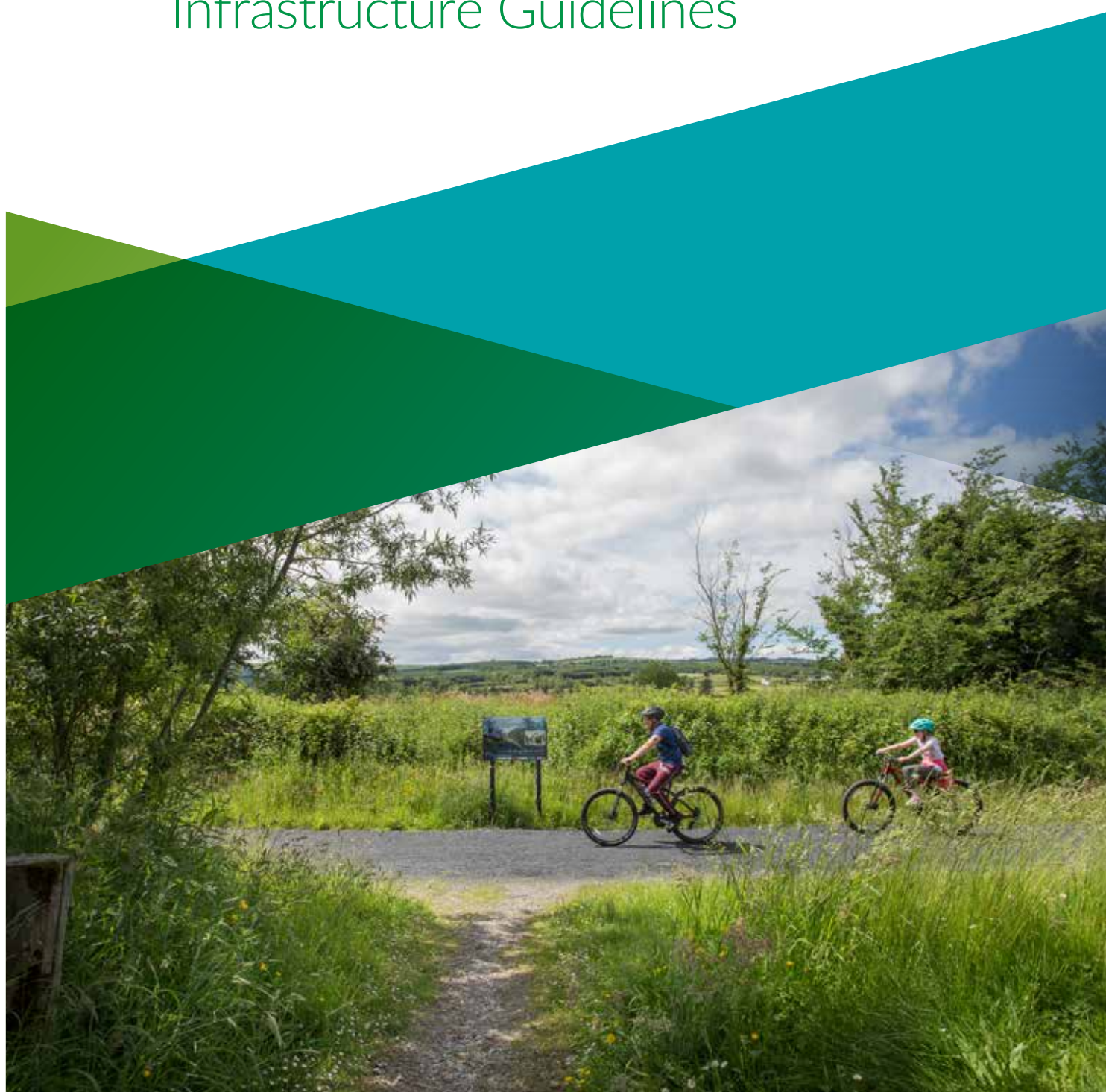




**An Roinn Iompair,
Turasóireachta agus Spóirt**
Department of Transport,
Tourism and Sport

Greenway

Greenways and Cycle Routes Ancillary Infrastructure Guidelines

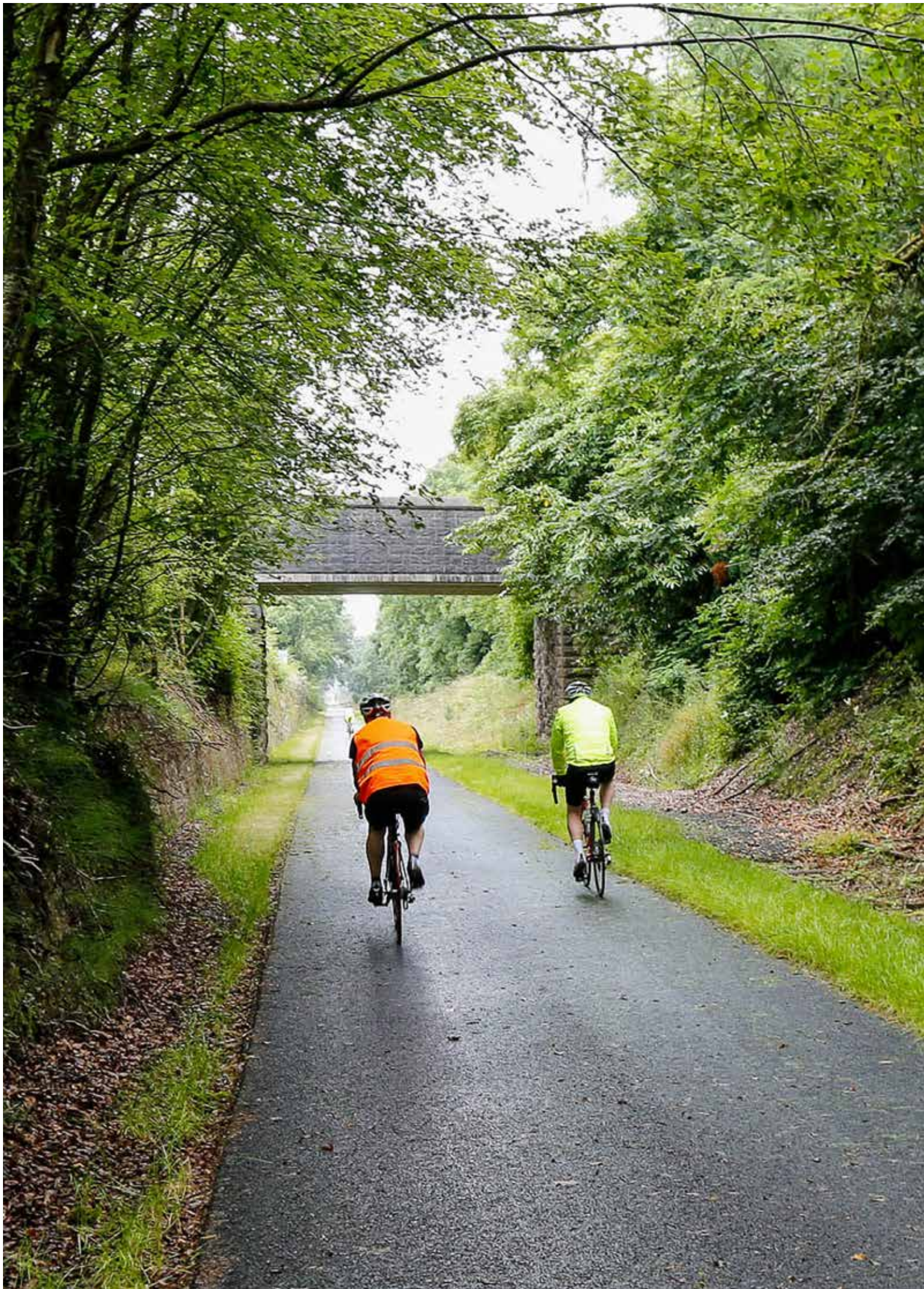





PREFACE

There are a number of documents which provide specifications and guidelines for the construction of greenways and cycle routes. These documents focus mainly on the primary route infrastructure such as the path itself, it's design characteristics such as the width, the gradient, the surface finish etc. However, it is important that a greenway or cycle route is brought to life by the addition of 'ancillary infrastructure' not detailed in the main standards and guidelines. This document provides guidance on the installation and creation of ancillary infrastructure intended to bring a Route to life and make it an attractive and enjoyable experience for users.

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INTRODUCTION

These 'Ancillary Infrastructure' guidelines have been formulated for Greenways and support the national Strategy for the Future Development of National and Regional Greenways published by the Department of Transport, Tourism and Sport. Elements of these guidelines can also be used for other types of cycle Routes, and may also provide ideas that could be adopted on walking trails.

