



## Ebbw Vale Frequency Enhancement Phase 2

**The Ebbw Vale branch line was reopened in 2008 with an hourly service to Cardiff; new stations at Ebbw Vale Town and Pye Corner were introduced a few years later.**

Then in 2021, a £70m package of major enhancements (Ebbw Vale Frequency Enhancement Phase 1) was approved consisting of: a 7-mile passing loop, additional platforms at Llanhilleth and Newbridge, and an 'Access for All' footbridge at Llanhilleth.

These improvements, together with associated rail infrastructure, were completed in 2023 and facilitated a second train per hour service from Ebbw Vale Town to Newport to be introduced.

Aspirations to further improve the level of service on the Ebbw Vale Branch Line have existed for several years.

Several studies have examined various ways to improve services on the Line and have indicated some further benefits could be achieved, although several operational and infrastructure constraints were identified, including the congested South Wales mainline.

In late 2021, Blaenau Gwent County Borough Council (BGCBC) commissioned TfW to investigate design options for further upgrades to the Line to facilitate

## PROJECT DETAILS

**Client:** Blaenau Gwent County Borough Council

**Delivery Agent:** Transport for Wales

**Design consultant:** WSP

**Contract type:** NEC4 PSC Option A

the introduction of the Abertillery Spur, referenced as 'Ebbw Vale Frequency Enhancement Phase 2'. It is the investigation of these design options, the Option Selection stage, that is the subject of this case study.



## CONTACT

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## What is an Exemplar project?

An 'Exemplar' is defined as 'something worthy of being imitated or copied' and this is exactly what we continue to seek to achieve with this programme.

Exemplars are intended to offer good practical examples of how to achieve Best Value Sustainable Construction solutions. An Exemplar considers all aspects of sustainability, including economic, social and environmental, demonstrating that the scheme is well rounded and has incorporated best practice and collaboration.

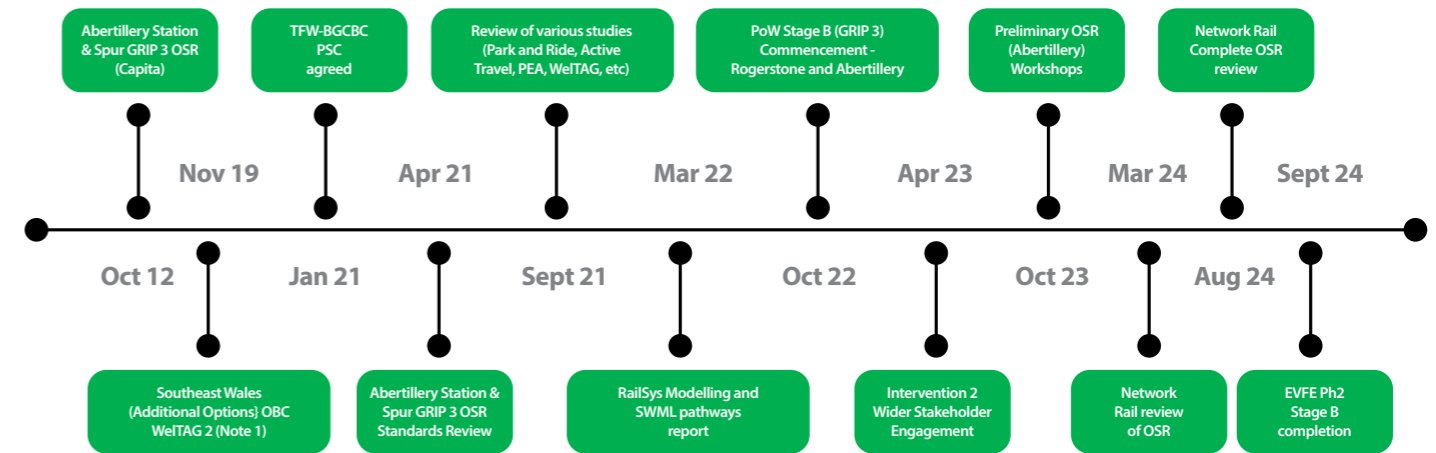
Our approach to Exemplar has been updated to reflect the Wellbeing of Future Generations Act

and to provide greater value as well as inviting a programme approach to the process. It is anticipated that embarking on the Exemplar process will, in itself, lead to higher value being obtained from a project.

