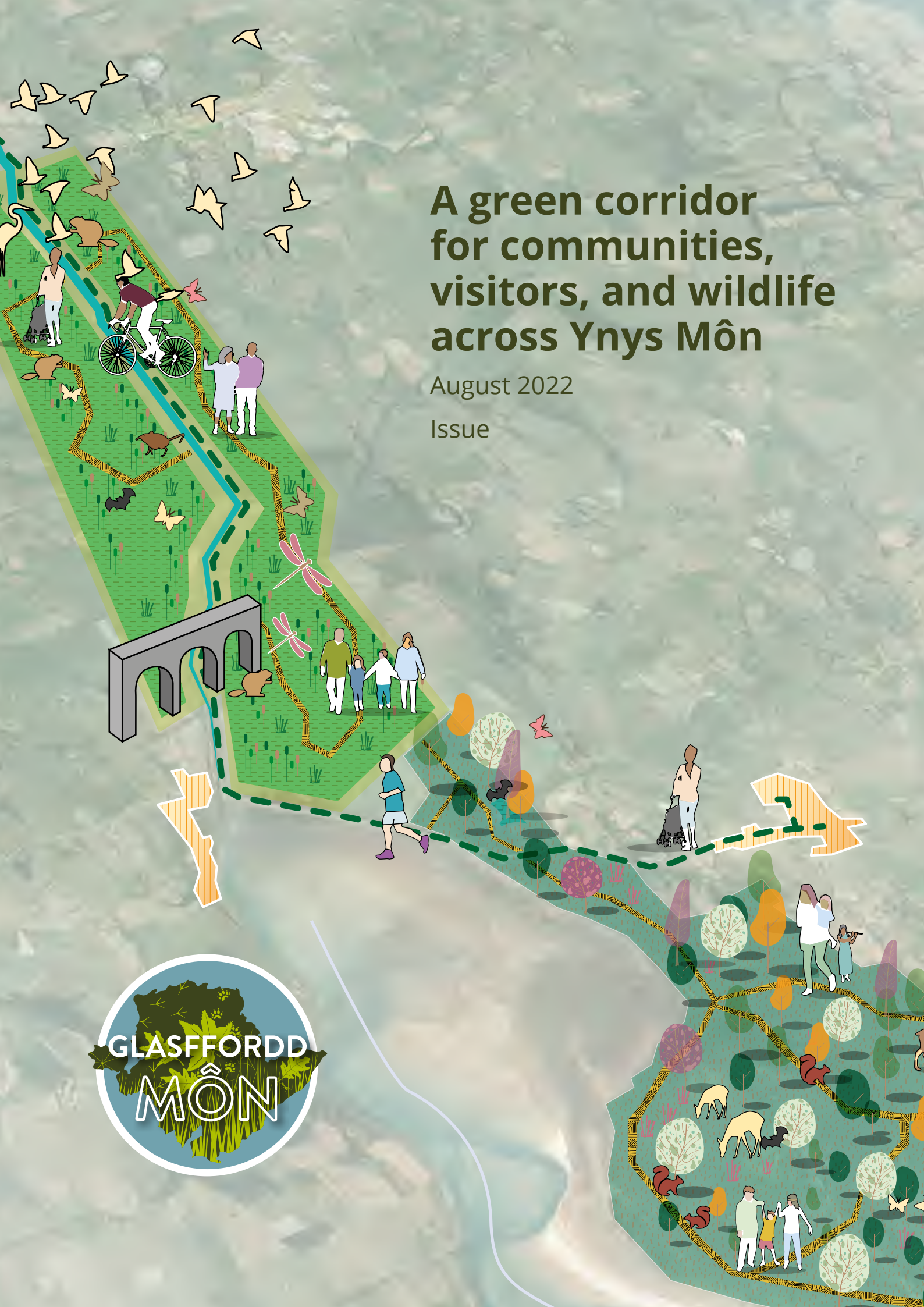
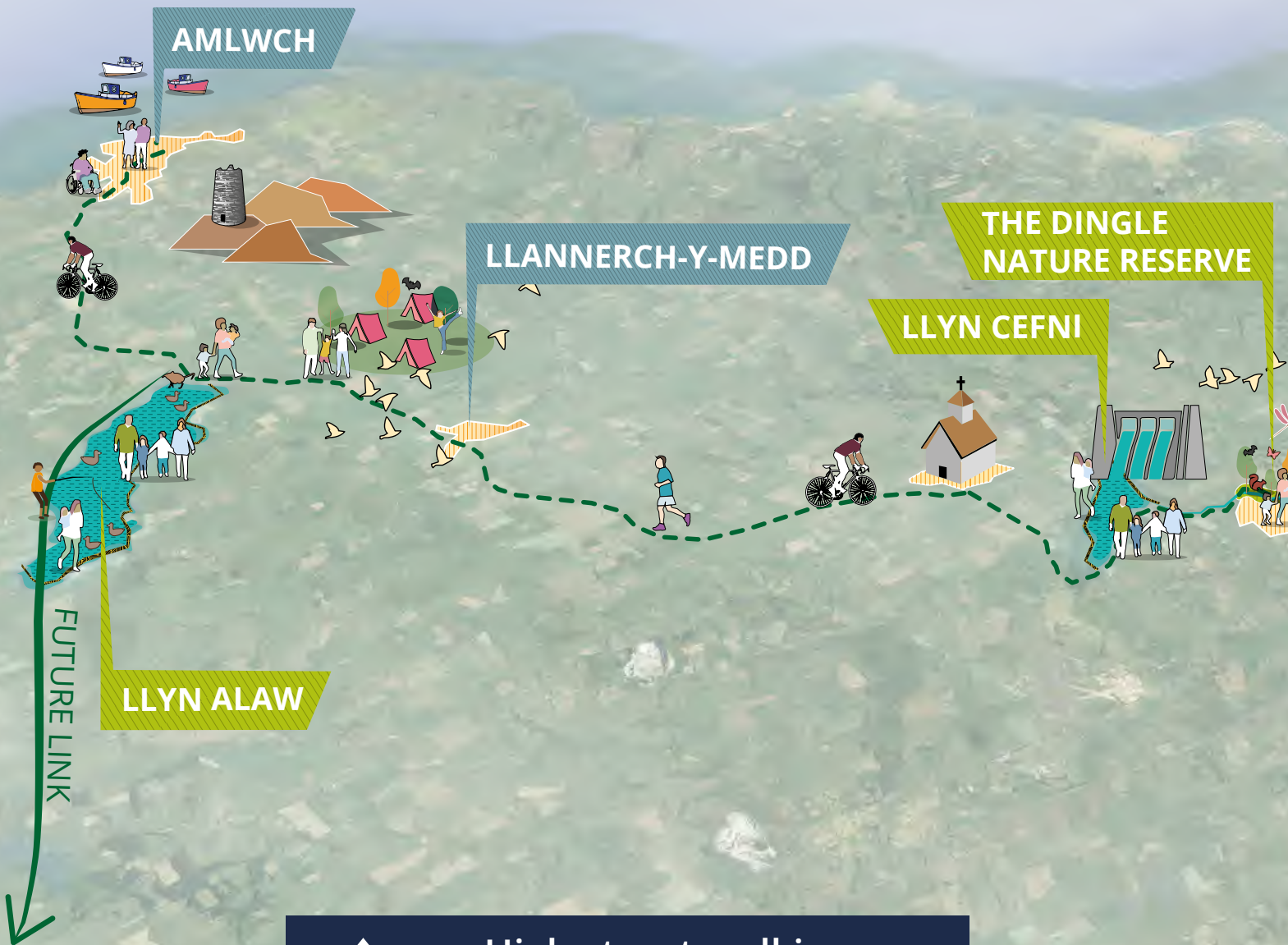


A green corridor for communities, visitors, and wildlife across Ynys Môn

August 2022

Issue





High street walking, cycling and public realm improvements can **increase** retail sales by up to **30%**

Lawlor, 2015^a

13:1 is the average 'Benefit Cost Ratio' for walking and cycling projects this means for every **£1m** spent on walking and cycling **£13m** of benefits are returned to the economy

Department for Transport, 2015^a

The Vision



54%

of people who cycle to work feel **happy** and **energised** during their commute

Cyclescheme, 2015^a

Introduction

Glasffordd Môn is a vision to develop a continuous high quality green corridor for walking and cycling, wildlife and landscape across Anglesey. The corridor will connect Newborough in the south to Amlwch in the north providing both a long distance route and local community links to green space. The project is led by Menter Môn and supported by a Steering Group formed of key stakeholders.

