

About Sustrans

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Sustrans is the charity making it easier for people to walk and cycle. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute. Join us on our journey. www.sustrans.org.uk

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Under the middle scenario, where the shared use route sees a 72% increase in cycling and 6,195% increase in walking trips above baseline:

- s** 4,625 additional cycling trips and 27,373 additional walking trips per year
- s** Total economic benefits of £1,049,706
- s** Health benefits of £696,597
- s** Recreational expenditure of £262,525

Given the estimated costs of construction and maintenance, this level of usage results in a Benefit-Cost Ratio of 1.37.

2 Background

The economic benefits of this route have been evaluated from usage estimates from local manual count data, a case study with similar features and Route User Intercept Surveys (RUIS) from proxy locations. This was then appraised using the Infrastructure Investment Tool (IIT) for cyclists, the WebTAG based Benefit Cost Ratio (BCR) tool and the Leisure Cycling and Leisure Walking Expenditure Models (LCEM and LWEM) to determine the economic benefits for both cyclist and pedestrians.

3 Methodology

3.1 Economic Appraisal Tools

Infrastructure Investment Tools (IIT)

The cycling IIT (CIIT) is based on a database of past infrastructure scheme interventions delivered across the UK. This approach adopts a forecasting approach based on comparable schemes, as recommended by the Department for Transport (DfT) in their WebTAG Unit A5.1 for Active Mode Appraisal¹. This approach is also consistent with the Welsh government Transport Appraisal Guidance (WelTAG). In adopting a case study approach, assumptions have been made that infrastructure developments are likely to perform similarly to what was observed in the past. This approach is not specific to the local context evaluated here and may not fully integrate all of the unique aspects of the proposed development. It is a generalised approach based on evidence from past schemes and as such should not be considered a definitive calculation of the expected outcomes of a scheme.

The cycling IIT is used to estimate a potential

- x Journey purpose
- x Trip distance
- x Proportion not using a car for any part of their journey
- x Proportion who could have used a car for their journey but have chosen not to

The BCR tool provides an estimate of the monetised economic benefits for the following impact areas related to cycling and walking:

- x Health (using the WHO HEAT tool)
- x Absenteeism
- x Amenity
- x Greenhouse Gas Emissions Reduction
- x Accidents Savings
- x Decongestion
- x Air Quality Improvement
- x Noise Pollution Reduction
- x Infrastructure Development
- x Indirect Taxation (disbenefit)

All economic benefits appraised through the BCR tool are based on a 20 year appraisal time period. This provides an estimate of the economic benefits of a specific level of scheme usage being observed over the next 20 years. All benefits are discounted over the 20-year time period to provide a present-day value.

Health Economic Assessment Tool (HEAT)

The (WHO) Health Economic Assessment Tool (HEAT) is used to evaluate the health-related economic benefits of walking and cycling. The benefits calculated through HEAT relate to the reduced mortality generated through a specific number of walking and cycling trips. All health-related economic benefits

4.1 Annual Usage Estimate

An Annual Usage Estimate (AUE)⁴ is required to calculate the expected economic benefits from a proposed route development.

4.1.1 Cycling

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However it is expected that Grovesend would be the more appealing destination for the following reasons:

- x LWpV RQ WKH ZD\ WR 6ZDQVHD ZKHUH BDO SHRSO
- x LWpV RQ WKH ZD\ WR *RZHWRQ ZKHUH \RX KDYH PRUH IUHT coast
- x LWpV FRQQHFWHG WR *RUVHLQRQ YLD D WUDIILF IUHH SDWK

As such it would be appropriate to expect the majority of trips coming from the south east of Pontarddulais to be heading towards Grovesend, and so 80% of the trips are deemed to be between Grovesend and Pontarddulais. Therefore the estimated annual cycling usage between Pontarddulais and Grovesend is 6,424.

4.1.2 Walking

In the current case it is apparent that there are parts of the existing route between Pontarddulais and Grovesend that would prevent pedestrians from making a journey. The bridge over the railway line does not have any provision for pedestrians. The bridge over the M4 on the B4296 has a pavement. As a result, it is estimated that the current annual usage for pedestrians on this route is close to zero. The pedestrian IIT is mainly comprised of schemes where there is already some sort of route option for pedestrians in the pre-construction stage, and so the baseline usage is often much more than zero. As such the percentage changes in usage suggested by the pedestrian IIT are unlikely to be an appropriate means of forecasting post-construction usage. As such, a case study with similar features to the Pontarddulais to Grovesend scheme has been used.

Table 6 Post-scenario pedestrian AUEs

Baseline AUE	Post-scenario AUE
442	25,606
442	27,815
442	30,025

column.

Table 10 Estimated economic benefits

	Cycling	Walking	Total Benefits	Cost (inc. maintenance over 20 years)	BCR
Lower scenario (5695% Cycling, 52% Walking)	£302,145	£620,495	£922,640	£765,858	1.20:1
Middle scenario (6195% Cycling, 72% Walking)	£374,845	£675,101	£1,049,946	£765,824	1.37:1
Higher scenario (6695% Cycling, 92% Walking)	£447,497	£729,704	£1,177,201	£765,790	1.54:1

Any BCR above 1 signifies that the economic benefits of constructing the route are equal or greater than the provided cost. All scenarios have positive BCRs, signifying that the economic benefits are such that they outweigh the costs. It is not possible to select any one scenario as the most likely to materialise. The range of scenarios is intended to provide an indication of potential outcomes.

Considerations

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

Baseline AUE Data Selection

- x The DfT Manual counts have a very limited data collection period of 12 hours over one day, **DQG LQ \H DU V ZKHUH D PDQXDO FRXQW GRHVQpW oMDe NH SODI** change in usage from counters in a similar type of location. The most recent estimate has been used in this case, but the last manual count at this location was taken 5 years ago (2013).
- x It is possible that some of the estimated cycling usage at the DfT Manual count location is cycling being done within Pontarddulais or heading from the south east side of Pontarddulais to places to the north or west, and so some of the usage may not be attributable to journeys to/from Grovesend or Bolgoed.

Due to the likely large proportion of leisure usage on both the Pontarddulais and Pontersbury scheme