





Durrow Community Family Cycle Hub Feasibility Study









Revision E 24th October 2023



Laois County Council

Durrow Community Family Cycle Hub

Feasibility Study

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EXECUTIVE SUMMARY

This report is produced to summarise the proposed Durrow Woods Cycle Hub and to present the proposal to Coillte and Laois County Council.

The purpose of the scheme is to create a Cycle Hub centred in the town of Durrow Co. Laois. It is proposed to create family friendly and safe cycle routes in the following woodlands:

- Dunmore Woods
- Capponellan Woods

Each woodland will form a part of individual trails which will link the centre of the town with each woodland via existing public roads, the proposed routes are as follows:

- Red Trail Rath/Dunmore Trail
- Blue Trail Capponellan Trail

The **scope** of this feasibility study is to examine the technical and practical aspects of redeveloping the existing routes into family friendly and safe cycle routes.

The study is an independent preliminary assessment of the physical and environmental impacts of the project. The report also considers local, regional and national policy documents and how the proposal meets the objectives of these documents.

The Assessment looks at the impact of the proposal in terms of the following:

- Economy;
- Safety;
- Physical Activity;
- Environment;
- · Accessibility and Social Inclusion.

The **constraints** to the proposed scheme are as follows:

- River and groundwater levels. Water management may be required during the construction phase of the scheme along certain sections of the route, which are adjacent to the rivers.
- Coillte's permission/consent to carry out the works will be required for any proposal that has the potential to impact on any Coillte activities.
- Proximity to residential areas. The chosen scheme will need to take into account the proximity of residential areas during the construction phase, noise and dust will need to be kept to a minimum and within the prescribed limits approved by the local authority. The long term impacts of any scheme on the local residents will also need to be considered, these would include privacy issues, safety, traffic management, and antisocial behaviour.
- · Site access will also need to be considered.

The **main findings** are as follows:

- · There are no technical reasons to prevent the proposed scheme from progressing
- The route will provide a safe and family friendly, educational, scenic and safe cycling route in and around the town of Durrow.
- The local community are very positively disposed towards the proposal.
- The initial costing of the scheme is in the region of €547,500 ex VAT.
- The initial assessment concludes that, whilst sections of the proposed route run alongside a Special Area of Conservation (SAC), a Natura Impact Statement (NIS) will not be required and hence that the proposal will not require Part 8 Planning.

1. INTRODUCTION

Mark Murphy Consultancy(MMConsult) was appointed by Laois County Council on behalf of Pedal Vintage to undertake a Feasibility Study for the Durrow Community Family Cycle Hub in Durrow, Co. Laois.

Pedal Vintage are looking to create a cycle hub centred in the town of Durrow and link two woodlands to the town centre, an outline of the routes is given in Figure 1 overleaf.

The objectives of the cycleway are as follows:

- Provide a high quality cycling, walking and disability friendly facility for the local community;
- Create a tourist attraction which can contribute to the economic development of the local communities and the wider region;
- · Make better use of the existing woodland trails;
- Encourage the use of a sustainable mode of transport which connects outline residential areas to the town centre and the existing public transport network;
- Promote the National Cycle Policy Framework and support the National Recreation Strategy;
- · Help tackle obesity and promote activity;
- Raise the profile of cycling and encourage people to cycle;
- Create training facilities within the woodland trails for the "Back on Your Bike" Scheme for children and adults.

This Feasibility Study provides an assessment of the proposed cycleway and examines the technical, environmental and cost implications. Coillte have been engaged by Pedal Vintage at an early stage of the process and they have provided assistance in the form of attending consultation meetings and providing relevant mapping. Coillte also agreed in principle to enter into a license agreement with Laois County Council to facilitate the development of the cycleway.