**Case studies are normally prepared at 3 Key Stages; Design stage, Construction phase and Post-occupation, but we have recently added a Pre-design phase to our programme.**

Addressing these phases ensures that lessons learnt can be demonstrated throughout the development of a project.

## Design Development Milestones



## Overview of Option locations

Investigatory work undertaken on the South Wales Main Line (SWML) had identified that to enable additional trains on the branch line above the 2 trains per hour, additional infrastructure interventions would be required at Abertillery and Rogerstone.

Therefore, the Option Selection process focused on these two locations/ interventions as detailed below and as illustrated in Figure 1:

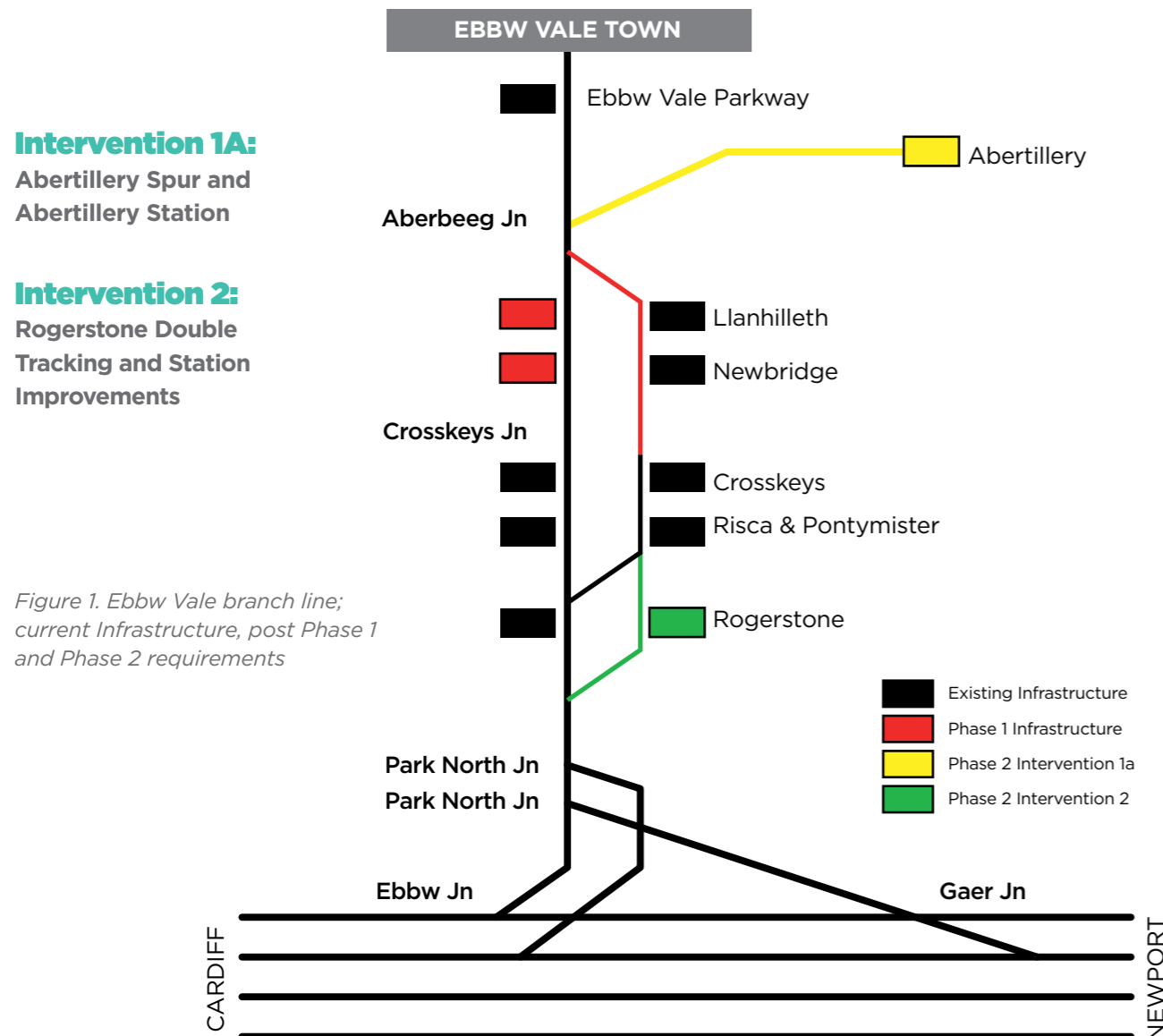


Figure 1. Ebbw Vale branch line; current Infrastructure, post Phase 1 and Phase 2 requirements

## Option Development Process

Further to BGCBC commissioning Tfw as the delivery agent, Tfw appointed WSP as the Principal Designer, the appointment being made under the Tfw Engineering Consultancy Services Framework. WSP were commissioned to deliver Option Selection Reports for the interventions, together with an updated WelTAG 2 Outline Business Case.

For each of the two interventions, WSP developed a number of projects, together with associated options, as follows:

### Intervention 1A:

#### Abertillery Spur and Abertillery Station

- Track layout** between existing branch line at Aberbeeg to new station location in Abertillery town; 2.88 kms to include crossing and structures. **(the only route option is to re-instate to former track route used mainly for coal freight)**
- Abertillery Station - Platform arrangements (3 options)**
- Abertillery Station - Car Park (3 options)**
- Active Travel Route - Alignment following any new track construction (9 options)**
- Crossings - Requirements and impacts from existing or proposed crossings to any new track construction. (4 options)**

