

## NW-034 Conwy Estuary Trail Feasibility Study





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# NW-034 Conwy Estuary Trail Feasibility Study

## Executive Summary

This report summarises the results of the feasibility study Sustrans has conducted for the development of the traffic free walking and cycling path to upgrade the existing link between Conwy Cob and Llandudno along the Conwy Estuary Trail. This section links up to Route 5 of the National Cycle Network, which connects Holyhead to Chester and then on to Reading. The report is addressed to local authorities and community groups and is aimed at supporting funding applications for the delivery of the route.

Between 2016 and 2019, through RDP funding awarded by the Welsh Government, Sustrans has worked to identify preferred options for the link as well as improvements to sections of the existing route.

As a result of this work, the report presents the preferred alignment, provides outline information about the cost of the route and highlights the benefits the route can have on the local economy, health and the environment.

## I General information about the scheme

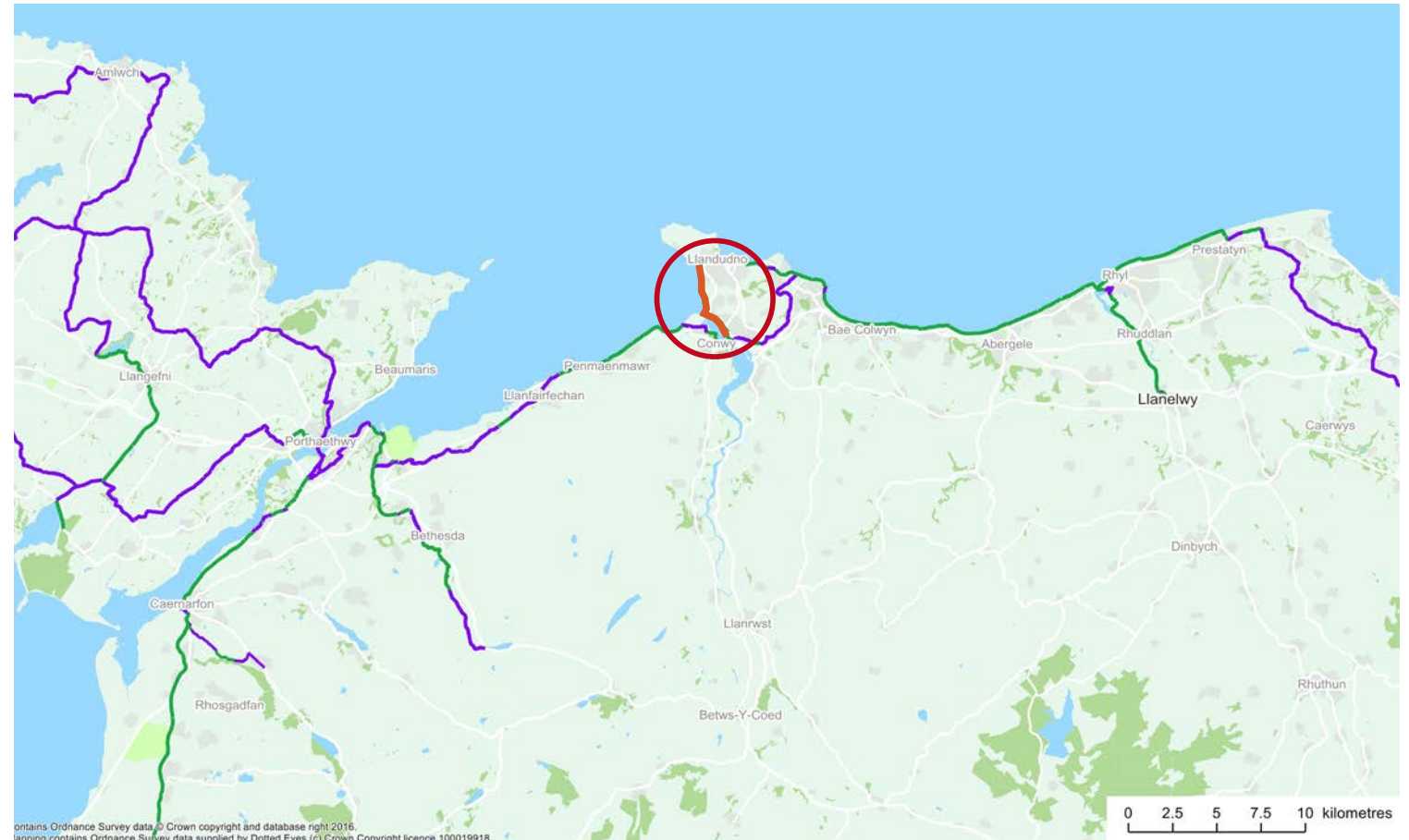
### a Context

Sustrans has conducted this feasibility study to upgrade the traffic free path between Conwy Cob and Llandudno's West Shore area. The work is part of the Rural Development Programme implementation and relates to the wider context set by the Wellbeing of Future Generation Act (2015). The route will be developed according to the Design Guidance set out as part of the Active Travel (Wales) Act 2013.

### b The route

The new section will provide an improved traffic free link between Conwy Cob and Llandudno's West Shore area. The route can be split into two parts, the existing Conwy Cob to Deganwy section needs to be upgraded to Active Travel Act standards and the Deganwy to Llandudno section, which needs to be improved over half its length and re-aligned over the northern

## Regional overview



section due to wind-blown sand blocking the previous alignment. Route design will need to take into account coastal defence constraints and the biodiversity of the dunes and surrounding area. This report details the preferred option that Sustrans suggests in order to improve accessibility and the quality of the route.