A plan view of each route is given in the drawings in Appendix A and an overview is given in Figure 1 overleaf:

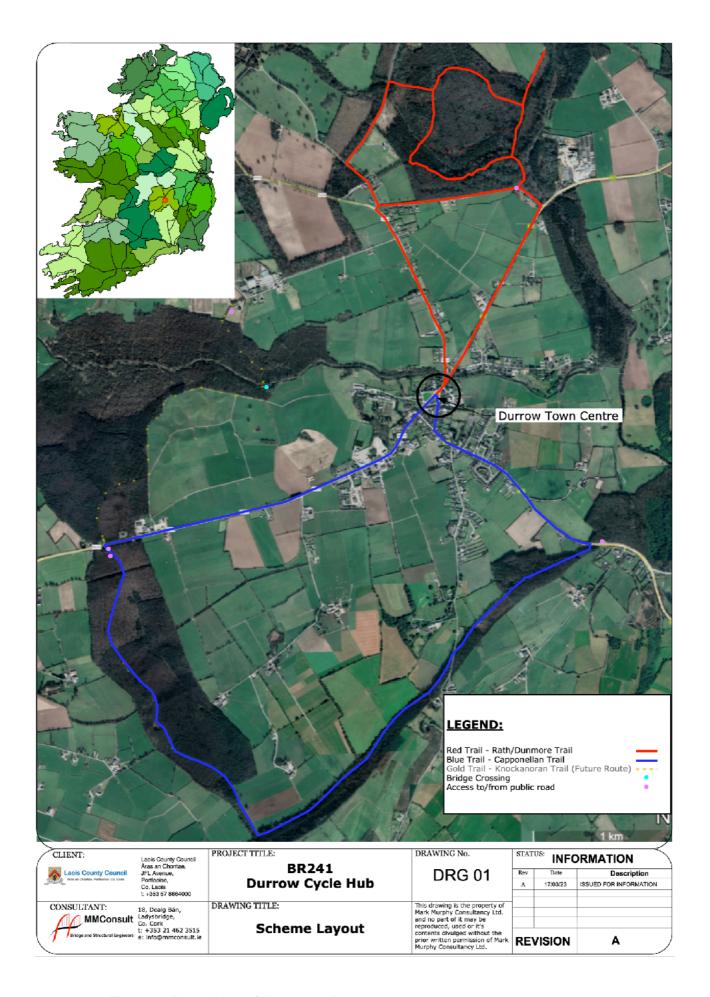


Figure 1: Route Map of Proposed Routes

2. SITE AND FUNCTION

Site description and topography

The proposed cycleway consists of 2 loops centring on the centre of the town of Durrow in Co. Laois. The proposed cycleway shall be created on existing woodland paths and public roads. It is proposed to upgrade the existing woodland paths to make them safer and more comfortable for cycling, walking and disability friendly usage. Additional signage and line marking is proposed to be used to upgrade the existing public roads.

Function of the scheme

The function of the Durrow Community Family Cycle Hub is:

- Provide a safe access and family friendly cycle route for cyclists from the centre of the town to the two of the woodlands surrounding the town;
- Upgrade existing woodland paths to make them safer & more accessible for cycling, walking, wheelchair & disability users;
- · Promote walking and cycling modes for use by tourists and visitors;
- · Increase physical opportunities for cyclist, walkers and people with disabilities; and
- Contribute to a positive outlook and good mental health for all;

3. RELEVANT POLICY DOCUMENTS REVIEW

Following a review of the following documents, the sections relevant to this scheme have been summarised below:

A. Coillte Off-Road Cycle Strategy Document 2012

Section 1.2 "Recreation Policy" states that :

- Cycling is permitted in Coillte forests on designated areas and tracks.
- The policy is to manage cycling for safe and sustained use, in line with best international practice.
- Coillte will seek to provide and manage facilities in cooperation with both statutory and NGO bodies for off-road cycling.
- Coillte expects all cyclists to respect the forest, other users and follow the off- road cycling code
- The company will continue to provide recreation that is environmentally, socially and economically sustainable
- While recognising its role in the rural community, Coillte does not have a primary or lead role in the provision of tourism facilities, but will facilitate such developments within partnership arrangements.
- Coillte sees it's primary recreation objective as one of delivering maximum benefit to the most users.