The Guidelines are informed by Irish and international best practise (see reference information in Appendix 1), and they are consistent with the European Certification Standards for EuroVelo cycle Routes. Ireland has 2 designated EuroVelo Routes at present (see www.eurovelo.com).

The purpose of these guidelines is to:

1. Support the development and enhancement of Greenways and other cycle Routes by identifying and sharing ancillary infrastructure best practice amongst Route designers;
2. Ensure Route designers provide a pleasant, coherent, and consistent Route user experience.



1.1 Definitions

A **Greenway**, is "a recreational or pedestrian corridor reserved exclusively for non-motorised journeys, developed in an integrated manner which enhances both the environment and quality of life of the surrounding area. These Routes should meet satisfactory standards of width, gradient and surface condition to ensure that they are both user-friendly and low-risk for users of all abilities." (Lille Declaration, European Greenways Association, 12 September 2000);

A **Cycle Route**, (that is not a Greenway) can be defined as a Route which is designated for the use of cyclists, ideally traffic free or on very low traffic roads and providing a pleasant and enjoyable outdoor experience.

Throughout these guidelines, the term 'Route' is used. This generally refers to a Greenway but where the guidelines are appropriate this can also refer to any cycle route.



Waterford Greenway

1.2 Terminology

For the purpose of these guidelines the term ‘ancillary infrastructure’ refers to those constructed features that provide added value to the Route and enhance the user’s practical and emotional experience.

For example:

- Elements and Detail: individual infrastructure items such as; directional signage, rest and shelter facilities, mapping/Route orientation, furniture and aesthetic or sculptural additions
- Personality: the insertion of appropriate infrastructure themes and designs to reflect the local natural, cultural or built heritage, to assist in telling the story of the area.
- Positioning: where the relevant supporting ancillary infrastructure, such as trailheads, rest areas, signage, and orientation maps should be located.

The terms which identify the relative importance of the various ancillary infrastructure elements are:

- ‘Shall’ or ‘Must’ - these are included in a small number of cases and they indicate that a particular guideline is mandatory,
- ‘Should’ indicates an element which is to be included where it is possible to do so.
- ‘May’ indicates an option for the Route designer to consider.

1.3 User Expectations

The needs and expectations of the variety of users who use Routes need to be at the core of the decision making regarding the type, design and location of Route ancillary infrastructure. Users have basic practical expectations such as the requirement for effective Route maps and directional signage. The following are the fundamental sought outcomes from a well-planned and managed Route.

A Route should:

- be safe and perceived to be safe.
- offer an attractive pleasant experience: with aesthetic Route design, good scenery, integrating with its surroundings, and opportunities to visit local attractions and include places for resting, refreshment and stopping off.
- be accessible via public transport at critical points, and convenient to use, with due consideration given for the needs of individuals with disabilities.
- be part of a coherent trail or network with signposted Routes and destinations, and be continuous and recognisable with consistent standards.
- be appropriate, in that it is easy to use, well maintained and addresses user recreation and/or their commuting expectations.



Great Southern Greenway



Waterford Greenway

1.3.1. User Type Requirements

The table below provides a summary of the needs and expectations of the different types of cyclists who are likely to make use of designated cycle Routes. The table below is useful when considering the design of a Route and its ancillary infrastructure. There are overlaps in the needs of all types of cyclists. Greenways can typically meet the expectations of each of the types of cyclists described in the table below.

Route User Type Requirements			
	Leisure Cyclists	Cycle Tourists	Commuter Cyclists
Characteristics	Vary greatly in age, skill and fitness, and include families	Large skill variation, often heavily equipped and may travel in groups	Various ages, skills
Main Locations	Close to settlements – up to 50km approximately	Scenic, attractive areas, designated destinations	In and between urban, educational, and employment areas
Route-Layout	Off-road and low gradients for families - varies for road cyclists	Generally off-road, although experienced cyclists tend to prefer on-road	Direct, safe Route
Route-Selection	<ul style="list-style-type: none"> - Cycle loops - Regular resting areas - Opportunities to buy food and drink - Integration with public transport and car parking 	<ul style="list-style-type: none"> - Scenic and interesting Routes connecting tourist attractions - Linking settlements - Food and drink and accommodation - Integration with public transport 	<ul style="list-style-type: none"> - High-quality surface - Low traffic or none - Integration with public transport



Leisure Cyclists



Touring Cyclist

1.4 Route Characteristics

The following are some underlying characteristics that guide the overall approach to the development and management of a Route.

1.4.1. User Type Requirements

Routes offer users the opportunity to engage with the natural and built heritage of an area and as such the design and management should provide a safe, attractive, accessible, coherent and appropriate experience whilst not undermining the local environment. The personality or theme of the Route should ideally reflect the nature of the community's history and the land that it traverses, by acknowledging the legacy of its setting and the use of appropriate local materials.



Railway heritage



Natural heritage

1.4.2. The Route Hosts

Routes are generally facilitated by the agreement of the public, generally Local Authorities, but also local communities and private landowners. Their efforts and inputs should be recognised in the operation and management of the Route. Most Routes will typically traverse rural and urban communities, and these stakeholders are entitled to be involved and benefit from 'their' Route. In general most Routes will be obliged to go through a public planning/consultation process before proceeding.

1.4.3. Code of Conduct

All users must be aware that they share the trail with others and that they need to respect the needs of these other trail users. Effective trail sharing is more likely if the trail user is presented with a standard Code of Conduct, and encounters simple awareness raising information at all access points to the trail, especially where new users might commence their journey or where others may first encounter the Route.

1.5 Level of Service

The Level of Service (LoS)¹ refers to the appropriate provision of seating, rest areas, lighting, refreshment stops, signage, mapping, aesthetic features, and similar along the Route.

The level of ancillary infrastructure LoS provision required for any section of a Route is determined by the volume and type of likely demand along these sections. For example the LoS expected for a Greenway section which passes by or through a large residential area would likely include a higher level of seating provision. However, in a more rural section of the same Greenway with significantly lower volumes of use, there may be no requirement for seating.

The following Table identifies three indicative Ancillary Infrastructure Level of Service classifications, from Level 1 to Level 3, Level 1 being the highest level of service. The Route designer may apply these to the various sections of the Route so as to identify the appropriate level of ancillary infrastructure provision.

Ancillary Infrastructure Level of Service (LoS) Levels				
Quality of Service	Typical Setting	Projected Main Users	Likely Demand Type	Level of Ancillary Infrastructure
Level 1	Large residential area and/or a nearby busy visitor attraction.	High recreation and utility use for the community and visitors.	Walk, cycle, jog, pram, dog walk, Segway, wheelchair and other.	Very High. Most ancillary infrastructure elements are appropriate for these locations, and also including pocket recreation facilities such as playgrounds and refreshment points.
Level 2	Small residential area or a local minor visitor attraction.	Short duration cross community and/or visitors.	Walk, cycle, jog, pram, in-line, dog walk, Segway, wheelchair and other.	High. Most ancillary infrastructure elements are appropriate for these locations.
Level 3	Rural area with a low population, no significant visitor attractions.	Half or full day recreation, community members and visitors.	Mainly cycling with some walking.	Low. Some rest areas and arts pieces may be appropriate in addition to way finding and service signage.

¹ The term LoS as used within this document does not refer to primary infrastructure elements such as the Route surface and design. Requirements for the primary infrastructure are covered in other supporting documents and resources such as [Rural Cycleway Design](#) and the [National Cycle Manual](#). In particular The European Cyclists Federation - [EuroVelo European Certification Standard](#) provides specific requirements EuroVelo Routes. These are listed in Appendix 1 with internet links to the documents.