### Intervention 2:

#### Rogerstone Double Tracking and Station Improvements

- Existing Branch Line - Doubling of existing single track between Risca South and 600m south of Rogerstone Station (the only route option is to re-instate to former track route used mainly for coal freight)**
- Rogerstone Station - Improvements to existing platform with new platform to be constructed due to track-doubling, to include an Access for All crossing. (3 options)**
- Rogerstone Station Car Park - Improvements to Park & Ride facilities. (3 options)**

The above options were set out in the WSP Option Selection Reports (OSR) issued in March 2024.

## Option Selection Process

Further to the development of the OSR reports, workshops were then held with stakeholders with a view to reviewing each option on its individual merits against criteria such as:

- Safety
- Railway User Friendliness
- Community Impact
- Inclusive & accessible design
- Environmental Impact and Sustainability
- Maintenance
- Construction Cost
- Whole Life Cost
- Construction Programme
- Buildability

The options were trimmed back during further stakeholder reviews and the eventual preferred options collated into a final report.

This report was then circulated to stakeholders to attain consensus of the agreed options to take forward to the Single Option Development preliminary design stage.

## Community and Stakeholder Engagement

The principal stakeholders engaged with throughout the option selection process were:

- Internal departments within TfW – Proposer of Change
- Network Rail – Principal Infrastructure Owner and Maintainer
- Transport for Wales Rail Ltd – Operator
- BGCBC - Client and partial Infrastructure Owner and Maintainer
- Caerphilly Council – Local Authority
- Welsh Government
- Natural Resources Wales
- Statutory Undertakers
- ORR & HSE
- Active Travel, Access & Inclusion panels
- South-East Wales Transport Commission

## Environmental Issues

A provisional Ecology Appraisal was undertaken on both the Abertillery and Rogerstone boundaries focusing on the following data sources:

- An ecological desk study.
- A habitat survey.
- A daytime bat walkover.
- A protected/notable species assessment.