Section 2 sets out the provision of routes, in particular:

- sustainability;
- spatial development plan, framework for planning, design and construction;
- types of trails;
- Trail classification and grading;
- Off-road cycling spatial strategy;
- Criteria of selection of trail locations;
- Selecting locations for trails;

B. Laois County Development Plan 2015 - 2021 (Laois County Council)

The proposal meets numerous objectives of **Chapter 10 "Infrastructure"** of the Laois County Development Plan 2021-2027 including the following;

TRANS 10: Work with the National Trails Office, Coillte, the Department of Planning, Housing and Local Government, the Department of Transport, Tourism and Sport, and other relevant stakeholders, to improve on the existing level of transport infrastructure and facilities for walking and cycling;

TRANS 11: Integrate land use policies and transportation in a manner which reduces reliance on car based travel and promotes more sustainable transport choice and coordinates particular land uses with their accessibility requirements;

TRANS 12: Support sustainable travel in the tourism sector by the promotion of public transport use and by undertaking enhancements to overall accessibility thereby making the County easier for visitors to navigate. Integrate the County's transport and tourism strategies to promote increasingly sustainable travel patterns among visitors to the County. Support the construction of green routes/cycleways/pedestrian routes;

TRANS 13: Encourage transition towards sustainable and low carbon transport modes, through the promotion of alternative modes of transport, and 'walkable communities' together with promotion of compact urban forms close to public transport corridors to encourage more sustainable patterns of movement;

TRANS 14: To undertake Local Transport Plans in conjunction with the NTA, TII, and relevant stakeholders which will identify a transport strategy to address modal shift traffic issues, parking and active travel deficiencies in the existing network and make recommendations on same in the following towns.

- ...
- Durrow & Environs
- ...

The strategic aim of the LTP is to examine the current lack of alternatives to the car and land use patterns which can better affect a modal shift to public transport, walking and cycling;

address current issues and anticipate future problems in the transport network of the town and its strategic routes; and in doing so will present a detailed analysis of the current transport situation and present potential

10.1.7 Pedestrians and Cyclists

Government policy, as set out in the publications "Smarter Travel – A New Transport Policy for Ireland 2009-2020" and the "National Cycle Policy Framework 2009-2020", clearly places an emphasis on walking and cycling as alternatives to vehicular transport which reduces greenhouse gas emissions, noise and pollution. The National Cycle Policy Framework states that by 2020, 10% of journeys should be by bicycle. The Design Manual for Urban Roads and Streets [DTTS and DHPLG, 2019) advocates assigning higher priority to pedestrian and cycling without unduly compromising vehicular movement.

A Walking and Cycling Strategy was undertaken during the last plan period for County Laois.

Pedestrian and Cyclist Policy Objectives

TRANS 36 Encourage walking and cycling through the provision of the necessary infrastructure and also provide a mix of land uses which generate short trip distances to combat sedentary transport patterns. All new development proposals shall be required to provide for well integrated pedestrian and cycling networks;

TRANS 37 Support the installation of infrastructure measures (for example new/wider pavements, road crossings and cycle parking facilities), retrofitted if necessary, which facilitates, and encourages safe walking and cycling;

TRANS 38 Promote cycling and pedestrian friendly development layouts, provide facilities at public transport nodes, towns and villages, plan for and make provision for the integration of cyclist and pedestrian needs when considering new development proposals to promote Laois as a walking and cycling destination;

TRANS 39 Investigate the possibility of developing and utilising existing abandoned road/rail and laneways infrastructure for the purposes of walking and cycling;

TRANS 40

Support the development of on-road cycle lanes to link towns and villages located along the R445 & R636

TRANS 42 Support the development of Town Based Bike Hire Scheme, similar to "Dublin Bikes".

South Laois Walking and Cycling Hub Policy Objectives

TRANS 49 Designate and promote South Laois as an Activity Hub;

TRANS 50 Support ancillary or complementary recreational uses in the area, such as the establishment of canoe trails, bridle trails and angling;

TRANS 51 Develop on-road cycle trail with a Rathdowney Trailhead to facilitate sporting and general cycling as well as link points of interest including Donaghmore Workhouse and Museum, Aghaboe Abbey, views of Gortnaclea Castle, Clough Village, Grantstown Lake and River Erkina;

TRANS 52 Establish a new Woodenbridge Walking Trail linking Durrow and Ballacolla, subject to the Habitats' Directive;