## II Detailed proposal

### a Suggested alignment

As noted above the overall route can be split into two parts as detailed below:

**Conwy Cob to Deganwy:** this section of the route has been in place since around 2007 when the original Conwy Estuary Trail was developed. At that time a dust based path surface was included which has had very little maintenance since its construction. There is a section of tarmac surfaced path at the Deganwy Quays development but that has been hand laid and is uncomfortable to cycle on or to push a wheelchair along. The dust based surface has a number of dips along its length and so puddles form following rain which prevent the route from being used all year around. It is recommended that the entire section from Conwy Cob (which has a tarmac surface) to Marine Crescent in Deganwy is surfaced in tarmac up to 3.0m wide where possible. Outline agreements would be required with the Welsh Government for the section around the A55 tunnel mouth but this should be seen as a suitable improvement as the current path has been in place for a significant period now with no issues raised. These improvement works should also include the link south from Conwy Cob to the RSPB Reserve as this section can also become water-logged and should connect in with Glan Conwy in the future. Additional minor improvements like signing, vegetation removal and fence repairs should also take place as part of these improvement works.



Existing dust path south of Deganwy Quays

At the access point at Marine Crescent a flood gate is located across the path which is closed off during periods of high tides or potential flood events and this can extend to weeks on end during the winter months. There are no warning signs prior to reaching the barrier and no way of getting over the gate easily unless you are fully able bodied (and can carry a cycle or wheelchair). It is recommended that a small ramp is constructed on either side of the wall on one side of the gate to provide a suitable means of getting over the barrier when it is closed.



Existing flood gate in closed position at Marine Crescent and path near Deganwy Station that requires a new surface



**Deganwy to Llandudno:** this section can be split into a route upgrade along the southern section between the Breakwater and Marine Crescent and a new path along the northern section linking to West Shore. At the northern end of Marine Crescent another flood gate is located at the access point onto Deganwy Promenade which is also closed during periods of high tides or potential flood events. It is recommended that a small ramp is constructed on either side of the wall on one side of the gate to provide a suitable means of getting over the barrier when it is closed.

Deganwy Promenade has been upgraded at the southern end but the northern section is looking very tired and the concrete surface is damaged in a number of locations. This section should be upgraded with a new surface and the alignment of the promenade and shared use path should be improved where possible at this stage.



Existing flood gate in closed position at Deganwy Promenade and damaged surface at northern end of Promenade



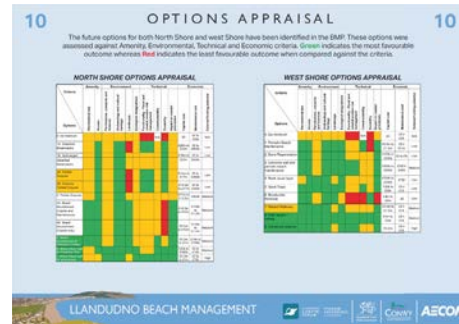
To the north of the Deganwy Promenade section the existing path can be upgraded with a mixture of new surfacing and some minor engineering works to protect the edge from coastal erosion and the dune system which has encroached slightly over the path, partly due to a lack of maintenance. A low level crib-wall type structure could be used to hold back the dune system and provide a clear edge that could be swept as required.



Existing path north of Deganwy Promenade that is exposed to some coastal erosion and vegetation encroachment on existing path edges



To the north of this section the existing path is regularly blocked with windblown sand and Conwy CBC carry out limited sand clearance so the path has become impassable for larger parts of the year. The re-alignment of this path has been picked up as part of the Llandudno Beach Management Plan project that is investigating coastal erosion and defence issues around the Llandudno headland. The Plan has highlighted options for the re-alignment of the path which is seen as a key part of the local infrastructure by the communities that it links. This project is a much larger than just the coastal path and has to pass through a number of stages such as a business plan and outline design options, along with public consultation phases, prior to any detailed designs being taken forward.



Extracts from 2017 Llandudno Beach Management Plan consultation

Sustrans has been involved in this project at all stages and supported the development of these options where possible and our preferred alignment for the new coastal path is to follow the existing public footpath above the dune system. This footpath leaves the current coastal path just to the south of the main breakwater and runs parallel with the golf course as it climbs above the coastal dunes. Some sections of the footpath are wide and clear and could be upgraded fairly easily, but other sections are overgrown and would need further ecological assessments prior to the development of any upgraded route. The northern section would need to ramp down through the dunes to reconnect with the current path near the Sewage Pump House and a boardwalk structure may be required in this area to protect the dunes. The existing coastal path would then be allowed to return to its natural state with the dune system extending and re-vegetating over time.

The connections from the West Shore car park can also be extended by providing a route along the existing promenade towards the Gloddaeth Avenue link so that users can head towards the town centre. It is recommended that the benches on the section of promenade nearer to the West Shore car park as set back to open up the promenade and reduce any conflict between users. Towards Gloddaeth Avenue suitable signage should be included to direct users on the next stage of their journey, though in the future an upgraded active travel route should be provided to connect directly to the town centre.



