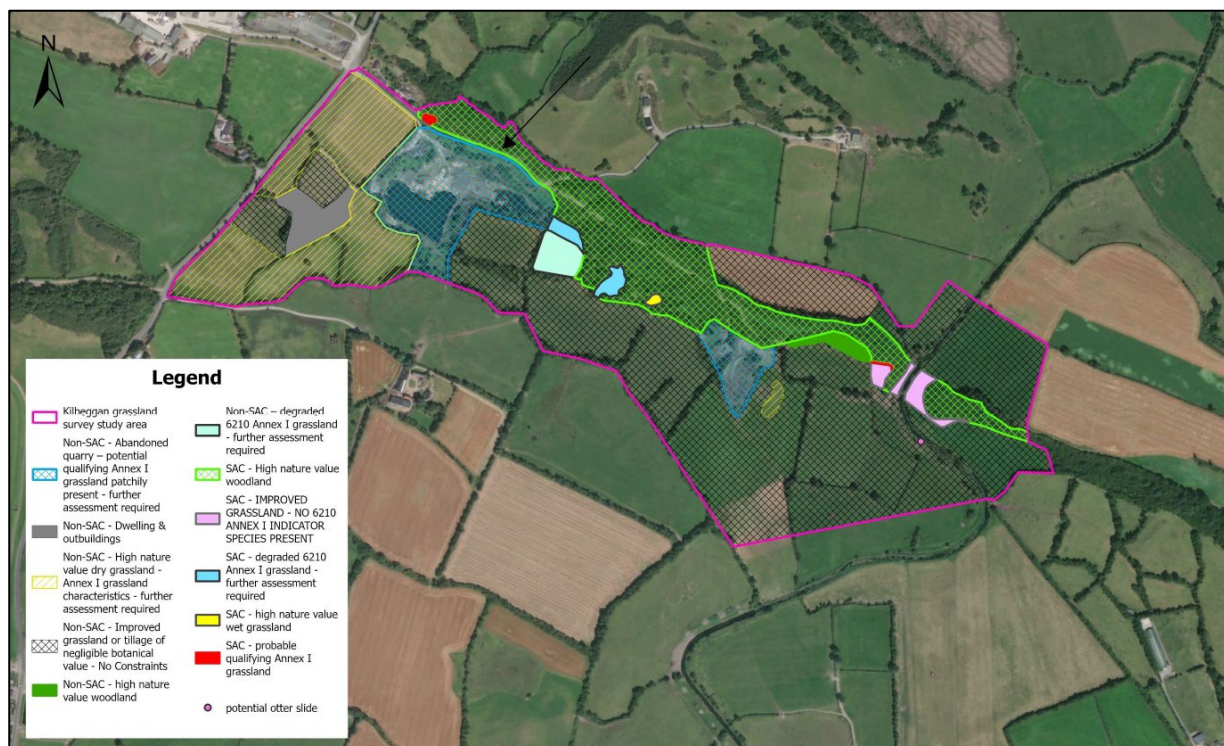


Figure 7.2 Results of the Ecological Survey of the Split Hills and Long Hill Esker SAC within the EPRCO

7.9 Connectivity Strategy

A Connectivity Strategy has been developed for the Preferred Option and is included in **Appendix J**. This Connectivity Strategy examines connectivity to the greenway under the following criteria:

- Existing Conditions
- Alignment with the project's Connectivity Objectives
- Integration and Connectivity to other Greenways
- Activity Based Recreation and Tourism Accessibility
- Connectivity to Nearby Population Centres
- Associated Linkage to Local and Regional economies
- Potential Associated Socio-Economic Benefits of Enhanced Connectivity

The Connectivity Strategy concludes that the Preferred Option will form part of the Strategic Greenway Network of national and regional routes by connecting the Royal Canal Greenway/Old Rail Trail in Mullingar to the Grand Canal Greenway in Tullamore via the Kilbeggan Branch of the Grand Canal Greenway at Kilbeggan Harbour.

The route for the greenway within the Preferred Option will also provide a connection between the towns of Kilbeggan and Mullingar, which will create links for local communities to access existing public transport infrastructure, places of employment, schools, recreational attractions and healthcare facilities.