TRANS 53 Promote the physical and health benefits of walking, for example through Get Into Walking Workshops, the Annual Laois Walks Festival and other community / stakeholder organised walking events in Laois;

TRANS 54 Foster the development of initiatives such as walking buses to serve schools and continue the Green Schools Programme, cyclist safety and cycling to school during schools-based Road Safety Workshops 214 South Laois Walking and Cycling Hub Policy Objectives;

TRANS 55 Foster the development of additional walking routes with trailheads in or close to Laois towns and villages, using National Trails Office toolkits, where an under provision of walking trails exists, for example in Rathdowney and Borris-in-Ossory;

TRANS 56 Encourage the provision of facilities to support commuting by bike by large employers, such as workplace shower rooms and lockers via workplace workshops;

TRANS 57 Support the designation of forest cycling areas in Laois such as at cycle club trails at Durrow, Cullenagh, Fossy and Cullahill Mountain.

C. National Cycle Policy Framework 2009-2020

This plan sets out a substantial suite of interventions to improve the ease and safety of cycling in order to achieve greater mode share going forward. It states that making provision for cyclists in the urban environment does not merely consist of providing dedicated cycling facilities but also involves wider traffic interventions that benefit all. Objective 3 of the policy is to 'Provide designated rural signed cycle networks providing especially for visitors and recreational cycling'. A perspective of the policy is to encourage recreational cycling which is key in creating a cycling culture in Ireland and the importance of linking rural areas.

D. Climate Action Plan 2019

This document is the Government's plan for tackling climate breakdown. It outlines the current state of play across key sectors including Electricity, Transport, Built Environment, Industry and Agriculture and charts a course towards ambitious decarbonisation targets. Climate Action Plan objectives are to achieve a net zero carbon energy system and create a resilient, vibrant and sustainable country.

Additional Government policy documents that support the above scheme objectives include: "People, Place and Policy Growing Tourism to 2025", "Sustainable Residential Development in Urban Areas" and the "Urban Design Manual.

4. PROPOSED CYCLE ROUTES

Red Line Trail: Rath/Dunmore Trail

The Red Line Trail starts in The Square in Durrow and proceeds northwestwards along the existing, Durrow/Abbeyleix cycle lane on the N77, the trail turns left onto the existing L1650, local road, which is known locally as New Line Road. The trail continues along the local road until the entrance to Dunmore Wood.

The trail then enters the wood and follows the existing woodland paths. The looped route is shown in Figure 2 below, an existing exit is to be upgraded onto the L1652 to the east of the woods.

The trail turns left onto the L1652 (Swan Road) south to the junction with the R434 and travel southeastwards back to The Square in Durrow,

The total trail route is approximately 7.7km (Woodland = 3.9km, Public Road = 3.8km)



Figure 2: Proposed Red Line Trail

Blue Line Trail: Capponellan Trail

The Blue Line Trail starts in The Square in Durrow and proceeds west along the existing the R639, Old Cork Road. It is proposed to create new cycle lanes within the existing hard shoulder. The trail turns left into the entrance of Cappponellan Woods, approximately 2.4km southwest of the starting point.

The trail then enters the wood and follows the existing woodland paths. The linear route is shown in Figure 3 below. The trail crosses the Derry Road after approximately 4.0km, crossing into Derry Wood on the other side of the road. It is proposed to create a crossing over an existing drainage ditch at this location by installing a piped culvert crossing.

The trail continues linearly through Derry Wood for about 1.2km before existing the wood onto the N77 Turing left the trail returns to The Square in Durrow.

The total trail route is approximately 9.1km (Woodland = 5.2km, Public Road = 3.9km)



Figure 3: Proposed Blue Line Trail

5. PROPOSED GENERAL WORKS ON EACH TRAIL

A. On Existing Public Roads

It is proposed to install an information board and bike stand with a fix station at a suitable location in the centre of the town.

Signage will be installed to improve the safety of the vulnerable road users along the routes, i.e. warning signs to inform drivers that cyclist may be present on the roads;

Colour-coded directional signage will be installed along the public roads directing cyclists to the entrances of the woods.

It is proposed to install 2.4km of cycle lanes within the existing hard shoulders of the R639 (Old Cork Road). The cycle lanes will be similar to the existing cycle lanes on the N77 north of the The Square.