Existing Boardwalk on NCN 568 connecting Flintshire to the Wirral which could be suitable on the Conwy Estuary Trail and existing promenade near West Shore which could be used for shared use if the benches are set back

Further details on the alignment of the proposed paths are included in the plans and maps at the rear of this report.

## b Key links

As well as the main path that needs to be upgraded and realigned between Conwy Cob and Llandudno West Shore it should be noted that additional links are required to extend this useful facility to the key destinations that it should serve and which users will want to reach.

At the western end of Conwy Cob the current NCN 5 alignment reaches the existing bridge over the River Conwy and cyclists are advised to dismount due to the narrow shared use footway over the bridge. Conwy CBC has started to look at options for an improved crossing of the river as well as direct connections to the town centre and other exiting routes within Conwy town and Sustrans has been involved in this process with the council. Conwy CBC has also been working on improved links in the Llandudno Junction area where a major new supermarket development is planned which will have an impact on the NCN.

In Llandudno's West Shore area the current route alignment ends at the West Shore car park with a local route connecting back to Maesdu Road and a number of key destinations in that area (hospital, school and employment sites). Currently missing is a direct link to the centre of Llandudno as well as a connection to the North Shore promenade and the option to provide a high quality active travel route along Gloddaeth Avenue should be provided in parallel with any developments in this area. Gloddaeth Avenue is extremely wide (2 x 2 lane carriageway + central landscape strip) and could accommodate both improved walking and cycling provision on either side of the road so as to pick up all the connections to the residential areas and other destinations in this urban area.



Existing NCN 5 on Conwy Bridge and typical view of Gloddaeth Avenue in Llandudno (Image - Google)

## c Ecology

Preliminary Ecology Assessment and on site ecology surveys will establish the constraints of the habitat and mitigation measures that will be needed to be in place and these will need to be undertaken for the section of route that is to be realigned above the dunes. The Greener Greenways project approach to enhance biodiversity and improve opportunities for the local community to learn about the local environment should be included in the longer term management plan for the area.

**d Cost**

The outline cost estimate for the main path upgrade and new path alignment options suggested is £800,000.

The costs below are indicative only, intended to give a budget estimate of the main costs associated with the construction of the proposed path to the prescribed design standards as previously recommended.

It must be noted that the above costs do not include:

- Land acquisition
- Detailed design
- Site Supervision
- Monitoring
- Contract management
- Legal fees
- Preliminaries
- Lighting
- Ecological mitigation
- Waste disposal
- Service diversions
- Insurance

Typical additional costs to cover some of the above items can be up to 30% of the construction phase costs and so all costs should be reviewed at each stage of the project's development.

The costs have been estimated to attempt to reflect the worst case, i.e. the most expensive estimate but they only give a guide to the levels of funding required. Additional contingency costs should be added to cover unforeseen costs and these should be reviewed throughout the design process.

It is recommended that as more detailed cost estimates are developed, the additional costs for the links are reviewed and updated for future funding applications.

Route Section	Description of Route	Section Length (m)	Outline Cost	Notes
1	Existing Path from Conwy Cob to Marine Crescent, Deganwy: shared use path upgrade to AT Design Standards	2000	2000 x £135/m £ 270,000	Typical 3m wide (max.) tarmac surfaced shared use path (existing base regulated & new surface)
2	New access ramp at flood gate at Marine Crescent	-	£ 20,000	Need to include small section of flood wall realignment to fit
	Signing / Benches / Monitoring etc	2000	£8,000	Standard details
	<b>SUB-TOTAL</b>		<b>£298,000</b>	
3	New access ramp at flood gate at Deganwy Promenade	-	£ 20,000	
4	Deganwy Promenade (North) to Main Breakwater: shared use path upgrade to AT Design Standards	1100	1100 x £180/m £ 198,000	Typical 3m wide (max.) tarmac surfaced shared use path (existing base regulated & new surface + short section of retaining structure)
5	Main Breakwater to top of dunes: shared use path upgrade to AT Design Standards	900	900 x £200/m £ 180,000	Typical 3m wide (max.) tarmac surfaced shared use path
6	Boardwalk: new boardwalk	80	80 x £400/m £ 32,000	Similar to Burton Marsh Greenway boardwalk
7	Boardwalk to West Shore Car Park: shared use path upgrade to AT Design Standards	260	260 x £135/m £ 35,100	Typical 3m wide (max.) tarmac surfaced shared use path (existing base regulated & new surface)
8	West Shore promenade; move benches and minor works	-	£15,000	
7	Signing / Benches / Monitoring etc	2340	£9,400	Standard details
	<b>SUB-TOTAL</b>		<b>£490,000</b>	
	Conwy Cob to Marine Crescent, Deganwy	2000	£298,000	
	Marine Crescent, Deganwy to Gloddaeth Avenue, Llandudno	2340	£490,000	
	<b>TOTAL</b>		<b>Say £ 800,000</b>	<b>+ VAT</b>



### III Signing and maintenance

#### a Signing

The proposed route needs to be sufficiently well signed so that it is easy to follow in both directions. A balance should be struck between providing clear and reliable information, avoiding visual clutter and unnecessary maintenance liability that excessive signing can cause. Care is needed when considering their design and placement. Cyclists Dismount or End of Route signs are not appropriate and will not be necessary on this route. Cycle specific route signing also raises awareness of cyclists amongst other road users and helps to promote the route. It is estimated that around 20 signs will be required to effectively provide good directional signing. At each end of the route and on key junctions, destination signage will be provided on conventional metal sign posts with suitable repeater signs along the route.