ANCILLARY INFRASTRUCTURE DETAILS

This section presents the guidelines relating to the elements and detail of ancillary infrastructure such as Route furniture (rest, shelter and stores), signage (interpretive and directional), technical supporting information for the Route, and pocket facilities (bike, play, study spaces). The diagram in Figure 1 below illustrates the various Elements and Detail encountered along a typical Route

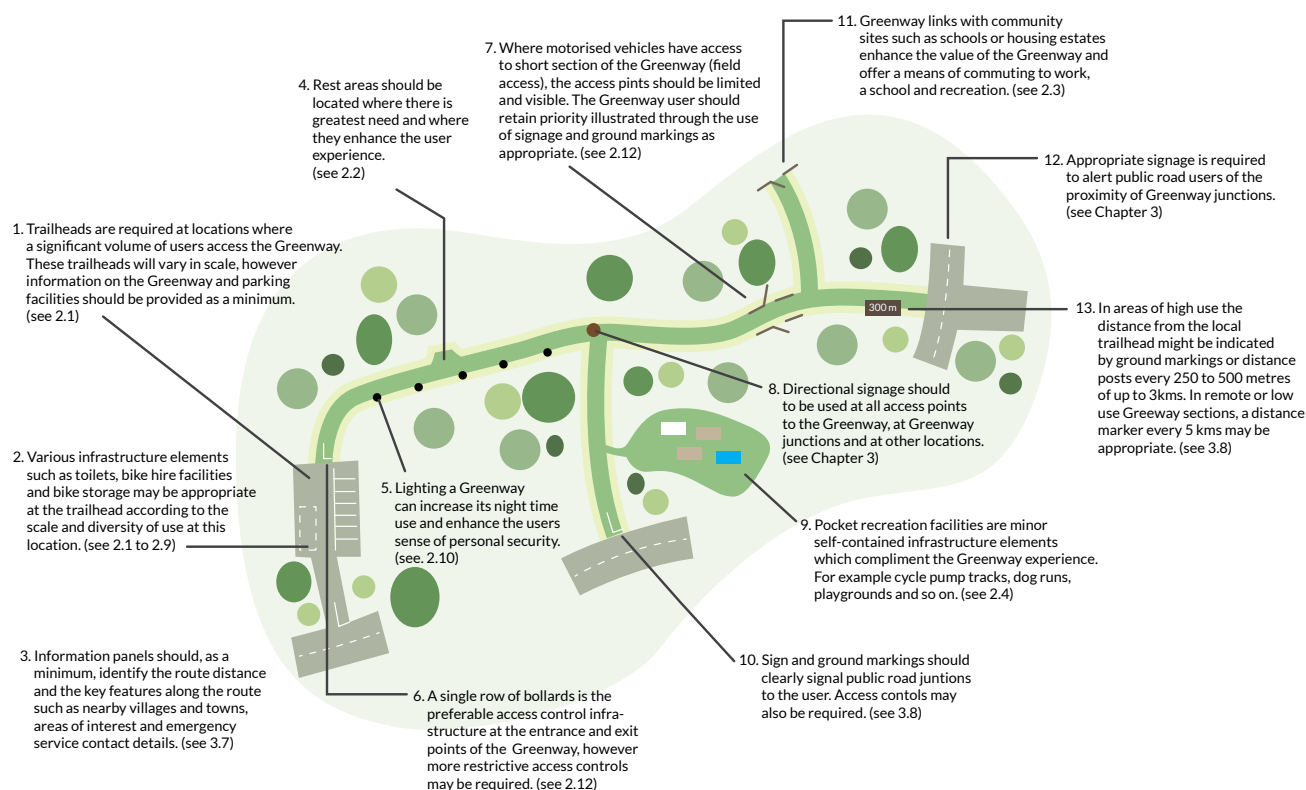


Figure 1: Elements and Detail encountered along Route

2.1 Trailheads

Trailheads help to define a Route and are formal points of entry and an integral part of the Route experience. Located at Route terminals they bookend the Route and, at other entry and exit points along the way, they invite participation and way-mark the journey. Trailheads should also, where possible, be accessible by public transport.



Trailhead Welcome Sign

Trailheads should primarily provide off road parking and a defined access to and from the Route. Depending on their location and the likely volume of usage, the Level of Service (LoS) required at a trailhead may vary from a simple parking bay for three cars to a more elaborate facility. The Route developer is tasked with determining the scale of trailhead which is required at the various points along the Route. The following are guidelines and examples of the minor to major trailhead spectrum.

Minor Trailheads

Located along the Route, these facilities are lower volume points of access. Typical locations include intersections between the Route and public roads, and at smaller service locations. In addition to providing practical resources such as parking and direction signage, these minor trailheads should ideally encourage participation from local residents and from passing impulse participants, and can also act as Route Rest Areas – see Section 2.2 below. At least a basic information board with a map of the Route and a 'you are here' pointer should be provided. This board could also included other information about the Route. Full details on information boards are provided in Sec. 3.7.

Major Trailheads

These are located at significant points on the Route, typically at the start/end points, often in towns or villages, and at other significant entry points. Major trailheads must have ample car parking and, as well as bike parking. If resources permit and high usage is expected facilities may also include toilets and changing rooms. (Note: Resources for ongoing maintenance and upkeep of such facilities must be considered).

Major trailheads may also provide a sense of journey, a start or end point to a destination and comprehensive information should be provided on an information board. This could include the story of the Route and indicate the various points of interest along the route. Full details on information boards are provided in Sec. 3.7.

Major trailheads might also host or link with other recreation facilities such as parks, cycle tracks, skateboard areas and campsites. These other facilities have the potential to entice participants to use the Route and add value to the trail experience for the user.

Where feasible the establishment of new business opportunities such as coffee shops, bike hire/ repair may be encouraged and facilitated at major trailheads. (However, if such providers already exist close to the trailhead it may not be feasible to establish such facilities at a trailhead).

2.2 Rest Areas

Rest areas are points along the Route, which provide a space for users to relax, take in the view, or shelter. Rest areas might also include, or be structured around trailheads, or art placements (See Chapter 4 - The Route Context for further detail that might be considered when designing rest areas).

Rest areas can vary in format and scale from commercial facilities such as cafés, or bars which abut the Route, to simple seating areas at points of interest, and possibly located after more demanding sections of the Route such as long gradients, or as break points on long Route Sections.



Basic rest area

Rest Area Guidelines

1. As a minimum, rest areas should provide seating for four people and include two Sheffield type bike stands – see Section 2.8 below - or similar.
2. Where possible, a rest area should offer shelter from the rain.
3. Rest areas located at a popular point on a Route or an appropriate halfway or turning point might include a picnic area.
4. Rest areas should ideally be located at, or adjacent to, visitor attractions.
5. Some high LoS rest areas might include supporting facilities such as play or outdoor gym infrastructure. (See also Sec 2.7 Pocket Recreation)
6. Rest areas should only include litter bins where there are resources and a management plan in place to maintain these. Where these resources are not available Leave no Trace principles should apply - see Appendix 2 'Leave no Trace'.
7. Ideally, major rest areas (e.g. at a halfway point on a 50km Greenway) should have somewhere on or close to the Route to get basic food and drink and toilet facilities (e.g. pub, shop or restaurant). If not obvious signposting to such facilities from the Route should be provided.
8. Rest areas should ideally include a rudimentary line map of the Route and a 'you are here' symbol.



Rest area with sheltered picnic table

2.3 Seat Guidelines

1. In high LoS locations such as residential and tourism areas, one seating area approximately every 100 metres is suggested with a minimum of one seating area every 500 metres. Lower seat density may be appropriate in urban areas where there is limited space to locate the seats to the side of the trail. Seating must always be provided in rest areas.
2. It is recommended that bike stands are placed adjacent to seats
3. Seats should also be located in or adjacent to pocket recreation spaces and may be placed at, or close to viewing points and at art placements.
4. In high use urban areas/fringes, seats are particularly welcome along significant gradients, and at their crest.
5. Seats should be set back from the Route so as to maintain the Route's effective width. Seats are typically positioned parallel to and facing the Route. However, where an alternative view exists of a local scenic, heritage feature, art piece or play area, the seat should be positioned to maximise this view. Access to any seat should be via a sufficiently robust surface.
6. There is no specific seat design. However, it should ordinarily accommodate four adults and be sufficiently robust, fit for purpose, and ideally vandal proof. Seats should preferably be set permanently in the ground.
7. Seat design may vary significantly as for example where the seat forms part of a trail art installation or where it reflects the local heritage, or utilises local materials. Such integration of the local story in the infrastructure of the trail is to be encouraged.



Typical Seat



Standard robust picnic table

2.4 Picnic Tables

Located in trailheads or rest areas, these tables can provide a place for casual dining.

Picnic Table Guidelines

1. Picnic tables should be sufficiently robust and fit for purpose and include integrated seating. They should ideally be set permanently in the ground or bolted down
2. With careful consideration, barbeque stands at some locations might be incorporated at picnic table locations. However, addition of barbeques requires the provision of nearby waste bins for the discarded charcoal and containers, and consequently the resources to manage these waste bins.
3. Site management issues such as grass cutting and litter management should be considered when selecting the design, base and location of the picnic tables.

2.5 Cycle Parking

Bicycles are valuable and they need to be secured when left unattended, and placed appropriately when not in use, so as not to hinder other Route users.

These guidelines are primarily concerned with the appropriate provision of uncovered stands along the Route and the provision of covered and secure storage at some high LoS areas.