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7.10 Design Standards

The route for the greenway within the Preferred Option will be designed in accordance with the relevant TII standards and technical guidance, the Code of Best Practice, and other applicable standards.

7.11 Ancillary Infrastructure

Ancillary infrastructure for the greenway will be provided in accordance with the Department of Transport, Tourism and Sport – Greenways and Cycle Routes Ancillary Infrastructure Guidelines. Ancillary infrastructure will be designed when the route has been identified. This will include the identification of major trailheads, minor trailheads, and the location of ancillary infrastructure at those and other locations, including rest areas, parking, repair stations, lighting and signage. The following sections provide a summary of anticipated major and minor trailheads that could form part of the route developed within the Preferred Option, maximising the benefits of the project and aligning with the NIFTI investment priorities (see **Section 7.7**).

7.11.1 Major Trailheads

Major trailheads are located at significant points along a greenways route. These trailheads act as entry points to the greenway. **Table 7-7** lists the major trailheads identified and the existing infrastructure within them. It should be noted that the major trailheads below are indicative only. The locations will be subject to design and environmental evaluation in Phase 3 including an assessment of services required to meet TII and departmental guidelines.

Table 7-7 Major Trailheads

Major Trailhead location	Existing Infrastructure
Kilbeggan Harbour	Car parking, link to Grand Canal Greenway, M6, N52.
Lilliput Adventure Centre	Car parking, link to adventure centre activities, Lough Ennell and pitch and putt course. There is currently café facilities and shower facilities on site.
Belvedere House and Gardens	Car parking facilities, link to Belvedere House and Gardens facility, playground and Lough Ennell.
Mullingar Town	Car parking, overnight accommodation, cafes, toilet facilities, bike hire, railway station, N4.

7.11.2 Minor Trailheads

A minor trailhead location has been identified at Ballynagore village. There is currently space available for on-street parking, existing benches for resting, a sufficient footpath space to provide new information boards, St Patrick's National School, and public house. The Westmeath Way can be accessed from Ballynagore.

In future, there may be a possibility to also have a minor trailhead at Dalystown. There is an existing public house at the crossroads between the old N52 and the L1122/ L1127, and it is located just off the new N52. Also, there are proposals to create a GAA sports facility at Dalystown (planning application ref: 2560200) which could provide synergies with the Kilbeggan to Mullingar Greenway subject to a Grant of Planning.

It should be noted that these minor trailheads are indicative only. The locations will be subject to design and environmental evaluation in Phase 3 including an assessment of services required to meet TII and departmental guidelines.

7.12 Risk Management

A risk management register has been compiled to highlight known potential risks to the project at this stage. This register will be continuously reviewed and updated as the project progresses. This risk management register is included in **Appendix H**.

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7.13 Summary and Overall Recommendation on the Preferred Option

The two RCOs brought forward to Phase 2 Options Selection, RCO1 and RCO2, have been examined in detail. The RCOs were sub-divided into four sub-sections so that the better performing sub-sections could be identified and selected for inclusion in the EPRCO.

A complete EPRCO for the Kilbeggan to Mullingar Greenway was then created taking each of the better performing sub-sections and including linkages where required. In addition, the inclusion of a link from the EPRCO to Lilliput Adventure Centre has been recommended.

The identified EPRCO, including Lilliput Link, was published for Public Consultation No.3 in June 2025.

Based on the results of the Phase 2 Options Selection process, including public consultations, a refinement to the EPRCO has been recommended. This has resulted in the identification of a Preferred Option, as shown in **Figure 7.1** and on drawing IE000653-RPS-RN-XX-M-Z-0009 in **Appendix B**.

It is recommended that this Preferred Option be brought forward to Phase 3 Design and Environmental Evaluation in accordance with PE-PMG-02047.

Appendix A

Feasibility Report

Appendix B Drawings

Appendix C
Report on Public Consultation 2 Route Corridor Options
&
Report on Public Consultation 3 Emerging Preferred Route
Corridor Option

Appendix D

Options Comparison Estimates (OCE)

Appendix E

Transport and Accessibility Appraisal (TAA)

Appendix F

Environmental Options Report

Appendix G

Cost Benefit Analysis (CBA)

Appendix H

Risk and Value Management

Appendix I

Split Hills and Long Hill Esker SAC Grasslands Constraints Survey

Appendix J

Connectivity Strategy