Delivery of the route will extend the existing 15km Lôn Las Cefni route between Malltraeth and Llyn Cefni. This popular route, the majority of which is traffic-free, passes through a range of landscapes including Malltraeth Marsh designated as Site of Special Scientific Interest (SSSI) for its breeding bird community, wet meadows and watercourses.

The vision is to extend the route to form a green corridor across Ynys Môn benefiting communities and enhancing the landscapes and ecosystems through which it passes.

The cross-island route would be a spine from which a network of high quality routes can develop across Anglesey and the Menai Strait.



The route will serve local communities, visitors, and wildlife.





THE AMBITION FOR GLASFFORDD MÔN

A traffic-free route within a linear park across Anglesey for active travel users of all ages and abilities to walk and cycle. The route will provide for the everyday journeys of residents and showcase the unique landscape of Anglesey to visitors, distributing the benefits of tourism more evenly across the island. The linear park will create a corridor of green and blue infrastructure that can increase biodiversity by creating, linking and extending habitats to enable movement of wildlife.

THE COMPONENTS TO DELIVER

- A high-quality route constructed to Active Travel design standards that minimises the need for people to cross roads or mix with traffic.
- Habitat creation and restoration working with stakeholders and local communities to improve the environment through tree-planting and land management in keeping with the sensitive landscapes that the route passes through.
- New and improved urban public spaces co-designed with local communities to reflect the culture and identity of the communities through which Glasffordd Môn passes.
- Community involvement to engender pride and ownership in both the route and the natural landscapes through ongoing inclusive engagement including events.
- Circular routes that enable easy access to green spaces for the local community with associated health and wellbeing benefits.
- Clear signage and accessible information to help navigation and interpretation of the points of interest, history and wildlife surrounding the route.

Identifying Priority Projects for Glasffordd Môn Appraisal Process

In December 2021 Menter Môn commissioned Arup to identify key projects which could contribute towards the vision and delivery of Glasffordd Môn. The work completed has drawn on earlier work undertaken by the Steering Group and an independent consultant Michael Chown and considers the section of the route between Newborough and Llangwyllog.

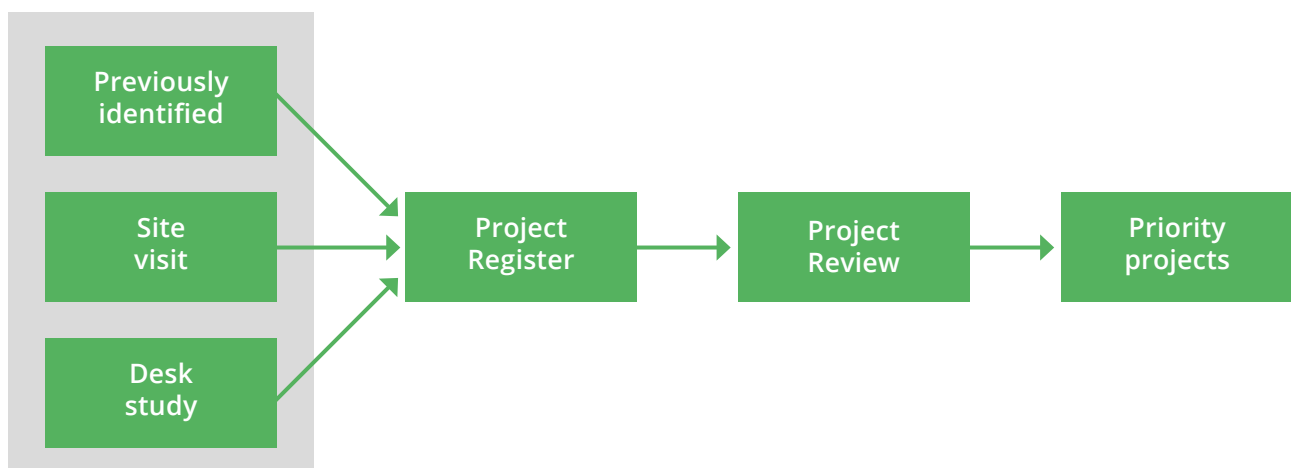
Over 40 potential projects were identified on this route section varying in type, location, scale, programme and cost. Information on each project was gathered in a project register which was reviewed with the Steering Group considering policy and project objectives. Seven projects were shortlisted and have been developed to concept designs set out in this brochure.

PROJECT IDENTIFICATION

Projects were identified from three key sources: previous studies most notably the 'Glasffordd Môn Proposal Report'^b, a site visit conducted by members of the Steering Group and Arup in December 2021 and a desk study completed by Arup. Many of the projects are location specific e.g. new crossings or route infrastructure whilst others are initiatives or measures that apply across the route e.g. signage or ecological stepping stones.



Over 40 projects have been identified, with seven of these shortlisted for development.





PROJECT REGISTER

The project register details each project identified for this initial route section. The intention is for the Steering Group to retain and update this register as a living document adding new projects to it as they are identified and as additional sections of the route are considered. Inevitably information on projects varies in detail. Projects should remain on the project register as a record of what has been identified and considered but not all projects on the register will be progressed.

PROJECT REVIEW

The prioritisation of projects has been completed by an appraisal process reviewed by the Steering Group. The aim of the process was to identify an initial set of priority projects for development which represented the breadth of Steering Group interests and which aligned with best practice. It is notable that the majority of projects identified could deliver benefits against a range of appraisal criteria.

Glasffordd Môn has strong alignment with a range of policy documents including:

- Isle of Anglesey Active Travel Network by delivering a number of identified sections of the Integrated Network Map.
- Nature Recovery Action Plan by tackling the decline in biodiversity through linking and enhancing the green infrastructure.
- Natural Resources Wales Area Statements for North West Wales including through reconnecting people with nature and enhancing opportunities for a resilient ecosystem.
- Well Being of Future Generations Act by connecting communities and creating a healthier Wales through improved access to sustainable travel routes and natural environments with associated benefits to physical and mental health.

PRIORITY PROJECTS

The project review shortlisted seven priority projects which are detailed in the next section of this brochure. The projects vary in scale, location and delivery timescale. What they all have in common is the significant benefits they can contribute to delivering the vision for Glasffordd Môn both now and in the future.