2.5.1 General Cycle Parking Guidelines

1. The basic Sheffield style cycle rack is accepted as being the most effective and secure cycle rack design, and can come in a variety of shapes and sizes to meet different requirements. It should be possible to easily secure the bicycle to the cycle stand.²
2. Cycle parking at trailheads and rest areas should be in clear view and never behind buildings or foliage that will obscure their oversight. Cycle parking should be close to but not hinder access to Route facilities such as toilets and information panels.
3. Cycle parking should not obstruct other Route users, especially those with a visual impairment. Cycle racks should be positioned to the side of the Route in clear view and typically alongside seats, recreation areas or areas of interest.
4. Obstacles, such as steps, doors or narrow passages, accessing a cycle parking area, discourage use and should be avoided.
5. Cycle parking located at commuter entry points such as public transport links or connected work or school sites, are likely to be used to store bikes for a number of hours. Bicycle racks at these sites should, where possible, include a canopy to protect the bicycle from the weather.
6. Secure storage areas capable of separating the bicycle from a publicly accessible space are likely to be appropriate at locations where there is long term demand from regular users, such as at public transport links, apartment blocks, and work car parks adjacent to the Route. Such storage should also be considered where there are visitor attractions that may require bikes to be left for a long period of time while attending an attraction. These storage points can be in the form of a secure enclosed area or storage lockers.
7. High density cycle parking may be appropriate at trailheads which abut busy public transport infrastructure or high use facilities such as universities or city centres. Site specific feasibility studies are required, as part of the development process, for 'cycle hub' type parking at these sites.
8. The space and mobile infrastructure needs for temporary bicycle parking for festivals or events on or adjacent to the Route should also be considered and prepared for. There are a number of temporary and mobile cycle stand designs available. Standard crowd barriers are often used for this task.

2.5.2 Cycle Storage Lockers

Cycle storage lockers may be operated by:

- a commercial provider who provides the storage infrastructure at the site and who receives payment from the users of the store;
- a group or local authority scheme whereby local residents or workers sign up to a shared storage facility;

Stores may be for either the horizontal or vertical storage of bicycles depending on space and/or the storing of personal effects such as cycling clothing and equipment. These types of storage are more commonly used in urban areas or where the Greenway connects with a public transport hub.

Shared bike storage 'cages' typically include locking points where individual bikes can be separately locked within a communally accessible store.

Individual storage cages are accessible typically by the key holder who has rented the store for a period of time or on a pay as you go basis. The cost of cycle parking should ideally be minimised so as not to create a barrier to cycle use. The most appropriate type of locker and the mode of payment and commitment by the user will depend on local demand and space resources.

Further information on cycle parking can be found in the [National Cycling Manual](#).



Sheffield Bike Stands



Secure Bike Storage

² While other stands of similar design are acceptable, butterfly type racks (where a bike wheel is inserted between two bars) are not recommended. Such racks do not always facilitate all wheel widths and can cause damage to wheels and disc brakes).

2.6 Bike Repair and Charging Stations

Typically located in high use areas, these simple unmanned stations provide a bike repair mount and tools for minor adjustments to bicycles to support the trail user experience. Ideally located at major trailheads these facilities can help to support a safe journey for the unprepared user.

Such repair stations should be self-explanatory, adjacent to bike parking spaces and ideally have oversight from housing, work places or the main parking area so as to reduce the risk of vandalism. The location of such bike fixing stations should be indicated on the Route information panels and supporting information.

The provision of electric bike charging stations might also be considered, particularly on long stretches of a Route.



Unmanned bike repair station

2.7 Pocket Recreation

Pocket recreation facilities are minor self-contained infrastructure elements which are consistent with and complement the Route experience. Such facilities may also be provided at rest areas (See Sec. 2.2 Rest Areas)

For example:

- Playgrounds
- Camping facilities
- Outdoor gyms.
- Wetlands
- Angling sites

Located on, or close by, the Route, they attract users, provide journey alternatives, and enhance the Route experience. These facilities are typically self-operated, and are often located close to centres of population. However, wild camping facilities or huts may be located in remote sections of the Route, and angling or wetland facilities close to water courses.



Pocket Recreation - Play Area

2.8 Provider Space

Commercial providers typically provide bike hire facilities and often bike instruction. They are also used frequently to provide catering services and/or other desired services. These providers are essential to attracting visitors to the Route, by providing the necessary supports for a Route visit. They also add value to the Route by making impulse and 'turn up and go' experiences possible, especially for passing visitors. Providers also help to grow the user base and generate continuity of use throughout the year for the Route, through the potential delivery of training courses and events. These providers can in some cases foster local club development.

A space or a building in a major trailhead, in which these providers can store equipment and operate from, enables user growth and also assists current users through the provision of sales and repairs, and where appropriate the provision of snack facilities. In the absence of a building with storage and office space, a hard standing for a steel shipping container may be sufficient. Such a container type facility should be finished to a high level by screening and 'brand wrapping' of the container.

Where a temporary provision is provided, such as seasonal bike hire, a space in the car park or nearby, for a van and trailer type operation, may be appropriate. These provider spaces also have the potential to support occasional events such as festivals and markets.



Bike Hire Provider

2.9 Connections

Connections are links into and from discrete sites such as schools, housing estates, businesses and sports facilities. These site specific access and egress points enhance the value of the Route as a means of commuting to work, school, shops and recreation.

Signage and access controls are the main ancillary infrastructure elements which are required for these Connections. School connections might include gate access, which is only open during school opening and closing times. Similarly work or business connections may close during the hours of darkness, as agreed.

In some instances, potential connecting sites may adopt a wait and see approach and be unwilling initially to have a connection from the Route to their site. In this event the desire that there be no connection should be respected. Where there is a reasonable future potential to connect to such a site, the construction of the Route should facilitate the subsequent retrofitting of the connection.



Connection to a housing area

2.10 Lighting

Lighting is of primary consideration at, or close to settlements, and areas of high activity. While lighting is not the norm on a rural Route, lighting a Route or Route section enables:

- users to orientate themselves and navigate the Route ahead in dark conditions
- the identification of other users ahead
- the detection of potential hazards
- the discouragement of crime and increase in a sense of personal security.
- An increase in users' personal safety

Justifying the cost of installation, energy and maintenance of lighting on a Route depends on a number of considerations:

- Do sections of the Route have a high utility (everyday cycling) role amongst commuters, shoppers or schoolchildren?
- Are there junctions with busy public roads?
- Are there signs or hazards on the Route which need to be lit, such as at important junctions, or significant surface or gradient changes?
- Is the provision of lighting likely to improve the sense of personal safety for users and so increase the evening time use of the Route?
- Are the resultant costs justifiable?

Where there is a positive response to any of the above questions, the provision of lighting should be considered. Regardless of the above considerations, lighting is a requirement, even in daylight hours, where the route goes through a tunnel or underpass and there is insufficient natural light.



Greenway Lighting



Lighting in a Tunnel

2.10.1 Lighting Guidelines

1. Lighting considerations should take into account the likely type and volume of use during low light conditions and in particular for autumn and winter evenings.
2. Lighting in low utility rural locations is generally not required, however a junction or trailhead at these locations might require some limited lighting to guide users home.
3. Some lighting at junctions with public roads is recommended especially where the trail has a high level of use. Low power LED lamps, with a solar power source and a motion detector, will minimise the installation and operating cost of these lights.
4. Tunnels, underpasses, and bridges may require lighting during night time and daylight hours if there is an insufficient level of natural light ingress. New tunnels should ideally include windows or roof lights where possible and lighting needs should be assessed where there are sharp turns, bollards or barriers. Lighting in tunnels and underpass must be at a level such that it allows users to cycle or walk through the tunnels safely.
5. Lighting can have a positive impact on anti-social behaviour. Discussions should take place with local agencies such as the Gardaí regarding lighting where anti-social behaviour may be an issue.
6. Good quality anti-vandal lighting is recommended as it is likely to have lower long term maintenance costs.
7. Lighting overspill into nearby residential areas and the negative impact of lighting on wildlife and in particular bats, must be evaluated and resolved.
8. The use of motion sensor lights is recommended as this can reduce energy costs and the impact on wildlife. Such motion sensing should trigger a corridor of lights (circa 100 metres), which illuminate a section of the way rather than trigger one light at a time. The sensor for these triggered corridors should overlap by at least 50 metres so that the user triggers the subsequent corridor of lights prior to exiting the lit area. Such motion sensors should be activated by users traveling in either direction.
9. The type of light chosen, for example a high colour dynamic or narrow spectrum light, can have an effect on the energy costs and can impact wildlife. LED lights can offer a good compromise on these issues and they can, in combination with photovoltaic panels, provide low cost lighting in remote or single site locations.
10. Unlit access control features such as bollards and gates which are part of the Route corridor, should have reflective strips as a general rule, but especially where night time use might be expected.
11. Lighting bollards or low level light studs may be appropriate where light overspill is an issue, to reduce the visual impact of the light stands.
12. Lighting columns and bollards should be positioned outside the path margin, while studs can be positioned typically on the margins of the path.
13. Lighting levels might possibly be switched off or reduced between the hours of midnight and 6 am as a means of reducing energy costs and light pollution. Users should be made aware of any no lighting periods.
14. Information which allows users to report faulty lighting should be clearly visible.