Examples of a repeater sign, directional signs, short robust posts and a shared pedestrian and cycle sign

#### b Future maintenance

A route management plan will need to be agreed with the collaboration of the land owners, Sustrans and the local Sustrans volunteering group. Overall, a route that is kept in good condition will be more useful, attractive and popular than one allowed to deteriorate. It will promote walking and cycling. Maintenance can sometimes seem like an afterthought compared to the exciting world of designing and building new routes, but having invested time and money by building the route, it is important that it remains attractive to users. Thinking about who will use the route – will horses be ridden along it, will tractors cross it, how will maintenance vehicles access the path (and turn)? Pedestrians and cyclists don't normally cause a great deal of wear and tear. It is often other users and the weather that have more of an impact on the condition of the path. Maintenance should be considered as part of the route development process long before construction starts. A thoughtful design will mean less maintenance in the future. For this route a sealed tarmac surface is proposed at a width of 2.5 – 3.0m. The surface will have a long life needing little maintenance. A question often asked by funders is how will you maintain the investment they are making? Sometimes money can be put aside from the capital source into a separate fund for future maintenance. Irrespective of what the ultimate arrangement will be, it is essential that the project team has agreed the future maintenance arrangements early in the project's development.

The local Sustrans Volunteers group is very active and will be able to help with some aspects of maintenance including checking signing, collecting litter and cutting back vegetation.

The sand issue has been an on-going issue in Conwy for a number of years and it is vital that the new alignment in this area takes this into account with a practical design solution. Coastal communities will never be able to develop completely sand free routes and so some clearance will always be required, but developing these maintenance programmes during the design phase is key to reducing costs and constructing routes that can be used every day.

### IV Stakeholder Engagement

Local stakeholders have been engaged in the process to make sure the route is suitable for local needs and will be used in the future. The BRO Partnership has supported Sustrans in this activity. An Online survey was conducted between March and April 2017 to gather initial feedback from local stakeholders about the perceived impacts of the route on daily commute and tourism activities. 78% of the 45 respondents were supportive of the coastal alignment and some of them expressed concern about the loss of a scenic cycle route with world class views and surroundings of enormous importance.

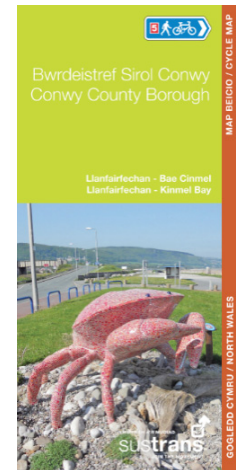
A Stakeholder Group was formed with the participation of Conwy CBC officers, Llandudno Coastal Forum, Natural Resources Wales, Cadw, Town and County Cllrs, the local Ramblers group and representatives of the business community. During the three stakeholder meetings we held, discussions focused on the difficulties in maintaining the existing path and the need to find an alternative, the importance of including dune stabilisation in any future plans for the development of the coastal option and the contribution that a more accessible shared use path could give in differentiating the visitors' demographics for Llandudno as a destination.

### V Marketing

Marketing and training activities have been delivered with the support of the BRO Partnership and Gwyrd. A website is available (<https://linkingup.wales/>) where users can access all the findings from the project. The website also features a Toolkit (<https://linkingup.wales/toolkit/>) containing top tips about how community groups can make the case and contribute to the improvement of new walking and cycling links in their area. The toolkit also contains hints about promoting existing paths and information about economic benefits of walking and cycling infrastructure. Locally, signing will also help to raise awareness about the existence of the route. Information about the route will be added to relevant websites such those managed by Sustrans, Conwy CBC etc. The production of a simple and informative map will help with content provision for both online and printed material opportunities. Publicity through press coverage and social media around an official launch will also help generate local, regional and national awareness. Guided walks and rides along the new route would help local residents understand the new walking and cycling opportunities it creates.



Examples of existing Conwy cycle routes promotional leaflet which includes some town centre inserts



## VI Monitoring and reporting / Making the case for a new link

Sustrans' Research and Monitoring Unit (RMU) has provided evidence that will support future funding application bids. A literature review was produced to provide case studies related to the positive impacts of walking and cycling routes on wellbeing, local economy and ecology. A Route Users' Intercept Survey was conducted during the summer 2017. The Infrastructure Impact Tool allowed us to get an estimate of the increased usage generated by the new infrastructure to generate figures on the economic impacts of the path over 20 years. Under the middle scenario, where the shared use path sees 83,140 cycling trips and 480,733 walking trips per year (respectively +172% and +126% above current usage), the benefits are:

- Total economic benefits of £ 1,320,611
- Health benefits of £ 767,819
- Overall Tourism Benefits 4,072,674