The proposed cycleways alongside the existing road network shall be designed in accordance with the TII Publication: Rural Cycleway Design (Offline and Greenway) DN-GEO-03047.

B. Within the Woodlands

It is proposed to upgrade the existing forest trails by undertaking the following:

- Remove vegetation, outside of nesting season, from the edges of the existing trails, outside of the nesting season, creating a 3.5m wide corridor along the routes;
- Import and compact suitable fill material to level the routes (No banks shall be created);
- Create fenced s-bend type sections where the gradient is deemed to be too steep;
- Improve the entrances to the woods, to make them bicycle friendly and improve the safety for vulnerable road users. The gates will be designed to permit pedestrians, bicycles and buggies/prams, wheelchair and disability trikes but will prevent the access of quads and scramblers;
- Create piped crossings over all existing drainage ditches;
- Construct a new unbound stone trail with a minimum 50mm thick compacted stone dust surface, laid to falls;
- A new bound surfacing is to be laid above the two bridge crossings in Dunmore woods. The surfacing shall also be laid up to 50m on both approaches to the bridges.
- Create designated crossing points along the trail for tracked forestry machines.
 Crossing points to be 4m wide and be created with compacted Clause 804 fill material;
- Install dual language directional signage within the woodlands which shall incorporate amongst others the Coillte Logo;
- Create a family picnic area near Dunmore House within Dunmore Woods;

The proposed cycleways within the woodlands shall be designed in accordance with the TII Publication: Rural Cycleway Design (Offline and Greenway) DN-GEO-03047.

6. SUMMARY OF PREVIOUS REPORTS, INSPECTIONS AND CONSULTATIONS

Submission to Laois County Council by Pedal Vintage, 22nd February 2021

A summary report was submitted by Pedal Vintage to Laois County Council. The report summarised the proposed routes, highlighted the benefits of the proposal, listed the stakeholders and listed the relevant actions plans. The report also gave preliminary costings and proposed future maintenance works.

Joint Survey between Laois County Council and MMConsult

A joint survey was undertaken on the 2nd December 2022 with Mr. Edmond Kenny of Laois County Council and Mark Murphy of MMConsult. The proposal was discussed in detail and a summary of the survey is given below:

- A systematic linear photographic survey was undertaken of the woodland trails and their entrances.
- The existing trails are largely in good solid condition although generally uneven;
- A few small sections of the proposed trails were flooded or are liable to flooding;
- A few areas along the existing woodland routes are overgrown and on rough terrain and as such were identified as not being currently suitable for bicycles;
- Vegetation removal and short sections of road widening will be required on the public roads to improve sight lines;
- Signage and additional line marking will be required on the existing public roads;

Consultation with relevant stakeholders

- Coillte A number of meetings were held with representatives of Coillte in Durrow.
 Coillte are supportive of the scheme and have provided technical assistance and guidance.
- Laois County Council Engineers from Laois County Council have attended numerous meetings on the proposed scheme and are supportive of the proposal. They have provided technical assistance on the scheme.

7. ASSESSMENT OF THE PROPOSED TRAILS

1. Economy

1.A Capital Cost and Value for Money:

Capital cost estimates are determined from an indicative high-level infrastructure cost estimate. An Indicative cost estimate is established to assess the likely capital infrastructure cost.

	Red Trail	Blue Trail	TOTAL
Estimated Costs	€252,500	€295,000	€547,500

Table 2: Capital Costs Estimates

1.B Access for All, Transport Reliability and Efficiency, and Quality of Service:

The National Transport Authority have 3 market rules in relation to the Quality of Service provided by a route. The route needs to be attractive, suitable for the potential users and needs to result in a win-win situation for all. The route essentially needs to be stress free with less interruptions, junctions, signals and interaction with vehicular traffic. The route needs to have a good surface and good drainage. Two-abreast cycling should be the norm.

The proposed trails meet all the above criteria.

2. Safety

The National Transport Authority have 5 rules for making a route sustainably safe, they are namely Functionality, Homogeneity, Legibility, Forgiveness and Self Awareness.

In general, road collisions may be reduced by providing improved pedestrian and cycle facilities due to modal shift.