Study Area Context and Projects

PRIORITY PROJECTS

- 1 New underpass bridge at Llangefni Industrial Estate Road
- 2 Improvement of A55 underpass low visibility corner
- 3 A5 crossing improvements
- 4 Llangefni town centre missing link
- 5 Route signage audit, rationalisation and renewal (not on map)
- 6 User counters on route (not on map)
- 7 Improved route between Newborough and Pont Marquis



WILDLIFE AND LANDSCAPE

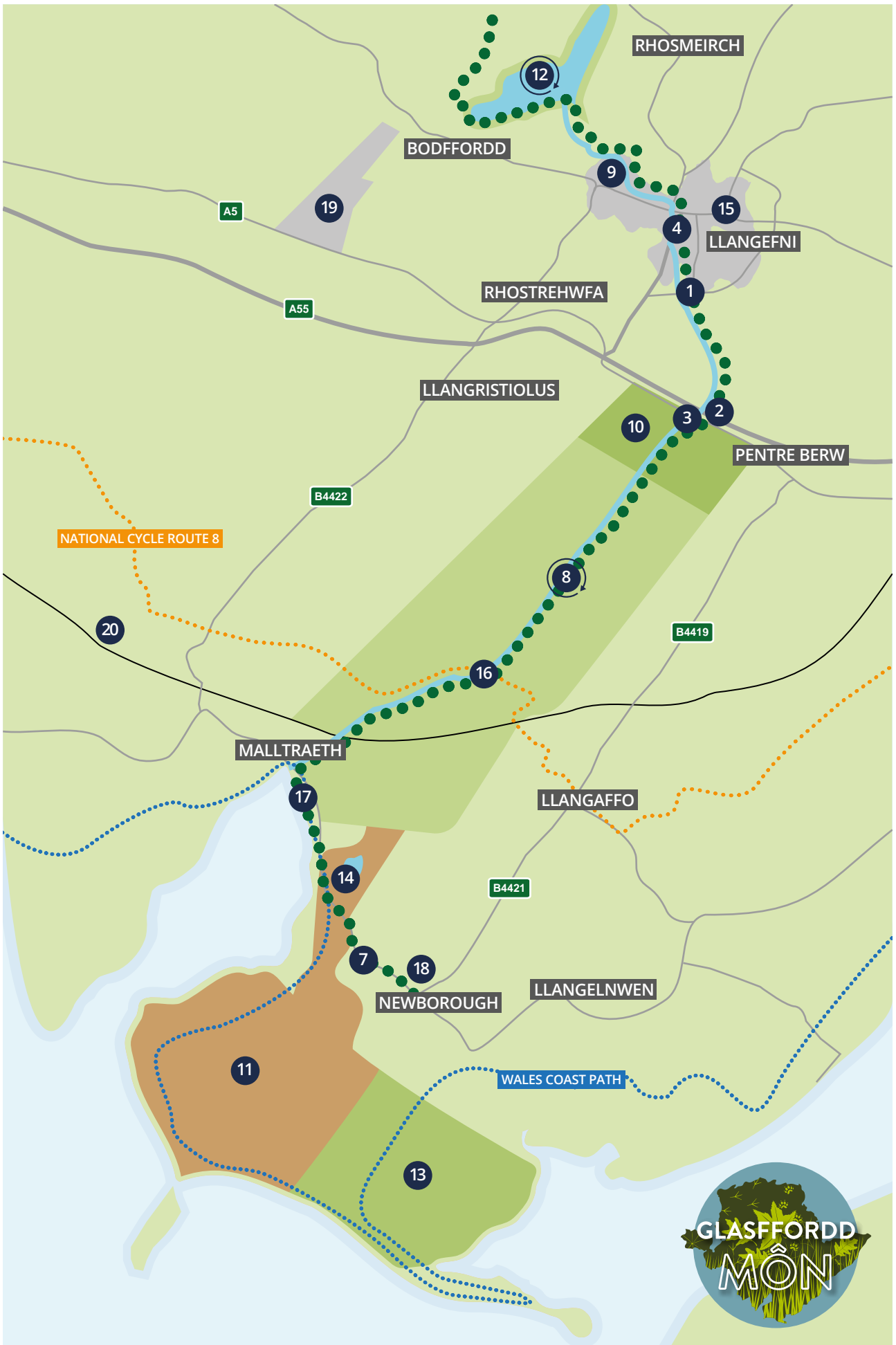
- 8 Malltraeth Marsh SSI and circular routes
- 9 Dingle Nature Reserve
- 10 RSPB Cors Ddyga
- 11 Newborough Forest
- 12 Llyn Cefni and circular routes
- 13 Newborough Warren and Ynys Llanddwyn National Nature Reserve
- 14 Llyn Parc Mawr Community Woodland



URBAN AREAS AND POINTS OF INTEREST

- 15 Llangefni: County town of Anglesey
- 16 Pont Marquis: Historic bridge
- 17 Malltraeth Cob: Causeway
- 18 Newborough: village
- 19 RAF Mona
- 20 Bodorgan station





New Underpass and Bridge at Llangefni Industrial Estate Road

The existing Lôn Las Cefni follows the west bank of the river to the south of Llangefni. Close to the Llangefni Industrial Estate the route crosses the river via a narrow bridge (to which a high pressure soil pipe is attached) and rises to a crossing of the busy Llangefni Link Road close to a roundabout before returning to the eastern river bank via a ramp and continuing south on the east bank of the river.



Providing an underpass at this location would allow users to avoid the road crossing via a more direct route (removing the current 100m diversion) and without level change. In addition, the proposed replacement bridge would be wider; meeting applicable standards. The proposed design would require the relocation of the high pressure soil pipe to a separate upstream dedicated pipe crossing. The existing wide bridge footings under the Llangefni link road would be repurposed to serve as the route.

Existing marginal aquatic planting would be restored and enhanced around the underpass to provide native wildflower species suitable for pollinators and foraging water vole (*Arvicola amphibius*). Species chosen should align with those detailed in the citation of the SSSI, which is located further south. In combination the measures would deliver safety and accessibility benefits for users of all ages and abilities and route continuity for landscape and wildlife.



Existing bridge



Detailed design of the scheme will be required to include application for a Flood Risk Activity Permit^c (FRAP) from Natural Resources Wales to establish the impact of the proposals on the river. Works to relocate the soil pipe would require a requisition from Welsh Water and subsequent application to move the pipework^d.



Existing bridge

A55 Underpass Low Visibility Corner Opening

The existing route passes under the A55 dual carriageway via an underpass shared with the Afon Cefni. The route is on a raised path between the eastern bank of the river and the bridge abutment. The route is considered of adequate width for current user volumes but to the north of the underpass there is a sharp corner with substandard visibility^e that significantly impacts the use of the route by cyclists and could present a safety issue if users moving in opposite directions encounter one another at this point.



This project would open the corner within the extents of the current riverbank in order to improve the user experience and safety (including personal security). Current 'dead' space in the corner close to the underpass would be used for additional planting of a scrub mix and/or native wildflower species in order to tie into surrounding habitats for nesting birds and invertebrates, including pollinators.



Existing underpass

TWO POTENTIAL CONSTRUCTION OPTIONS HAVE BEEN IDENTIFIED TO ACHIEVE THIS:

1. Extended and infilled path: to construct a new outer wall and infill; or
2. Cantilevered structure with surfacing to construct a structure secured to the retaining walls of the existing path and surface over. This option would result in lower loss of volume within the river channel.

	Construction Method	Scheme Assessment Requirements
Extended and infilled path	<ul style="list-style-type: none"> • Complete works to Afon Cefni river bank needed to provide adequate stability for new outer wall. • Create outer wall (circa 20m) between boundary points on the existing Lôn Las Cefni route. Wall could be constructed by either sheet piles, pre-cast or in-situ concrete stem walls or gabion baskets. • Infill bounded area of approximately 30 sqm with structural backfill. • Surface infilled area. • Re-instate guard railing. 	<ul style="list-style-type: none"> • Investigation of composition and stability of existing riverbank to determine construction detail. • Flood Consequences Assessment^f (FCA) due to infill material (circa 60 m³) and resultant loss of flood storage and flow restriction under bridge. • Flood Risk Activity Permit^c (FRAP) in relation to construction • Scour Assessment is likely to be required to assess the robustness of structures in a flood. • Ecological assessment for impact on river habitat Approval from NMWTRA responsible for managing and maintaining the A55. • Approval from NMWTRA responsible for managing and maintaining the A55. • Underground utilities.
Cantilevered structure with surfacing	<ul style="list-style-type: none"> • Construct foundation/sub-structure within existing footpath extent (either small diameter piles or spread footings). • Locally excavate in front of existing wall to ensure adequate space for structural depth of boardwalk structure. • Install structure (steel cantilever beams and surface material). • Apply finishes and re-instate guard railing. 	