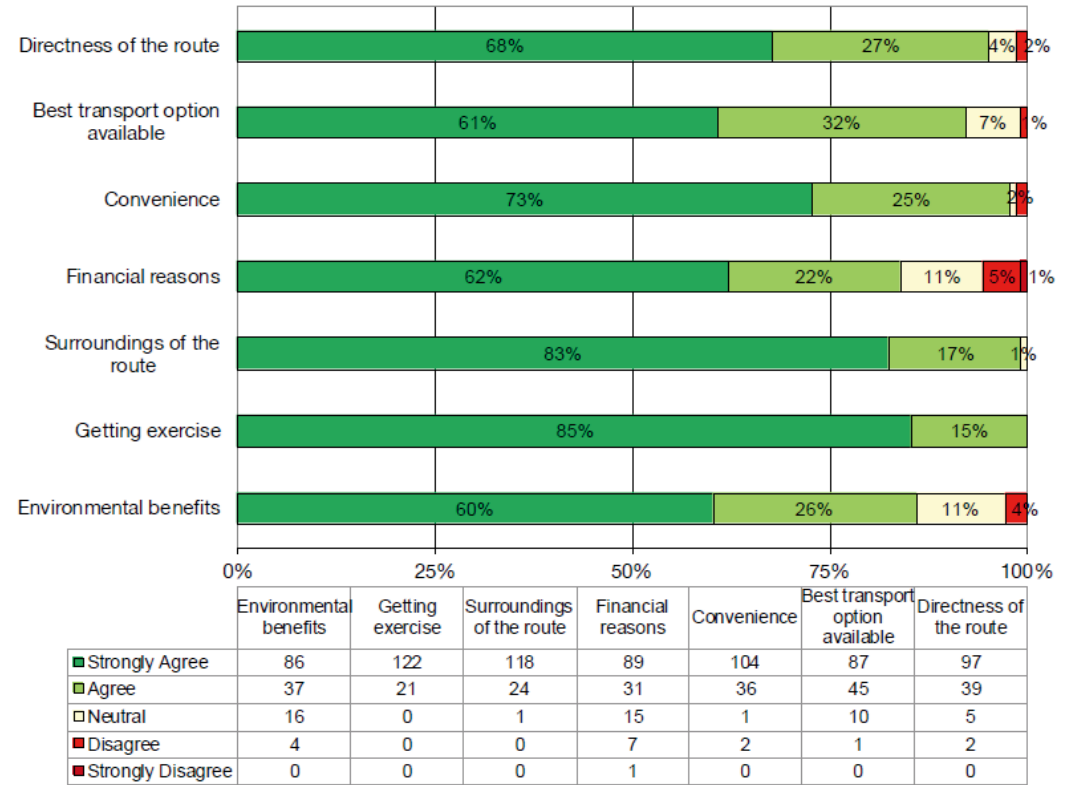
The direct and indirect employment supported by this leisure usage is estimated to be 91.7 FTE jobs. In order to provide additional monitoring data, it is recommended to install at least one automatic counter on a traffic-free section of the route.



Section of the Coastal Path running parallel to the golf course



Wider section of the Coastal Path along the west shore



Factors influencing route usage



## VII Funding

Whilst funding for the route developments has been limited at this stage the Welsh Government's Coastal Risk Management programme is currently being used to progress the options for coastal erosion measures which include the provision of the re-aligned coastal path. This funding programme will continue to be used as the project moves forward to design and delivery phases, though the match funding that is required can be problematic as it cannot have any links with other Welsh Government programmes.

It is recommended that consideration of the following funding sources for the construction and promotional phases of the path development between Conwy Cob and Deganwy are used at this stage:

- a Transport Grants managed by the Welsh Government, namely the Local Transport Fund, Active Travel Fund, Active Travel Core allocation (which could be used for minor improvements) and Safe Routes in Communities fund. These funds can be used to further enhance the design, planning and consents stage as well as being pivotal to allow construction to move forward.
- b Tourism Grants managed by Visit Wales, mainly for small scale infrastructure, signing and promotion, in particular:
  - Regional Tourism Engagement Fund (RTEF - revenue)
  - Tourism Product Innovation Fund (TPIF - revenue)
  - Tourism Amenity Investment Support (TAIS - capital).

Initial funding has been secured by Conwy CBC during 2018-19, using the Safe Routes in Communities resource, to construct a shared use path alongside the A546 linking upper Deganwy to Maesdu Road in Llandudno.

The Welsh Government's Active Travel Design core allocation was also used in 2018-19 to carry out a WeITAG Stage 1 assessment on the Conwy Bridge options to connect the Cob into Conwy town.

## VIII Next Steps

As noted above there are two sections to this project and it would be possible to use dedicated active travel funding to upgrade the existing route between Conwy Cob and Deganwy in the short term if the following actions could be developed:

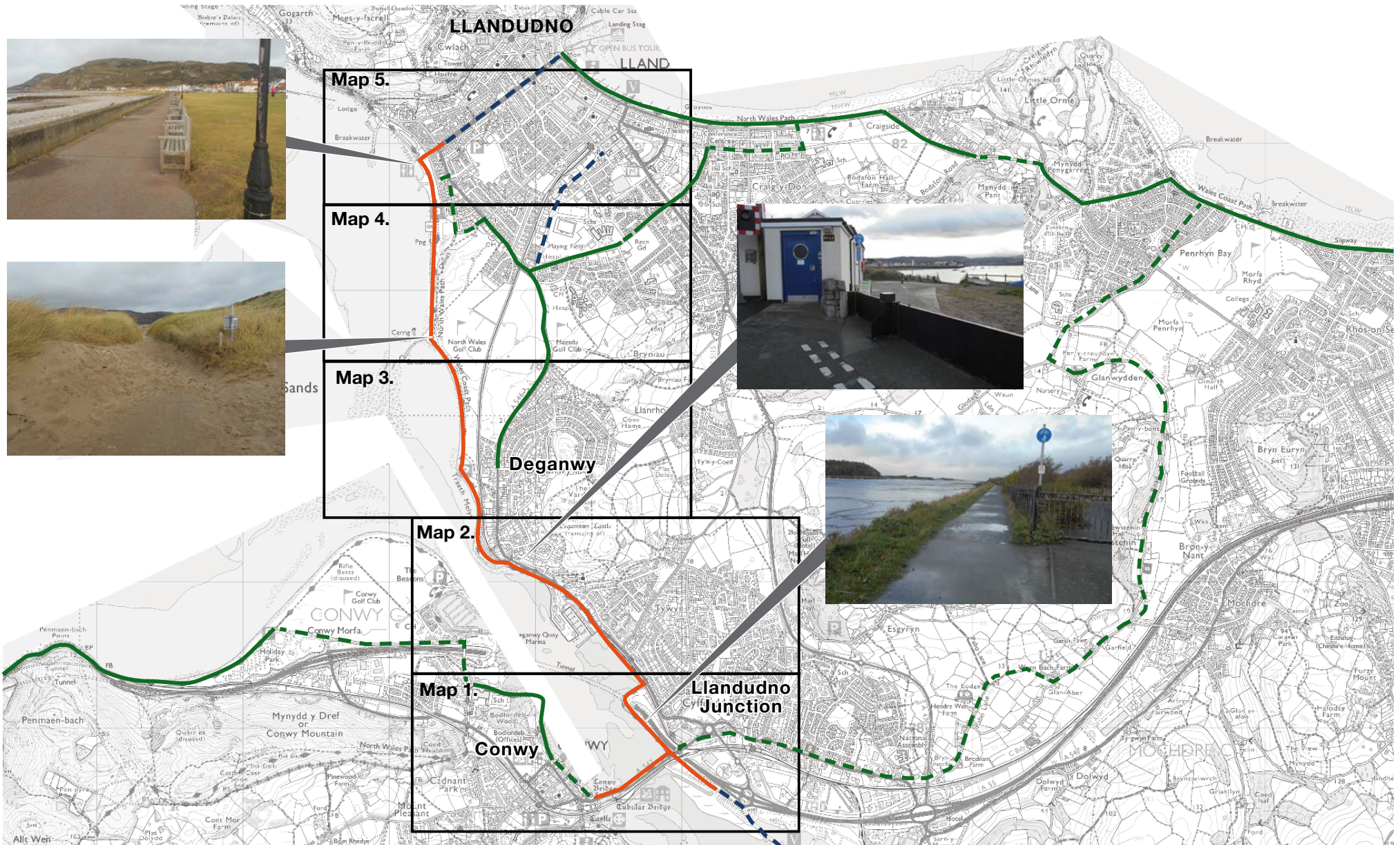
- Develop outline designs for the path upgrade and flood gate ramp at Marine Crescent
- Confirm acceptance of design upgrades with Welsh Government where relevant (A55 tunnel mouth)
- Further engagement with local community and wider stakeholders prior to funding application

The section north of Marine Crescent is slightly more complicated as it involves the Coastal Risk Management programme, but a number of tasks can be moved forward to develop the project, including:

- Develop outline designs for the flood gate ramp at Deganwy Promenade, the path upgrade section and the new path alignment
- Confirm all land ownership titles and engagement where relevant
- Complete the ecological surveys and share with the relevant stakeholders for the new alignment
- Prepare a full outline design and engage with Conwy CBC planning department prior to any formal consents being submitted
- Further consultation and engagement with local community and wider stakeholders prior to funding application
- Further engagement with the Welsh Government transport grant officials to investigate the longer term funding opportunities alongside the Coastal Risk programme
- Update monitoring and evaluation plans as the project develops.

# Local overview NW-034 Conwy Estuary Trail

- Conwy Estuary Trail
- Existing NCN or Other Route (Traffic-Free)
- - - Existing NCN or Other Route (On-Road)
- - - Future NCN or Other Route