The purpose of the initial report carried out in 2021, which was then updated in 2023 was the following:

- To provide baseline ecological information about the site and a surrounding study area with particular reference to whether legally-protected and/or notable sites, species or habitats are present or likely to be present.
- To provide a list of recommendations to enable compliance with relevant nature conservation legislation and planning policy.
- To identify, if necessary, the need for avoidance, mitigation, compensation or enhancement measures and/or further ecological surveys or input.

Both areas were assessed as being suitable to support bats, dormice, badgers, birds, amphibians, reptiles, otter, water vole, other mammals, invertebrates, invasive non-native species (INNS) and vascular plants.

The following recommendations were made:

- Works should be carried out as per environmental best practice to avoid direct and indirect impacts to Six Bells LNR, SINCs, Ancient Woodland, adjacent wooded areas, and Priority Habitats, including river habitat.
- A walkover of the Site and identified watercourses by an aquatic ecologist to be carried out with a view to identifying potential further surveys.
- Depending on the design, further surveys to assess the presence/likely absence of the following species within the Site may be required: bats, dormice, badger, great crested newt, otter, water vole, INNS and vascular plants.
- Ecological supervision and implementation of a Precautionary Method of Works to protect the following species within the Site: birds, reptiles, common and widespread amphibians, other mammals, and invertebrates.
- Environmental best practices to be implemented, to include measures such as prevention of emissions, covering of excavations, and protection of retained trees and vegetation.
- Enhancement of the biodiversity of the Site to be implemented, to include measures including, but not limited to, the inclusion of bat boxes and nesting bird boxes, and the planting of native wildflower mixes.

The recommendations detailed above will be revisited following the issuing of a preliminary design.

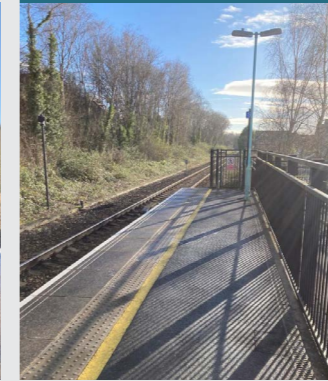
## Strategies and Policies

The Wales Transport Strategy aims to create ‘an accessible, sustainable transport system’ with four key 20-year wellbeing ambitions:

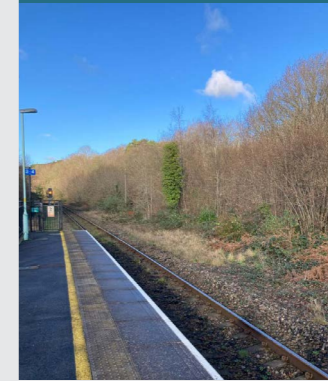
**A Good for people and communities:** By delivering services people can use, and want to use, which contribute to wider equality, health goals including addressing the barriers that stop people accessing transport.



**B Good for the environment:** By significantly reducing greenhouse gas emissions, improving air quality, creating resilient ecosystems.



**C Good for places and the economy:** Support key sectors and the Welsh supply chain and innovations so people and businesses can make sustainable transport choices.



**D Good for culture and language in Wales:** By creating more opportunities for people to engage with language and culture and through protecting and promoting the distinct culture and language in Wales.