A5 Surface Crossing Improvements

The A5 crossing is the only location between Malltraeth and Llangefni where the existing route crosses a high-speed road. To either side of the A5 the approach is complicated by tight corners and barriers likely to have been installed for safety reasons but which impede direct crossing of the A5 particularly for cyclists and groups. The result is a crossing which is difficult to use and extends crossing time and exposure to high speed traffic. The barriers also make it difficult for cyclists to turn off the A5 onto the route.



Existing crossing

It is not considered feasible to provide a grade-separated crossing in the short to medium term due to local factors (in particular river levels and the SSSI designation of Malltraeth Marshes) and so improvements to the existing surface crossing have been identified as a priority to improve the experience and safety for users of all ages and abilities.

THE COMPONENTS TO DELIVER:

- Reducing time taken to cross the A5.
- Reducing corners and barriers on approach which are difficult to negotiate and result in a loss of concentration on users safe crossing of the A5.
- Increasing driver and active travel user awareness of the crossing location.

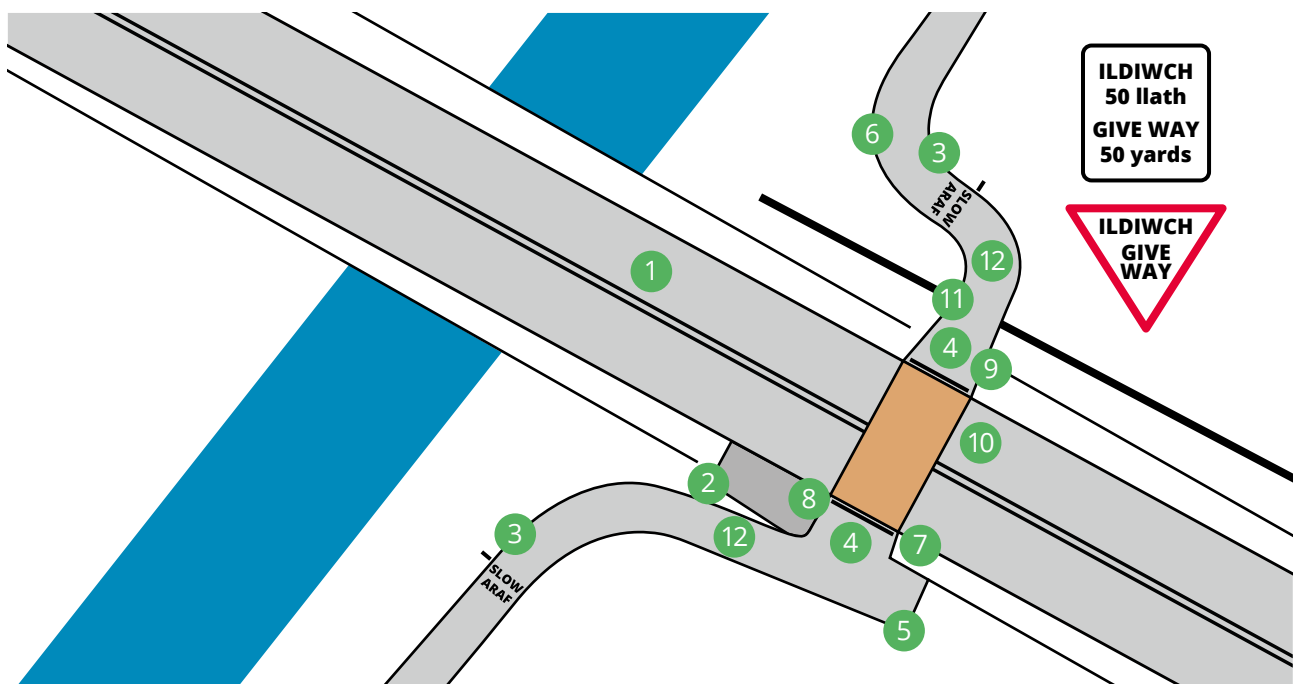
In developing a concept design for the crossing a range of options were considered. The proposed design illustrated below has the following key design elements which have been designed according to guidance set out in the Welsh Government Active Travel Design Guidance⁸:

Perpendicular crossing of the A5: the current skewed crossing between dropped kerbs has been aligned and widened. A coloured surface finish is proposed to highlight the location of the crossing on the A5 carriageway.

Removal of barriers: Revision of barriers are proposed to either side. To the south the sharp corner resulting from the arrangement of vehicle crash barriers has been removed by a break in the barrier whilst continuity of crash barriers for

vehicles is retained by a new barrier behind the route. The approach ramp to the A5 would also be re-profiled to a gradient of 1:20 or less. To the north the existing guard railing and bollard are removed and the gap in the wall widened beyond this the existing tight curves are also eased. These measures make it easier for users of the route to approach, cross and exit the A5 crossing.

Signage: Signage for drivers on the A5 will be set back further with distance plates to provide sufficient distance for drivers to slow if required. The current centre line will be altered to double white lines to ban vehicles overtaking close to the crossing. Signage and markings to warn route users will be introduced on the route approaches the A5.

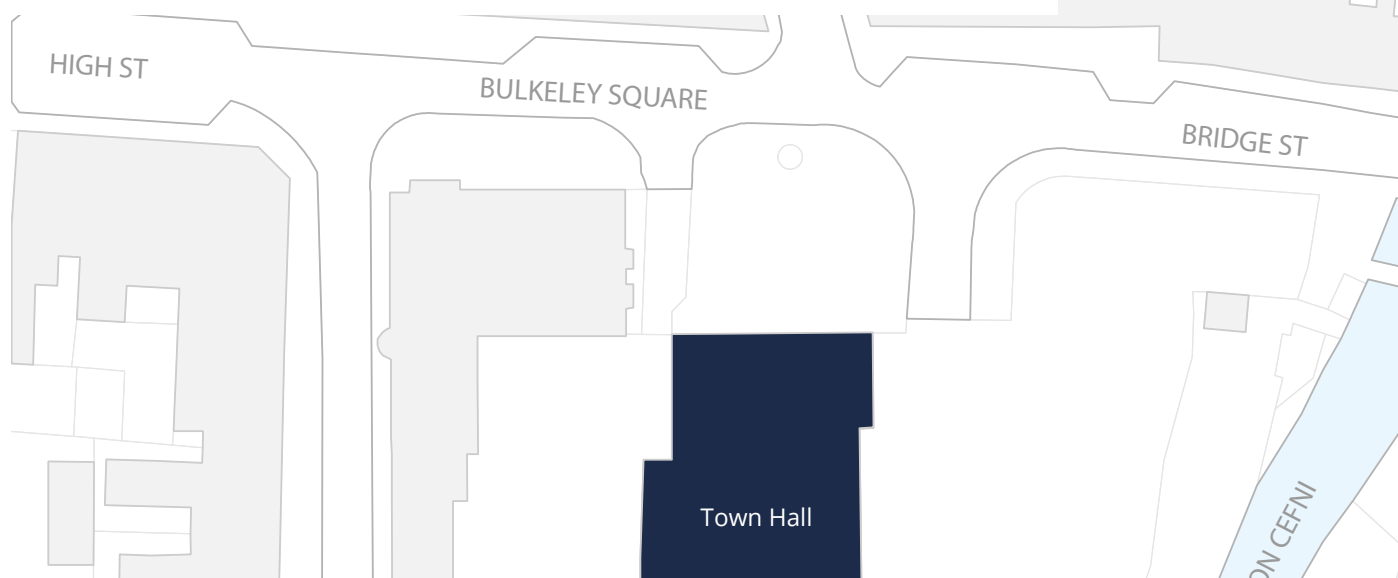


- | | | |
|--|--|--|
| 1 Double white line to indicate to road users that they should not overtake. | 4 Give way signage and markings. | 9 Bollard and barriers removed and verge paving widened to allow users to quickly leave the carriageway. |
| 2 Waiting area for bus stop paved to allow easier access for bus users. | 5 Fence replaced by crash barrier. | 10 Contrast surfacing through the crossing is visible to road users at a distance. |
| 3 ARAF/SLOW markings and give way signage on approach alerts users that they are nearing a road. | 6 Approach curves smoothed to allow users to reach the crossing more easily. | 11 Gap in wall widened to enable cycle track to be wider. |
| 7 Southern approach repositioned to be in line with northern approach. | 8 Dropped kerb at crossing. | 12 Potential single bollard to prevent vehicular access. |