Providing segregation between pedestrians and other vulnerable road users and motorised traffic, which this proposal does, is considered a benefit to all road users.

3. Physical Activity

The proposal would facilitate a healthier lifestyle in the area and the proposal would provides measures which support walking and cycling.

The proposal would provide dedicated facilities for the use of pedestrians, cyclists and other vulnerable road users.

4. Environment

The cycleway routes are located alongside the River Nore and its tributaries which are part of the River Barrow and Nore Special Area of Conservation (SAC - Site Code 002162). The proposal would be subject to an Appropriate Screening Process to assess if the work would have the potential to impact negatively on the protected site.

The proposal has the potential, under the banner of environment to improve the following:

Human Health:

The proposal would have a positive effect on Human Health as it would encourage people to walk and cycle to and from the town centre along the attractive pathways. The high-grade surface within the woodland areas will also create a viable, safe and attractive environment for use by disability mobility users.

Biodiversity:

The proposal would have a minimum impact on biodiversity as the proposed routes are along the lines of existing routes. Local areas of biodiversity have been identified in consultation with Laois County Council and it was agreed that their is an opportunity for these to be enhanced within the cycle trails i.e. along the roadside verges.

Land & Soils:

Some sections of the routes are located within floodplains and this will need to be addressed at the detailed design stage.

Water:

The proposals may have an impact on the existing surface water regimes within the woodlands and this will need to be assessed. The proposal will have a negligible impact on groundwater.

It is noted from the <u>floodinfo.ie</u> flood maps website that recurring flooding occurs over the N77 at the River Nore Bridge in the town.

Air:

The proposal will have a long-term benefit in terms of air quality as the more people that utilise the walkway/cycleways means that less people will be using motorised vehicles for relatively short journeys to and from the town centre.

Aesthetics:

The proposal will a have minimal impact on the existing aesthetics as the proposed routes follow existing tracks and roads.

5. Accessibility and Social Inclusion

The proposal brings opportunities under Accessibility and Social Inclusion as they all improve access on foot and by bike to amenities within and around the town.

This proposed trails will improve multi-modal accessibility within residential, employment, educational and retail centres by improving accessibility for walking, cycling and accessing public transport.

The proposal also will improve a socially inclusive transport network and will benefit vulnerable groups in society such as people on low income, non-car owners, people with disabilities and the young and the old.

6. Integration

6.A Land Use Integration:

The proposal would is compliant with the Policy Documents referenced in Section 6. .

The proposed trails encourage planned future development and provides economic opportunities and enhances the urban environment in general.

6.B Transport Network Integration:

The proposal would provide a safe pedestrian link from the residential areas on the outskirts of the town to the town centre and a number of bus stops.

6. C Pedestrian Integration:

The proposal would provide a high quality pedestrian and bicycle link from outline areas of the town to the town centre. The proposed trail integrates the existing and proposed pedestrian and cycle routes, and also the quality of the infrastructure provided.

6. Cultural Heritage

A search for protected monuments and structures was undertaken using the National Monument Database www.archaeology.ie A number of protected monuments are located along or near the proposed trails, particularly within the town of Durrow.

Highlights include the following:

- St Tachan's Church in Dunmore Woods (LA029-035)
- Capponellan Enclosure in Capponellan Woods(LA035-010)
- Stonehead in the town (LA029-056001)
- A multi-span masonry arch bridge in the town (12900901)

The proposed trail will have no impact on these structures.

7. Land Ownership

The landowners are registered on the Land Registry Maps (<u>www.landdirect.ie</u>). There are a number of wayleaves along the routes. The relevant folios are as follows:

- Dunmore Woods: LS32503F 85.53Ha Freehold Coillte
- Capponellan Woods Not registered

8. CONCLUSIONS

All works within the woodlands would need to meet with the approval of Coillte in accordance with their technical guidance documents.

There are some protected structures or structures registered in the National Inventory of Architectural Heritage along any of the proposed routes, however the proposed trails will have no impact on these.