[Smart Highway lighting](#) is an emerging but expensive trail light technology. Using light emitting stones which solar charge during the day, they are laid on the track as part of the surface finish, in shapes and lines. Such a process might be considered for signature sections of a Greenway.



Smart Highway Lighting

2.11 Public Toilets

Route users should, at the least, have access to a toilet facility at major trailheads. Existing toilets on or close to the Route, should be indicated on map boards and signed from the trail. Where necessary additional toilet facilities may need to be constructed as part of the Route construction process, or as user numbers grow.

Composting toilets offer an environmentally friendly solution and have lower construction costs with respect to power and effluent treatment, but care is required in their selection and location. They will require occasional maintenance especially in high use areas of the Route, and this must be borne in mind.

Chemical toilets, while useful for any events that take place, are generally not recommended as a longterm solution as they are environmentally unfriendly and require high maintenance. Further-more, they need to be located in an area with vehicular access for both their delivery and on-going maintenance.

2.12 Access Controls

Access controls are often a necessary part of the main Route design, but can also refer to ancillary infrastructure elements such as bollards, gates or barriers which can control access to the Route, increase the safety of legitimate users, and highlight the presence of hazards.

2.12.1 Access Control Principles

- Routes are designed for a specific range of users. The inappropriate use of the Route may be prevented through the use of access controls.
- Route users should be able to travel unimpeded along the Route. Access control features should not impede travel by requiring cyclists to dismount, prevent access for prams, wheelchairs, or particular bike types such as cargo bikes and bikes with panniers.
- Access control infrastructure should not industrialise or overwhelm the recreation and green theme of the Route concept
- Community ownership of the Route is preferable and it is potentially more effective at preventing the inappropriate use of the Route than access controls.
- Local byelaws should be referred to when considering the location and design of access control points.

2.12.2 Limiting Access Controls

There are a number of reasons not to introduce access control features

- Barriers can cause delay and inconvenience to legitimate users of a path.
- Access controls are often visually intrusive and can appear offensive, especially at locations of some visual or historic appeal.
- Many types of access barrier have the unintended effect of making paths inaccessible to some legitimate users, for example, people using mobility scooters, cargo bikes, tandems, special bikes, wheelchairs, etc.
- Access controls are expensive to install and maintain and can require greater extents of path construction and land take.
- Whilst concerns regarding anti-social behaviour may be cited as a justification for the installation of access controls, it should be remembered that access controls can provide somewhere for those prone to anti-social behaviour to congregate.
- In many circumstances, access controls are not effective at addressing the problems they are intended for. For example motorbikes might be lifted over a barrier; or it may be impractical to secure large open areas or where there is a large number of entry points.



Access control



Access control



Access severely restricted - not acceptable



Design should allow access for all



2.12.3 Access Control Guidelines

The form of access control will vary depending on the location and restrictions proposed, but details of recommended access controls are provided in the Transport Infrastructure Ireland (TII) document, [Rural Cycleway Guidelines](#), Section 7.5. The Sustrans document '[A Guide to Controlling Access on Paths \(2012\)](#)' is also a useful reference.

2.13 Windbreaks

It may be appropriate on exposed sections of Routes to erect wind breaks as crosswinds can be dangerous, and headwinds reduce cycling speeds, and they can prevent less experienced users from making progress.

Earth mounds, shrubs or trees may be used and these can also provide shelter. It is generally too costly to provide such windbreaks for extended sections of a Route but they may be required in high QOS areas or for particularly exposed remote sections.

2.14 Route User Counters

Monitoring and evaluating Route usage is central to providing a body of evidence regarding the impact and potential of a Route. Count data can highlight the benefit of the Route investment, indicate low and high use areas along the Route as well as the times and seasons of use. This data may also identify opportunities for additional Route sections or whether additional infrastructure is required on existing Routes.

There are two types of counting/monitoring use:

- Quantitative monitoring – automatic counters, manual counting
- Qualitative monitoring - interviews and questionnaires

2.14.1 Quantitative Monitoring

Quantitative data is primarily gathered by the use of automatic traffic counters, which are of differing varieties, and widely available on the open market. It is possible to use solar panels or batteries to provide energy for these counters, and hence they can be used at most places along a Route. Modern counters are also remotely accessible for data gathering purposes.

Some thought needs to be given to the location of counters and ideally the sites should be tested initially to determine if they are appropriate. It should not be possible to inadvertently bypass any counter and the counter should be able to differentiate between Route users and wildlife.

Front-stage counting, or visible screen recorders also record user data and this data is presented live to users, outlining the numbers on the Route that day or that year. Such counters are typically used for cycle Routes. However, they may also be appropriate on some high use sections of Routes.

2.14.2 Qualitative Monitoring

Manual counts are more labour intensive and provide only narrow snapshots of use. However, such manual counts, when combined with user surveys, can provide a greater depth of information about the Route users.

Information on counters and monitoring can be found in Appendix 1.



Discrete people counter on a route

3

SIGNAGE

The role of signage is hugely important in the success of a Route, and is primarily to bring users to and along the Route and inform them about the Route. This is done via appropriate mapping, showing distances to destinations including settlements and services along the Route, and the heritage or story of the Route. Hence there are a number of sign contexts:

1. Signs to the Route: typically on public roads to guide participants to a relevant trailhead
2. Entry point signage: including user awareness signs and information panels which inform participants about the concept and use of the Route.
3. Directional signs or signs on the Route: these guide and support participants who are using the Route.
4. Warning signs: These can be on-road for vehicles approaching a Route, or on a Route for users approaching road junctions, and are generally statutory and required by law.

As a general rule, all signs related to cycle routes that are erected on public roads must adhere to statutory requirements as outlined in the [Traffic Signs Manual](#). (Ref. Sec.3.2.1 and 3.5 below for details on Statutory Signs).

Branded signage designs are available for Greenways in Ireland as defined in the [Greenway Design and Brand Guidelines](#). For EuroVelo routes the document [Signing of EuroVelo Cycle Routes](#) provides details on the EuroVelo brand logo which should be used where a cycle route is part of a EuroVelo route. The document [EuroVelo - Guidance on the Route Development Process](#) provides guidance on the appropriate use of signage on these routes. (Ref. Sec. 3.2.2. below for further details on Branding).

3.1 Signage Principles

The messaging on signs should:

- Ensure the Route is clear to those seeking to use it,
- Prompt those who might use the Route,
- Present the options and opportunities along the Route,
- Inform participants of the norms of Route use.

The principles underpinning these messages are that signs should be:

1. **Conspicuous:** a sign should be visible from a sufficient distance and clear and unambiguous in its message to the intended message recipient. This conspicuousness is supported through the appropriate choice and siting of signs, their mounting height, clutter-reduction, and safe operation.
2. **Legible:** the typeface (font), size, lettering colours and sign layout must ensure a consistently high legibility of signage. The use of symbols, pictograms and logos can enhance legibility, and is recommended for overall clarity and international understanding.
3. **Coherent:** good signage, in addition to making it easier for users to navigate, also brings cohesion to a cycle network, while consistency in signage design helps to build user-confidence in the Route or network. The signage system should also seamlessly interface with other signage systems (main roads and pedestrian pathway systems) and clearly indicate the Route without adding ambiguity.
4. **Functional:** signs should be carefully and consistently installed at or near all decision points along or close to a Route, and work together as a logical system to meet user requirements. Signs must also be durable and easy to erect and maintain. Positive messaging indicating what is possible should, where practical, be used in preference to signs which indicate limitations.

A signage plan taking into account these principles is an important component in the Route development process.



Conspicuous Signage



Pictorial 'share the path' sign

3.2 Signage Categories

There are three categories of signs relevant to Routes:

3.2.1 Statutory Signs

Statutory signs are located primarily on public roads and the use of these signs is regulated under Irish law. Details of the requirements for statutory signs are provided in the [Traffic Signs Manual](#). They include signs providing directions to a Greenway or cycle route, on-road cycle route directional signs and various information and warning signs for motorists and cyclists. Where a greenway or other traffic free cycle route crosses a public road the standards regarding the signs to be used and their positioning are detailed in the [Rural Cycleway Design](#) standards document (Ref. Sec.3.5 below for further details on Statutory Signs).