Llangefni Town Centre Missing Link

At present there is a break in route continuity in Llangefni town centre between the Town Hall car park and Ffordd Cae Sêl. This break in provision of a clear route is disorientating for users and discourages active travel (particularly cycling) in Llangefni which is a likely origin or destination for many commuting, shopping or education trips. This project proposes re-routing the signed route to stay on the eastern bank of the Afon Cefni through improvement and widening works to an existing route.

Improving this route is considered to offer the best prospect to establish a continuous high quality route which has improved legibility and avoids the need to negotiate traffic and a busy junction in the Town Hall car park.



The route is currently scheduled for improvement works which will include resurfacing works and the creation of a public space with seating overlooking the Afon Cefni. The proposed design would develop this further primarily by widening to minimum of 3m. To the south the route would connect to the existing route and to the north the proposals connect to a shared cycleway/footway on Bridge Street. It will be important to revise signage in relation to the revised route to ensure directions to local facilities are provided for both user convenience and local economic benefits. Llangefni is the primary town on the route offering refreshments and facilities for leisure users and a likely origin/destination for utility journeys such as commuting or shopping.

Detailed design will be required to establish whether it is preferable to widen to the west (river side with existing trees/undergrowth and potential flood impacts)^c or east (potential third party land impacts).

Incorporation of street tree planting should also be investigated along this section to provide shade, reduce the Urban Heat Island (UHI) effect and provide additional habitats for nesting birds, roosting bats and invertebrates in the town centre.



IMPROVING THE ROUTE TO THE EAST OF THE AFON CEFNI



A

Existing shared use path to south of Bridge Street with crossing point suitable for active travel. Minor widening of tarmac area.



B

Existing path is undergoing improvements including fence repair and widening. Further widening to meet active travel design standards.



C

Existing path narrows between Iceland store and river. Widening works required. Potential flooding and land ownership constraints.



D

Existing bridge. Signage realigned to new route. Widening of existing route to meet active travel design standards.

Route Signage Audit, Rationalisation and Renewal

This project will provide improved signage of the route that is central to the experience of users. Signage is also important in promoting the route to potential users. At present signage has developed in a gradual and piecemeal manner; whilst much of the signage is useful there are also gaps and inconsistencies that this project will target to result in useful signage that aids direction and discovery.



Existing signage example



Branded finial on top of signage adds identity

SIGNAGE AUDIT

The purpose of the signage audit would be to understand the existing situation including the location of signage, the destinations/facilities signed and condition of signage. The information should be captured in a GIS database which the local authority may already use for highway signage.

SIGNAGE DESIGN

Signage on the route should be consistent other routes and meet standards^h. The majority of blue and white signage (see images) is already compliant and can be retained. Route specific branding could be incorporated by use of a branded finial that can be added to the top of both new and existing signage to unify the route identity.

SIGNAGE RATIONALISATION

Rationalisation of signage would be informed by the audit and may involve removing signage where it is adding to clutter. Rationalisation should also consider the condition of signage and whether signs and interpretation information that are inconsistent with others or in poor condition should be removed.

SIGNAGE RENEWAL AND MAINTENANCE

The final and ongoing stage will be to install signage identified in the audit and to ensure all signs are part of ongoing maintenance as they would be for highway signage. Volunteer rangers may have an important role in identifying the need for maintenance.



User Counters on Route

This project is for the installation of user counters in key locations along the route to better understand use in terms of:

- Number of users on different sections of the route
- Split between walking and cycling on the route
- When people use the route in the day, week or year

User count information can inform route development, monitor use and support future funding applications.

FOR THE SECTION OF THE ROUTE BETWEEN NEWBOROUGH AND LLYN CEFNI FIVE LOCATIONS FOR USER COUNTERS HAVE BEEN IDENTIFIED:

1. Malltraeth Cob
2. Between the A5 and Pont Marquis
3. Adjacent to Afon Cefni near Llangefni Link Road
4. Ffordd Cae Sêl, Llangefni
5. Within the Dingle Nature Reserve

IN SELECTING COUNTERS THE KEY REQUIREMENTS ARE CONSIDERED TO BE:

- Differentiation between different user types (walking/cycling)
- Accuracy
- Reliable and robust with minimal need for maintenance
- Visually unobtrusive in environmentally sensitive settings
- Ease of installation without requirement for mains power supply
- Provision of remote monitoring



In urban areas consideration could be given to visible 'totem' counters to also promote active travel.

Supplier	Model
Eco-Counter	Permanent ZELT
	Urban MULTI
MetroCount	RidePod BP
Q-Free	Hi-TRAC CMU
Cycledata	Signum

Route Improvement and Extension from Pont Marquis to Newborough

The existing Lôn Las Cefni route is nearly entirely traffic free from Llyn Cefni to Pont Marquis which is a key part of the appeal to many users. From Pont Marquis it follows minor roads south to the end of the current route in Malltraeth. This project considers how this section could be improved making it traffic free and extended to Newborough. The extension would connect the community, green spaces and key tourism destination of Newborough National Nature Reserve and Forest to other locations on the route.

The recommendations set out are informed by work completed by Michael Chown an independent consultant in February 2022 in three sections documented in that work.

1. PONT MARQUIS TO MALLTRAETH **A** to **B** (approximately 3km)

From Pont Marquis the existing route crosses the Afon Cefni and follows the minor road on the northern bank. Whilst traffic volumes are low the carriageway is narrow and available highway space would make it challenging to deliver continuous segregated cycle facilities or restrict access. To ensure the character of the current route is maintained it is proposed to relocate the route to the southern side of the Afon Cefni upgrading the existing footpath right of way to a surfaced shared use path of minimum 3m width (see DE403)ⁱ.