The main findings of this feasibility study for the proposed Durrow Cycleway Hub are as follows:

- There are no technical reasons why the cycleway project should not proceed.
- The proposed cycleway would provide a sustainable, scenic and safe walking and cycling facility which will benefit the town of Durrow and its hinterland.
- The proposes cycleway meets a large number of objectives of the following policy documents:
 - Coillte Off-Road Cycle Strategy Document 2012
 - Laois County Development Plan 2015 2021 (Laois County Council)
 - National Cycle Policy Framework 2009-2020
 - Climate Action Plan 2019

It is recommended that a firm of consulting engineers be appointed to progress the scheme to Design Stage. The Brief for the Design Stage should include inter alia:

- Design development;
- Consultation with Coillte and Laois County Council
- Cost estimates and budget planning;
- Heritage consultation;
- Services consultations and diversion planning;
- Detailed Design of the new trails within and outside the woodlands;
- · Design of new entrances to the woodlands;
- PSDP Role including a Design Risk Assessment;
- A hydraulic assessment on the impact that the proposed trails will have on the existing drainage regimes;
- AA Screening Study;
- Tender Documents:
- Tender Process;
- Contract Administration.

The proposed cycleways shall be designed in accordance with the TII Publication: Rural Cycleway Design (Offline and Greenway) DN-GEO-03047.

Following the design and tender period the following is a summary of the likely works necessary during the construction period:

- PSCS duties by the contractor for the duration of the works.
- Review of information on and dealing with existing services.
- Provide, maintain and dismantle temporary fencing for the duration of the works.
- Site set up including signage, compound, offices and welfare facilities.
- Implementation of traffic management and control measures as required.
- Install temporary water management measures;
- Prepare ground for surfacing;
- Insert drainage pipes, culverts and swales where deemed necessary;
- Lay new surfacing and base material;
- Create lay-bys and undertake localised road realignment;
- Install new fencing where deemed necessary;
- Install new entrances;
- New line markings to create cycleways within existing hard-shoulders
- Install signage on public roads and within woodlands;
- Install art and educational installations;
- Handover to client.

Anticipated Temporary Works required

- Water management;
- Temporary Traffic Management.

An estimation of the costs of the proposed works is given in Section 10

9. SUMMARY OF SURVEYS/ASSESSMENTS REQUIRED AT DESIGN STAGE

Topographical Survey

A Topographical Survey of the proposed trails, land and other features in the vicinity of the trails should be undertaken. The survey is required as background information for all design drawings.

Ecological Survey

A Stage 1 Appropriate Assessment Screening Report under Articles 6(3) of the Habitats Directive 92/43/EEC should be undertaken for the proposed scheme.

Coillte Consent

Approval from Coillte will be required.

Hydraulic Assessment

An assessment on the impact that the proposed scheme would have on the existing drainage regime should be undertaken.

10. ESTIMATED COSTS

#	Description of Work to be carried out	R	ed Trail	В	lue Trail	Total	
1	Preliminaries including Traffic Management, PSCS, Access and Temporary Works, Environmental Management	€	10,000	€	15,000	€	25,000
2	Site Clearance	€	7,500	€	10,000	€	17,500
3	Earthworks	€	7,500	€	10,000	€	17,500
4	Installation of drainage	€	2,500	₩	5,000	€	7,500
5	New surfacing within woodland trails	€	180,000	€	200,000	€	380,000
6	New gates and stiles at Entrances	€	10,000	€	15,000	€	25,000
7	New signage	€	5,000	₩	5,000	€	10,000
8	Landscaping and fencing	€	2,500	€	2,500	€	5,000
9	Art and Educational Installations	€	7,500	€	7,500	€	15,000
10	Road Signage and Line Marking	€	10,000	€	15,000	€	25,000
11	New bridge crossing	€	0	€	10,000	€	10,000
12	Lay-by and road realignment	€	10,000	€	0	€	10,000
	ESTIMATED TOTAL COSTS	€	252,500	€	295,000	€	547,500

^{*} No structural analysis and measurement of quantities has been undertaken for this design Feasibility Study. Estimates may vary following detailed design.

Costs above do not include for the following:

- land take costs
- consultancy fees
- survey fees

APPENDIX A: PRELIMINARY STAGE SCHEME DRAWINGS

APPENDIX B: SITE LOCATION PLAN