Statutory Direction Signs



Standard Greenway brand logo



Greenway and Eurovelo logo on a directional sign

3.2.2 Branded Signs

Branding guidelines for Greenways in Ireland are provided in the [Greenway Design and Brand Guidelines](#). The use of this branding on a route must be approved by the Department of Transport Tourism and Sport. Approved Greenways must use the branding guidelines.

Where a cycle route does not meet the criteria for a Greenway the Greenway branding does not apply. Branding for such cycle routes can be determined by the route developer.

Where forming part of a EuroVelo route the EuroVelo branding must also be incorporated into the signage. Details on this are provided in the document [Signing of EuroVelo Cycle Routes](#) and in the [Traffic Signs Manual - Chapter 4](#) provides details on how the logo is to be incorporated into on-road cycle route directional signs.

The Greenway and/or EuroVelo route branding

Routes which are part of a EuroVelo route and branded as such require that an easily recognizable EuroVelo route information panel should be added to the existing signage system, either as a logo in the main sign or attached to this sign. Such branding is used to indicate to potential users a cohesive route design and standard. The use of the branding also enables coordinated promotion of these routes on a National and European wide basis.

3.2.3 Local Signs

These are signs used locally to signpost users along local route sections or to local facilities or locations which may be signed using a locally designed sign and logo. This local design might reflect the heritage of the area or the route and add to the character of the route. For example, The Norman Way in Co. Wexford is a section of EuroVelo 1 and The Old Rail Trail in Co Westmeath is a section of EuroVelo 2. Both of these sections have their own distinct logo.



Local brand signage

3.3 Irish Language Signage Requirements

The [Official Languages Act](#) sets out the statutory requirements regarding the use of the Irish language by public bodies. These requirements apply to signage and information panels located on Routes in Ireland which are developed or funded by public bodies. These statutory requirements must be considered as part of the sign planning process. The following is an excerpt of the main requirements.

- Placenames on information signs must be in both Irish and English except in Gaeltacht areas, where the names of places should be in Irish only.
- Where the spelling of a placename is similar in both languages, only the Irish form of the name should be shown.
- All Irish text should be in italic print, in lower case lettering, with initial letters in capitals.
- Irish script should be inclined to the right at an angle of 15 degrees to the vertical. All English text should be in upper case roman letters.

Note that the content of information panels must be presented in Irish and English, including in Gaeltacht areas. To identify the correct spelling of a place-name in Irish, consult www.logainm.ie

The use of icons as an alternative to text is recommended as this facilitates understanding across multiple languages.

3.4 Sign Positioning

1. Route users must be capable of seeing and responding to trail signage, ideally relating to their speed of travel. All directional signs used along Routes should ideally be visible for users on the trail from 30 metres but should be at least legible from 10 metres.
2. Every effort should be made to ensure that sign poles do not impede the free movement or vision of mobility impaired people, the elderly, people with pushchairs, small children, or wheelchair users.
3. Signs supported by a single post should be used where possible and signs should be mounted using as few posts as practicable to avoid signage clutter.
4. The obstruction caused by posts located in narrow Route sections should be minimised. A horizontal clearance between the edge of the sign and the edge of the pavement (including any hard strip or hard shoulder), of 1200 mm is recommended. The sign post may be offset from the centre of the sign and large signs to be cantilevered out from the pole.
5. It may be necessary to erect some signage on natural features such as rocks, or trees, however this should be appropriate, discrete, kept to a minimum and used only where there is no alternative. It may also be necessary to attach signs to existing structures such as walls, fences and buildings. If signs can be mounted in this way, they should have a clearance from the edge of the sign to the edge of Route pavement of not more than 2000 mm. The erection of alternative sign mounts such as on buildings must only be undertaken after agreement with the owner of the property.

3.5 Signs on Public Roads

There are a number of signs which relate to cycle routes and cyclists specified for use on public roads. The requirements for these signs is described in the [Traffic Signs Manual](#).

These signs include:

1. **Direction Signs to direct people to a Route.** These are categorised as ‘Signs for Tourist Attractions and Facilities’ and use white lettering on a brown background with a defined symbol for the attraction or facility. Symbols for a Greenway and a Cycle Trail are defined. Requirements on use of these signs and the symbols to be used are provided in the Traffic Signs Manual – Sec 4.11. Compliance with the details in this section is mandatory.

The following are non-regulatory guidelines relating to advance direction signage on public roads leading to the Greenway

- When developing a signage plan for the Route, in-situ sign poles and signs should be used, adapted or incorporated, where possible, and the opportunity should be taken to de-clutter existing signage.
- Directions to the main entry and egress trailheads along the Greenway should be signed. Signing should commence at the nearest town, village or junction with the nearest national road. Thereafter all junctions from the first sign en-route to the trailhead should be signed.
- Minor trailheads may be signed similarly to the main trailheads. It is preferable to provide directional signs to all of the Route trailheads.

2. **Direction signs to direct people along a cycle route where:**

- the Route is on a road (this may include where a Route is a traffic free Route that joins an ‘on-road’ route).
- where a traffic free Route crosses a road.

These are categorised as ‘Cycle Network Signs’ and use blue lettering on a white background. These signs allow for a Greenway and/or a EuroVelo brand logo to be incorporated where appropriate. Where a Greenway crosses a road they can be used to indicate the presence and direction of the Greenway, destinations along the Greenway and distances. If the section is part of a EuroVelo route, the EuroVelo logo should also be incorporated. The use of these signs is specified in the [Traffic Signs Manual – Sec 4.12](#). Compliance with the details in this section is mandatory.

3. **Signs to warn motorists of a cycle route crossing a road or the presence of cyclists on a road.** These are categorised as ‘warning signs’ and are a diamond shaped sign that use a black symbol on a yellow background. The Rural Cycleway Design standards document Sec. 7.4 specifies the requirements where a greenway or other traffic free cycle route crosses a public road. The use of these warning signs is described in the [Traffic Signs Manual – Sec 6.17.10 and 6.17.11](#). Compliance with the requirements in both of these documents is mandatory.

3.6 Route Entry Point Signage Guidelines

Entry points to a Greenway will typically be via a trailhead but may be at a junction with a public road. All entry points should be clearly indicated, and guidance on signage, in Section 3.5 above, applies to signage used on the public road. Route developers must use guidance in the [Rural Cycleway Design](#), in particular Section 7 - Junctions and Crossings where applicable.



**RUS 058:
SHARED TRACK FOR PEDAL
CYCLES AND PEDESTRIANS**

RUS 058 Sign

1. Where a route entry point is also a road crossing the requirements specified in the [Rural Cycleway Design](#) standards document Sec. 7.4 must be implemented.
2. The statutory pedestrian and cyclist shared use signs (RUS 058), are sufficient to indicate that motor traffic is prohibited. Additional exclusionary signage increases sign clutter and should only be used if the Route might be mistaken as a road.
3. Route users need to be aware of the shared use nature of the Route and that participants have a responsibility to respect the needs of all users. See Section 1.4.3 above 'Code of Conduct'.
4. Dog walking on Routes may be facilitated, however due to farmer or dog fouling concerns, this may not be possible. An appropriate sign regarding the permissibility or otherwise of dog walking should be in place at all Route entrances. ¹

3.7 Route Information Panels

Route information panels are the main source of information on the detail of the Route and are a key branding element across a Route. The following guidelines outline the information panel requirements at trailheads. These panels may be constructed in different materials and formats, but should meet the following requirements.

On Greenways the information panel design, scale, colour pallet, construction and presentation of trailhead information, must adhere to the [Greenway Design and Brand Guidelines](#) referred to in Section 3.2.2 above. Where a cycle route does not meet the criteria for a Greenway the Greenway branding does not apply. Branding for such cycle routes can be determined by the route developer.

The information panels located at the major trailheads, should ideally be either double A1 or A0 in size. Information panels at minor trailheads, can be single A1 size, while simple Greenway entry-points and junctions along the route, may use a smaller than A1 information panel. Information panels at major trailheads must contain:

- A map of the route with a 'you are here' pointer. Where it is not practical to display a map of the entire route (e.g. where the entire route is EuroVelo 1) the user should be able to identify that the section they are on is part of a larger route.
- Information on distances to destinations from the location of the information panel.
- An easily understood scale on the map (in kilometres)
- Towns or villages on the route
- A key/legend explaining any symbols on the map
- The names and locations of entry points for the section of the route displayed.
- The code of conduct for users
- The 'Leave No Trace' principles and a link to the website.
- The emergency services contact number 999 or 112



Greenway information panel

¹ The inclusion of dog walking on defined sections of Routes may be possible where there is a clear rationale and appropriate management standards in place. These management standards include a code of conduct for dog walkers, visible on the Greenway or associated website, and the provision of clean up supports.