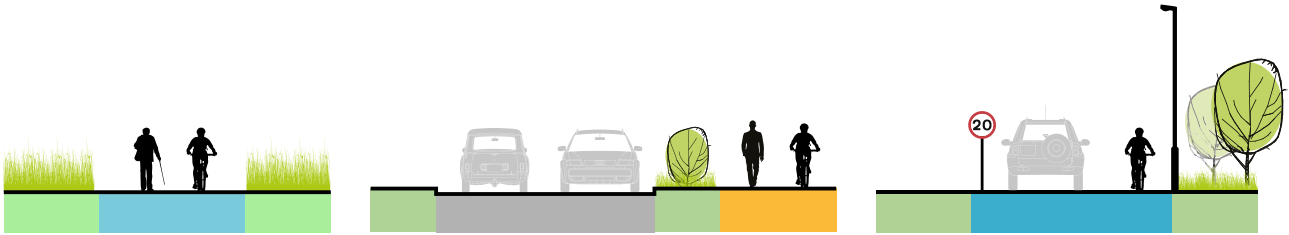
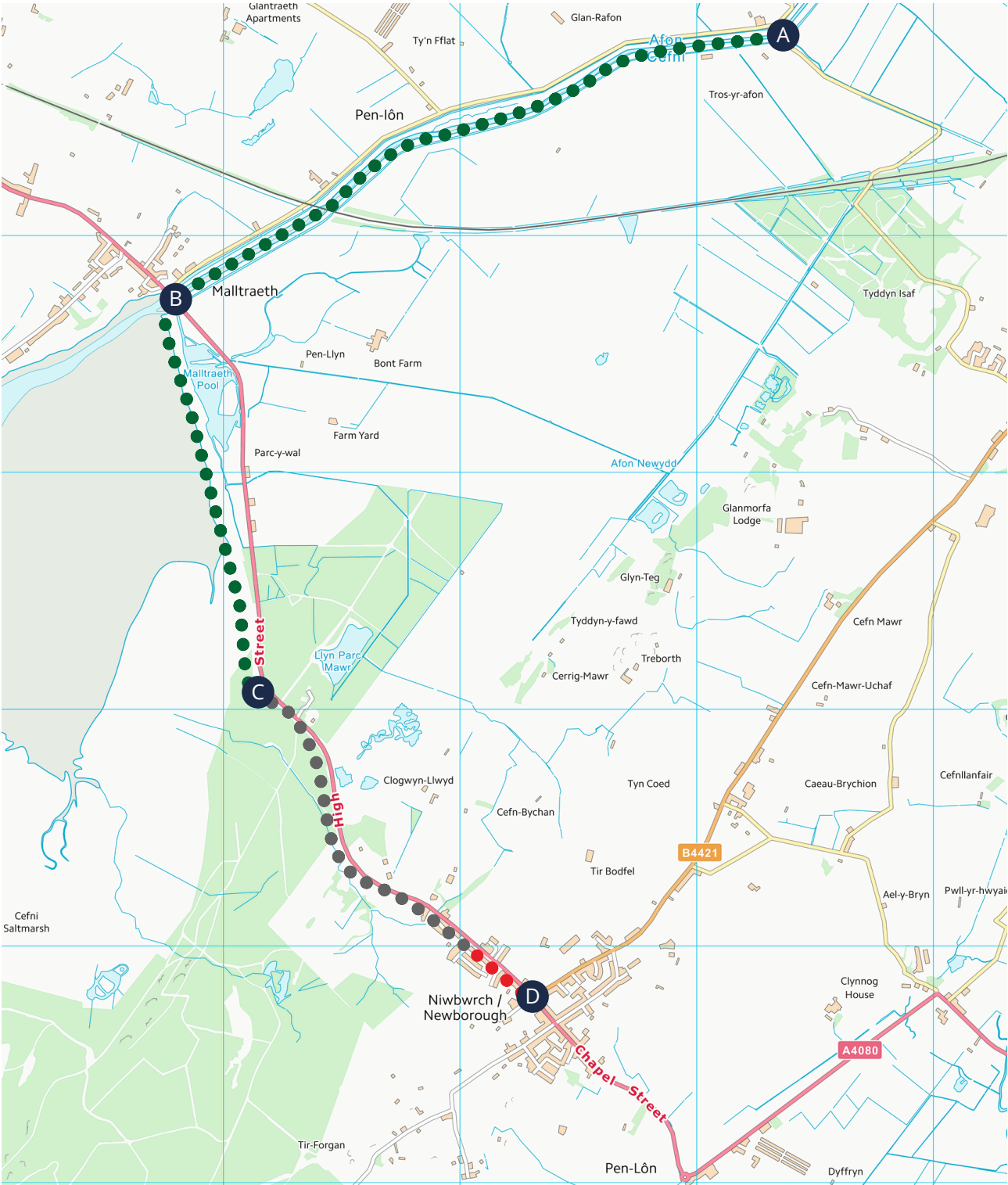
2. MALLTRAETH TO PEN COB CAR PARK **B** to **C** (approximately 1.7km)

At Malltraeth the route would cross the A4080 (30mph speed limit) by a parallel crossing for pedestrians and cyclists (DE611)ⁱ and onto Malltraeth Cob via a simplified access. The cob is an existing traffic free route with a sealed surface but the potential to widen to a continuous minimum of 3m should be investigated.

3. PEN COB CAR PARK TO NEWBOROUGH **C** to **D** (approximately 2.1km)

Localised works at the car park to connect existing routes to the north and south would be beneficial and improve the continuity of the route to the access of Llyn Parc Mawr. Between this location and the western extent of Newborough within the highway corridor there is space within the adopted highway corridor to provide a continuous cycle track separated from the national speed limit A4080. From the western extent of Newborough to the junction with Rhodeabach there is potential, through significant highway works, to continue a segregated route to the south of the A4080 but at this point the highway corridor narrows and a lower speed limit combined with a quiet street/cycle street design (DE205/206)ⁱ could be used to connect the route to Newborough village centre.

Where a route is being relocated, incorporation of landscape planting should be considered, if possible and appropriate. For this section tree planting should only be considered in more urban areas or as an extension to existing tree-line and woodland areas, to provide shade for route-users and provide habitats for bats, birds and invertebrates while also contributing to the goal of increased tree planting. Elsewhere along the route, wildflower, scrub mixes and dune species should be prioritised to ensure that planting is in-keeping with the surrounding open landscape character, with particular attention paid to those botanical species referenced within the Malltraeth Marshes SSSI and Newborough Warren SSSI citations.



●●●●●
Traffic free route away from road

●●●●●
Traffic free route near road

●●●●●
On-road route in 20mph zone

CASE STUDY 1

Connswater Community Greenway, Belfast

The Connswater Community Greenway has created a nine kilometre linear park connecting local population and amenities in East Belfast. The living landmark is a multi-functional scheme which has delivered cleaner rivers, new bridges, improved green/open spaces, flood alleviation for the local area and 16 kilometres of traffic free walking and cycling routes.

KEY FACTS

- First phase completed 2014, second phase complete 2017
- 26 new or improved bridges and crossings
- Greenway connects 23 schools and colleges
- Hubs for education through interpretation points and tourism and heritage trails
- Creation of a wildlife corridor from Belfast Lough to the Castlereagh Hills
- Creation of C.S. Lewis Square events space with 2,500 person capacity
- Increased river capacity, attenuation and flood protection consisting of 5km of flood walls and embankments, helping to reduce flooding for 1,700 properties along the Greenway
- Research completed calculated a Benefit to Cost Ratio in the range 2.88 to 5.81 (i.e. for every £1.00 invested there would be a £2.88-£5.81 return)¹.



The Connswater Community Greenway is a living landmark and a legacy for residents of Belfast and beyond to enjoy. Consultants Arup worked closely with the landscape architects and cost consultants to maximise the accessibility, aesthetics and the overall value for money throughout the design phase. The scheme includes boardwalks to bring people closer to the river, gravel riffles to improve the quality of the river and the re-development of Hollywood Arches to create a large public realm event space in the theme of C.S. Lewis who was born in the area.



The Greenway has created vibrant, attractive, safe and accessible parkland for leisure, recreation, community events and activities. It has improved the quality of life for 40,000 local residents, pupils and students, visitors and tourists, and those who work and invest in east Belfast. The network of green linear parks link people to parks, nature, leisure facilities, business, shopping centres, schools and colleges making sustainable travel the natural choice for many daily journeys.

The Greenway has directly improved the living environment, reinstating a valuable amenity for local people and providing opportunities for improved health and wellbeing in inner city areas. The project acts as a catalyst for physical and economic development and improves access and connections for local communities to open green spaces encouraging increased levels of walking and cycling with related public health and environmental benefits.