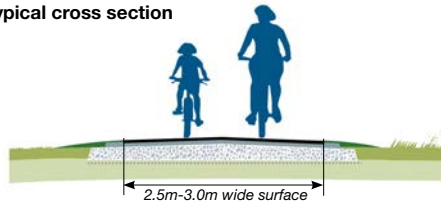


- Binding Margin -

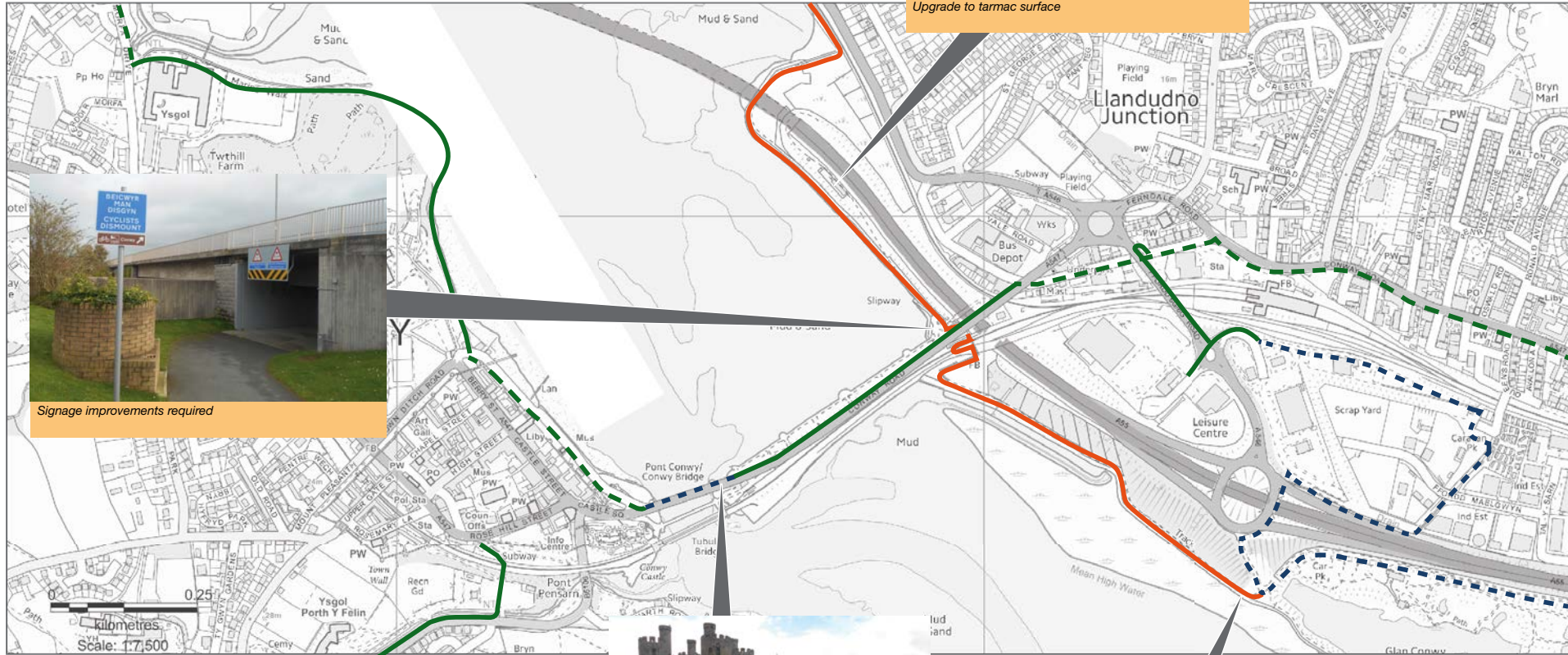
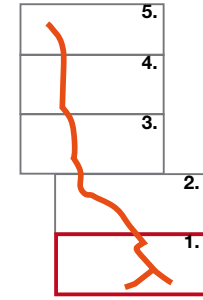


MAP 1 NW -034 Conwy Estuary Trail

Typical cross section



Upgrade to tarmac surface



Signage improvements required

- Conwy Estuary Trail
- Existing NCN or Other Route (Traffic-Free)
- - - Existing NCN or Other Route (On-Road)
- - - Future NCN or Other Route



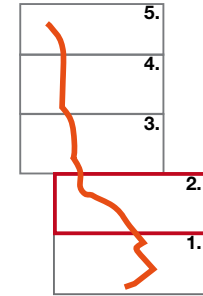
Conwy Bridge - existing shared use path



Link to RSPB Reserve - upgrade to tarmac surface



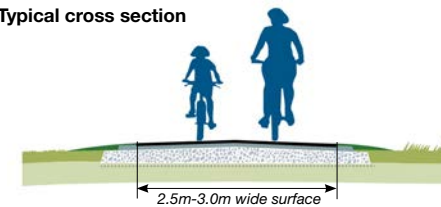
MAP 2 NW - 034 Conwy Estuary Trail



- Conwy Estuary Trail
- Existing NCN or Other Route (Traffic-Free)
- - - Existing NCN or Other Route (On-Road)
- - - Future NCN or Other Route



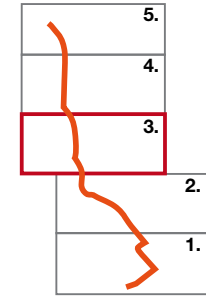
Typical cross section



MAP 3 NW-034 Conwy Estuary Trail



Remove two sections of timber wall and upgrade path



Cut back vegetation and widen path. Overlay with tarmac surface



Repair base layer and overlay with tarmac surface. Add edge protection as required



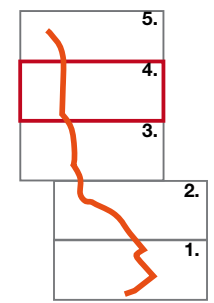
Overlay concrete path with tarmac surface and widen where possible



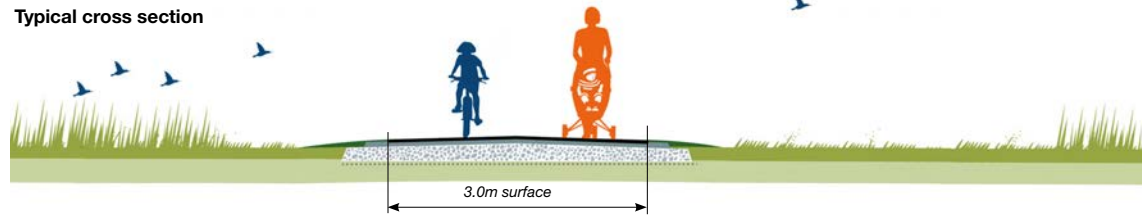
- Conwy Estuary Trail
- Existing NCN or Other Route (Traffic-Free)
- - - Existing NCN or Other Route (On-Road)
- - - Future NCN or Other Route