The information on a panel will be enhanced by providing:

- The story of the Greenway, the history of the area or route in less than 400 words.
- A description of the Greenway sections indicating the section distances (in kilometres), typical walking and cycle times and the location names of their start and end points and other key locations along the route. The location names should be shown on the map.
- A simple elevation profile diagram
- Icons indicating
 - o recreation spaces,
 - o local dining,
 - o accommodation
 - o other relevant services should be indicated but they should not clutter the map
 - o locations (and names) of the key points of interest, local services and towns/villages along the route

Route information panels at minor trail heads must have at least:

- A map of the route with a 'you are here' pointer.
- Information on distance to locations on the route

3.8 Signs along the Route

A general rule of thumb is that signs along Route sections should only be used where it is necessary to provide information to users. The use of superfluous signage resulting in signage clutter should be avoided.

1. Directional signs on a Greenway and at junctions with roads must comply with the specifications for signage described in the [Greenway Design and Brand Guidelines](#) (Ref. Chapter 8, P32-33). The information in the guidelines about signage use on public roads is in compliance with the specifications in the [Traffic Signs Manual - Chapter 4](#).
2. Where a route is not a Greenway, the signage design used on any traffic free sections of the route can be determined by the route developer. Any on-road signage, whether linked to a Greenway or not, must comply with the requirements for cycle route signage specified in the [Traffic Signs Manual – Sec 4.12](#). Place names on any state funded Route must be in Irish and English – see Section 3.3 above. Direction signs on the Route should identify the destinations which are on the route. These signs may incorporate key visitor attractions which are on the Route or close by and must include distances.
3. Signs to visitor attractions from an on-road cycle route must comply with the [Traffic Signs Manual Sec. 4.11](#).
4. Repeater and confirmatory signs should only be used where they are essential. In general, if it adds to the clarity of the route without adding clutter, it should be considered.
5. To be less visually obtrusive and more appropriate for rural traffic free routes, all regulatory type safety signs used on Routes, such as stop and yield signs, reduced size versions of the regulatory version may be used.
6. In high Quality of Service (QoS), areas 500 metre distance markers have the potential to encourage users to set target distances, monitor their speed, identify improvements in fitness, and entice them to go further. These short distance markers might be placed alongside the edge of the trail using ground level marking.
7. For rural sections of a Route a sign with information on next destination and distance should be used. One every five kilometers is recommended.
8. Delineating or segregating a Route section through the use of white lines that allocate one side of the Greenway to walkers and the other side to cyclists, is generally ineffective, can give a false sense of comfort to users, and may increase cycling speeds. A clear code of conduct is preferable, and the trail developer should have a clear rationale for any proposal such as this.

9. Surface signage may be more appropriate than elevated signage in some locations. However, it should provide a suitable level of surface friction such that it does not increase the risk of slips and slides.
10. Good trail design will unobtrusively influence the speed and care of trail users. For example, a chicane can be used to reduce the speed of cyclists approaching a sharp corner rather than signage. The use of controlling cautionary signage should be used only where essential.
11. At some locations farmland access may require infrequent motorised passage mainly across, but possibly along short sections of a Route. In this case the Route user should be made aware of this possibility.
12. Cyclists should not have to dismount when travelling along a Route, however they should be made aware of circumstances where additional care is required. Hence where a Route narrows, such that it will be difficult for trail users to pass each other, a sign at both sides of the entrance to these areas should indicate the narrowed section of trail. Cyclist dismount signs should only be used in exceptional circumstances for very short sections where no alternative to the unimpeded travel of the cyclist is possible.
13. Approaching the end of a Greenway, users should be made aware when the Route is coming to its end point, hence a sign indicating the end of the Route is recommended at these points.



Greenway on route directional sign



On-road directional signage at Greenway and EuroVelo 1 crossing point (same sign without Greenway logo is used on on-road cycle routes)

4

THE ROUTE CONTEXT

The Route experience is enhanced if there is a sense of a journey, a link with the community, history, or landscape of the area. This is particularly relevant for the long distance participant, but can also encourage use by local communities. A defined start and end point linked within the story for the overall Route can help to maximise such participation.

Similarly for the shorter distance Route user, natural or implanted reference points along the Route such as views, art pieces, natural/built heritage and so on, can provide focal points for local short journeys.

4.1 The Route Story

Routes pass through and are part of communities. As such they should attempt to tell the community's story through the interpretive information and any supporting documentation and websites. Similarly the Route ancillary infrastructure should, where possible, reflect this story.

The story of the Route typically emerges from the built, natural, historical, and social heritage of the area. Sourcing and presenting this heritage through a Route theme, will not only add to the character, individuality, and emotional value of the Route, it can also be the source of local community identity and ownership of the Route.

Routes passing through an industrial or urban area might reveal and acknowledge this heritage through the design of ancillary infrastructure such as sign posts, mile markers, seating, bridges and art pieces. For example, converted rail lines might use original or replica carriages, rail signs for directional signage, or mile markers.

The social heritage of the area might also be reflected in the acknowledgement of individuals who have contributed to the character, development, or fame of the area.

This theming of a Route may be consistent throughout its length, however, long distance Routes have the capacity to tell different stories along different sections.



Tintern Abbey EuroVelo 1 Route in Wexford

4.2 The Route Aesthetic

It is clearly important to provide the user with the best possible Route experience. This can often be done through the alignment and design of the Route itself. But, in some cases, the Route options and aesthetic design may be limited. For example tow paths and abandoned railway lines, while offering excellent traffic free long distance multi-user Routes, can also lack variety and difference.

The user risks a tedious experience where there is a lack of Route or visual variation along the journey, as for example in long straight sections of a tree bounded abandoned railway line. Where there are limited options to redirect such a Route, a range of attractions, variations and deviations should be considered.

- Deviations of note: connecting the Route to local attractions such as nearby parks, forests, seating areas, etc.
- Sight variations: placing significant objects at strategic points on the Greenway to break up a long view, creates not only a visual distraction but also a target point for users and a place to congregate. For example, large art pieces, earth mounds, or a small planted area and simple trail curves with off-route planting, may create a more flowing natural vista for the trail user. These variations can be designed so that they are located along the Route at various locations. Placed a few kilometres from high QoS areas they might provide a turning around point for a local walk or cycle. Alternatively, if they are located on a long, extended section of Greenway, they can provide a median reference and sense of progress for the longer distance traveller.
- Story attractions: information on the social, natural or built heritage of an area can break the journey for the traveller. Typically using in-situ interpretive panels, the history of the area may be briefly and visually outlined, ideally with reference to nearby physical evidence.

Appropriately located, designed and delivered, these attractions, variations and deviations have the ability to enhance any journey, and to alter any potentially monotonous section to one of variation and delight.



Signposting to local town.



Art Installation in park beside Old Rail Trail

4.3 Route Art and Heritage

Art and Heritage pieces or attractions have a number of potential roles and links with a Route:

- They can bring people to art and heritage by connecting and interpreting places of natural, built, or social heritage.
- They can engage with the community and users through the creation of community led art pieces or art-based representations of an area.
- Art installations can entice people to the Route
- Heritage attractions can add significantly to the Route as a desired destination.

The process of selecting and presenting art and heritage on a Route, is best realised through participatory arts, whereby an arts coordinator or an artist in the community is used, to reveal and present the local story.

Group work, the creation of murals, mosaics, carvings and so on by community members and local schools, will further enhance the local ownership, use, and respect for a Route. Signature art pieces also provide icons for the Route, focal points along the way, and have the potential to generate tourism interest. It is therefore recommended that consideration should be given to allocating an appropriate percentage of the route funding for the procurement of art pieces to be installed along the Route.

4.4 Route Coherence

For potential visitors, a Route is more enticing if it is part of a cluster of attractions which provide the user with a range of potential leisure options for their precious recreation time. Correspondingly the linear and linking nature of a Route makes it a potential connector to a variety of facilities, events, and locations; and so the visitor to the area should be encouraged and enabled to use the Route as a doorway to a range of experiences.

For the Route to act as a link or an experience connector, there needs to be appropriate on-route signage to nearby attractions and experiences that extend out from the Route. Such information should highlight relevant nearby facilities and providers, and their contact details. This information can support the emergence and growth of related businesses such as bike hire, bike taxi facilities, and other ancillary activities, as well as enhance the user's experience. The Route should ideally complement and support other local attractions.