RELEVANCE AND OPPORTUNITIES FOR GLASFFORDD MÔN

- The Greenway delivers both benefits for users, wildlife and the economy
- Connections between communities provide useful routes for everyday journeys
- Monitoring of the Greenway benefits, including user numbers, provides justification for similar schemes

CASE STUDY 2

Wye Valley Greenway

The Wye Valley Greenway is an eight kilometre route within the Lower Wye Valley Area of Outstanding Natural Beauty created by the Greenways and Cycleroutes group on the route of the former Wye Valley Railway. Opened in 2021 the Greenway links Sedbury (near Chepstow) and Tintern and offers a sustainable way to visit the Wye Valley by walking or cycling. The route includes passage through the spectacular Tidenham Tunnel which is open through the summer months only due to bats which hibernate in the tunnel in winter months.

KEY FACTS

- The Tidenham Tunnel, the second longest on the national cycle network, is open in the daytime from 1st April to 30th September
- Signs on the Greenway provide the alternative winter routes for walkers/ cyclists to bypass the tunnel when it is closed
- Use of the route for safe travel to schools was central to design
- The Greenway connects to the National Diving and Activity Centre, Wyedean School and Sixth Form Centre and Tintern including the popular tourist destination of Tintern Abbey
- Works included surfacing, lighting, benches, signage, bat/dormouse boxes, extensive planting and construction of a bridge over the A48



The Greenway provides safe and sustainable travel connecting communities. The route also adds to the tourism offer of the Lower Wye Valley inspiring people to enjoy the landscape on foot and by bike.



Wye Valley Greenway designed by John Grimshaw, Company Engineer, Greenways and Cycleroutes.

The project has been developed through community involvement from volunteers creating a strong sense of community surrounding the Greenway and ensuring that the route caters for a range of users. Between December 2020 and April 2021 more than 70 volunteers contributed over 300 days work. The route has subsequently been adopted by local volunteers who maintain the route and open/close the tunnel gates for the benefit of the bat population. Local wildlife was a main consideration for construction with bat improvements agreed with Natural England consisting of stopping the drafts in roof voids, installing bat boxes, bricking up alcoves and installing baffles to create sheltered places for hibernation.

The Greenway incorporates the Floral Mile, a biodiversity project which aims to turn a badly scarred and previously neglected section of the route into a showcase of British wildflowers, focusing on species that are native to the local area.

RELEVANCE AND OPPORTUNITIES FOR GLASFFORDD MÔN

- The Greenway incorporates a range of elements which enhance and protect of local wildlife
- The route was entirely built by volunteers which as created lasting community ownership of the route
- The route provides for both everyday utility journeys, leisure and tourism

CASE STUDY 3

Strawberry Line, Cheddar

The Strawberry Line takes its name from the cargo this former railway line carried from the strawberry fields of Cheddar. The current route connects Yatton to Cheddar but there are proposals to extend it to Clevedon in the north and Shepton Mallet in the south as part of a wider initiative to create a Somerset Circle route.

The route is mainly traffic-free with no steep gradients and takes in a variety of landscapes from the flat marshes and cider apple orchards around Yatton, steep wooded valleys and a tunnel in the Mendips, to historic Axbridge and Cheddar Gorge.

KEY FACTS

- 17 kilometre route 83% of which is traffic-free with a mixture of sealed and unsealed surfaces
- Cycle hire and businesses at railway stations and local centres enables tourists to use to cycle along the route including the community café at Yatton station
- Works to create the route have included additional access points, signage, lighting in the Shute Shelve Tunnel, road crossing upgrades, habitat management works including coppicing, hedge planting, hedge laying and rhyne restoration
- Incremental development of the route since opening to improve the quality, continuity and traffic-free nature. These improvements have included purchase of third party land to establish a continuous route



Aspirations to extend the path to create a continuous 50 kilometre traffic-free path spanning Mid-Somerset from Clevedon to Shepton Mallet are supported by a range of local stakeholders and will provide improved access to the countryside for a range of utility journeys connecting a nearby population of 70,000 as well as leisure and tourism use.



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...Benefits to the local economy in the shape of more visitors and convenience to residents as a green alternative to the car

— Economic Development Officer,
Sedgemoor District Council

RELEVANCE AND OPPORTUNITIES FOR GLASFFORDD MÔN

- The Strawberry Line is evolving from an initial route a more extensive linked network
- A focus on related economic opportunities including cycle hire, food and drink
- An initial route is being enhanced on an ongoing basis and where appropriate third party land has been purchased to create a continuous high-quality route

Costs and Potential Funding

Initial costing estimates have been developed for the concept projects using first principles and precedents. The table below sets out costs and potential funding sources with key assumptions noted below.

Project	Estimated Cost
1. New underpass bridge at Llangefni Industrial Estate Road	£380,000
2. Improvement of A55 underpass low visibility corner	£90,000
3. A5 surface crossing improvements	£170,000
4. Llangefni town centre missing link	£300,000
5. Route signage audit, rationalisation and renewal	£180,000
6. User counters on route	£30,000
7. Improved route between Newborough and Pont Marquis	£2,200,000

COSTS AND BENEFITS

Projects 1-4 costs have been developed from first principles by a quantity survey. Projects 5-7 costs have been scaled from precedent costs set out in 'Typical Costs of Cycling Interventions'^k report produced for the DfT in 2017. The costs of the projects vary and in combination are significant however evidence from similar projects elsewhere suggests that the Benefit to Cost ratio of investment in schemes of this type are high and the benefits realised across a range of areas including transport, wellbeing, local economy and the environment.

FUNDING

There are a range of funding options that could be considered for Glasffordd Môn including transport, heritage, tourism, environmental and landscape sources. Key sources are likely to include Welsh Government Active Travel and Road Safety funding, development related funding, National Lottery Community funding, National Forest for Wales, Wildlife and Habitat Conservation Grants. The cross-cutting nature of Glasffordd Môn is also likely to make it eligible for larger funding opportunities which come forward from UK and Welsh Government. In considering each project it will be important to understand the scale of the funding required, potential funding sources as well as the process and timescale for funding award. Consideration of these factors can ensure that the most appropriate funding is targeted for each project or that where appropriate packages of projects can be developed.

13:1

is the average 'Benefit Cost Ratio' for walking and cycling projects this means for every **£1m** spent on walking and cycling **£13m** of benefits are returned to the economy

Project Delivery

Delivery of the projects will require further project development, the table below sets out the current understanding of key next stages for these projects and the potential timescale for delivery. Quick win projects are considered to be deliverable within six months, short-term within a year and mid-term within two years.

Project	Stakeholder Consultation	Approvals	Flood Risk Activity Permit	Impact on Utilities	Third Party Land	Timescale
1. New underpass bridge at Llangefni Industrial Estate Road	✓	✓	✓	✓		Mid-term
2. Improvement of A55 underpass low visibility corner		✓	✓			Short Term
3. A5 surface crossing improvements		✓				Quick Win
4. Llangefni town centre missing link	✓	✓		✓		Short Term
5. Route signage audit, rationalisation and renewal		✓				Mid-term
6. User counters on route		✓				Quick Win
7. Improved route between Newborough and Pont Marquis	✓	✓	✓		✓	Mid-term

Next Steps

The vision for Glasffordd Môn and the benefits it can deliver for communities, local journeys/commuting, visitors and wildlife are clear. Recent work and development of initial projects has focused on the southern section from Newborough to Llyn Cefni, much of which involves upgrades of the existing and well-used Lôn Las Cefni route. This is just the beginning of the complete cross-island route and ultimately a network of high-quality green corridors providing links for communities, visitors and wildlife across Anglesey.