MAP 4 NW - 034 Conwy Estuary Trail



Typical cross section



Upgrade to tarmac surface as typical cross-section



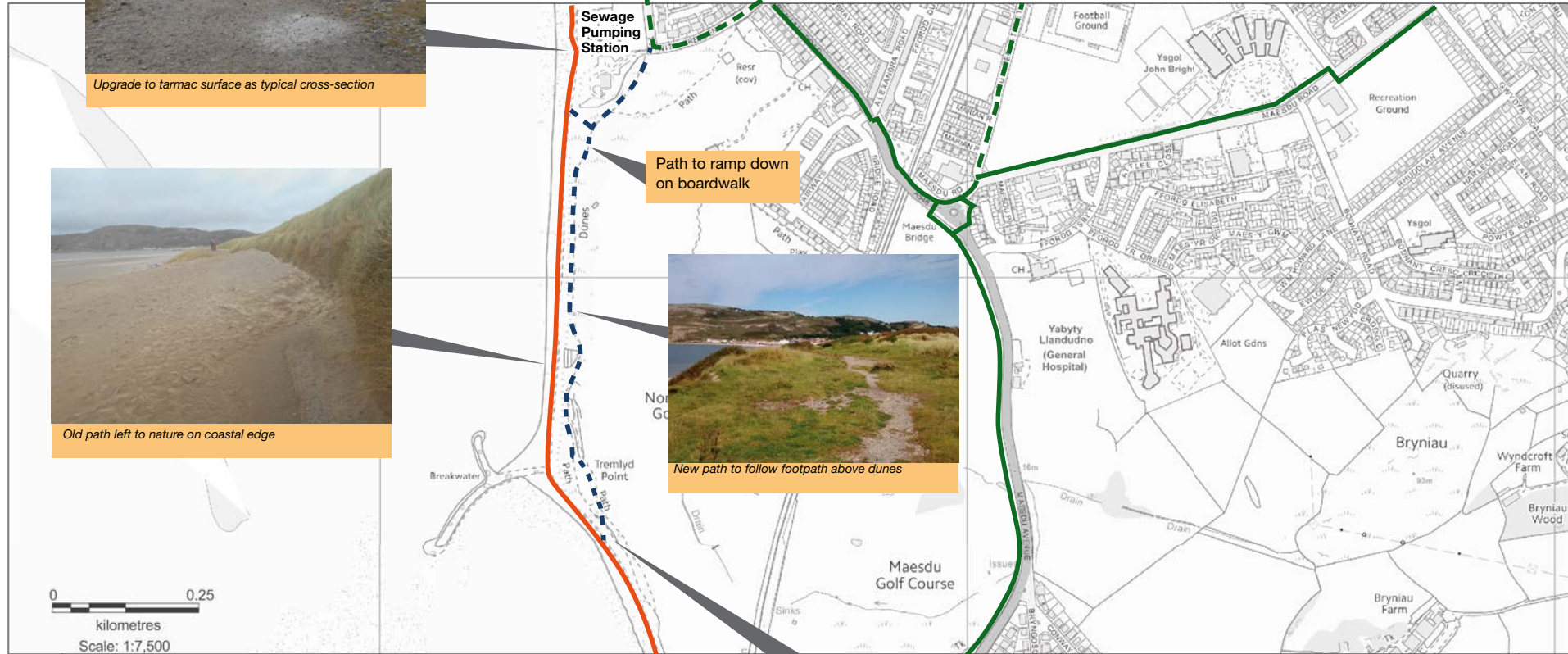
Old path left to nature on coastal edge



New path to follow footpath above dunes



New path to ramp up on line of footpath on right hand side

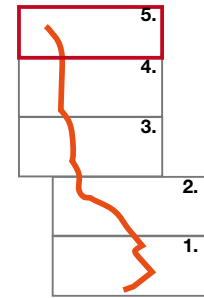
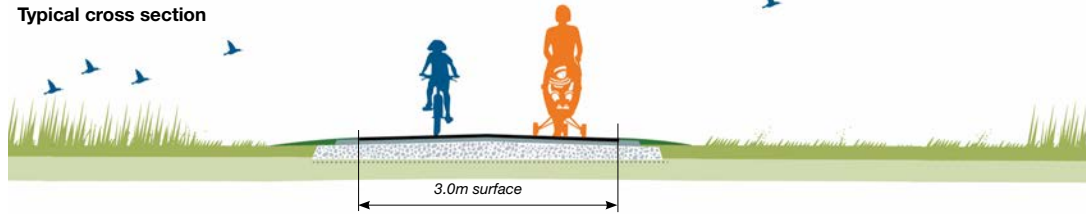


- Conwy Estuary Trail
- Existing NCN or Other Route (Traffic-Free)
- - - Existing NCN or Other Route (On-Road)
- - - Future NCN or Other Route



MAP 5 NW -034 Conwy Estuary Trail

Typical cross section



- Conwy Estuary Trail
- Existing NCN or Other Route (Traffic-Free)
- - - Existing NCN or Other Route (On-Road)
- - - - Future NCN or Other Route