The Route coherence should also extend into the product and price bundling of associated services such as transport (public or private), accommodation, dining, instruction, and bike hire. Such bundling has the capacity to increase the tourism profile of the area, simplify the prospective user's search journey and increase their likelihood of action. Hence from a tourism perspective a successful Route is more likely to emerge from a combination of a consistent quality, an attractively themed Route, and relevant bundled services. The managed online presence of the Route is critical to attracting outside visitors, and providing added information and value to all Route users – see www.greenway.ie/ for example of Great Western Greenway.

APPENDIX 1

Route Development Information Resources

The following is a list of references, which are relevant to the development of Routes in Ireland. These documents informed the above guidelines and they are referenced within the text of this document. All of the documents are available in English at the URL provided.

These Greenway Ancillary Infrastructure Guidelines above do not attempt to synthesise or repeat the significant array of detail in the following documents and as such the reader is advised to consult them for specific or more comprehensive details.

Essential Guidance Documentation for Route Design in Ireland			
Title	Source	URL	Comments
Rural Cycleway Design	Transport Infrastructure Ireland	www.tiipublications.ie/library/DN-GEO-03047-02.pdf	Design standards for traffic free cycle routes in rural areas
National Cycle Manual	National Transport Authority	https://www.cyclemanual.ie/ http://www.nationaltransport.ie/downloads/national_cycle_manual_110728.pdf	Design standards for urban cycle routes
Design Manual for Urban Roads and Streets (DMURS)	Department of Transport Tourism and Sport	www.housing.gov.ie/sites/default/files/migrated-files/en/Publications/DevelopmentandHousing/Planning/FileDownload%2C32669%2Cen.pdf	Statutory Irish guidance for street design in urban areas
Traffic Signs Manual	Department of Transport, Tourism and Sport	trafficsigns.ie/current-tsm/	Statutory requirement for road signage in Ireland
EuroVelo European Certification Standard	European Cyclists' Federation	www.eurovelo.org/wp-content/uploads/2011/08/European-Certification-Standard-Manual.pdf	Certification requirements for EuroVelo designated routes
EuroVelo Design Guidance Document	European Cyclists' Federation	www.eurovelo.org/wp-content/uploads/2011/08/Guidance-on-the-Route-Development-Process.pdf	Provides basic approach and standards for designated Euro Velo Routes
Signing of EuroVelo Cycle Routes	European Cyclists' Federation	www.eurovelo.org/wp-content/uploads/2011/08/2016_Signing_EuroVelo_e_full.pdf	Provides requirements for the use of the EuroVelo logo on signage
Greenway Design and Brand Guidelines	Department of Transport Tourism and Sport	http://www.irishtrails.ie/Sport_Ireland_Trails/Publications/Trail_Development/Greenway_Branding_Guidelines.pdf	Provides details on branding of Greenways

Other Useful Background Reference Documents			
Title	Source	URL	Comments
National Cycle Policy Framework 2009 - 2020	Department of Transport Tourism & Sport	www.smartertravel.ie/sites/default/files/uploads/2013_01_03_0902%2002%20EnglishNS1274%20Dept.%20of%20Transport_National_Cycle_Policy_v4%5B1%5D%5B1%5D.pdf	Outlines targets and policies for growing cycling in Ireland
Handbook for cycle-friendly design	Sustrans	www.sustrans.org.uk/our-services/our-expertise/route-design/sustrans-design-guidance	Broad reference documents to support the Route design process
Collection of Cycle Concepts 2012	Cycling Embassy of Denmark	www.cycling-embassy.dk/wp-content/uploads/2013/12/Collection-of-Cycle-Concepts-2012.pdf	The Danish approach to Cycle Design
Management Standards for Recreational Trails	National Trails Office	www.irishtrails.ie/National_Trails_Office/Publications/Management_Standards_Access.pdf	Basic guidelines for developing/ managing recreational trails.
Classification and Grading for Recreational Trails	National Trails Office	www.irishtrails.ie/National_Trails_Office/Publications/trails_classification.pdf	Guidelines on the classification and grading of recreational trails.
Note 2/08 'Cycle Infrastructure Design'	Department of Transport UK	www.cycling-embassy.org.uk/sites/cycling-embassy.org.uk/files/documents/ltn208.pdf	UK guidelines on route development
Sustrans Scotland: walking and cycling outcomes (2013)	Sustrans Scotland	http://www.sustrans.org.uk/sites/default/files/images/files/scotland/News/Sustrans_Scotland_walking_and_cycling_outcomes_report_September_2013.pdf	Appendix 1 in this document describes methodology for counting users
EuroVelo 'Guidance on Usage Monitoring.'	European Cyclists' Federation	http://www.eurovelo.org/wp-content/uploads/2011/08/monitoringmanual.pdf	Guidance on usage monitoring on EuroVelo routes

APPENDIX 2

Leave no Trace

The following seven principles are at the heart of the Leave No Trace movement, and are taken from the website at www.leavenotraceireland.org/seven-principles



1. Plan Ahead and Prepare

- Before you go check, where possible, if access is allowed and your activity is permitted in the area you wish to visit.
- Respect any signs, regulations, policies and special concerns for the area that you wish to visit. Permits may sometimes be needed for activities on public lands.
- Where possible travel by public transport or share cars; consider the availability of parking.
- Ensure you have the skills and equipment needed for your activity and to cope with emergencies that could arise.
- Check the weather forecast and always be prepared for changing weather conditions.
- For environmental and safety reasons, and to minimise your impact on other users, keep group numbers small; split larger parties into smaller groups.

2. Be Considerate of Others

- Respect the people who live and work in the countryside.
- Park appropriately - avoid blocking gateways, forest entrances or narrow roads. Remember that farm machinery, local residents and the emergency services may need access at all times.
- Take care not to damage property, especially walls, fences and crops.
- Respect other visitors and protect the quality of their experience.
- Let nature's sounds prevail. Keep noise to a minimum.

3. Respect Farm Animals and Wildlife

- Dogs should be kept under close control and should only be brought onto hills or farmland with the landowner's permission. Some public areas stipulate that dogs must be kept on a lead at all times, please adhere to local guidelines.
- Observe wild animals and birds from a distance. Avoid disturbing them, particularly at sensitive times: mating, nesting and raising young (mostly between spring and early summer).
- Keep wildlife wild, don't feed wild animals or birds - our foods damage their health and leave them vulnerable to predators.
- Farm animals are not pets; remain at a safe distance.

4. Travel and Camp on Durable Ground

- Durable ground includes established tracks and campsites, rock, gravel, dry grasses or snow.
In popular areas:
- Concentrate use on existing tracks and campsites.
- To avoid further erosion, travel in single file in the middle of the track even when wet or muddy.
- In more remote areas:
- Disperse use to prevent the creation of new tracks and campsites.
- Avoid places where impacts are just beginning to show.
- If camping:
- Protect water quality by camping at least 30m from lakes and streams.
- Keep campsites small and discreet.
- Aim to leave your campsite as you found it, or better.

5. Leave What You Find

- Respect property. For example, farming or forestry machinery, fences, stone walls etc. Leave gates as you find them (open or closed).
- Preserve the past: examine - without damaging - archaeological structures, old walls and heritage artefacts e.g. holy wells, mine workings, monuments.
- Conserve the present: leave rocks, flowers, plants, animals and all natural habitats as you find them. Fallen trees are a valuable wildlife habitat; do not remove or use for firewood.
- Avoid introducing non-native plants and animals e.g. zebra mussels in rivers and lakes.
- Do not build rock cairns, structures or shelters

6. Dispose of Waste Properly

- “If You Bring It In, Take It Out” - take home all litter and leftover food (including tea bags, fruit peels and other biodegradable foods).
- To dispose of solid human waste, dig a hole 15-20cms deep and at least 30m from water, campsites and tracks. Cover and disguise the hole when finished.
- Bring home toilet paper and hygiene products.
- Wash yourself or your dishes 30m away from streams or lakes and if necessary use small amounts of biodegradable soap. Bring home any solids and scatter strained dishwater.
- For more information on sanitation in the outdoors read the “Where to go in the outdoors” leaflet

7. Minimise the Effects of Fire

- Fires can cause lasting impacts and be devastating to forests, natural habitats and farmland. Therefore when camping use a lightweight stove for cooking.
- Where fires are permitted: Use established fire rings, barbecues or create a mound fire.
- Keep fires small. Only use sticks from the ground that can be broken by hand. Do not use growing vegetation for use as firewood.
- Avoid burning plastics or other substances: which emit toxic fumes.
- Burn all fires to ash, put out fires completely, and then scatter cool ashes





An Roinn Iompair,
Turasóireachta agus Spóirt
Department of Transport,
Tourism and Sport

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