
Wales Rural Development Programme

July 2018

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The economic benefits of the Garw Valley route have been appraised based on expected annual cyclist and pedestrian usage on the proposed route after construction is completed. The economic benefits of this annual usage have been appraised as if observed for the next 20 years (i.e. a 20-year appraisal period has been used).

The following figures are key outputs related to the estimated current and future usage on the route, and the associated economic benefits from the economic appraisal. For a full description of these outputs, including the methodology used to arrive at these values, please see the main body of the report.

This analysis estimates a baseline level of annual cycling and walking usage by local users before estimating usage on the constructed route based on uplift seen in previous infrastructure projects. The post-construction usage estimates are derived from the Infrastructure Impact Tool (IIT), local data from past schemes in the surrounding area and other comparable sites. The post-construction usage scenarios include an estimated annual number of trips and are presented as low, middle and high scenarios.

Current usage on the route is estimated using data from a Route User Intercept Survey (RUIS) conducted on site. The estimated Annual Usage Estimates (AUEs) are:

- x 9,022 cycling AUE
- x 59,674 walking AUE

These estimated values are based on scenarios that have been developed around the cyclist Infrastructure Impact Tool (IIT) output.

Table 1: Cyclist usage scenarios (Executive Summary)

Baseline AUE	Percentage i
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These estimated values are based on scenarios that have been developed around the pedestrian
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economic analysis for three possible construction usage scenarios of the proposed development of a route between Bryngarw Park and Abergarw.

This document outlines the economic benefits of the proposed route for three usage scenarios.

The proposed new route will run along the Garw Valley from Abergarw to Bryngarw Park. The cycle

The baseline pedestrian and cyclist AUEs for Garw Valley are as follows:

: Baseline AUE for Garw Valley cycle path

Garw Valley cycle path	9,022	59,674
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but is not currently facilitated due to route not existing. Therefore it is an estimation of the current number of journeys which may be occurring in the local area that could be using the proposed route.

To forecast the expected economic benefits of the route, a range of post-intervention scenarios where usage has increased above the baseline are set.

These scenarios are based on outputs from the IIT for cyclists and pedestrians which provides an estimate of the expected cycling and pedestrian usage increases based on a database of past schemes where infrastructure of a similar type has been delivered. The IIT models were run using the baseline AUE and the infrastructure category of rural cycle paths.

The IIT provides an indication of usage increase that is likely to be expected from construction of the route. This is the estimate of annual usage once the scheme has been constructed, accounting for mode shift and growth in cycling usage that is encouraged through the route development. To account for potential uncertainty and the possibility that usage change may be higher or lower than what was observed in the past, a range of three post-usage scenarios are used.

The three scenarios for cycling uplift are shown in Table 3. The three scenarios are as follows. The upper scenario is set above the IIT percentage increase and the lower scenario is set below the IIT percentage increase scenario. The IIT scenario is represented in green.

Post-scenario cycling AUE scenarios

9,022	153%	22,825
9,022	173%	24,630
9,022	193%	26,434

Together, the post-scenario cycling and pedestrian usage calculations represent the three scenarios that are appraised.

The BCR tool provides an appraisal of the economic benefits of an infrastructure development and requires specific inputs in order to provide a monetised value for the expected benefits under the three post-construction usage scenarios.

For this route, the BCR appraisal tool has been used to calculate the expected economic benefits based on the post-scenarios for both pedestrians and cyclists. All economic benefits presented have been calculated using the WelTAG appraisal tool over a 20-year time period.

In addition to the baseline and post-scenario AUEs, all necessary BCR tool inputs were taken from the commissioned RUIS data.

No variation in these additional inputs has been made between the baseline and post-scenario cases as it is not possible to predict how these might change as a result of the development.

Depending on what occurs in practice and how these variables change in reality, the valuations obtained through WelTAG using these fixed inputs may reflect an economic value that is either higher or lower than the reality.

High cyclist and high pedestrian usage					
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The combined HEAT output for both pedestrian and cyclist usage is used as the health economic benefit input in the BCR tool.

The overall economic benefits of the proposed route include both the BCR tool and HEAT outputs.

Table 6 displays the range of economic benefits that could be expected under all possible combinations of the three cycling and pedestrian usage scenarios that have been examined. All of these economic benefits include the HEAT outputs displayed in Table 6. This table is intended to show how the estimated economic benefits vary according to the level of walking and cycling usage that is realised – this could be either a low, medium or high usage change compared to the baseline.

WelTAG and HEAT zEconomic benefit

		Low	Medium	High
	Low	£1,480,309	£1,672,799	£1,865,250
	Medium	£1,514,397	£1,706,886	

The total construction cost of the proposed Garw Valley route is estimated at £394,312.

walking generated through the proposed route developments will make on the local economy on a yearly basis.

The tools also provide an estimate of the annual social value of recreational trips made by home-based or tourist leisure users on the Garw Valley cycle **SDWK 7KLV LV D PHDVXUH RI WK** value placed on the route by leisure users that is not captured in their expenditure.

Table 9 and Table 10 display the outputs of the LCEM and LWEM tools.

Combined Leisure Cycling Expenditure Model (LCEM) outputs

1: Low usage change	£13,856	N/A	£13,856
2: Medium usage change	£14,953	N/A	£14,953
3: High usage change	£16,048	N/A	£16,048

: Combined Leisure Walking Expenditure Model (LWEM) outputs



: Leisure walking usage and employment support

1: Low usage change	13.1	7.5	20.6
2: Medium usage change	14.2	8.1	22.3
3: High usage change	15.2	8.8	24

There are a number of considerations relevant to the assessment of economic benefits that has been carried out for Garw Valley.

- x The high and low usage scenarios were calculated as +/- 20% of the mid usage scenario, determined by the IIT output for both modes. The 20% increase and decrease were calculated around the 173% increase calculated by the cyclist IIT and a 161% increase calculated by the pedestrian IIT. 20% was used as there is no other evidence to suggest you should vary substantially from the IIT output but there is a need to illustrate that a range of scenarios is possible.
- x The inputs for the Leisure Cycling Expenditure Model were based on a sample of six recreational cyclists surveyed at the Garw Valley RUIS. This is a small sample and may not represent the post-construction sample of users in terms of their journey purpose and travel behaviour.
- x All of the surveyed cyclists started their trip from a home base and not a holiday base therefore the overall tourism economic benefits outlined in Table 8 are based only on home-based expenditure. The Leisure Cycling Expenditure Model assigns a greater recreational spend per head to holiday-based trips than to home-based trips, therefore the economic benefits of the route may have been underestimated.
- x For the proxy sites, the responses to the trip frequency categories 'daily' to 'monthly' were used only in the BCR tool. Responses to the other trip frequency categories were excluded as the BCR tool does not support other trip frequency categories.
- x The same proportions of trip frequency and trip purpose in the pre and post scenarios in the BCR tool were used as in the absence of any evidence to suggest otherwise i.e. actual data we have to assume the trip purpose and frequency would not change.