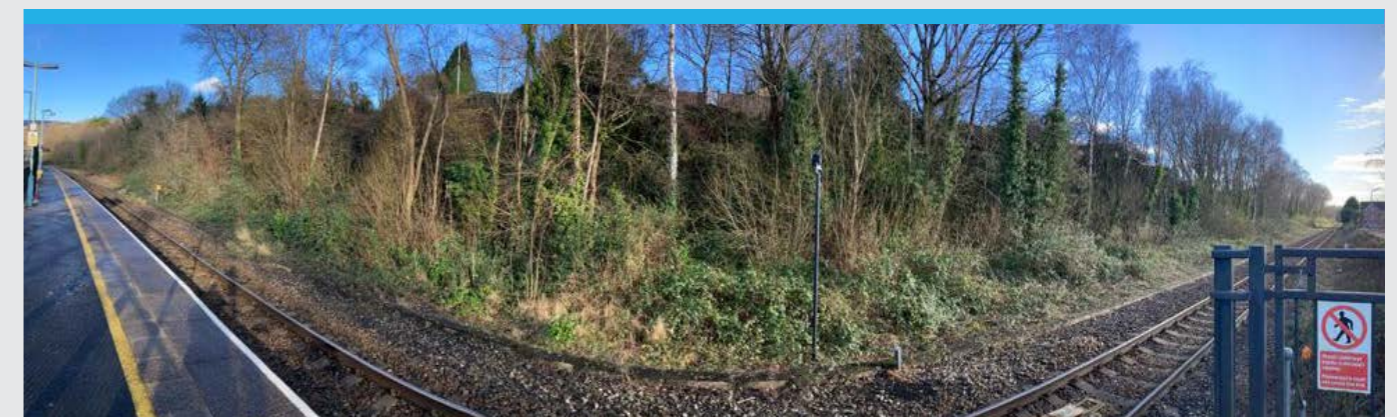


Furthermore, the options identified during the process aligned with various local, regional and national strategies and policies, including:

- Well-being of Future Generations (Wales) Act 2015.
- National Transport Delivery Plan 2022-2027
- Cardiff Capital Region Regeneration Plan 2018-2021.
- Future Wales: The National Plan 2040.
- Newport City Council Sustainable Travel Strategy (Air, Noise & Sustainability Action Plan) 2019.
- Blaenau Gwent County Borough Council Decarbonisation Plan 2020 to 2030.



TfW incorporated the Well-being of Future Generations Act into the scoping requirements, with the five ways of working central to any decision-making. In line with the requirements of WelTAG and the Act, the five ways of working were integral to the option development and selection process





## Accessibility

TfW ensured that options aligned with applicable Eurocodes, National Standards and Building Regulations, and that they complied with the Department for Transport 'Design Standards for Accessible Railway Stations' guidance documentation.

Examples of accessible designs emerging from the process include:

- The 'Access for All' footbridge at Rogerstone Station, inclusive of lifts.
- Extending the carpark at Abertillery, resulting in several positive impacts.

A Diversity Impact Assessment (DIA) was produced as part of the option selection process, providing a comprehensive review of the interventions at Abertillery and Rogerstone.

The DIA pinpointed potential impacts and adverse outcomes that might affect individuals protected under the Equality Act 2010, thereby ensuring that the options selected and their subsequent design are fair, devoid of discrimination, and actively foster inclusivity and accessibility for all.



## Hazards, Health and Safety

TfW appointed WSP to fulfil the duties required of the Principal Designer within the Construction (Design and Management) Regulations 2015 to cover this option selection stage and through the following stages of design development.

Their duties are to:

- Plan, manage, monitor, and coordinate health and safety in the pre-construction phase
- Help and advise the client in bringing together pre-construction information, and provide the information designers and contractors need to carry out their duties
- Work with any other designers and stakeholders on the project to eliminate foreseeable health and safety hazards and risks to anyone affected by the work and, where that is not possible, take steps to reduce or control those risks
- Ensure that everyone involved in the pre-construction phase communicates and cooperates, coordinating their work wherever required

## TfW Exemplar Programme

CEWales has set up an Exemplar programme with TfW. A number of projects, at varying stages of development, are identified for inclusion in the programme each year.

**In this fourth year (2023/24) there are five projects, with three being delivered by AIW.**

The Ebbw Vale Frequency Enhancement Phase 2 Option selection stage is the third completed case study for the year.