To date the Steering Group have led the development and delivery of initial projects but taking Glasffordd Môn forward will involve working with the local community, landowners, key stakeholders (including the trunk road agency NMWTRA, Natural Resources Wales, RSPB and Dŵr Cymru) and a broader set of organisations (eg. tourism, local business, conservation and wildlife organisations, education sector, local and national government) whose input to the projects at early stages would maximise future benefits. This input is most relevant to the broader considerations that will generate and demonstrate support for the complete route. It will involve increasing awareness of the route and longer-term aspirations through marketing, branding and working with organisations involved in promoting leisure and tourism.

The seven concept projects set out in this document have an infrastructure cost of around £3.5m but delivery of the ambition for Glasffordd Môn - to include route extension and wider aspects such as land management - will have a significantly higher cost. Stakeholders will need to work together to use the strategic case set out to secure funding from identified and emerging sources. Partnership working and consultation will further the case for investment by evidencing delivery, responsibilities, and benefits of initial project delivery.

References and Links

- a - Walking and cycling: the economic benefits, TfL
<https://content.tfl.gov.uk/walking-cycling-economic-benefits-summary-pack.pdf>

- b - Glasffordd Môn Proposal Report for Menter Môn, March 2021, Michael Chown

- c - As the Afon Cefni is designated as a main river which flooded in 2017 the works are likely to be subject to the requirements of a Flood Risk Activity Permit (FRAP) <https://naturalresources.wales/permits-and-permissions/flood-risk-activity-permits/?lang=en> This is a permit provided by NRW to ensure that such elements as the structural integrity of existing flood defences are not compromised. Any reduction in channel cross sectional area must be assessed for any backwater impacts. Conveyance through the structure may be improved but this will need assessments. The presence of the existing railway crossing upstream may be considered in any assessment compiled in support of any application.

- d - Application to move Welsh Water pipework (sewers or water mains) via separate applications to their Developer Services Team:-
 Sewerage - <https://developers.dwrcymru.com/en/applications/waste-connections/diverting-altering-abandoning-a-public-sewer>
 Water Mains - <https://developers.dwrcymru.com/en/applications/water-connections/diverting-altering-or-abandoning-a-water-main>

- e - Visibility dimensions for cycle routes, section 9.14 Active Travel Design Guidance suggests forward visibility of 17m for a design speed of 20kph: <https://gov.wales/sites/default/files/publications/2022-01/active-travel-act-guidance.pdf>

- f - As the works are located within a floodplain and are likely to encroach within the river a Flood Consequence Assessment (FCA) will be needed to ensure that the proposals are acceptable under Technical Advice Note 15 (TAN15). Flood modelling may be needed as part of the FCA to assess the flood risk associated with the works and its associated impact.

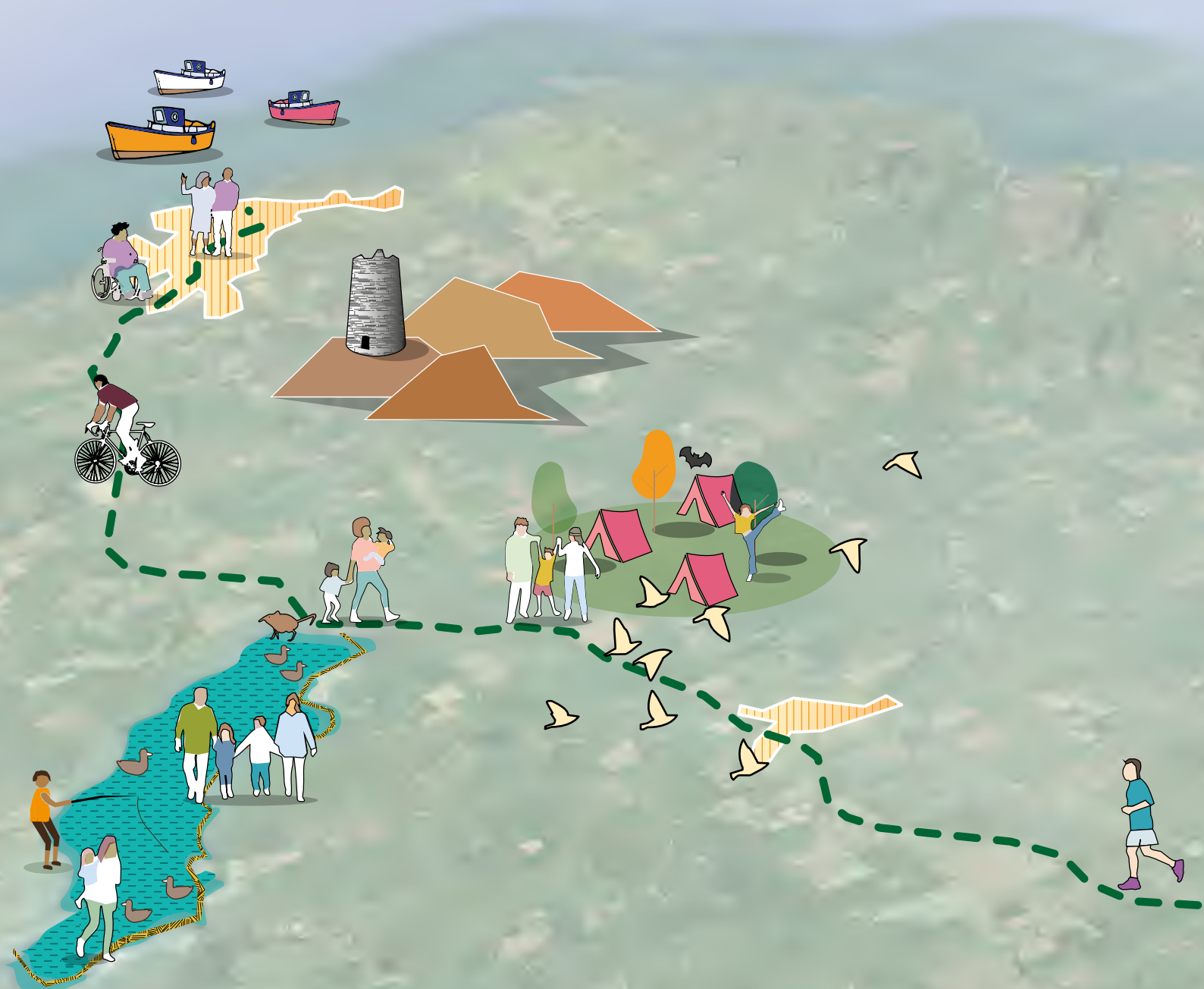
- g - Active Travel Act Guidance, Welsh Government, July 2021: <https://gov.wales/sites/default/files/publications/2022-01/active-travel-act-guidance.pdf>
 - DE606 Simple uncontrolled crossings (walking, shared use or cycle only)

- h - Active Travel Act Guidance, Welsh Government, July 2021: <https://gov.wales/sites/default/files/publications/2022-01/active-travel-act-guidance.pdf>
 - Signage, section 14.7

- i - Active Travel Act Guidance, Welsh Government, July 2021: <https://gov.wales/sites/default/files/publications/2022-01/active-travel-act-guidance.pdf>
 Designing for active travel routes and links:
 - DE205 Quiet streets
 - DE206 Cycle streets
 - DE403 Shared pedestrian and cycle track, away from road
 - DE611 Parallel crossing for pedestrians and cyclists

- j - Social return on investment analysis of an urban greenway, Ruth F. Hunter et al, Centre for Public Health, Queen's University Belfast https://www.connswatergreenway.co.uk/sites/default/files/Hunter_SROI_Cities&Health_accepted.pdf

- k - Typical Costs of Cycling Interventions, Ian Taylor and Beth Hiblin https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/742451/typical-costings-for-ambitious-cycling-schemes.pdf





This document is available in both English and Welsh.

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